Contents

Population Health

Achieving the Quadruple Aim

Primary Care Initiatives for Improvement

9-18-2023

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ACHIEVING THE QUADRUPLE AIM

Our organization is an urban integrated clinical, research and learning health system with a mission to improve the health of the public. As the only comprehensive clinical, research and learning health system in our region, we provide services ranging from primary and preventive care to the most highly specialized care. Nearly 3,000 faculty and non-faculty medical practitioners and over 25,000 staff work towards this mission through excellence in clinical, research and education/training programs. We emphasize provider and staff wellbeing consistent with the quadruple aim.

Our clinics use the patient-centered medical home model to deliver accessible, continuous, patient-centered, coordinated, compassionate, and culturally appropriate care. However, health disparities and inequities persist as a significant challenge in our primary care network, contributing to disparities in health outcomes among different populations. To address these issues, we have undertaken various programs aligned with the " ▮▮▮▮▮▮▮▮▮▮ " Blueprint by our office of Healthcare Equity. This abstract provides an overview of the initiatives designed to improve equity and reduce health disparities, highlighting their objectives, strategies, and impact.

Our health system spans three hospitals owned by public entities, and a fourth non-profit hospital. Our primary care network and physician practices are also non-profit entities. Our system includes 6 safety-net clinics with over 18,000 patients. Some of our clinics serve over 60% Medicaid beneficiaries, and almost 230,000 patients participate in value-based programs and expect reduced out of pocket costs, improved patient experience, and better health outcomes.

Our Equity Blueprint lays the foundation for the transformation of our learning, working, teaching, and healing environment. It upholds healthcare equity, establishing a culture of anti-racism, and striving for health justice for our patients, faculty, staff, trainees, students, and communities. Deliverables include the improvement of quality metrics for patient populations of interest. Below are some of the specific examples that helped us in our efforts to meet the quadruple aim.

Improving patient experience of care

Navigation in primary care for Lung Cancer Screening (LCS).

Improving the patient's experience of care for lung cancer screening is paramount to enhance early detection and outcomes in individuals at risk. We adopted a multifaceted approach to ensure a patient-centric journey in close collaboration with our partner cancer care organization. We provide concierge services to better coordinate patient care within the health system and partner organizations. Our population health team hired a primary care LCS panel navigator (PN) in 2022.

Why Lung Cancer Screening? Lung cancer is the number 1 cause for cancer mortality in all genders.

- Effective screening is available – Low Dose CT scan of the chest
- Eligibility for screening: Adults 50 to 80 years with 20+ pack-years and who currently smoke or quit within the past 15 years.

The navigator's role includes front-end services required to: 1) confirm eligibility for LCS, and 2) encourage Shared Decision Making (SDM) discussions with Primary Care Providers (PCPs) about LCS for eligible patients.

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The navigator reviews empaneled patients with recent or upcoming primary care visits and reviews EHR smoking data for completion. For patients with incomplete smoking data and/or smoking data that suggests eligibility for LCS (with no recent completion), the navigator communicates to the patient through the EHR portal and/or telephone to update smoking history. For patients who appear to be eligible for LCS, the navigator provides brief information and SDM on LCS.

For those patients who are interested in LCS, the navigator places an LCS order in a message for the PCP to review. The PN mitigates potential roadblocks and navigates patients for optimal care delivery, including providing support for planning, scheduling appointments and coordination of services.

Population Served:

Patients Aged 50-80, have Panel PCP, Smoking status = Unknown, Former, Current. Look back period is in the last 3 years from the end date. As of November 2022, approximately 25,833 current/former smokers (including an additional 3,170 individuals with missing smoking status) who receive care at our various primary care sites and locations were considered impactable by the intervention in some manner. PCPs are targeted by system level education and stakeholder engagement efforts.

Outcomes Measured:

1. Risk Factor Complete
   - Risk factor information needed:
     - Current smokers (smoking screen/status and pack-years)
     - Former smokers (smoking screen/status, pack-years, and quit date (high risk); smoking screen/status and pack-years or quit date (low risk)
   - Denominator: Empaneled patients 50-80 years of age at the end of each quarter, and are current or former smokers
   - Numerator: Patients in denominator with a complete risk factor information documented in EPIC structured fields in last 3 years
2. LCS Referral Ordered
   - Denominator: Empaneled patients who are high-risk for lung cancer (Age 50-80, >= 20 pack-years smoking history, quit within the last 15 years if a former smoker), and had a primary care visit in the past 1 month from the end date.
   - Numerator: Patients in denominator with a lung scan referral order in the past 1 year (see below for codes that count).
3. Screened of High-Risk Patients
   - Denominator: Empaneled patients who are high-risk for lung cancer (Age 50-80, >= 20 pack-years smoking history, quit within the last 15 years if a former smoker)
   - Numerator: Patients in denominator who received a scan in the last 1 year

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Improving health of populations with a focus on quality outcomes

Improving the health of our populations is a common theme in all our efforts as an organization because we understand that quality outcomes encompass not only success in treating illnesses but involves being cognizant of the patient's overall well-being. Examples of our efforts with regards to quality outcomes through an equity and wellness lens, include the following:

Improving health literacy and education.

In collaboration with our communication and translation services, we have created and disseminated culturally tailored patient education in the top 10 preferred languages. These empower individuals with knowledge about preventive care, managing chronic diseases, and healthy lifestyles. Patients receive proactive outreach and appointment reminders in their language. Outreach in the patient's preferred language to those with diabetes who are overdue for a blood pressure recheck has helped us begin to drive up this outcome after a slump following the COVID-19 pandemic.
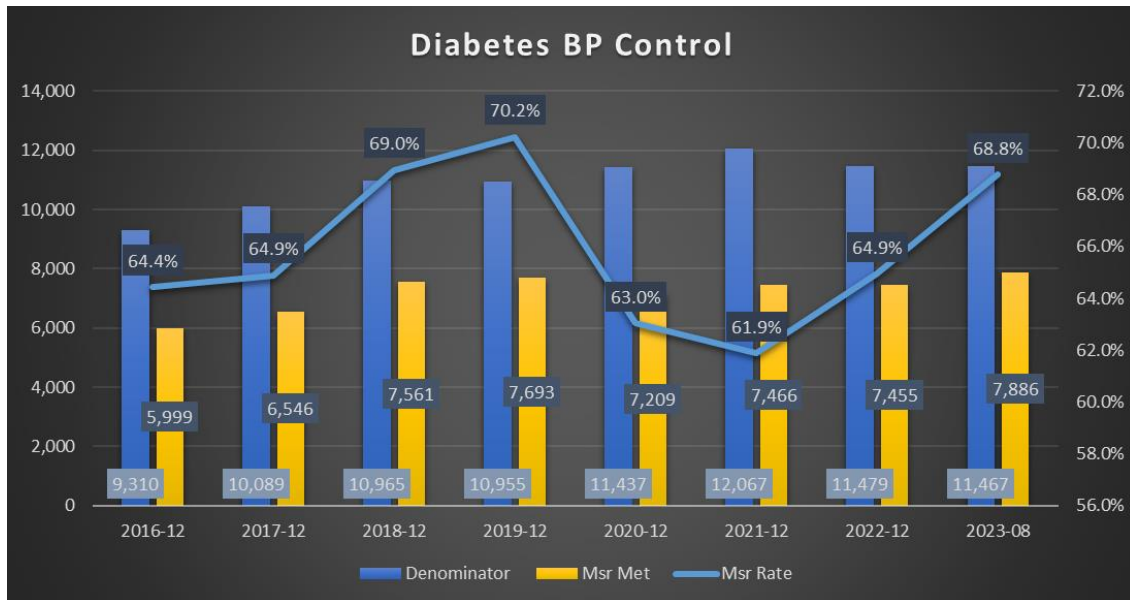
Figure 1: Building back up on Diabetes BP control after the pandemic.

Surveying social determinants of health and connecting patients to resources and services.

Our providers utilize available EMR tools to prioritize evidence-based practices and consistently deliver high-quality care. This involves assessing and measuring not just clinical metrics and outcomes but also disparities and provider adherence to best practices to improve the health and lives of those they serve.

Nearly 38% of Pediatric patients are insured by Medicaid and often have many new immigrant populations and others with very significant social needs – housing and food insecurity, financial strain, etc. Our pediatric clinics provide primary care to some of the region's most marginalized families — children in foster care, refugee families and children with developmental disabilities. Almost all children in the clinic are from low-income families. We have a Center for Adoption Medicine, which provides ongoing medical care for fostered and adopted children.

A grant-funded pilot project in late 2021 leveraged collaborations with community organizations, as well as patients and families. Referrals are placed for positive screens during PCP visits. A panel navigator (PN) followed up with advocacy and connections for affordable housing, food assistance programs, and resources to address income and employment disparities through a closed loop referral system. This tool takes the burden off patients to make that first, often difficult and hesitant step, and puts the incentive for the community-based organizations (CBOs) or health service providers to connect with the patient.

Some of the funding from the grant was used to support the subsequent initiative to universally screen pediatric patients for SDOH needs during well child visits. A community advisory board comprising parents, families and local CBOs helped to finalize the WECARE-based screening tool. The screener was then translated into seven languages with paper copies to be completed by patients. The medical assistant entered answers into a flowsheet for the PCP to review. Like the earlier pilot, referrals were placed for positive screens and the PN followed up (results below).
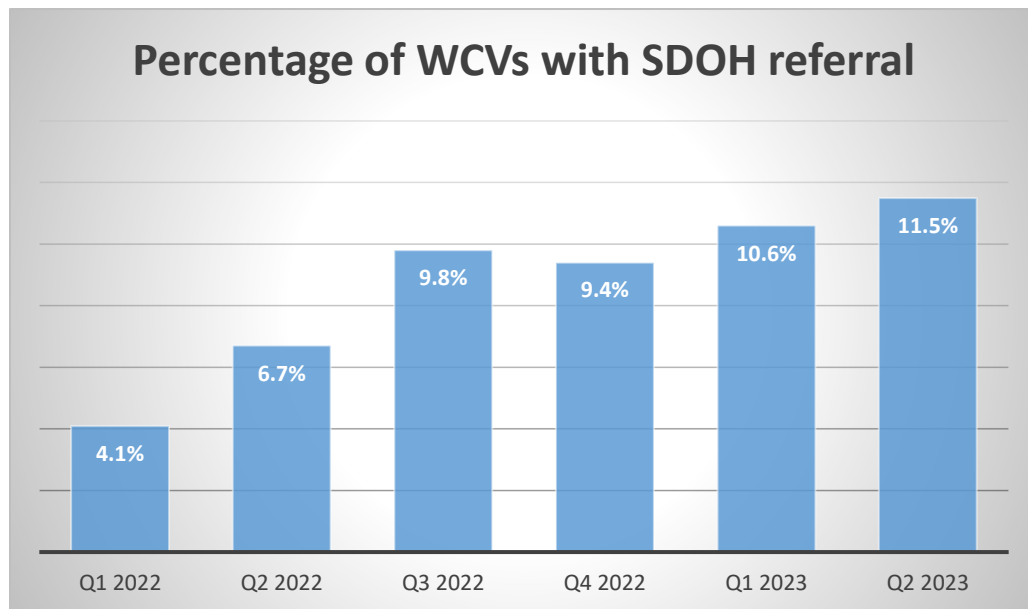
Figure 2: Increasing SDOH screening at a Pediatric clinic.

Reducing the per capita cost of healthcare

Our work on improving cancer screening rates is a strategic investment in population health and will ultimately and in parallel reduce the per capita cost of care. Early detection of disease and quick follow-up can significantly lower the overall cost burden associated with cancer care. Routine cancer screening can identify cancer earlier, at more treatable stages, which often require less aggressive and costly treatments than advanced-stage cancers. Screening can also lead to less invasive surgeries and shorter hospital stays, which, in turn, decreases healthcare expenditures.

Furthermore, screening reduces the need for costly emergency room visits and hospitalizations due to late-stage cancer complications, and by detecting cancer early, patients can return to their daily lives and employment more quickly, reducing the indirect costs associated with lost productivity.

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Below are some specific examples with elements of our improvement efforts that have turbocharged those initiatives:

Community outreach to enhance access to Breast Health services for underserved communities

The breast health initiative has so far reached 3,000 black and African American women with patient education in 6 targeted languages, with navigation and self-scheduling to a mammogram van. We employed telehealth technologies such as text outreach to reach this sub-population. To further bridge the gap in access to care, the mammovans are stationed in low-access or marginalized areas on special community event days as well as on regularly scheduled days.

At the end of the pandemic, in 2021 and 2022, we conducted almost 300 qualitative interviews with Black and African American women living in our state to understand determinants to breast cancer screening. In preliminary analysis of the qualitative data, perceived barriers are congruent with those previously reported in studies and papers.

We showed interviewees mock-ups of a patient-facing chatbot that could be tailored to Black women and used in breast cancer screening outreach. In our interviews, 18 out of 20 women asked thought that a mock-up of a chatbot tool would be useful.

Additionally, we surveyed health navigators and medical assistants to elicit barriers and facilitators based on their interactions with patients. Based on these and other interviews and survey responses from patients, we developed phone, Mychart and text outreach scripts as well as patient education materials for Black and African women. These communication tools were translated into our top 5 languages and distributed to primary care clinic locations.

Focus on Safety net clinics with a program that mails CRC screening kits to patients' homes.

In 2022, there was outreach and patient education in 2 languages as well as mailed FIT (Fecal Immunochemical Test) to almost 10,000 patients who were not up to date with screening. In 2023, we prioritized clinics and patient populations with lower screening rates, expanded program materials to eight additional languages and covered the costs of screening for 90 uninsured or underinsured individuals. This initiative supports patients due for screening across the primary care network with navigation after positive FIT result and provides direct access scheduling for follow-up colonoscopy.

The impact of this project has been seen in improved patient care quality, increased health care equity, and enhanced performance in value-based payor contracts across our health system due to reduced health care costs. As a cost-efficient measure for our screening programs, we have trained primary care navigators to schedule various specialty appointments including colonoscopies, mammograms, and Chest CT scans once they are able to engage with patients. This reduces the cost burden on the system in terms of phone usage, and is equally a patient satisfier, enhancing their experience of our care.

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Workplace wellness or joy of work

Maintaining accurate patient panels.

The goal of continuous and up to date empanelment is to uphold all of our patients' ability to receive all their care needs in a comprehensive, holistic approach through Primary Care; the gateway to preventive, wellness and proactive care. This process takes time and effort but has downstream benefits for providers, patients, and for the organization.

Increased job satisfaction for our providers and staff was a priority with the goal of reducing turnover rates, improving patient care, and decreasing healthcare costs in the long run. One of our 2022/23 projects was aimed at successfully managing our accountable care patients and other value-based care plans depends on our ability to better manage and track patient panels, including outreach and engagement.

In 2019 an enterprise-wide workgroup developed standard processes and documented them in toolkits for Front Desk, MAs, Chief/Manager, including definitions, screenshots, workflows, and more. At the beginning of 2022, our organization formally re-visited that work, as part of a PDSA (Plan-Do-Study-Adjust) cycle of improvement.

For Providers and medical staff, there were financial benefits for with better reporting accuracy and when panel-based metrics is improved. PNs and others staff would gain more clarity regarding provider panels and executive leadership expected better insight on quality outcomes to make sound strategic plans more easily.

Primary care physicians, such as our family medicine, internal medicine, and pediatric doctors, have frequently established long-term relationships with their patients and may prefer to see the same patients consistently. These providers believe in the benefits of patient-centered care, which involves building strong doctor-patient relationships over time. These doctors may enjoy seeing the same patients regularly as it allows for better continuity of care and a deeper understanding of a patient's medical history and needs.

Our organization implemented this project as a wellness program along with flexible schedules and other initiatives aimed at addressing PCP burnout, promoting work-life balance, and supporting the mental and emotional well-being of healthcare providers. We have received stories of providers who have found renewed purpose and job satisfaction through more meaningful patient interactions, improved team dynamics, and a sense of fulfillment in contributing to better patient outcomes. Voluntary staff turnover has continued to decrease.

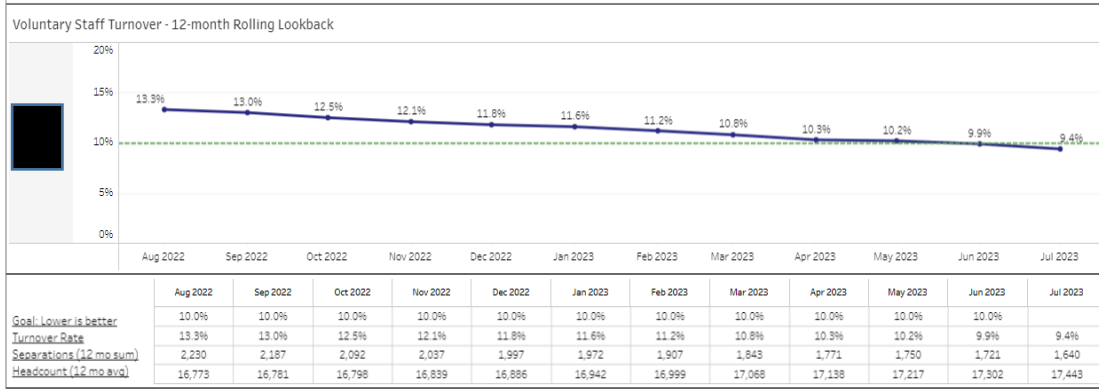*Figure 3: Rolling 12 months look back on Voluntary Staff turnover*

	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023
Goal: Lower is better	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
Turnover Rate	13.3%	13.0%	12.5%	12.1%	11.8%	11.6%	11.2%	10.8%	10.3%	10.2%	9.9%	9.4%
Separations (12 mo sum)	2,230	2,187	2,092	2,037	1,997	1,972	1,907	1,843	1,771	1,750	1,721	1,640
Headcount (12 mo avg)	16,773	16,781	16,798	16,839	16,886	16,942	16,999	17,068	17,138	17,217	17,302	17,443

CONCLUSION

The four key goals of healthcare quadruple aim of improving patient experience, improving population health, reducing costs, and improving the well-being of healthcare providers, requires innovative narratives and strategies. We include in this application some narratives that helped us in our efforts, explaining the powerful tools that supported the drive for change within our organization.

In all improvement efforts, we convened workgroups through which we facilitated healthcare providers and administrators to align their efforts with the quadruple aim goals. We emphasized the positive impact of patient-centered care and shared patient stories related to population health initiatives. Each of our three cancer screening programs is built by creating a centralized cross-site team generally comprised of a population health panel navigator and a physician champion as a program medical director.

The physician champions have been highly successful in ensuring that initiatives and programs also catered to provider well-being. Finally, an unplanned mission-forward campaign related to ongoing financial challenges as an organization helped us prioritize and include cost-effective strategies in all project planning, driving a more holistic and sustainable approach to our healthcare delivery.

The breast screening initiative performs targeted outreach to black women in low-access areas, providing resources and direct access scheduling to a mobile mammogram van. The CRC screening program provides mailed FIT kits to primary care patients, navigation after positive FIT result, and direct access scheduling for follow-up colonoscopy. The LCS PN completes smoking history surveys, schedules high-risk patients for shared decision-making appointments, and smoking cessation, if needed. The panel navigator can also provide direct access scheduling for CT lung scans.

In addition, workflows to improve patient access and experience have been developed that provides transportation to cancer screening sites. For patients going for moderate sedation screening, there are also rideshare transportation options available by our CCP for curb-to-curb service. By implementing these comprehensive strategies, our aim is to create a more equitable healthcare system, where all individuals have equal opportunities to achieve optimal health outcomes.

NARRATIVE 1: EMPANELMENT AND PANEL MAINTENANCE REFRESH

1: Purpose: Leadership identified Empanelment and Panel Maintenance refresh as an improvement priority based on the growing importance of having accurate panels for our panel-based quality metrics.

Empanelment is the process of linking a patient to a specific PCP, promoting a shift from sickness to wellness care and from volume to value based care. Empanelment, panel maintenance and team-based panel management are key competencies to ensure participation in value-based contracts.

Panel maintenance is the process of ensuring accuracy of panels for PCPs that includes provider validation and approval, removal of patients who are deceased or have not been seen in the last 3 years in primary care (unless otherwise determined by PCP) and empaneling unassigned patients who choose to engage in primary care.

Maintaining accurate PCP panels takes time & effort but has downstream benefits for providers, patients, and for the organization. Successfully managing ACNs and other value-based care work depends on our ability to manage and track panels. In 2019 an enterprise-wide workgroup developed and documented standard processes for empanelment and panel maintenance. This project was intended to revisit that work and make improvements.

The project goal was to review and validate existing workflows and standard work documents, adjust where needed, and re-launch across the organization.

2: Performance Goals: Key performance metrics (including definitions and targets) are described below:

- % ESTABLISHED EMPANELED PATIENTS = 95% by end of FY2023

Numerator = # of patients seen at least once in the last 3 years with an empaneled PCP

Denominator = total # of patients seen at least once in the last 3 years at a primary care clinic location

- % ACTIVE UN-EMPANELED PATIENTS = <5% by end of FY2023

Numerator = # of patients seen at least twice in the last 2 years but not assigned to an empaneled PCP

Denominator = total # of patients seen at least once in the last 3 years at a primary care clinic location.

3: Data Collection and Analysis Plan: Panel maintenance involves driving down the un-empanelment rate and inviting patients, who are willing, to PCP and clinic medical home panels. Meanwhile, it is important to assure accuracy of PCP assignment, as well as the management of provider capacity.

The routine and regular review and updating of panel assignments ensures panel accuracy, and makes panel management activities more effective, especially when using a team-based approach.

We kept track of the following through our electronic medical record (EMR) as process measures. Panel Navigators would regularly review this information as part of their routine workflow and standard operating processes.

1. Frequency of updates made to Gen PCP field in Epic for patients whose PCP is listed as "PCP, none; Blank or PCP unknown" by a Primary Care staff member

2. Frequency of updates made to Primary Location field in Epic for patients whose PCP is listed as "PCP, outside" or an actual non-PCP name is listed, by a Primary Care staff member
3. Rate of Primary Care visits scheduled by patients who received a panel maintenance letter, and or a telephonic outreach by the panel navigator
4. Panel navigator uses the panel maintenance reports in Epic to take action.
5. Panel navigator uses bulk letter templates for outreach to patients to maintain empanelment and engages patients to schedule new or follow up visits.
6. Assigning patients to provider after an establish care visit.

Monitoring of the above indicators showed that the standard operating procedures (SOP) were not being adequately adhered to. This was backed up by the baseline data collected.

Several emails from various stakeholders also showed that the best practice process requiring entity contacts to update new providers, leaving providers, PCP panel status, cFTE, primary location, open scheduling status, patient age range, and other relevant information using a standard template, was not being maintained and efficiently communicated back to the appropriate people.

The team would periodically check and cross match PCP Provider Data reports in Epic with the updates provided by the appointed entity contacts.

4: Evidence of Data Collection (See Appendix 1): The data for this project was collected from two sources: EMR (Epic) reporting and our Population Health Analytics (HBI) Empanelment Dashboard.

Panel maintenance is a coordinated effort to re-engage patients to connect with their PCP or clinical care team to ensure good preventive health maintenance. Patients are re-engaged through outreach by mail, MyChart message and phone calls to see their primary care team when needed.

Through the project team consultations with stakeholders, it was agreed that the following data would be collected at baseline and at end of the project.

5: Data Analysis (See Appendix 2): At baseline – just after existing workflows and standard work documents had been reviewed and validated, but before completion of their re-launch – the below data was collected was observed and informed the targets for this project.

Analysis showed that after 3 years since the original launch of team-based approach to care, the empanelment rate remained around 89%, an increase of only 3 percentage points. It did not appear like a goal of 95% by the end of the calendar year was feasible. Even more alarming was that the percent of established patients who remained unpaneled surpassed previous levels at 21%. Also, about 4% of empaneled patients were falling off PCP panels through attrition, a disturbingly high percent.

These numbers confirmed the theorized problem of inconsistent panel maintenance workflows and indicated that an accurate approach was to engage with patients more regularly.

6: Comparison of Current Performance Against Goal (See Appendix 3) : When empanelment workflows were initially created in 2019, our overall empanelment rate was 86% and the goal was to get to 95% at the end of 2022. In March 2022, the current average empanelment rate across all clinics was about 89%. This project was launched to help accelerate progress toward the 95% goal. At the end of the project period, data was collected and showed some impact.

7: Corrective Actions: We convened a workgroup with wide representation, including provider and staff roles across all our geographic regions. The group met for 6 one-hour sessions (April through July 2022) to review existing workflows and processes, identify updates and revisions, and finalize refreshed documents and training materials. The workgroup was focused on these 5 key workflows:

1) PCP and Location field updates
2) Un-empaneled, active patients – new or established
3) Empaneled, inactive patients
4) Departing providers and residents
5) Inactive and unpaneled patients

Key questions asked during the sessions were:

• How well do staff understand panel maintenance processes?
• Are existing processes yielding expected results?
• What adjustments, if any, are needed?

After all workflows were finalized by the workgroup, the next step was to re-launch the updated processes across all clinics. This phase lasted from August – October 2022. Five clinic teams received training refresh including the BVS, BOCC and PSR Leads.

8: Measurement - Baseline to Final (Appendix 4): Tracking metrics began in October 2022 through March 2023. Our current performance compared to the goals for the project indicates significant improvement, but we did not meet the empanelment goals at the end of the project. Data shows that after we re-launched the workflows, we shrunk the gap from 6% to 2% from goal. Empanelment improved from 88.9% to 93%. We were able to surpass the goals in three measures - empaneled patients who have been seen in the last 3 years and the percent of patient visits with their PCP.

9: Additional Corrective Actions: The panel navigator team has developed a more efficient way to review and track active unpaneled patients. This will directly target our empanelment measure and lead to more effectively closing the gap. Previously, when we pulled this list from the population health analytics dashboard, there was no way to maintain a running list. The next time you pull the list all your great notes are gone, and you are chart-reviewing the same patients all over again. A new tracker will support staff in their organic and ongoing patient engagement and better outcomes for patients.

10: Communication: This improvement project was considered complete when the original goals were shown to have been met: (1) validate existing workflows, and (2) re-launch revised processes. Project results were shared with the Executive Quality & Safety Committee, which includes key operational and clinical leaders and has provided oversight for this work. Though the project has formally ended, there is ongoing work to maintain awareness of the standard workflows, to monitor relevant metrics, and to identify future adjustments when needed. Our long-term goal is to ensure our panel maintenance processes are embedded across and within clinics, and to ensure they're consistently followed and monitored across primary care to maintain high empanelment rates (appendix 5).

NARRATIVE 2: BREAST CANCER SCREENING

The breast health and equity (BHE) program was initiated in September 2020 as a leadership quality initiative that convened stakeholders across disciplines (primary care, radiology, operations, population health) and sites of service including our clinically integrated cancer care provider (CCP). The Physician champions for this workgroup is the Medical Director of Primary Care and the Chief Health Equity officer of our organization.

The focus has been on communities that have been marginalized, and who do not have access to lifesaving mammograms. Our breast cancer screening initiatives have led to visible improvements in screening rates in the past three years, especially following the depressed rates caused by the covid-19 pandemic.

Between 2021 and 2022, 729 Black and African American (B-AA) patients were surveyed through grant funded initiatives to return women to screening. Our data showed that B-AA patients had the most disparity in screening and faced more barriers in accessing care. 241 women responded to our outreach and education via phone calls or secure emails. 212 women shared reasons for delaying screening and engaged with navigators on education.

OPPORTUNITIES TO IMPROVE SCREENING RATES AFTER THE COVID-19 PANDEMIC

Our organization **e**xperienced severe delays due to backlog of patients after initial COVID-19 shutdown either due to patients being hesitant to come in or staff shortages. As a result of improvement initiatives in 2021 and 2022, we have added text messages and autodialing to our outreach campaigns, along with phone calls, Mychart and mailed letters. These are automated outreach options according to patient preference - Messages can be variable and specific to patient - by provider or clinic.

Patients can get connected to a scheduler directly and auto dials seemed to get more instant call-backs than text messages. Self-scheduling is available to patients via EMR MyChart, and they can choose from various locations. While in clinic, Medical Assistants and PNs can help patients get scheduled quickly. Providers and staff also have access to print and distribute promotional materials in multiple languages.

PCPs resumed placing referrals to patient preferred screening sites – both internal and external screening facilities. In some cases, clinic staff forecast upcoming visits and communicate any care gaps related to breast cancer screening to the clinical providers. Staff are actively rescheduling at time of cancellation and where possible, patients are put on a wait list to be called when there are openings.

Aim statement.

In partnership with our CCP, our end goal was for primary care clinic patients to be supported through a process that results in them leaving any clinic visit with a scheduled Mammogram appointment when due for screening.

We believe that we can further increase screening rates by improving our outreach and follow up using current publicity and marketing materials and continuously training our navigators using the Epic medical records to schedule patients due for mammograms.

The BHE efforts were spread across the primary care panel navigators supported by cancer care scheduling experts. Our PNs facilitate outreach and can work directly with community members and BIPOC organizations to help tailor our engagement to be culturally relevant and responsive.

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Project successes.

Our Primary care trained 12 Panel Navigators and 2 Medical Assistant Leads in using the Epic medical records to schedule patients due for mammograms. We printed 3000 copies of an existing BCS promotional flier in English and 500 copies each of Somali, Amharic and Tigrinya translations. 1326 patients received autodial or text outreach and 300 have received follow-up phone calls by a scheduler.

We also increased overall screening rates by 2.8 percentage points, with 1,170 patients net added to the screened pool.

Other successes are as follows:

1. Community Outreach and Primary Care support for scheduling 14 patients - New Beginnings Church

2. Collaboration with Marketing and Communication on the following

   I.   Publish BCS articles in the Primary Care Huddle and Right as Rain- web magazines
   II.   Public Service Announcement video and voiceover ad - Patient/survivor voice (focus: self care)
   III. Health Risk Assessment Profiler - under discussion

3. Facilitating cross-site Scheduling reviews that led to discovery and resolution of 700 mobile mammo referrals not routing to Appointment Request Workqueues.

Project challenges.

Some of the major challenges:

1. Staffing and current protocols - these have meant delayed support for a pilot to schedule women without a PCP for a mammogram at the same time as a primary care visit.

2. IT Access - there were delays in terms of procuring security access for primary care navigators to schedule for mammograms.

3. Funding - Due to higher costs, we have had to postpone deploying a Health Risk Assessment profiler

4. The Pandemic: Just as we completed our autiodial and text outreach and began phone calls, the Omicron surge meant patients became even more hesitant to schedule provider consults or mammogram procedures. And staff including technologists have had to isolate or quarantine due to covid exposure.

QI activities conducted.

1. *Current state process map*

Multidisciplinary collaboration across teams enabled process mapping from referral to screening. We identified gaps - such as where mammogram referrals from Primary Care were not flowing into any scheduling workqueue.

2. *Future/ideal state process map*

After mapping the current state process map, we developed a couple of drafts for a future state process map. This would enable patients identified as needing screening to be scheduled by primary care staff.

Those who self-refer to radiology without a PCP will get established to support follow up.

3. Plan-Do-Study-Act (PDSA) cycle

We used the PDSA as part of preparing our initial outreach using autodial and text messages. We started with 56 patients and monitored to see what the split was between two scheduling teams to avoid overwhelming them. The outreach was paced slowly over three hours. On following days, outreach was increased incrementally: 258, 520, 114, 189, 189 according to observations from previous days.

4. Root cause analysis

A root cause analysis was done as part of mapping current state and an ideal process map for screening. Other than covid-19, the following barriers limited screening:

- Due to funding cuts, schedulers were restricted to specific locations - leading to access issues.
- Patients without PCPs cannot self-refer for a screening mammogram for the following reasons:
  - If screening is positive, a PCP order is needed to proceed with additional imaging and biopsy.
  - If screening is positive or the patient does not return or is diagnosed with breast cancer, primary care support is needed to complete care episodes or navigate to treatment.
- Schedulers did not provide accurate patient information to establish with a PCP.
- Panel Navigators and other primary care schedulers do not have access or training to promote or schedule screening mammograms.

Since the end of this project, more successes have followed:

- Collaboration with Marketing and Communication on the following
  - Primary Care Intranet and Newsletter
  - More translated print and digital displays in clinics.
- Community Outreach and clinic events for BCS awareness month
- Investment in a central breast cancer screening PN.
- Sustainable processes that have scaled automated outreach through health maintenance reminder letters and emails. To date, over 18,000 patients have received these reminders and 14% have completed their screening.

NARRATIVE 3: LUNG CANCER SCREENING

Lung cancer is the second most common cancer among men and women in the United States, but it accounts for more deaths than breast, prostate, and colon cancer combined. One key reason for this high rate of death is that lung cancer is often detected when it has spread beyond the lung to other parts of the body, and lung cancer in an advanced stage is less likely to be cured. This has been tied to some stigma and shame among populations that would be most positively impacted by Lung Cancer Screening (LCS).

An LCS-focused screening navigator in primary care supports an outreach intervention to increase rates of early-detection of lung cancer through evidence-based screening. Doing so will improve access and reduce disparities in LCS care. This intervention will put us "ahead of the curve" in meeting anticipated quality measures that payers will use to pay for performance in the coming years.

By the end of July 2023, 5,794 patients had received automated outreach and half of them answered to receive reminders and education around LCS. 8% entered a phone call to speak with the panel navigator and get assistance with either scheduling a shared decision-making appointment with their primary care provider or to schedule a screening appointment based on an already placed LDCT referral.

Our lung navigator was trained with various pulmonary, nodule, and lung clinics to provide comprehensive education to high-risk patients. They have completed 638 lung surveys resulting in a 6.6% increase in lung cancer screenings compared to this time last year.

- Target Population for project/initiative: Primary care empaneled patients aged 50-80 years who are current or former smokers (and those with missing smoking status).

Some technologies/tools:

- Health Maintenance: Only flags if history is in discrete fields with pack per years and quit date if former smoker.
- Referral available – CLUNGCA
- Smoking history Review: Check reviewed in the smoking history section in Epic at each visit if smoking status is a current or former smoker.
- Smoking HX questionnaire: Can be added to Mychart [Tobacco Use History Template]

Resources and training:

A panel navigator (PN) was hired, and various outreach scripts were developed which they were trained on. The PN uses these to educate patients about the importance of early detection and the screening process. The empathetic scripts promote informed decision-making and reduce shame and anxiety attendant to smoking history. The processes below and work assignments are focused on sub-population groups where there are gaps in care, aligned with health equity priorities.

i.   LCS PN outreaches to current/former smokers to follow up on pending referrals and schedule individuals at high risk for lung cancer for a SDM visit or Screening.
ii. They also perform smoking history reviews and document lung cancer risk factors within structured fields in the EHR and offer smoking cessation resources to current smokers.
iii. PN coordinates with the Communication Technology Contact Center team on outbound automated calls to the eligible population to receive inbound calls from interested patients.

iv. They facilitate messages and questionnaires that will give patients with missing smoking status an opportunity to update their smoking history information using Mychart.
v.   Through PCP and staff engagement, the navigator raises LCS awareness and shares related resources within the system among diverse internal stakeholders.
vi. PCP leadership metrics on risk factor information and LCS among high-risk individuals to continue to promote provider awareness for LCS and services offered to patients.

The lung screening initiative supports a navigation program that provides additional assistance for all patients who identify as either American Indian/Alaskan Native (AI/AN) or LGBTQ+ through the care continuum. Lung cancer screening is not a one-time event, and patients often need support for getting their CT, understanding the results, and arranging follow-up. Our cancer care partners are also evaluating the program through a study component, which includes study visits and compensation.

The PN role has streamlined appointment scheduling in a way that alleviates stress and enhances convenience. The PN role is a supportive and well-trained healthcare staff who prioritizes open communication and compassion. This intervention has increased screening rates, improving access to evidence-based screening and reduced disparities in LCS care. It puts us "ahead of the curve" in meeting any quality metrics around lung cancer Screening. By July 2023, 5,800 patients had received outreach and over 1000 engaged.
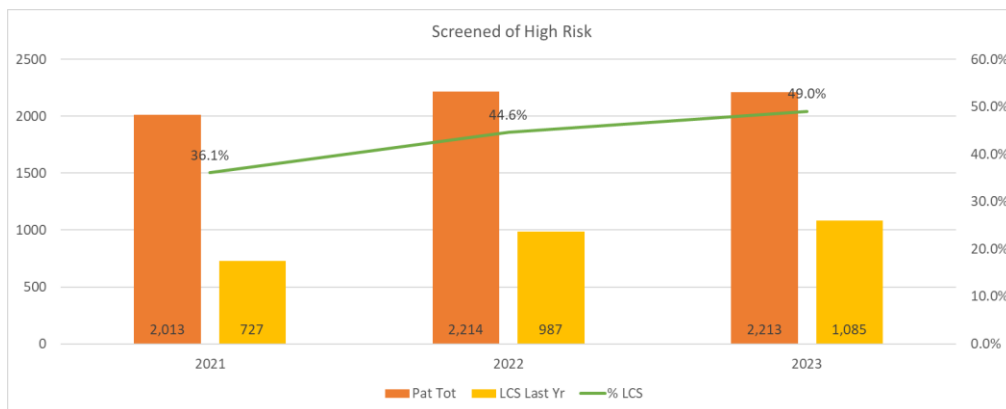

Figure 4: Improving Lung Cancer Screening rates among patients considered high risk.
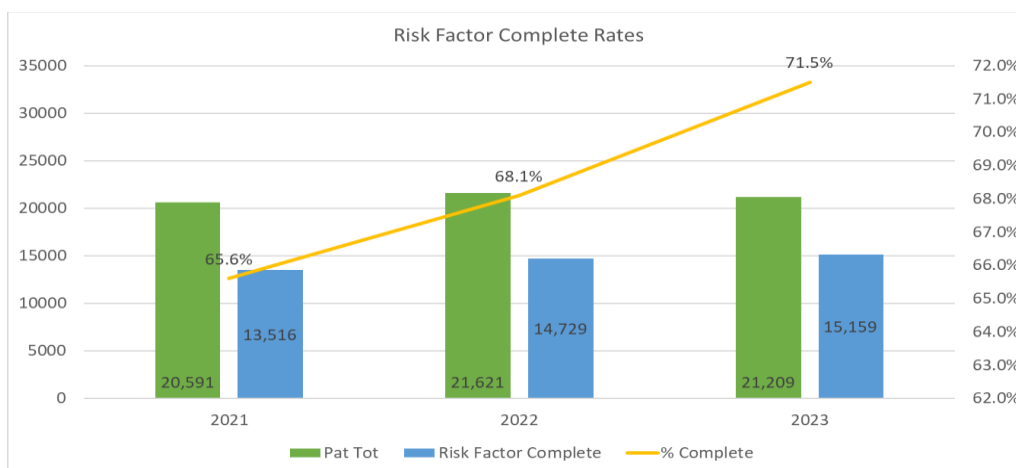
Figure 5: Increase in number of patients with smoking history risk factor complete
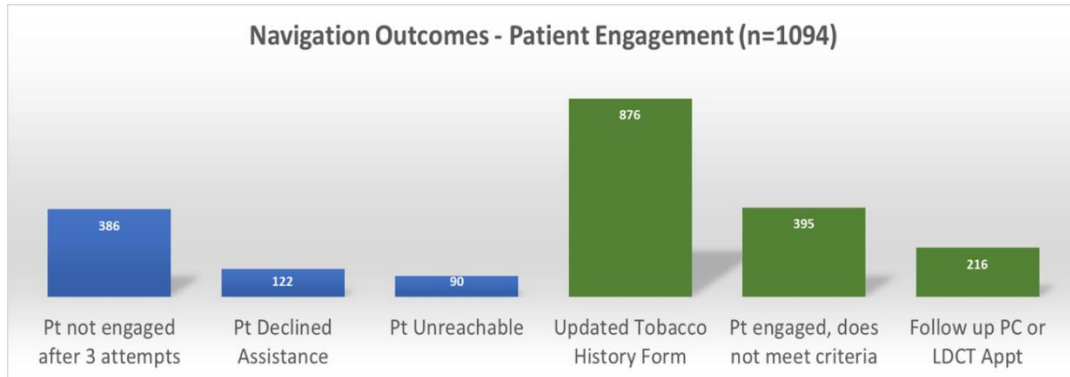
Figure 6: Over 1000 patients engaged through outreach and their experience/outcome
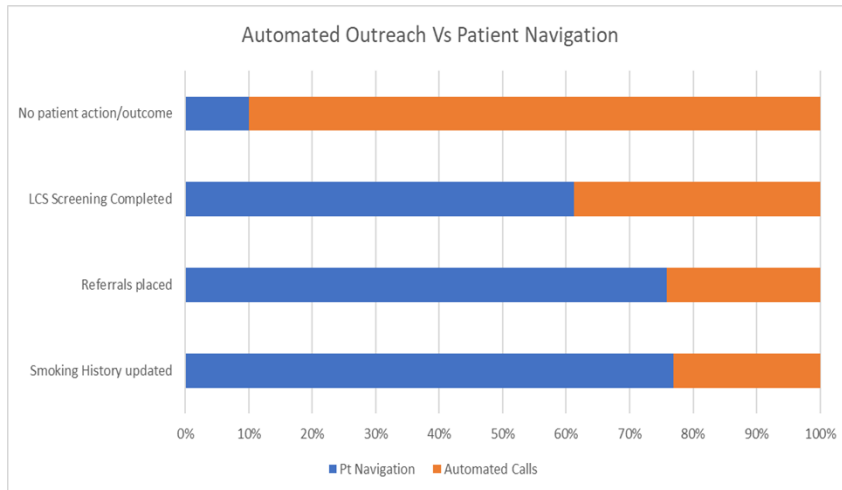
Figure 7: Comparing outcomes for patients with navigation vs automated engagement.

NARRATIVE 4: COLORECTAL CANCER SCREENING

Colorectal Cancer (CRC) is the second leading cause of cancer-deaths in the U.S. with persistent racial/ethnic and socioeconomic disparities. For example, Black people diagnosed with CRC are 40% more likely to die compared to White people, and lack of screening may explain up to 50% of this survival disparity. The U.S. Preventive Services Task Force (USPSTF) recommends CRC screening for average-risk adults between the ages of 45 to 75. Colorectal cancer (CRC) screening adherence is a key Patients are First (PAF) quality metric and a HEDIS measure.

Screening is cost-effective and saves lives, yet only 66% of 71,600 eligible patients in our system are up to date with CRC screening. Additionally, 61% of Hispanics and 57% of Black patients are up to date with CRC screening within our health system, compared to 69% of White patients. All falling short of the National Colorectal Cancer Round Table screening goal of 80%. Our Population Health program in collaboration with our CCP and through the Mailed FIT outreach project aims to improve this metric, reduce disparities, and improve patient outcomes.

Through a combination of evidence-based strategies, including mailed outreach, we increased CRC screening from 55% to 71% between 2017 and 2019, and achieved 4- and 5-STAR HEDIS ratings in several value-based contracts. With the COVID pandemic reversing previous gains in Colorectal Cancer (CRC) screening in 2020, and widening equity gaps, improvement efforts were restarted in late 2021.

To regain momentum in the early detection and prevention of colorectal cancer across our system, our quality improvement program resumed tailored interventions to improve overall screening participation and address persistent racial and ethnic disparities. Our efforts almost immediately were productive and led to a visible improvement in the CRC screening rates across our various entities. CRC screening has increased from 68% to 70%, approaching the rates before the pandemic. In addition, we have seen improvements in screening across most racial and ethnic groups!

Figure 8: CRC Screening Rates 2019 through 2022 (based on earlier metrics population 50-75)

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The key improvement vehicle is the Population Health Colorectal Cancer (CRC) Screening Program. This homegrown initiative is led by a Physician Champion and uses mailed fecal immunochemical tests (FIT) to drive patient engagement and increase screening rates. FIT detects blood in stool and is the preferred stool-based test for CRC screening. FIT kits are mailed to patients and returned by mail, reducing the need for clinic visits to initiate CRC screening.

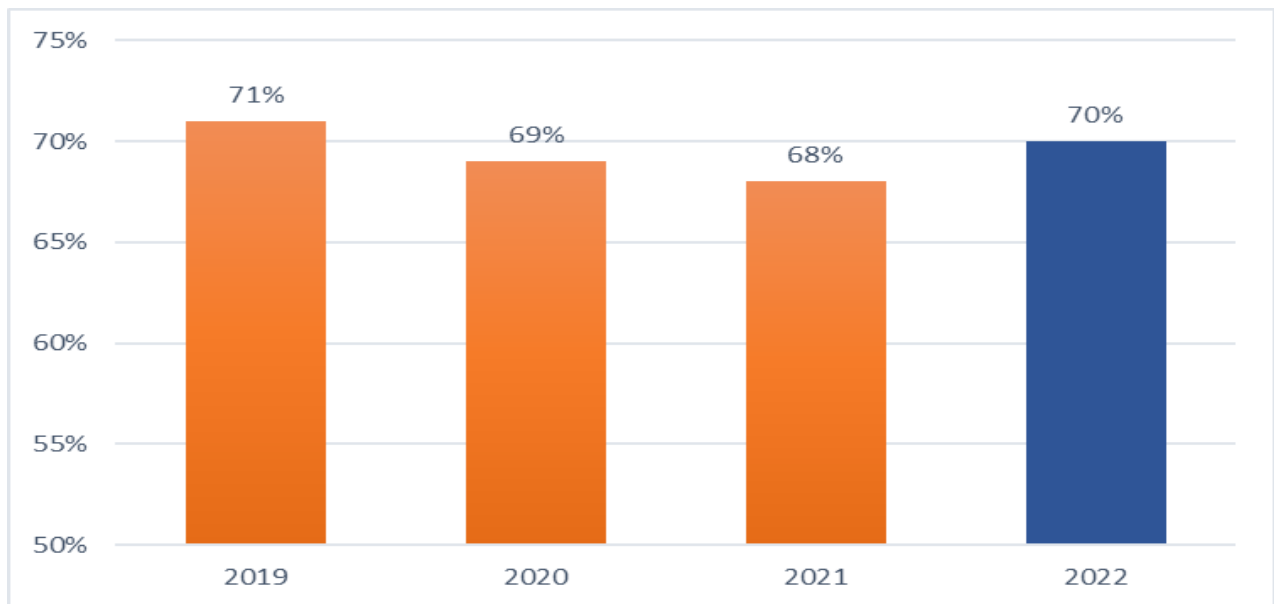Our CRC Screening Program leverages the expertise of individuals across our clinically integrated Cancer Care partner, Primary Care and Population Health. The overall CRC screening program includes FIT-based outreach, patient navigation, and a system-level staff and provider awareness campaign to improve disease prevention and increase CRC screening participation.

Eligible Population: Patients ages 45 – 75 with a primary care encounter within our organization in the past three years and who have an assigned primary care provider. These are patients who are due soon or overdue for their CRC screening and who do not have any advanced comorbidities.

Goals: Decrease CRC-related mortality and racial/ethnic and low-income outcomes disparities through early detection. These goals are being achieved by building a quality improvement program focused on:

1) improving CRC screening completion for all patients, thereby finding cancers at an early stage,
2) tailoring interventions to increase screening participation among racial/ethnic minorities, individuals of lower socioeconomic status, and other difficult to reach patient populations, and
3) ensuring follow-up colonoscopy completion for individuals with abnormal FIT results.

This program supports ongoing quality improvement initiatives such as improving surveillance colonoscopies for those with prior abnormal studies and generates data and experience for future grant applications for ongoing support. Already, this CRC screening program has direct impacts on the quality of patient care, health care equity, as well as value and cost of care.

In 2022, we mailed fecal immunochemical test (FIT) kits to 9,716 patients and approximately 34% completed a test, on par or exceeding similar programs nationally. The CRC program targeted English and Spanish speaking patients, reaching 9,716 eligible patients. At the end of 2022, the overall CRC screening completion rate in this population was 34% (Appendix 6). As suspected in programs of this size, 41% (n=32) of those with an abnormal FIT result who completed a colonoscopy have been diagnosed with CRC or a high-risk pre-cancerous lesion that requires increased surveillance. These diagnoses might have been delayed or missed without the program.

Also, 52% of patients with abnormal FITs identified after three months of the positive result had completed their follow-up colonoscopy. A workflow was piloted in which the CRC screening panel navigator could schedule FIT-positive patients directly for a follow-up colonoscopy. An additional fourteen patients who were initially lost to coordination were then scheduled, leading to an improved final completion rate. This pilot has since been expanded in 2023 to all internal screening facilities and more cross-site collaboration is in the planning phase.

Year to date in 2023, the initiative has mailed 14,509 FIT kits to eligible patients in eight languages: English, Spanish, Arabic, Cantonese, Mandarin, Cambodian (Khmer), Russian, Vietnamese, and Somali. So far, 29% have returned a completed test. This return rate is consistent with the progress we observed this time last year and we remain optimistic for another successful program year.

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Learnings: Some patients are opting for screening by colonoscopy and are receiving support through our team as needed. In addition, we are seeing increased FIT return rates among previously under-represented populations. Our hypothesis of increased patient engagement through using more language channels is proving accurate and yielding good results.

PDSA Cycles: Our organization is also working on other improvement activities in parallel to this core program. In December 2022, we piloted patient level automated Health Maintenance (HM) reminders via our EHR, which alerts patients 30 days after CRC screening becomes overdue. This has been scaled up and over 10,000 patients received these reminders with 10% completing their screening.

In June 2023, we were accepted into the AMGA CRC Collaborative to build on our CRC screening updates. Baseline data includes the new age group 45-49 (see appendix 8) and shows the reduced rates with this new population but a hopeful and gradual upswing.

Sustainability and spread: At the beginning of 2023, we included stool DNA screening as a combination HM topic so providers can more easily order and document the FIT-DNA test and began working on an EHR integration with Exact Sciences. In the coming months, we plan to socialize the stool DNA screening combination HM topic among providers and clinic staff across 22 primary care clinics in 2024. This will be done in parallel with communication towards awareness and training for EHR users who will be utilizing the integration with Exact Sciences to order the DNA based stool test.

Advantages: Currently patients screened with FIT-DNA are a small piece of our screening. The new initiative is expected to expand and smoothen the way for patients requesting multi-target stool-DNA testing. In terms of direct costs, we know that our organization will not have to purchase the Cologuard kit or the postage and will thus make a feasible and cost-effective adjunct strategy.

Anticipated Obstacles: There may need to be some patient facing material to communicate this new addition though many patients already know about the test's ability to satisfy screening for 3 years and choose it because it is covered by their insurer without deductible since it is preventative and not diagnostic. However, further communication is needed for some patient populations (languages other than English, lower health literacy, cultural barriers).

We foresee a challenge for our IT department in getting the orders to align with the results from Exact Sciences labs seamlessly. Provision will need to be made to connect our IT to Epic analysts who have helped other organizations through this process. Ultimately, we will bring the needed information into the chart to satisfy HM which would allow our automated Epic HM patient reminders and reduce erroneous patient outreach.

While we have a growing number of patients who prefer the Cologuard method and several Primary care providers who would like to have a way to streamline getting the order done, there are probably majority of providers who may be surprised by what could be seen as a switch in strategy, or another supplemental task or new training to be completed. This will likely be our major challenge and the proposed way to tackle this barrier is multi-level and multi-channel provider communication.

NARRATIVE 5: PATIENT NAVIGATORS DELIVERING EQUITABLE CARE

The Panel Navigator is accountable for population health activities and tasks in the clinic which may include but are not limited to the following: Enhancing the patient experience through proactive engagement and outreach around wellness, preventative care and striving to improve the "global" patient experience.   This role is accountable for population health activities working closely with the care team in the clinic. Examples of population health activities are maintaining accurate panels, ensuring team-based panel management, gap closure, and referring patients for care coordination, care management, addressing disparities in care for vulnerable populations and ensuring all patients' needs are met.

Our Primary Care clinics operate as a Patient-Centered Medical Home which uses a team approach to providing total healthcare. We deliver accessible, continuous, patient-centered, coordinated, compassionate, and culturally appropriate care. Figure 1 below shows a sample of roles and disciplines represented. The Care Manager (CM) could be a Registered Nurse, a Social Worker (MSW) and or a nutritionist/ Registered Dietician. Other roles include Medical Assistants, Social Work Assistants, Between Visit Care and Referral Coordinators, etc.

The Design Process: In 2020, we integrated population health into the patient centered medical home. Population Health is a proactive approach to health care in which the care team is concerned with the health of the entire population of its patients, not just those who come into the clinical setting for visits. Population health is represented by the panel navigator role within the clinic and across various sites of care like in the cancer screening navigator roles.

Implementation: The Population Health Panel Navigators team (PNs) are the lynchpin of our collaborative Care Teams, connecting healthcare providers across specialties, disciplines, and clinics to address social determinants of health, reduce health disparities, and promote holistic wellness within our patient populations. Part of their toolbox is focusing on community-level health interventions, preventive measures, and bulk outreach campaigns that have led to improved population health outcomes.

PNs monitor data and share success stories of clinics with improved quality metrics and patient experience metrics. The PN initiates contact with patients to support care goals, follow up on no-show and new referrals, schedule new patient appointments and other actions. They assist with scheduling appointments with and referrals to internal and external resources. They also participate in network workgroups and meetings to ensure continued improvement in systems and processes for panel and care management. Key performance indicators include number of workgroups and provider meetings they complete, as well as improvement in clinical quality outcomes and provider panel metrics.

In 2023, a Community Health Worker (CHW) role was added to extend this concierge-like service OUTSIDE the clinic. Since their onboarding in March, the CHWs have become integral members of the care team, and, like the clinic-based Panel Navigator, they are accountable for various elements of population health – especially as it relates to the social determinants of health (SDOH). CHWs assist in completing paperwork for families seeking Applied Behavior Analysis (ABA) therapy for Autism, developmental disabilities assessment, and any other type of paperwork that would create a barrier to getting services.

CHWs are responsible for outreach and care coordination services as they relate to Early relational Health (ERH) and K12 Mental Health roles. The ERH CHW is focused on closing care gaps in preventative screening, vaccines, and immunizations for 0 – 5 patients.

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The K12 Mental Health CHW supports our Behavioral Health Integrated Program (BHIP), working closely with the Licensed Social Worker and social work assistant. The CHW coordinates system navigation and interdisciplinary support for young children and their families. The CHWs support patients and families through short-term interventions within the scope of practice through outreach and engagement, informal counseling, and social support.

Learnings and Best Practices: Patients have sent in positive feedback when the CHWs and PNs advocate for them to receive more timely specialty appointments, by contacting relevant hospitals, service providers and community agencies to increase knowledge and collect information related to services available for patients and families. Now the team encourages and assists patients with completion of patient forms, applications, and other paperwork as needed. They also provide accurate information to patients, physicians, staff, and community when requested.

Sustainability and Spread: PNs have been trained to understand and address the unique needs and values of diverse patient populations. By fostering cultural humility and creating inclusive healthcare environments, this care coordination team has been able to establish trust and improve patient communication around sensitive topics like depression, improving healthcare experiences and outcomes.
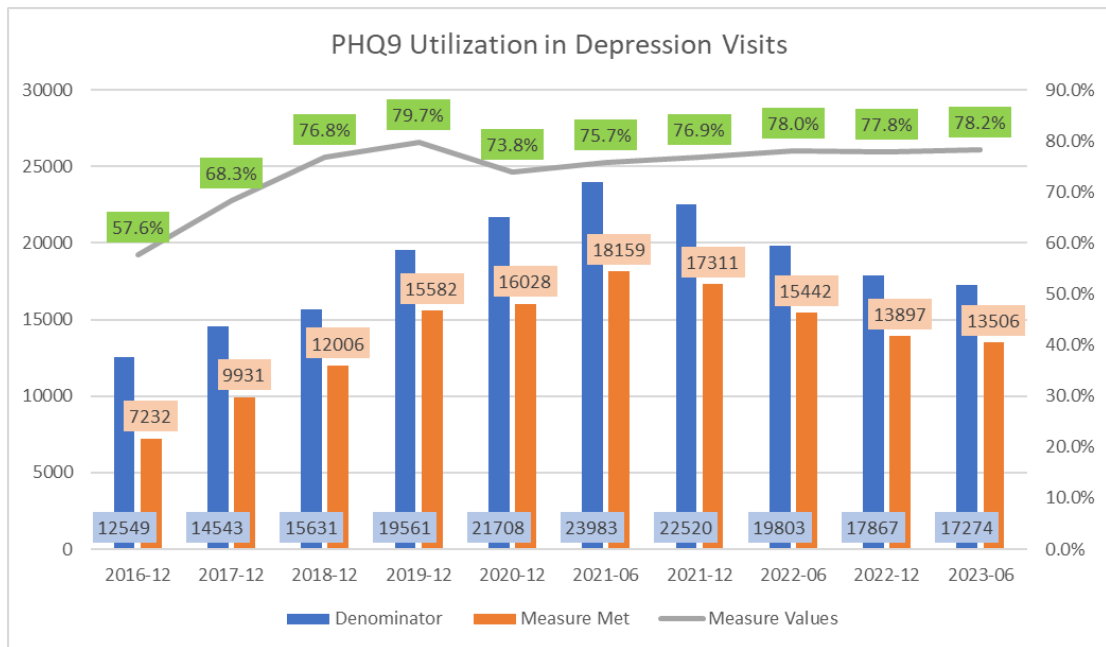

Figure 9: Quickly building back our Depression screening

NARRATIVE 6: DATA-DRIVEN APPROACHES TO IDENTIFY AND REDUCE HEALTH DISPARITIES IN THE PEDIATRIC POPULATION.

Our organization uses a HIPAA-compliant internal analytics dashboard for tracking population health metrics. This is a structure that securely receives patient data from a data warehouse (which collates data from all different EHR systems used across the enterprise) and codes them according to demographic, medical and social factors, among other metrics.

For example, through our Population Health Analytics (PHA) team, we collect and analyze data on patient demographics (race, ethnicity, language), health outcomes (vaccinations, BMI, mental Health), and access to care (visits completion, time to appointment). This data-driven approach helps identify disparities, guide targeted interventions, and evaluate the effectiveness of implemented initiatives. Our team has greatly benefited from a dedicated Pediatric Population Health dashboard with all these components.

Our organization has about 21 clinics under an integrated Primary Care and Population Health leadership structure providing family medicine or pediatric care services to over 50,000 patients. There are 218 providers for this population, including 182 Family Medicine practitioners and 36 Pediatricians (this number includes medical residents).

Design Process: Over the past few years, health interventions have been designed around improving preventative care and disease management in Primary Care. We emphasized well child visits among our pediatric population to update vaccinations and help prevent outbreaks of childhood diseases.

A Well Child Visit (WCV) is preventive care offered to children at prescribed intervals, based on age. At this exam, the health care provider will check the child's growth and development to find or prevent problems. Most payers cover this service at no cost to the patient and the visit is well-reimbursed for the organization. It is important to complete all components of the visit, with a mechanism to recall patients for WCC in subsequent years.

Our pediatric quality improvement efforts are led by a Pediatric Physician Champion who has dedicated administrative time to participate in pediatric population health initiatives and support other providers and pediatricians for improvement in process and quality. In the past three years, the organization has prioritized the Pediatric Well Child Visit (WCV) goals.

The Physician lead has advised and facilitated the design of messaging collateral and provided retraining of providers to focus on Well child visits and other improvement initiatives. In conjunction, the Population Health facilitated patient navigation and community outreach to boost WCV quality outcomes.

This team leverages a leadership workgroup to align the Well Child Visit efforts with other improvement work, such as IT improvements to tools like vaccine orders, visit smartsets, among others. Through advocacy, many clinics now allow up to four wellness visits instead of a maximum of two per day.

In 2019, the Text for Kids Campaign was piloted, which is a proactive monthly text outreach to parents of children ages 3-6 who will be due for their annual Well Child Checks (WCC) in the following month. However, before data could be tracked to measure program success, the campaign was paused for 7 months (March – September 2020) due to the COVID-19 pandemic, and several outreach coordinators (1.0 FTE for WCC support) were laid off a due to related financial challenges.

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In 2021, data through our PHA dashboard showed that fewer children got their vaccines on time for 2020 compared to 2019. Even after WCC visits resumed, many parents declined to bring their children into the clinic. Also, some disparity in text engagement and WCC completion was observed as the text messages are in English which may exclude some of our non-English speaking populations. Since then, our organization has invested in implementing more languages in our patient communication campaigns. We have also been able to increase the panel navigator time for enhanced access to and utilization of well-child visits and immunizations within and across Pediatric practices.

PDSA Cycles: There are various pediatric WCV measures that were considered for improvement: W15 - with six visits by 15 months, W30 with two visits between 15 and 30months and then the child and Adolescent WCV which are yearly visits from age 3 years (WCV). There are requirements to the prescribed intervals of how often an WCC can be scheduled, especially in the younger age groups. With stakeholder and leadership advice, it was agreed that a quality improvement outreach would focus on ages 3 – 21years. These annual WCC are straightforward for providers to perform, and they are imperative for pediatric health to ensure proper development for children.

In 2021, we participated in a Spring WCV Project with many lessons learned. For instance, calling parents or guardians more than once did not work. However, text messages to follow up with scheduling options worked. Subsequently, we have been able to keep the channels for enhanced communication open between our organization and local Medicaid MCOs. For instance, we were able to communicate that some parents are not interested in WCV, and more messaging from the insurance companies is needed.

Some parents prefer in-person appointments, which lines up with most of our providers reducing telehealth appointments. There was a slight increase in the number of scheduled and completed well care appointments when we started offering the MCO's incentives, alongside offering evening hours and weekends to parents. Young adults and older teens proved to be a more difficult demographic to engage and bring in, compared to parents/younger children. Many said they are too busy even when we offer evening or weekend visits.

Obstacles: In addition to the challenges of accessing and understanding healthcare in a large, complex, and multi-disciplinary system, many of our cross-cultural patients also struggle with medical complexities and social challenges which affect their update of immunizations and well child visits. Since this initiative, each clinic now has staff to do follow-up outreach for WCV - including interpreter services and community navigation. Navigators will increase program success by initiating/returning calls in a timely manner and reducing wait times for scheduling. They will also support patients to establish Mychart accounts for online scheduling at any time, and secure email connection with their providers.

Shared Learnings: One of our FY2023 population health initiatives was supporting our pediatric patients with Medicaid payers to attend their annual well child visit. To this end, we participated in a state DOH incentivized project to participate in a WCV improvement collaborative.

Over the years, there have been consistent efforts implemented to address parental barriers (e.g., features of our policies that offer parents more flexibility to get their children in for an appointment around work schedules, school activities, childcare availability. This past year, we have also focused on reducing no-show rates and same day cancellations. Tactics included multiple appointment reminders, interpreter supported calls for families who prefer languages other than English, etc.

Sustainability and Spread: We have requested that the MCOs promote WCVs with their patients, including informing them of available incentives and details on how to update their PCP.

Internally, we have our Medical Assistants forecasting (health maintenance) during acute office and telehealth visits for WCVs due and scheduling during appointment check in. Also, the contact center offering Well Child visits when due (only if they can they see the health maintenance) during scheduling of children's visits. Finally, we schedule WCVs and chronic disease visits back-to-back with regularly scheduled follow ups for asthma/ADHD/mental health visits.

The two-way relationship with Medicaid MCO has been beneficial in terms of having them un-empanel patients no longer established with us or those assigned to us by mistake. This routine alignment between MCO and the clinics is completed quarterly through our analytics dashboard.

Our population health analytics dashboard offers us a trendline which is used in measuring our performance for well-child visits and any impact by the Text for Kids campaign. We then utilize the data collection and analysis from the internal validated dashboard to demonstrate improvement in well-child visits including any changes in disparities.

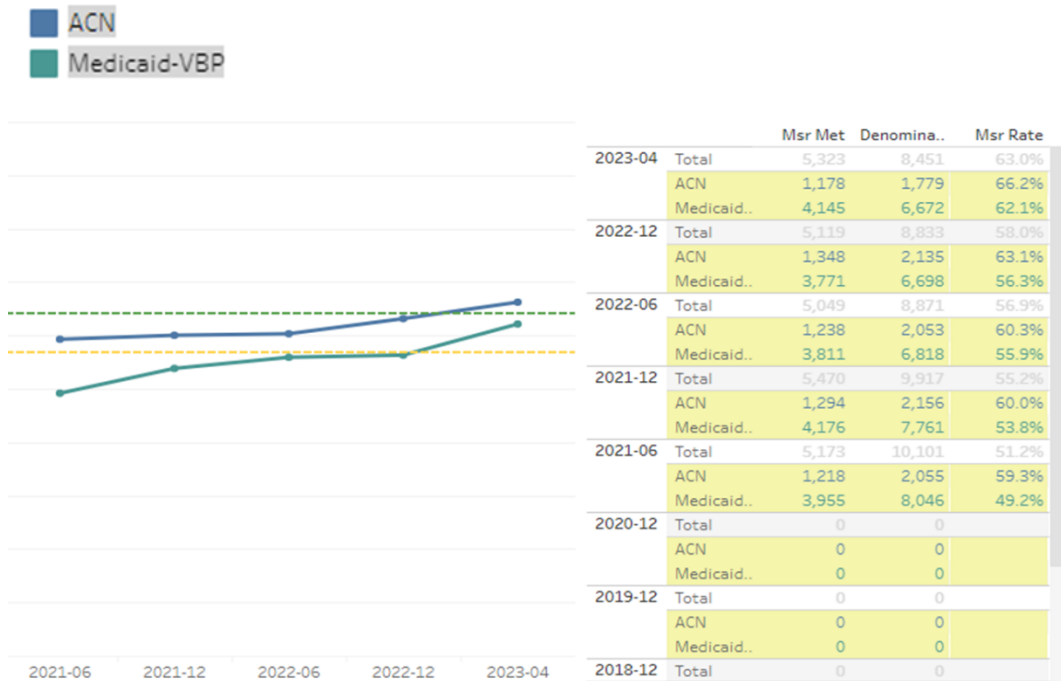|		Msr Met	Denomina..	Msr Rate
2023-04	Total	5,323	8,451	63.0%
	ACN	1,178	1,779	66.2%
	Medicaid..	4,145	6,672	62.1%
2022-12	Total	5,119	8,833	58.0%
	ACN	1,348	2,135	63.1%
	Medicaid..	3,771	6,698	56.3%
2022-06	Total	5,049	8,871	56.9%
	ACN	1,238	2,053	60.3%
	Medicaid..	3,811	6,818	55.9%
2021-12	Total	5,470	9,917	55.2%
	ACN	1,294	2,156	60.0%
	Medicaid..	4,176	7,761	53.8%
2021-06	Total	5,173	10,101	51.2%
	ACN	1,218	2,055	59.3%
	Medicaid..	3,955	8,046	49.2%
2020-12	Total	0	0	
	ACN	0	0	
	Medicaid..	0	0	
2019-12	Total	0	0	
	ACN	0	0	
	Medicaid..	0	0	
2018-12	Total	0	0	

Figure 10: Reducing disparities in access and outcomes of Well Child Visits between the Accountable Care Network and the Medicaid Value Based Payer populations.

ADDRESSING DISPARITIES AND SOCIAL DETERMINANTS OF HEALTH OR HEALTH EQUITY

Socioeconomic factors including income, access to healthy food, education, and safe physical environment have a tremendous impact on health outcomes -- sometimes more than direct medical care. Furthermore, the number of families experiencing food insecurity, housing instability and unemployment has significantly increased since the COVID-19 pandemic.

In 2022, well child appointments provided an opportunity for primary care providers to discuss these social risk factors with patients. Our flagship pediatric clinic began to use a paper questionnaire to address SDoH items such as food insecurity, housing, and transportation challenges during Pediatric wellness visits. Families complete a paper form (available in English, French, Arabic, Amharic, Vietnamese, Spanish and Somali). It is then entered into the EHR by the Medical Assistant and reviewed by the provider during the well child visit. A referral to social work is placed by the provider and patients receive outreach from a PN or social worker. So far, over 2500 families have completed the questionnaire (see appendix 7).

With these results, we applied for and received a 2-year grant this January for two Pediatric Community Health Workers (CHW) to help meet SDOH needs in this population. The CHWs provide culturally responsive developmental, strengths-based health promotion and care coordination to children 0 - 18 and their caregivers. They outreach and connect vulnerable populations with the health care system and needed services while offering support and informal counseling to ensure accessible care.

The CHW roles require familiarity with early relational health, as well as mental and behavioral health services for school-age youth. They promote mental wellness and decrease stigma related to mental/behavioral health needs. The CHWs collaborate with the clinic care team to reduce silos and offer system navigation and connection to resources addressing Social Determinants of Health (SDOH). Between May 2022 and May 2023, over 400 patients have received support from either a PN or CHW.

However, there is currently no standard workflow for SDOH screening or follow up of social needs for the adult population. Providers sometimes ask patients about SDOH topics during their visits, but more often it is left for the patient to broach any issues. Such variation introduces provider bias about who would benefit from screening. Our analysis of available data indicates that health related social needs often disproportionately affect low income and Black, Indigenous and People of Color (BIPOC). It is therefore even more important to target services and efforts around removing SDOH barriers for affected patients.

We anticipate beginning enterprise wide SDOH screening and follow-up in outpatient facilities by 2025. We are now in plans to implement Adult SDOH pilots across 3 clinics and learning from them will enable our team to work out any complexities and identify gaps and opportunities around training, manpower, community partners, metrics, epic tools etc. We have developed a proposed workflow (appendix 9).

The primary aim of the pilot is to design a process for identifying patients seen at these clinics who request staff engagement around SDOH needs. The pilots will support our clinics towards a sustainable screening and a resource connection process that aligns with our community partners, reduces provider bias and patient stigma, as well as improves patient care and quality outcomes. See timeline in Appendix 10.

APPENDIX 1 - EVIDENCE OF DATA COLLECTION

NUMERATOR	DENOMINATOR
# of patients seen in the last 2 years with empaneled PCP	Patients seen at least once in the last 3 years if empaneled or twice in 2 yrs. if unempaneled
# of patients seen at least twice in last 2 years but not assigned to a PCP	Patients seen at least once in the last 3 years if empaneled or twice if unempaneled
# of patients seen at least once in the last 3 years with empaneled PCP	Empaneled and unempaneled Pts seen at least once in the last 3 years
# of patients seen at least once in last 3 years but not assigned to a PCP	Empaneled and unempaneled Pts seen at least once in the last 3 years
# of patients with 1+ encounter in the last 3 years with empaneled PCP	total # of patients with at least one encounter in the last 3 years at clinic locations
# of patients with 1+ encounter in last 3 years but not assigned to a PCP	total # of patients with at least one encounter in the last 3 years at clinic locations
# of visits scheduled at clinics that are not new visits	Total # of new and established patients visits to clinic locations
# of patients seen by a PCP in last 3 years and are assigned to a PCP	# of patients on PCP panels
# of patients not seen in the last 3 years and are assigned to a PCP	# of patients on PCP panels
# of visits by patients in a rolling 12 months which are with their PCP	Total # of primary care visits in a rolling 12 months

APPENDIX 2 – DATA ANALYSIS

OUTCOME MEASURES	ADDRESSES QUESTION	BASELINE	DATE
% empaneled patients, active	How many patients are active in our clinics who are assigned to one of our PCPs?	88.9%	9/30/22
% un-empaneled patients, active	How many patients are active but *do not* have a PCP assigned, though active?	11.1%	9/30/22
% empaneled patients, established	How many established patients are assigned to a PCP?	79%	9/30/22
% un-empaneled patients, established	How many patients do *not* have PCP assigned but are established with our clinics?	21%	9/30/22
% empaneled patients, total	How many patients are assigned to a PCP of all those who have touched/used our clinic services in the last 3 years?	78%	9/30/22
% un-empaneled patients, total	How many patients are *not* assigned to a PCP and have touched/used our clinic services in the last 3 years?	22%	9/30/22
% of new visits to establish care	What portion of scheduled visits are by established patients seen at clinics?	91.2%	9/30/22
% of patients seen by PC last 3 years, empaneled	Are patients on PCP panel having a Primary Care visit at least once every 3 years?	96%	9/30/22
% patients not seen by PCP last 3 years, empaneled	How many patients are assigned to one of our PCPs but have had no Primary Care visit in the last 3 years?	4%	9/30/22
% PCP visits by panel patients each month	How often are Patients seeing their own PCP rather than other PCPs for their visits? Resident depts excluded.	71%	9/30/22

APPENDIX 3 – COMPARISON OF CURRENT PERFORMANCE (BASELINE) TO GOAL

QUESTION	GOAL	BASELINE
How many patients are active in our clinics who are assigned to one of our PCPs?	95%	88.9%
How many patients are active but *do not* have a PCP assigned, though active?	5%	11.1%
How many established patients are assigned to a PCP?	90%	79%
How many patients do *not* have PCP assigned but are established with our clinics?	10%	21%
How many patients are assigned to a PCP of all those who have touched/used our clinic services in the last 3 years?	85%	78%
How many patients are *not* assigned to a PCP and have touched/used our clinic services in the last 3 years?	15%	22%
What portion of scheduled visits are by established patients seen at clinics?	95%	91.2%
Are patients on PCP panel having a Primary Care visit at least once every 3 years?	98%	96%
How many patients are assigned to one of our PCPs but have had no Primary Care visit in the last 3 years?	<2%	4%
How often are Patients seeing their own PCP rather than other PCPs for their visits? Resident depts excluded.	75%	71%

APPENDIX 4 – FINAL PERFORMANCE COMPARED TO BASELINE

MEASURE	GOAL	FINAL	FINAL DATE	BASELINE	BASELINE DATE
% empaneled patients, active	95%	93%	3/31/23	88.9%	9/30/22
% un-empaneled patients, active	5%	7%	3/31/23	11.1%	9/30/22
% empaneled patients, established	90%	87.6%	3/31/23	79%	9/30/22
% un-empaneled patients, established	10%	12.3%	3/31/23	21%	9/30/22
% empaneled patients, total	85%	83.8%	3/31/23	78%	9/30/22
% un-empaneled patients, total	15%	16.2%	3/31/23	22%	9/30/22
% of new visits to establish care	95%	92.1%	3/31/23	91.2%	9/30/22
% of patients seen by PC last 3 years, empaneled	98%	98.9%	3/31/23	96%	9/30/22
% patients not seen by PCP last 3 years, empaneled	<2%	1.1%	3/31/23	4%	9/30/22
% PCP visits by panel patients each month	75%	75.8%	3/31/23	71%	9/30/22

APPENDIX 5 : RECENT CLINIC EMPANELMENT RATES
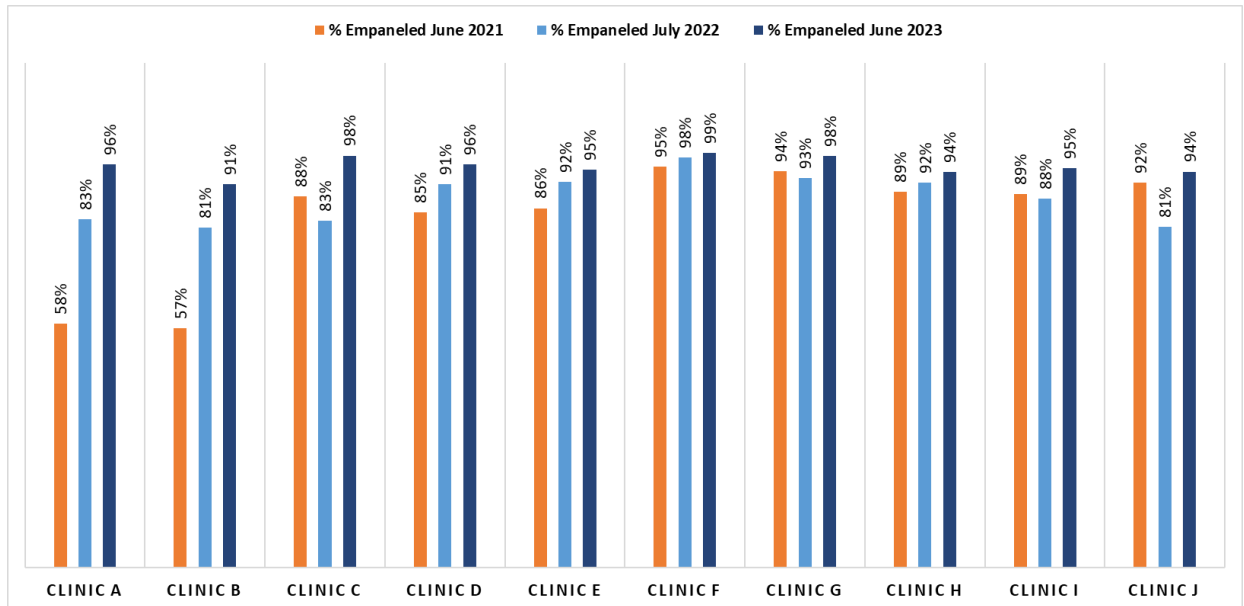
Figure 4: Empanelment rates at some primary care clinics before, during, and after the project.

APPENDIX 6 : CRC SCREENING PROGRAM CAMPAIGN RESULTS FOR 2022

```
                    ┌─────────────────────┐
                    │  FITs not returned  │
                    │  (n=6,002, 66%)     │
                    └─────────────────────┘
                                              ┌─────────────────────┐
                                              │ Normal FIT (n=2,689, │
                                              │       94%)           │
                    ┌─────────────────────┐   └─────────────────────┘
                    │   FITs resulted     │
                    │  (n=2,851, 31%)     │
                    └─────────────────────┘   ┌─────────────────────┐   ┌─────────────────────┐
┌─────────────────┐                           │ Abnormal FIT (n=162,│   │  Completed Follow-up │
│ FITs Mailed     │                           │        6%)          │───│  Colonoscopy in one  │
│ (n=9,716)       │                           └─────────────────────┘   │  year (n=84, 52%)    │
└─────────────────┘ ┌─────────────────────┐                             └─────────────────────┘
                    │  Opted for          │
                    │  Colonoscopy (n=247,│
                    │  3%)                │
                    └─────────────────────┘

                    ┌─────────────────────┐
                    │ Excluded (n=616, 6%)│
                    └─────────────────────┘
```
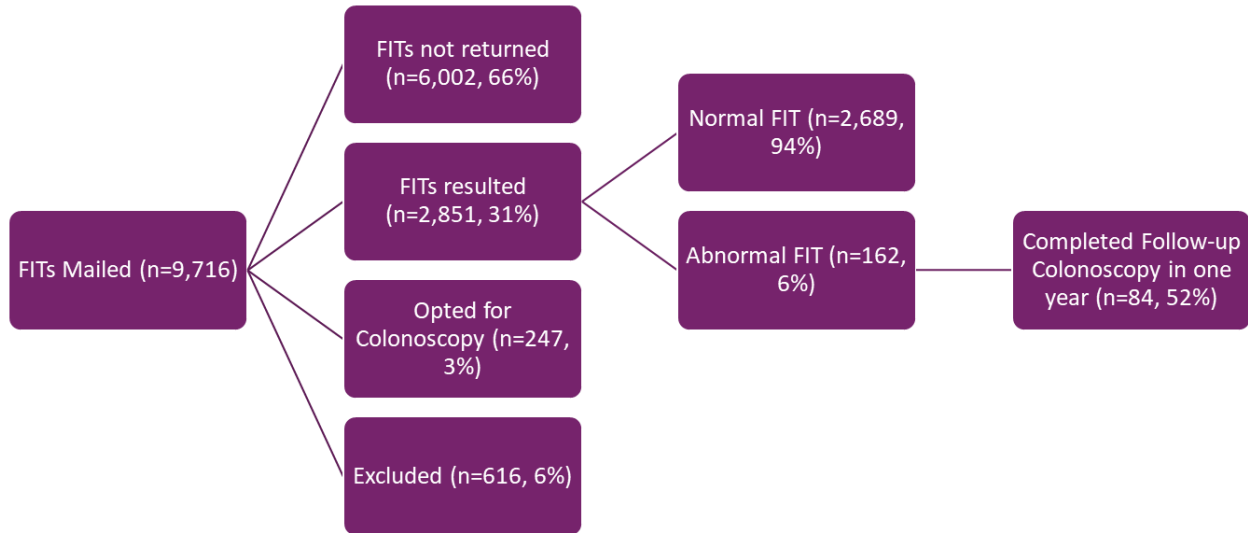
Result of the 2022 CRC Screening Program Campaign

APPENDIX 7 : SDOH SCREENING AT OUR FLAGSHIP PEDIATRIC CLINIC

Completed Questionnaire	2563	
Declined	261	10%
Intepreter or translation support	38	1%
Transportation to Healthcare	76	3%
Housing Instability	100	4%
Food Insecure	130	5%
Utility Bills Support	278	11%
General Resources	469	18%
Permission to Contact	488	19%

APPENDIX 8: AMGA COLLABORATIVE: CRC SCREENING RATES BY AGE AND BY RACE

Measure 1: Active Patients with Appropriate Screening by Age

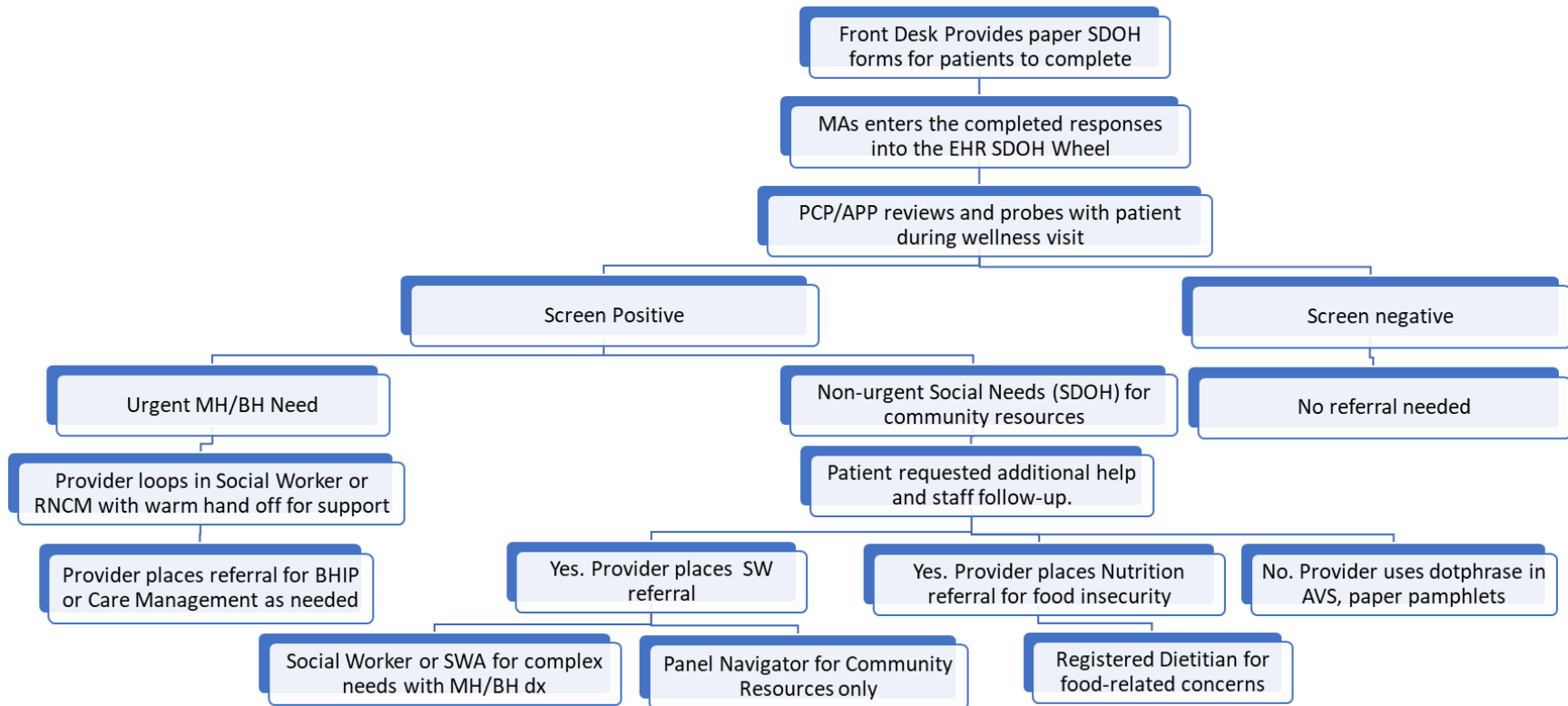|	Measure 1: Active Patients with Appropriate Screening by Race																							
		All Active Patients			White			Black				Asian				Other				Missing/Unknown			
	Reporting Quarters	Active Patients (APs)	APs with appropriate CRC screening	Percent with appropriate CRC screening	Active Patients (APs)	APs with appropriate CRC screening	Percent with appropriate CRC screening	Active Patients (APs)	APs with appropriate CRC screening	Percent with appropriate CRC screening	Difference in rate from White	Active Patients (APs)	APs with appropriate CRC screening	Percent with appropriate CRC screening	Difference in rate from White	Active Patients (APs)	APs with appropriate CRC screening	Percent with appropriate CRC screening	Difference in rate from White	Active Patients (APs)	APs with appropriate CRC screening	Percent with appropriate CRC screening	Difference in rate from White
Baseline Period Q3 2022	Q3 2022	90980	57960	63.7%	63049	41946	66.5%	7464	3977	53.3%	-13.2%	11427	7344	64.3%	-2.3%	6431	3659	56.9%	-9.6%	2609	1034	39.6%	-26.9%
	Q4 2022	88834	56767	63.9%	61489	41069	66.8%	7462	3952	53.0%	-13.8%	11562	7338	63.5%	-3.3%	6234	3563	57.2%	-9.6%	2087	845	40.5%	-26.3%
	Q1 2023	88213	56376	63.9%	60866	40662	66.8%	7483	3943	52.7%	-14.1%	11740	7462	63.6%	-3.2%	6169	3523	57.1%	-9.7%	1955	786	40.2%	-26.6%
	Q2 2023	88375	57319	64.9%	60982	41306	67.7%	7533	3967	52.7%	-15.1%	11945	7789	65.2%	-2.5%	6088	3486	57.3%	-10.5%	1827	771	42.2%	-25.5%

APPENDIX 9 : CLINIC WORKFLOW FOR ADULT SDOH SCREENING AND FOLLOW-UP

```
                    ┌─────────────────────────────┐
                    │ Front Desk Provides paper SDOH│
                    │ forms for patients to complete│
                    └─────────────────────────────┘
                    ┌─────────────────────────────┐
                    │ MAs enters the completed       │
                    │ responses into the EHR SDOH    │
                    │ Wheel                          │
                    └─────────────────────────────┘
                    ┌─────────────────────────────┐
                    │ PCP/APP reviews and probes     │
                    │ with patient during wellness   │
                    │ visit                          │
                    └─────────────────────────────┘
```

- Screen Positive
  - Urgent MH/BH Need
    - Provider loops in Social Worker or RNCM with warm hand off for support
      - Provider places referral for BHIP or Care Management as needed
  - Non-urgent Social Needs (SDOH) for community resources
    - Patient requested additional help and staff follow-up.
      - Yes. Provider places SW referral
        - Social Worker or SWA for complex needs with MH/BH dx
        - Panel Navigator for Community Resources only
      - Yes. Provider places Nutrition referral for food insecurity
        - Registered Dietitian for food-related concerns
      - No. Provider uses dotphrase in AVS, paper pamphlets
- Screen negative
  - No referral needed

APPENDIX 10 : TIMELINE AND ROADMAP FOR SDOH SCREENING PILOT FOR ADULT PRACTICES

Meeting with ITS to validates/adjusts Epic process

Sept – Oct 2023

Train staff at selected sites

Nov – Dec 2023

Oct – Nov 2023

Update workflow, finalize clinics, design training

Jan - June 2024

Implement Pilots, evaluate processes and outcomes