

## High Risk Underserved Clinic – Improved Outcomes

### Corewell Health

#### Primary Contact Information:

- Jane Gietzen, director, digital services, applications and platforms
- [jane.gietzen@corewellhealth.org](mailto:jane.gietzen@corewellhealth.org)
- 616.460.0479

#### Clinical Project Lead:

- Dr. Robert K. Jarve, ACMIO, population health
- [robert.jarve@corewellhealth.org](mailto:robert.jarve@corewellhealth.org)
- 616.9512146

#### IT Project Lead:

- Holly Schewe, manager, digital services, EHR and population health
- [holly.schewe@corewellhealth.org](mailto:holly.schewe@corewellhealth.org)
- 269.930.3752

### ***Executive Summary***

Corewell Health is a large integrated health system within Michigan composed of three regions: Corewell Health in Southeast Michigan (previously Beaumont Health System), Corewell Health in Southwest Michigan (previously Lakeland Health System) and Corewell Health in West Michigan (previously Spectrum Health). In addition, Corewell Health has an integrated payer, Priority Health, that covers 1.3 million lives.

In 2019, Corewell Health in West Michigan undertook a transformation to value-based care, with a goal to have 52% of all revenue in risk arrangements by 2026, including a full-risk arrangement with Priority Health as part of that goal. This \$900 million risk arrangement included Medicaid, Medicare and commercial market segments. Corewell Health in West Michigan focus for redesign started in primary care.

Within the United States, the top 5% of the publicly insured population under the age of 65 accounts for 55% of all health care utilization and cost<sup>2</sup>. The key drivers of cost and utilization for High Needs High Utilization (HNHU) patients within Medicaid are substance use disorder, homelessness, incarceration, and childhood adverse events<sup>3</sup>. When looking

at our internal Medicaid market data, we found that the top diagnoses for our extremely high emergency department (ED) utilizers (> 10 ED visits per year) were alcohol abuse with intoxication, other chronic pain, chronic obstructive pulmonary disease (COPD), chest pain and low back pain. Furthermore, 100% of our Priority Health risk contracted patients who have Medicaid or Medicare and were very high ED utilizers had a mood disorder of some type, with 66% having depression, 66% with anxiety and 41% having a substance use disorder.

Adopting the Scaled Agile Framework for Enterprises (SAFe®), Corewell Health developed cross-functional teams comprised of individuals from operations and digital services that quickly adapted to changes, new insights and information, embodying transparency, alignment, respect for people and continuous improvement. These teams aligned around a common purpose, vision and understanding focused on the problem first, and then allowed the best solution to emerge through iterative end-user feedback and person-centric development. With this new collaborative agile approach, the teams were able to maintain continuous delivery of viable, desirable, feasible and sustainable innovative solutions to address these health opportunities.

### **Define the Clinical Problem and Pre-Implementation Performance**

When we analyzed where our HNHU Medicaid patients were being seen, we noted that 15% of this population was in one urban clinic within our medical system, the Community Medicine Clinic (CMC). The CMC is in an urban area and in the same building as our Addiction Medicine Clinic, with two homeless shelters nearby and low-cost housing across the street. CMC was noted to have the highest medical loss ratio (MLR) for Medicaid within our risk contract, at 123% for the year prior to starting our risk contract. Traditional models of care delivery are often inadequate to address the needs of HNHU patients, who require coordinated, comprehensive and patient-centered care.

Based on the utilization and aggregation of HNHU patients at CMC, we determined we needed to develop a strong care model for addressing the underlying needs driving higher utilization. We identified three key areas that had to be addressed:

1. An integrated care team model that was trauma-informed and focused on coordinating all aspects of care for this population was needed.
2. A plan to address the unhoused within the population.
3. A way to stand up coordinated care for the population across multiple entities.

Prior to implementing this model, this clinic's MLR was 123%, and ED utilization was x/1,000. Our payer, Priority Health, set our organization's target MLR at 90%.

## Outcome Metric Definitions:

### **MLR - Medical Loss Ratio:**

- Numerator: Claims Expense + Non-Claims Expense.
- Denominator: Revenue.

### **MLR without the non-claims expense:**

- Numerator: Claims Expense.
- Denominator: Revenue.

### **Where:**

- Claims Expense = Inpatient, Outpatient, Professional, Pharmacy, Other Claims.
- Non-Claims Expense = Administrative Fees, Pay for performance, Dental Expense, pharmacy rebates, home-based primary care expense, Other non-claims expense.
- Revenue = Member Premium Revenue, Risk Adjustment Revenue, other Revenue items.
- The population was our attributed Priority Health Medicaid lives that were empaneled to our High Risk Underserved Clinic.
- There were no condition exclusions in the calculations.
- Stop loss was not used in these calculations.

**EDK:** Emergency visits per 1000 patients in the month, extrapolated over 12 months. This metric uses Priority Health claims data.

- Numerator: Number of Emergency department visits with the claims data with the applied EDK formula ( $\# \text{ of ED Visits} / \# \text{ of Patients} * 1000 * 12$ )
- Denominator: Patient is a Priority Health Risk Contract Member during the month

**HbA1c:** Percentage of patients whose most recent HbA1c results meet, or do not meet, the controlled metric target.

- Numerator: Last A1c within 12 months of the measure month and meets controlled metric target (<9%).
- Denominator:
- Patient is active on the Diabetes Registry during the month.
- Patients 18-75 years of age.

**HTN Blood Pressure:** Percentage of patients whose most recent blood pressure is less than 140/90 mmHg.

- Numerator: Last blood pressure reading within 12 months of the measure month and meets the controlled metric target (140/90).
- Denominator: Patient is active on the Hypertension Registry during the month.

**COPD CAT Complete:** Percent of COPD patients who had a completed CAT questionnaire completed during the last 12 months.

- Numerator: Patient had a completed CAT questionnaire in the previous 12 months
- Denominator
- Patient is active on the COPD registry during the month and not on the asthma registry
  - Patient is part of the COPD Huddle Targeting group which include any of the following:
    - ACG RUB >5.
    - End of Life Score >45.
    - 2 or more moderate COPD exacerbation visits.
    - 1 or more severe COPD exacerbation visits.

**COPD PFT Complete:** Percent of COPD patients who had a PFT Test completed.

- Numerator: Patient had a completed PFT Test.
- Denominator
- Patient is active on the COPD registry during the month and not on the asthma registry.
  - Patient is part of the COPD Huddle Targeting group which include any of the following:
    - ACG RUB >5.
    - End of Life Score >45.
    - 2 or more moderate COPD exacerbation visits.
    - 1 or more severe COPD exacerbation visits.

Patients with Medicaid who have severe mental health have the cost for that care excluded from the numerator, as it is paid for by the State and not the Medicaid managed care payer.

The targeted performance goal was to reduce EDK by 20% from baseline.

The targeted performance goal for MLR was to reduce it to target of 90%.

The health outcomes for this clinic are much poorer than for the rest of our Medicaid population, and the clinic has a larger percentage of social determinants of health (SDOH) factors such as homelessness, mental health, and non-English-speaking patients compared to the Medicaid population for our medical group as a whole. For instance, our internal data shows that emergency department (ED) utilization is three times higher for patients who have high-risk housing insecurity (981 per 1,000) compared to patients with low risk of housing insecurity (361 ED visits per 1,000). Our patients with transportation needs have ED utilization four times higher than patients without transportation needs. We have also noted that ED utilization for patients who are socially isolated is roughly two times higher than patients who are socially integrated. By addressing these underlying social determinants for this population, we are helping to decrease health disparities. Anecdotally, providers at this clinic had long recognized the significant impact of trauma on a large proportion of the patient population, as well.

## Design and Implementation Model Practices and Governance

Our high-risk underserved clinic had a designated director-level physician champion and a director-level operational leader assigned to lead the transformation. During the first two years post go live of our value-care model, the leaders provided updates on a weekly basis at a value site report out that included primary care leadership (department chief and vice president of operations) as well as key subject matter experts in data and analytics and informatics.

Initial workflows were created for the new allied health team members or were implemented based on existing workflows for similar roles within the organization. This was led by the clinical and operational directors overseeing the new team-based model transformation. Where informatics functionality existed for the new roles at other sites, it was adopted as the initial tool to use. This was the case for our care manager, behavioral health specialist and pharmacist.

In early 2020, utilizing the Scaled Agile Framework (SAFe) methodology (figure 1), the clinical care coordination and digital services teams partnered to improve patient outcomes using an innovative approach that allowed for close collaboration between operations and development to build capabilities in Epic that would best support the care managers.

### The iterative learning cycle

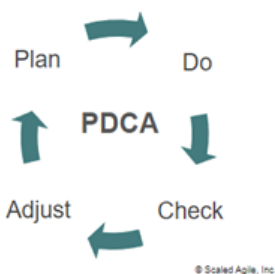


Figure 1

Any optimization to either clinical EHR build or data analytics and reporting that was needed for our value-based care site was addressed by leveraging our Agile process within digital services. Our agile process consists of 10-week planning increment (PI) that are broken out into two-week sprints. As part of this process business owners work with multidisciplinary digital services teams to develop features (distinct and valuable functionalities or services) that will solve the problem they have. These features are then prioritized as part of our Agile process and broken into smaller chunks of work (stories).

For our community health workers and our population health RNs, no existing electronic health record (EHR) workflows existed, so initial enabler features (features that support the planned PI activities) were created. Our analysts worked with our community health workers and population health RN leadership and team members to understand the problem and then the analysts leveraged their expertise to provide options for solutions using our informatics and analytics tool suite.

Next, informatics and reporting features were created and prioritized in our PI to create a minimal viable product. Iterative changes were made as workflows were tweaked to better care for our populations. Each of these iterative changes were also submitted individually as optimizations (features) to our digital services population health SAFe Agile train.

This innovative approach required new processes for breaking down the work into smaller stories that could be continuously integrated into the larger working solution by a dedicated network of cross-functional, value-aligned teams.

The care coordination clinical team, including registered nurse care managers (NCM), master's prepared social workers (MSW) and community health workers (CHWs), were the key subject matter experts involved in the design and implementation, to ensure planning and development followed a people-centric approach. CHWs often have life experience and provide credibility that sometimes our licensed team members cannot represent, making CHWs instrumental in bridging trust between the patients and the care teams.

Additionally, this approach improved workflow efficiency and effectiveness to free the care managers' capacity to work on the most critical elements of their jobs. The increments of value-delivering work were prioritized by the care managers, using an economical approach to ensure the highest valued items with the least effort were prioritized first to maximize the early value delivery of the integrated solution. The team completed live demonstrations of the integrated working solution routinely and at close intervals to ensure early feedback from stakeholders, end-users and the application oversight committee was incorporated into the build for continuous optimization of the solution.

When each new functionality was released, we created training tools before going live and had our analysts demonstrate the functionality to the users. If issues with understanding how to use the tool were identified post-go live, we would bring in the analysts to help troubleshoot and update any training tool kits accordingly.

## Clinical Transformation enabled through Information and Technology

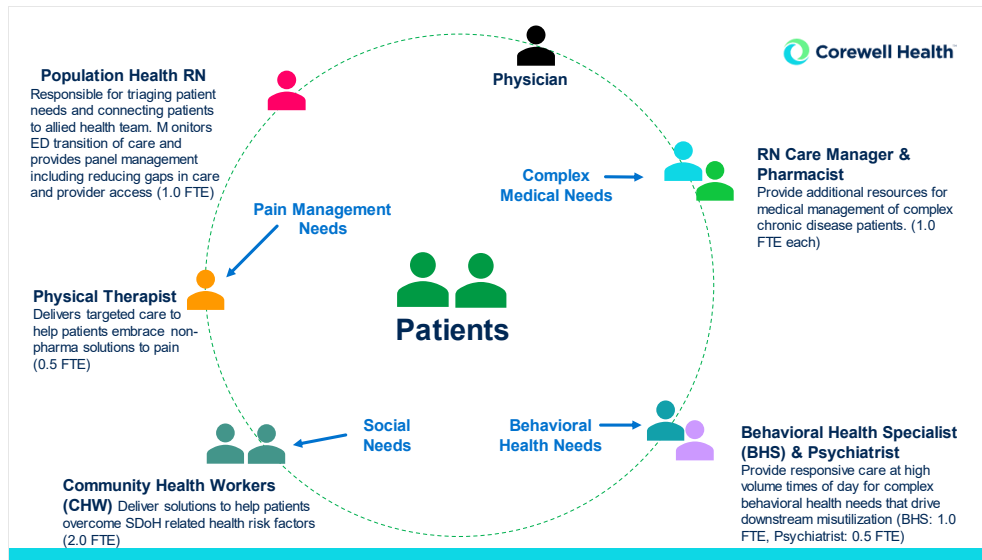


Figure 2

Patients are empaneled through standard work at the time of check-in and by back-end governance of the data to ensure onboarding and offboarding of providers is accurate. This is combined with a filter for patients attributed to our Priority Health risk contract to identify patients being treated in our clinic and in the risk contract.

At check-in, the primary care physician (PCP) listed in the PCP General field within Epic is reviewed by registration. The PCP listed is verified with the patient and updated if the PCP has changed. Patients are empaneled if they have an employed PCP listed in the PCP general field and have had one of the following visit types (Table 1) within primary health in the last three years.

Table 1

Visit Types		
Ancillary procedure	Infusion	Questionnaire Series Submission
Anti-coagulation visit	Initial Consult	Refill
Appointment	Initial Prenatal	Routine Prenatal
Care manager visit	Lactation Encounter	Rx Refill Authorization
Clinical support	Medical Team Conference	Social Work
E-consult	Medication Management	Telemedicine
Education	Nurse Triage	Video Visit
E-visit	Office Visit	
Home care consult	Outpatient Rehabilitation	
Immunization	Patient Message -Inbound	

When providers are onboarded, there is standard work as part of the credentialing process to have the provider listed within the Epic department in which they practice. When a provider offboards, there is also standard work as part of the offboarding process, to ensure that the provider is removed from the Epic department in which they were

practicing. This allows for an accurate understanding of which providers are practicing in a practice and all the patients receiving care within a practice.

Corewell Health's CMC Value Huddle Team utilizes a custom Compass Rose Value Site Huddle Program dashboard that leverages Epic's Reporting Workbench and structured query language (SQL) to create reports that generate a list of patients, based on specific criteria for targeted populations. Patients are enrolled in a Compass Rose program from these lists. Population Health RN's can also use additional reports on this dashboard (Figure 3) to manage current caseloads and tasks due for patients.

Pop Health Care Management Targeting List [62317493] as of Mon 5/13/2024 1:48 PM

Chart | Open Encounter

Detail List | Explore

Filter | Clear All Filters

Contract Name	PCP	PCP Department	ED Visits	Next Visit Date	Appointment Type	ACSC	ACP	3+ ED Visits	3+ ED Visits (MH)	Cohort Count	CM Episode (Y/N)	Care Manager	BHS Followed	Empaneled Patient
PH Medicaid	Isaac J Vandam, MD	SHMG FM COMMUNITY MED	6			Eligible			Eligible	2	N		N	✓
PH Medicaid	Michael C Vizachero, MD	SHMG FM COMMUNITY MED	3			Eligible	Eligible		Eligible	3	N		N	✓
PH Medicaid	Isaac J Vandam, MD	SHMG FM COMMUNITY MED	0				Eligible			1	N		N	✓
PH Medicaid	Daniel K Erck, DO	SHMG FM COMMUNITY MED	4			Eligible			Eligible	2	N		N	✓
PH Medicaid	Kimberly S Devlin, DO	SHMG FM COMMUNITY MED	4			Eligible	Eligible		Eligible	3	N		N	✓
PH Medicaid	Michael C Vizachero, MD	SHMG FM COMMUNITY MED	1			Eligible				1	N		N	✓
PH Commercial Individual	Michael C Vizachero, MD	SHMG FM COMMUNITY MED	7			Eligible			Eligible	2	N		N	✓
PH Medicare	Michael C Vizachero, MD	SHMG FM COMMUNITY MED	1			Eligible				1	N		N	✓
PH Medicare	Isaac J Vandam, MD	SHMG FM COMMUNITY MED	41			N/A	Eligible		N/A	1	N		N	✓
PH Medicaid	Michael C Vizachero, MD	SHMG FM COMMUNITY MED	5			Eligible			Eligible	2	N		N	✓

Figure 3

Compass Rose uses program data stored in an episode structure for coordinated care management (Figure 4). This allows us to add discrete documentation at the episode level for better managing and tracking our patient populations. Case types assist us in placing a tag on the program for tracking our Huddle patients. The support and services section helps drive our clinical workflows for tasks/targets/outreaches.



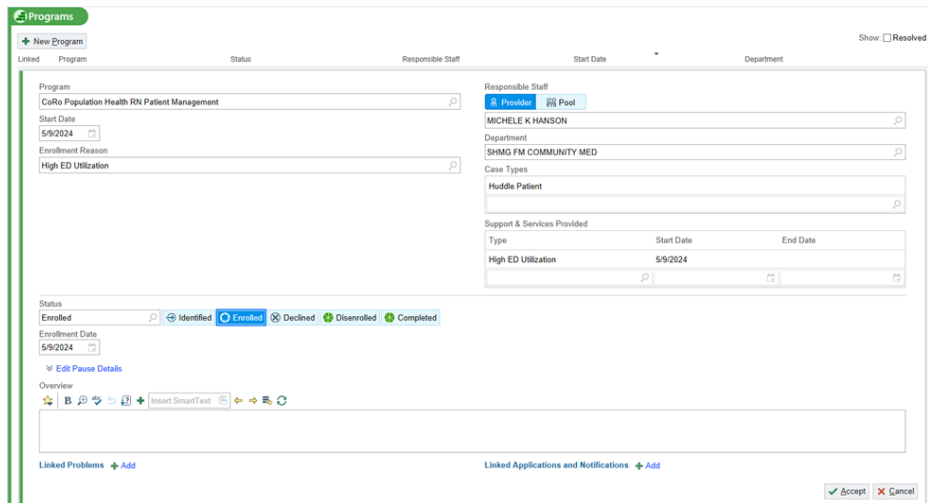


Figure 4

Compass Rose allows us to provide a standardized care model for following patients utilizing the following Epic tools:

- Custom targets (Figure 5) for each program help us track key performance indicators and program level milestones.

Targets	Due	Outcome	Source	Show	Completed
Upcoming					
Reduce ED usage by 50% in 6 months	11/5/2024		High ED Utilization - 5/9/2024	✓	Mark Complete X
No Due Date					
Patient calls us first			High ED Utilization - 5/9/2024	✓	Mark Complete X

Figure 5

- Outreach tasks (Figure 6) are generated to ensure we provide timely outreach to patients and assist in prioritizing patients, based on due dates for tasks.

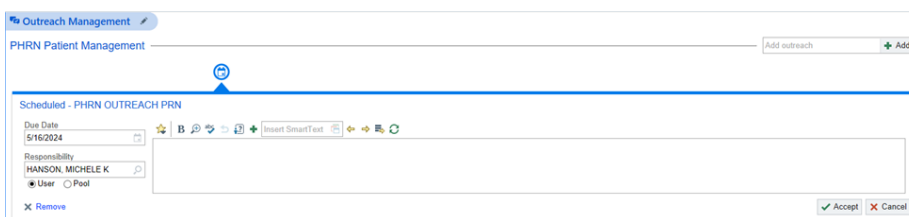


Figure 6

- Checklist tasks (Figure 7) are auto-generated to track and manage day-to-day interventions related to the patient's care.

Checklist		
PHRN Patient Management		
Add tasks		Show <input checked="" type="checkbox"/> Completed
<input type="checkbox"/>	ED follow-up call	X
<input type="checkbox"/>	Follow-up appointment or specialty appointment scheduled if applicable	X
<input type="checkbox"/>	Review new medications	X
<input type="checkbox"/>	New referrals placed and scheduled	X
<input type="checkbox"/>	Call Us First reviewed with patient	X
<input type="checkbox"/>	Review at huddle for additional SDOH needs	X
<input type="checkbox"/>	Care Management or Social Work referral	X

Figure 7

- Using custom SmartForms (Figure 8) allows us to import this documentation to a standardized Note Template that is completed during each encounter.

5/9/2024 visit with Michele K Hanson for Medical Team Conference

**Huddle Documentation**

Value Site Huddle

Preferred Contact Method

Reason for Huddle

Activation Level

ACP Status

Rising Risk Tier

Close

Figure 8

- High ED utilizers can be flagged in the schedule with a red airplane (that indicates they are frequently going to the ED) (Figure 9).

Status	Time	Private	OP Fall Risk	Notes	CMS Provider	Visit Type	Visit Type Tag	Last Telemed Enc. MIPCT?	CE	Frequent
Scheduled	8:15 AM		✈	Follow up	Olivia M Cain, PAC	Ph Established - Ext	Schedule within Disposition Time Frame	8/30/2023		
Scheduled	8:15 AM			dm	Michael C Vizachero, MD	Ph Established - Ext	Schedule within Disposition Time Frame	7/18/2023		
Scheduled	9:45 AM			dm a1c	Olivia M Cain, PAC	Ph Established - Ext		2/26/2021		
Scheduled	10:15 AM			dm and htn	Olivia M Cain, PAC	Ph Established - Ext				
Scheduled	10:15 AM				Michael C Vizachero, MD	Ph Physical - Ext	Physical Exam	10/5/2023		
Scheduled	11:30 AM		✈							
Scheduled	12:45 PM		✈							
Scheduled	12:45 PM			9 y						
Scheduled	2:00 PM									
Scheduled	2:45 PM			dm						
Scheduled	3:45 PM			dm						
Scheduled	3:45 PM			Ph						

**ED/IP Encounters Last 12 months**

Date	Complaint	Diagnosis Description	Type	Department	Provider
11/23/23	LEG PAIN	Right leg pain	ED (Discharge)	BWEMERG	Eric E Kaminskas, MD
10/22/23	WEAKNESS	Generalized weakness	ED (Discharge)	BWEMERG	Meredith J Busman, MD; Colleen M ...
10/8/23	CHEST PAIN	Chest pain, unspecified type ...	ED to Hosp: Admission (Discharged)	BWSWEDOBVS	Jackson R Langhear, MD; Wade J Th...
7/6/23	CHEST PAIN	Chest pain in adult	ED to Hosp: Admission (Discharged) (Obs)	BWSWEDOBVS	Steffen D Genthe, MD; Trevor M Cu...
6/19/23	Dizziness	Dizziness ...	ED (Discharge)	BWEMERG	Joel A Caidon, MD
5/30/23	HIGH BLOOD SUGAR	High blood sugar ...	ED (Discharge)	BWEMERG	Matthew T Singh, MD

Figure 9

To help patients remember their care plan for asthma and COPD, care plans (Figure 10) have been developed that can be displayed in the patient's health portal (Figure 11) and printed for the patient.

### COPD Action Plan

- Feeling confused or very drowsy
- Chest pains
- Coughing up blood

COPD Management Plan

Some parts of the COPD Management Plan will be pulled from the patient's chart and show in the final plan. Once the plan is signed, click the hyperlink to generate the final management plan for the patient.

Most Recent FEV	68	[Edit]
Most Recent FEV Predicted	60	[Edit]
Most FEV Date	2/28/2023	[Edit]
Exercise plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Pulmonary Rehabilitation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Diet plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Goal Weight	72.576 kg (160 lb)	[Edit]

#### My Quit Smoking Plan

<input checked="" type="checkbox"/> Advise - Firmly recommend quitting smoking	<input type="checkbox"/> Assess - Readiness to quit
<input checked="" type="checkbox"/> Encourage - To pick a quit date	<input type="checkbox"/> Assist - With a specific cessation plan that can include materials, resources, referrals and aids
<input type="checkbox"/> Discuss use of medications, if appropriate	<input type="checkbox"/> Freedom From Smoking (www.ffsonline.org)
<input type="checkbox"/> Lung HelpLine (1-800-LUNG USA)	

Resting Oxygen	68	[Edit]
Increased Activity Oxygen	90	[Edit]
Sleeping Oxygen	50	[Edit]

#### Advanced Care Planning Options

<input type="checkbox"/> Lung Transplant	<input type="checkbox"/> Lung Reduction	<input type="checkbox"/> Transtracheal Oxygen	<input type="checkbox"/> Night-time Ventilator	<input checked="" type="checkbox"/> Advanced Directives
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Sign

Signed by Samantha Krigevoid on 4/19/2023 at 2:35 PM

[Click here to generate a COPD Management Letter](#)

### COPD Action Plan

**Warning: This action plan has not been signed!**

COPD Action Plan

**Green Zone: I am doing well today**

<ul style="list-style-type: none"> <li>- Usual activity and exercise level</li> <li>- Usual amounts of cough and phlegm/mucus</li> <li>- Sleep well at night</li> <li>- Appetite is good</li> </ul>	<b>Actions</b> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Take daily medicines</li> <li><input checked="" type="checkbox"/> Use oxygen as prescribed</li> <li><input checked="" type="checkbox"/> Continue regular exercise/diet plan</li> <li><input checked="" type="checkbox"/> At all times avoid cigarette smoke, inhaled irritants*</li> <li><input type="checkbox"/> Other (see details below)</li> </ul>
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**Yellow Zone: I am having a bad day or a COPD flare**

<ul style="list-style-type: none"> <li>- More breathless than usual</li> <li>- I have less energy for my daily activities</li> <li>- Increased or thicker phlegm/mucus</li> <li>- Using quick relief inhaler/nebulizer more often</li> <li>- Swelling of ankles more than usual</li> <li>- More coughing than usual</li> <li>- I feel like I have a "chest cold"</li> <li>- Poor sleep and my symptoms woke me up</li> <li>- My appetite is not good</li> <li>- My medicine is not helping</li> </ul>	<b>Actions</b> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Continue daily medication</li> <li><input type="checkbox"/> Use a quick relief inhaler (see details below)</li> <li><input type="checkbox"/> Start an oral corticosteroid (see detail below)</li> <li><input type="checkbox"/> Start an antibiotic (see detail below)</li> <li><input checked="" type="checkbox"/> Use oxygen as prescribed</li> <li><input checked="" type="checkbox"/> Get plenty of rest</li> <li><input checked="" type="checkbox"/> Use pursed lip breathing</li> <li><input checked="" type="checkbox"/> At all times avoid cigarette smoke, inhaled irritants*</li> <li><input type="checkbox"/> Call provider immediately if symptoms don't improve*</li> <li><input type="checkbox"/> Other (see details below)</li> </ul>
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**Red Zone: I need urgent medical care**

<ul style="list-style-type: none"> <li>- Severe shortness of breath even at rest</li> <li>- Not able to do any activity because of breathing</li> <li>- Not able to sleep because of breathing</li> <li>- Fever or shaking chills</li> <li>- Feeling confused or very drowsy</li> <li>- Chest pains</li> <li>- Coughing up blood</li> </ul>	<b>Actions</b> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Call 911 or seek medical care immediately*</li> <li><input type="checkbox"/> While getting help, immediately do the following (see details below)</li> </ul>
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Figure 10

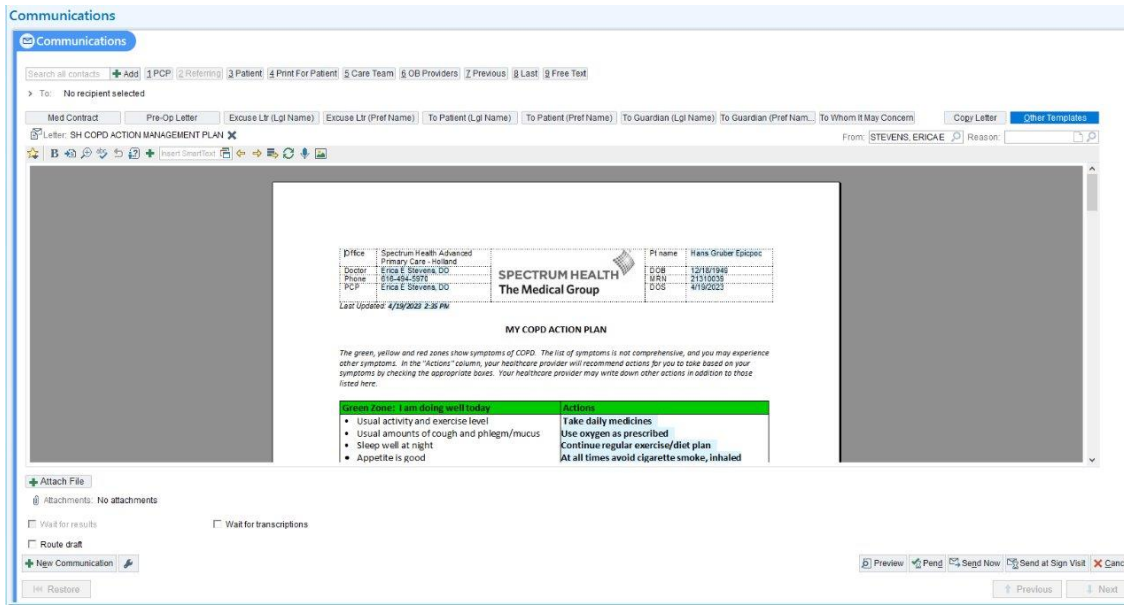


Figure 11

## Improving Adherence to the Standard of Care

A business plan was developed that looked at the potential cost savings associated with various levels of ED and in-patient reduction. The plan noted that if we could reduce the MLR across all market segments to 85% at this clinic there would be annualized savings of \$719 thousand in the first year and \$1.07 million in subsequent years. This annualized savings considered the additional cost of hiring the following roles:

- Population health registered nurse (RN).
- License master social worker (LMSW).
- Community health workers (CHW) – 2.
- Psychiatrist – 0.2 full time employee (FTE).
- Physical therapist – 0.5 FTE.

In addition to the roles noted above, a 1.0 FTE pharmacist was also hired through a different funding stream for this practice and a therapist (clinical LMSW) was embedded at the site already. All these roles were embedded in the clinical practice site.

Significant workflow changes were made within the practice so that these new roles could work in a coordinated team-based care model. As part of these workflow changes, Epic tools and functionality were enhanced to allow for increased efficiency and care coordination within the team.

We first created 45-minute huddles that occurred three times weekly and were facilitated by our population health RN. During the huddle, the team would review our high-risk patients and develop care plans for the patients, leveraging the resources within the integrated care team.

To identify high risk patients, we developed a targeting list, looking at patients who:

- Had high risk of inpatient admission.
- Two or more ED visits in the last year.

and

- High or very high morbidity as assessed by Johns Hopkins Adjusted Clinical Groups (ACG) high resource utilization band (JH RUB) concurrent risk score.

This targeting list was created using Epic's Reporting Workbench tools and was embedded into a new Huddle Compass Rose program that our team of analysts created for our population health RN.

We are continuously optimizing clinical workflows and our coordinated case team approach through Compass Rose tools as enhancements are released.

After implementation and using Epic's Compass Rose technology, we reduced the MLR at CMC to 80% in 2023, decreased ED utilization by half and increased the number of patients with controlled diabetes and hypertension.

### Improving Patient Outcomes

This high-risk population has historically been challenging when asking patients to adhere to the standard of care. This leads to significant health disparities.

While some of the outcomes of this program were related to improving the standard of care, a sizable portion of the improvement was related to addressing the underlying mental health and SDOH that drive health disparities and poor health outcomes, including increased emergency department and hospital utilization.

Our high-risk underserved clinic had an MLR of 123% in 2019 before the implementation of our current model. MLR for 2020 was omitted as it was heavily impacted by the COVID-19 pandemic and clinic and ambulatory center closures. The model was implemented in the beginning of 2021 and the clinic saw a reduction in MLR to 80% in 2021, 77.6% in 2022, and 80% in 2023. This is substantially lower than the target MLR for the risk contract of 90%. This dramatic reduction in MLR was not at the expense of quality of care.

Quarter	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4
<b>CMC</b>	75.2%	75.1%	75.4%	68.9%	68.8%	67.1%	80.1%	73.3%	86.7%	77.0%	59.2%	65.5%
<b>Not CMC</b>	81.8%	82.7%	78.9%	82.0%	83.0%	78.3%	79.6%	80.2%	89.5%	86.8%	83.0%	84.0%

Table 2

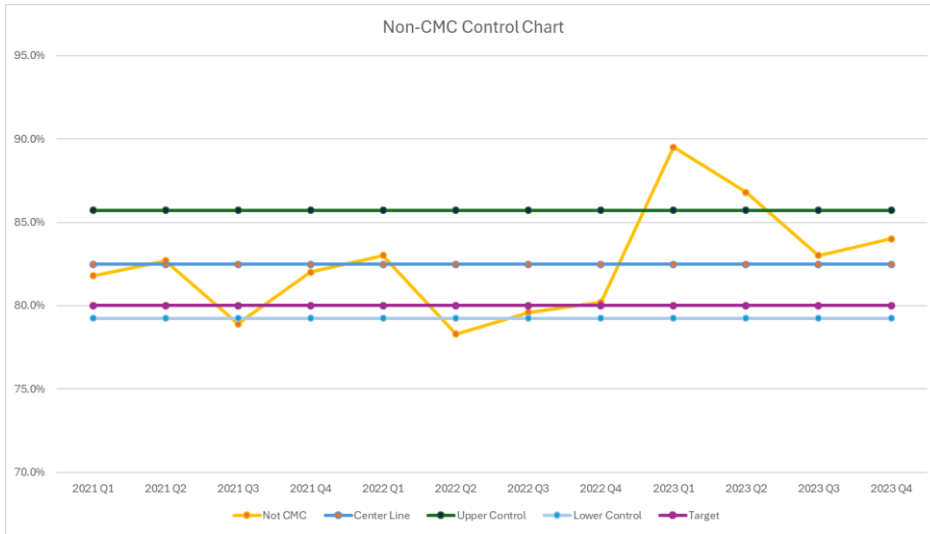


Figure 12

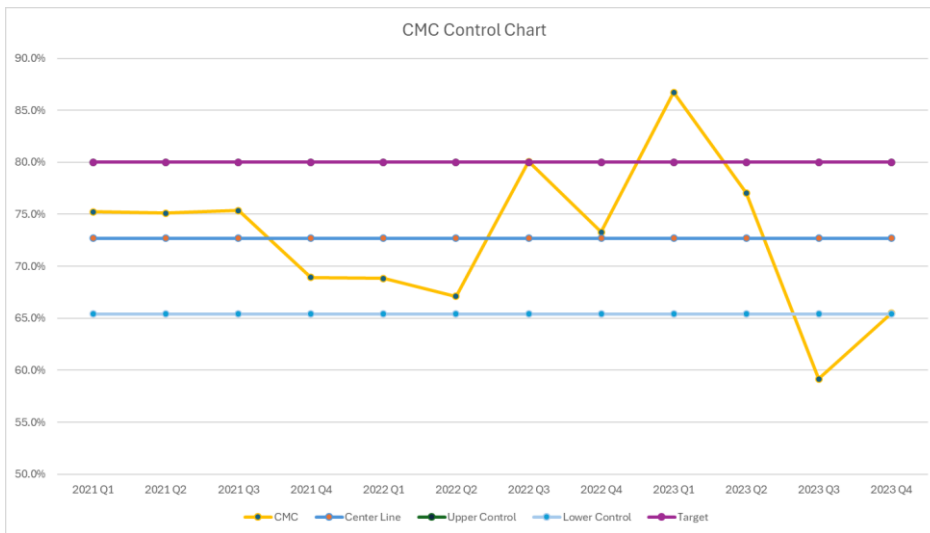


Figure 13

Our initial ED visits/1000 for this practice prior for 2019 was 1598/1000 patients. Since going live with our high-risk underserved model, the ED visits/1000 for the site have averaged around 1000/1000 (figure 14).

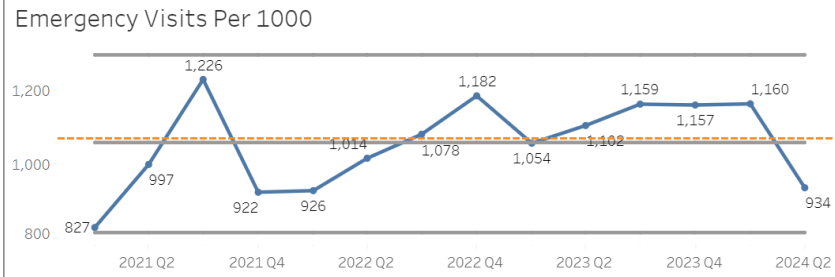


Figure 14

## Accountability and Driving Resilient Care Redesign

Gaps in care dashboards (figure 15) provide real-time awareness of gaps in hypertension, diabetes and preventative maintenance needs.

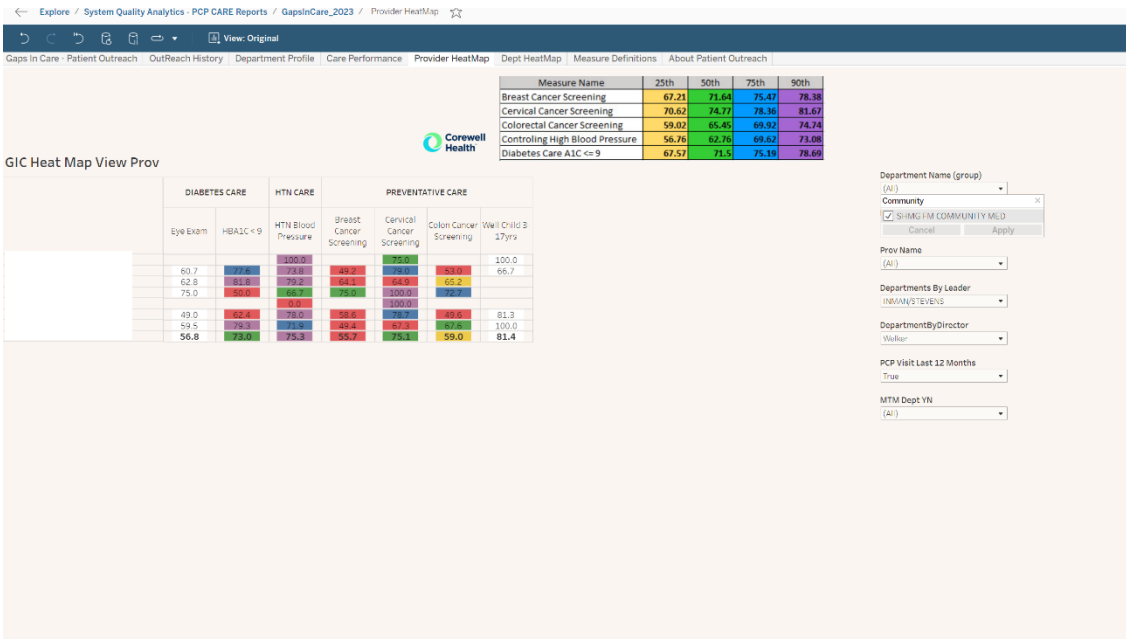


Figure 15

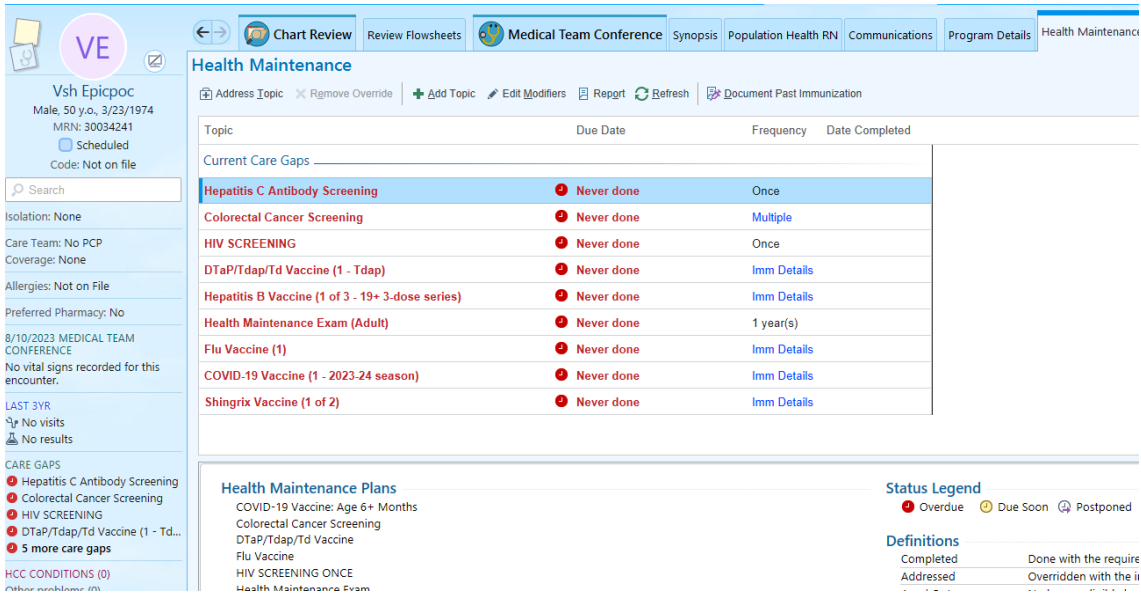


Figure 16

Our health maintenance section (Figure 16) in our EHR allows the care team to pre-chart patients coming in and pend any orders for care gaps before the visit. This tool allows our team to drill down to the patient level to drive outreach and gap closure.

We review the metrics monthly and then determine if we need to tweak tactics to achieve the desired outcomes.

Since implementing our care pathway, we have seen the number of COPD patients who have a COPD Assessment Test (CAT) questionnaire completed rise to 76.7% compared to 35.48% for our fee for service primary care sites (figure 17).

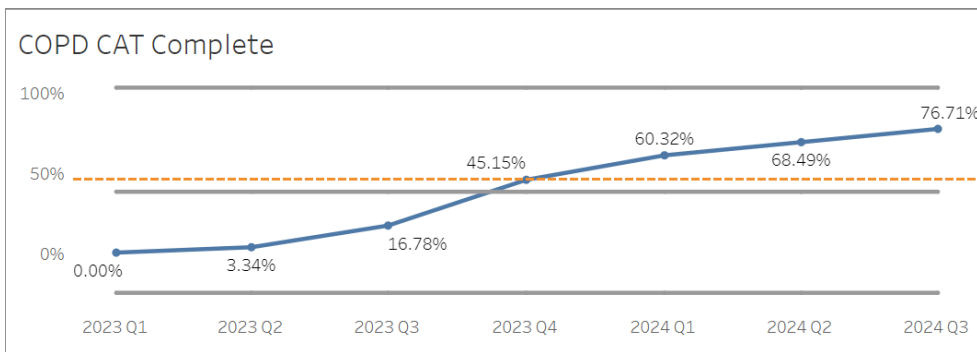


Figure 17

We have noticed that our pulmonary function test (PFT) rates were not increasing at the same rate as our CAT score completion rates (figure 18), so we dug into the data and realized that our patients' ability to travel to the pulmonary clinic to get a PFT was a large barrier. We recently installed a Spirometry machine that is connected to our EHR, so that



we can get accurate spirometry results on site. It is too early to tell but we believe this will increase our completion rates for pre and post albuterol spirometry results, so that patients can be accurately staged.

The targeting list for patients with high risk of ED utilization and patients with high-risk COPD were developed for the team to identify these patients and proactively huddle on them to develop care plans. Examples were shown previously.

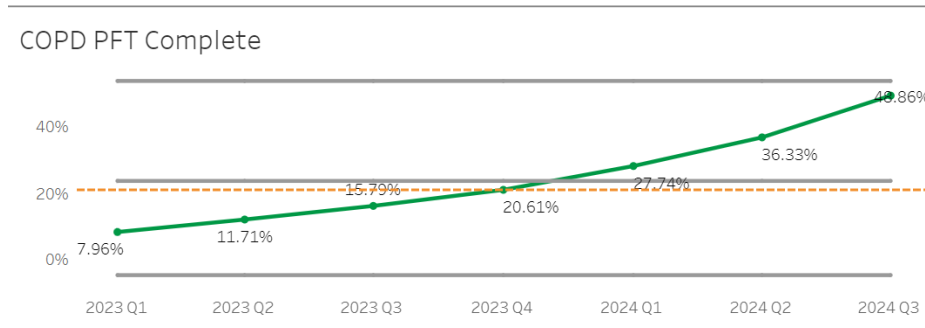


Figure 18

Cervical cancer screening has been above the target of 60% since June 2023. Colon cancer screening was not where we needed it to be, and when we investigated the data to understand why, we realized that many of our patients were declining colonoscopy referrals. Patients were declining because they did not have someone who could drive them and stay with them during the procedure. We started working to leverage fecal immunochemical test (FIT) home screening along with colonoscopy and have seen our screening rates hit 66% in March and April of 2024. This is above the target of 60% for the measure.

Similarly, we were having difficulty with our patients getting to goal with their diabetes. Towards the end of 2022, we had our pharmacist focus on our diabetes population and help us titrate a patient's medications until we had the patient at goal. This led to significant improvement in the percent of our patients with an A1c < 9 hitting the target. Since Q4 of 2022 we have maintained a rate of 69% or greater (figure 19)

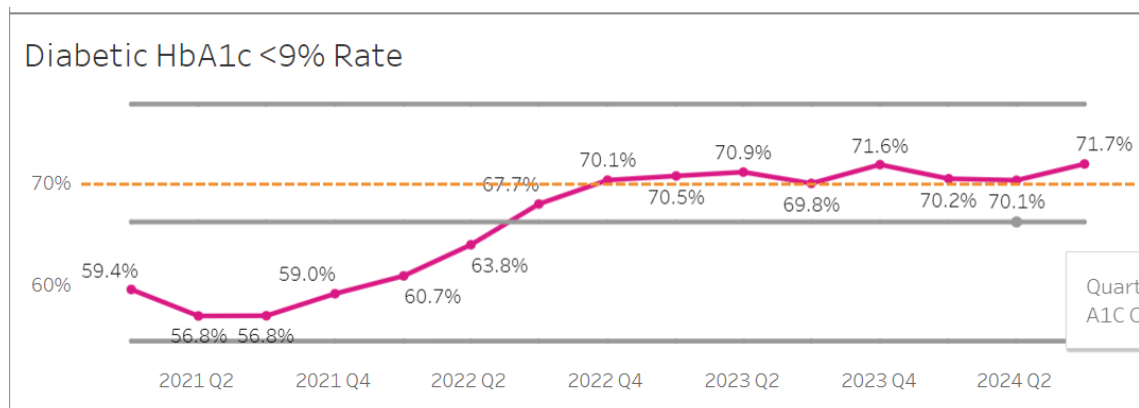


Figure 19

Similarly for hypertension we instituted procedures to have blood pressure rechecked at the end of a visit if it was high when the patient was first roomed. We also had patients follow up in one month. We have seen an increase in HTN patients at goal from 52% in 2021 to 63.5% in Q3 of 2024 (figure 20).

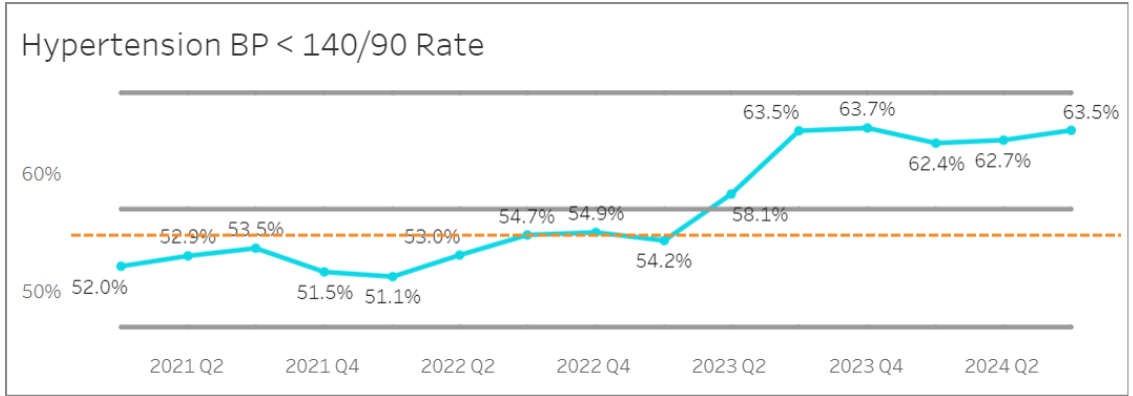


Figure 20

Our Durable Power of Attorney for Healthcare (DPOAH) data allowed us to understand who did not have a DPOAH on file and have them complete one at the time of the visit. This effort saw some increases in completion but those increases stalled after several months. We learned this through our key performance indicators dashboards (figure 21). Subsequently, we had our population health RN meet and follow up with patients who needed to have a DPOAH completed at the time of the visit.

ACP DPOAH		Nov 23	Dec 23	Jan	Feb	Mar	Apr
ACP DPOAH		6	6	3	3	1	6
NonAcp Dpoah		0	0	0	0	0	0

Figure 21

## HIMSS Global Conference Audience Guidance

Topic Guidance: Check three which apply to this case study

### **Clinical Informatics and Clinician Engagement**

Clinically Integrated Supply Chain

Consumer/Patient Engagement and Digital/Connected Health

Consumerization of Health

### **Culture of Care and Care Coordination**

Data Science/Analytics/Clinical and Business Intelligence

Disruptive Care Models

Grand Societal Challenges

Health Informatics Education

Health Information Exchange

Interoperability

Data Integration, and Standards

### **Healthcare Applications and Technologies Enabling Care Delivery**

Healthy Aging and Technology

Improving Quality Outcomes

Innovation, Entrepreneurship, and Venture Investment

Leadership, Governance, and Strategic Planning

### **Population Health Management and Public Health**

Precision Medicine and Genomics

### **Process Improvement, Workflow, and Change Management**

Social, and Behavioral Determinants of Health

Telehealth

User Experience (UX)

Usability

User-Centered Design

### References:

1. [Figure 2: Graphic by Tim Phillips, PT, DPT used with permission Concept credit: Stacy Brummel, VP Population Health Erin Inman, VP Primary Health & Region Spec; Dr. Rima Shah, SVP, CMO, Amb Care & Pop Health](#)
2. [Differentials in the Concentration of Health Expenditures across Population Subgroups in the U.S., 2013 - Statistical Brief \(Medical Expenditure Panel Survey \(US\)\) - NCBI Bookshelf \(nih.gov\)](#)
3. [Drivers of High-cost Medical Complexity in a Medicaid Population - PubMed \(nih.gov\).](#)