North Carolina
State Health Plan
FOR TEACHERS AND STATE EMPLOYEES

Patient Centered Medical Home Practice Pilot

Board of Trustees Meeting

May 12, 2016

Patient Centered Medical Home Pilot: Year 1 Update

- The PCMH Pilot was initiated in May - August 2015 and includes the following four practices:
  - Eagle Physicians and Associates
  - CaroMont Health
  - NHRMC Physician Group
  - Novant Health
- Year 2 of the pilot was initiated on May 1, 2016
- The PCMH pilot has been a learning experience for the Plan and is allowing us to assess the provider relations strategy.

Report to SHP Board of Trustees

PCMH Pilot

Eagle Physicians and Associates

May 12, 2016

EAGLE PHYSICIANS

Year 0: Eagle Physicians and Associates, PA

- Greensboro and Guilford County
- 58 providers
  - 43 primary care providers
  - 8 primary care sites (IM, family medicine, pediatrics)
  - Also Walk-in Clinic, GI, endocrinology, OB-GYN, and sleep medicine
- Developed from the merger of several practices 20 years ago with some additions
- Value our site individuality
  - We don’t try to look the same
  - But what should be centralized?

EAGLE PHYSICIANS

Year 0: Participation in PCMH pilot

- Came at the right time in our development
  - We participate in a successful ACO, Triad HealthCare Network, but we needed more skills in our own practice
  - We recognized the need to develop further skills and processes in population health and care management
  - We needed financial resources to do so
- Ability to use resources that we developed for more than SHP patients – this was crucial
- Care coordinator visiting patients in the hospital – brilliant!

EAGLE PHYSICIANS

Year 1: Costs, processes, staff changes

- Implementation costs
  - Existing staff time (Dr. Osborne, Dr. Weissman, Vicki Gregory, Terri Jones)
  - Additional staff needed: Data Analyst, Patient Care Advocate
- Process changes
  - PCA: visiting patients, coordinating care management strategies (with AHM and other CM programs), gap closing
  - Data Analyst: tracking our population(s), producing gap lists
- Staffing changes
  - Reduced the need for sites to “garden” the list(s) and close gaps
  - Allowed site staff to concentrate on seeing patients

Year 1 Change drivers: Physician Engagement

- Highest level: Physician Leadership
  - Absolutely critical to have one or more physician champions
  - Dr. Osborne, Dr. Weissman, Dr. Fried (CMIO), Dr. Stoneking (President)
- Middle level: Physician participation in implementation
  - Quality Committee
  - Site physician leadership
- "Street level": Day to day buy-in
  - Make their lives easier, not harder

Added bonus:
Community member on Quality Committee

EAGLE PHYSICIANS

Year 1 Results: Did it work?

- Clinical Quality Metrics
  - Improvement in DM composite, Mammography rates, Nephropathy screening in DM, DM control, and colorectal cancer screening
  - No change in BP control
- Utilization Metrics
  - Increase in readmissions, ED visits and avoidable hospitalizations (but we were low to begin with!)
  - Drop in radiology costs
- Patient engagement – 85%!

EAGLE PHYSICIANS

Year 1 Results: Did it work?

- Patient satisfaction
  - Continuously measure six questions (facility, wait time, staff, treatment result, scheduling ease, and overall) – scale of 0 to 5
  - Scores 4.8-4.9, except wait time at 4.6
- Staff satisfaction
  - Overall staff are happy with the tools provided by the PCMH Pilot
  - We have identified continuing cultural issues in our sites
- Physician satisfaction
  - Work-life imbalance

Year 1 Results: Did it work?

- Applied similar processes to other populations
- Lessons learned
  - Data management
    - Using the insurance ID as the unique patient identifier
  - We need more help
    - Quality Manager
    - Another Patient Care Advocate
  - Difficulty of focusing on Quality and Utilization at the same time
    - They are really two different strategies

EAGLE PHYSICIANS

Year 2 and beyond: What is next?

- Looking forward to working with AHM and SHP for year 2
- Eagle is in this for the long haul
- The future of primary care medicine:
  - Value not volume
  - Population health: caring for people that are not in front of you

Primary care practices cannot finance the change they need to make (and you need them to make) in the volume based world!

EAGLE PHYSICIANS

Year 2 and beyond: What is next?

- Payer responsibility: to create opportunities for primary care to make the changes that our patients need and our health care system needs
- Payer risk
  - Every practice may not have the leadership needed to change
  - PCPs will “take the money and run”
- Our recommendation
  - Build on the lesson learned in the PCMH Pilot
  - Continue and expand incentives for practices to make changes toward population health

EAGLE PHYSICIANS

NC State Health Plan Board of Trustees Presentation

CaroMont Health

CaroMont Health

May 12, 2016

Partnership Opportunities

- PCMH-Patient centric Approach
- Care Coordination Fee Design
- Quality Centered Program
- Collaborate directly with the employer

CaroMont Health

Year 1 Evolution

- Staffing Appropriation
- Process changes
  - Workflows
  - Patient tracking
  - Scheduling Efficiency
  - Member Outreach

CaroMont Health

Physician Engagement/Leadership

- Physician-Led Medical Group
- Decision Makers
  - Attend JOC's
  - VP Chief Medical Officer (NEW)
- Clinic Operations
  - Unblinded scorecards
  - Quarterly Provider Meetings
- Monthly Newsletter

CaroMont Medical Group

April 2016

Quality Improvement Updates

Pharmacy Prudence

New Opioid Guidelines Released

This month the CDC released the final version of its guidelines for prescribing opioids for chronic pain. The guidelines are intended for primary care clinicians who treat patients for chronic, non cancer pain of > 3 months not receiving palliative or end-of-life care.[1]

The pendulum of treating pain has swung. In the 1980s and 90s, patients were commonly found to be inadequately treated for pain. Calls from the Federation of State Medical Boards to adequately treat pain and the Joint Commission adopting pain as the fifth vital sign in 2000 led to more awareness and interventions for patients experiencing pain.[2] Drug manufacturers of prescription opioids strongly marketed opioids, and minimized risks of misuse and addiction.[3] Patient satisfaction surveys that included the assessment of pain became tied to physician performance and reimbursement.[2]

Today, there exists an opioid epidemic in the US. Nearly 20,000 deaths in 2014 resulted due to overdose of prescription opioids, and 2 million people met diagnostic criteria for substance use disorder involving prescription opioids, the highest in recorded history.[2] Despite a nearly 300% increase in prescription opioid sales since 1999, data suggest that there is no significant change in the amount of reported pain that patients in the US experience.[4]

There is well established short term opioid efficacy from RCTs of 12 weeks or less, with moderate pain relief and small benefits for functional outcomes. However, the CDC guidelines found no efficacy trials of opioid use for > 1 year vs placebo related to pain, function, or quality of life. Therefore, nonpharmacologic therapy such as exercise and cognitive behavioral therapy, along with nonopioid therapy is preferred for first line for chronic pain. This is due to lower risks with therapy and short term efficacy. Unfortunately, there are little data to support nonopioid therapy in long term pain relief.[1]

The quality of trials and data used to compose the CDC guidelines are moderately weak to weak. While not graded exactly the same as Beer's Criteria, the strength of the data is comparable. Most data on harms and adverse events are from cohort, case-control, and cross-sectional studies with notable limitations. No randomized controlled trials were found for harm and adverse events.[1]

Key points from the CDC to providers are to use nonopioid therapies for chronic pain, starting at the lowest possible effective dose (to avoid patients becoming addicted to opioids from acute pain, duration of 3 days is recommended). Start with immediate release formulations, never extended release. Close monitoring of the patient is essential, with the option of using validated instruments such as the PEG scale. Risk of overdose is dose dependent, and additional precautions should be implemented when a patient is put on opioid doses of 50 morphine milligram equivalents per day. Benzodiazepines should be avoided whenever possible, and muscle relaxers can also increase risk of opioid use.[1]

There are many other recommendations in the guidelines to assist in safety and efficacy in treating pain. While the guidelines do not address the art of treating chronic pain, they do outline the current science, which is limited.

Thomas Henry, PharmD BCPS

References:

1. CDC guideline for prescribing opioids for chronic pain – United States, 2016. MMWR Recomm Rep 2016;65(RR-1):1-49
2. Olsen Y. The CDC guideline on opioid prescribing: Rising to the challenge [editorial]. JAMA 2016.1910[Epub ahead of print].
3. Van Zee A. The promotion and marketing of oxycontin: commercial triumph, public health tragedy. Am J Public Health 2009;99:221-7.
4. New CDC Opioid Prescribing Guidelines: Improving the way opioids are prescribed for safer chronic pain treatment. CDC website. Available at: http://stacks.cdc.gov/view/cdc/36833. Assessed March 24, 2016.

CaroMont Health

Quality Improvement

- Alignment of measures within the Medical Group

Measure Name	Num.	Den.	Source	2014 Baseline	2015 Q2 Results	2015 Q3 Results	2015 Q4 Results	2015 Target
Diabetes Composite	158	236	AHM/EMR	66.40%	66.03%	63.33%	88.61%	72%
HBA1c Test 2x Year, LDL Screening, Blood Pressure every visit, Diabetes Tobacco Assessment, Aspirin Therapy								
Persistent Asthma on ICS	31	34	AHM	96.4%	100%	100%	91.2%	96.40%
Rate of ED Visits per 1000	N/A	N/A	AHM	95.3	98.7	95.4	103.6	90.8
Rate of Inpatient Avoidable Hospitalizations (Admits/per 1000)	N/A	N/A	AHM	0.80	1.30	2.30	1.90	1.1
Rate of Readmissions	53	61	AHM	8.8%	11.1%	9.5%	13.1%	8.3%
Radiology Costs PMPY	N/A	N/A	AHM	$146.17	$127.42	$142.77	$99.43	$137.50
Engagement	179	204	AHM	N/A	N/A	17.29%	87.74%	See Tiering PY2
Tobacco Screening	115	150	EMR	66.4%	73.4%	73.8%	76.6%	75%
Mammogram	552	635	AHM	84.3%	85.8%	88.2%	86.9%	86%
Colorectal Cancer	668	1,131	EMR	54.8%	63.6%	60.2%	59%	56.80%
BP Control (<140/90)	826	1,112	EMR	65.0%	77.2%	76.7%	74.2%	70.00%
Medical Attention for Nephropathy	199	230	AHM	79.3%	83.3%	85.9%	86.5%	87.50%

CaroMont Health
Performance 3rd Quarter Data

CaroMont Health

Healthier You Class

- Program Overview:
- 12 week program for patients with BMI >30 with co-morbidity
- Patients identified by the PCP, or the Care Navigator
- Pharmacist does lesson on weight loss meds and the pros and cons with them

- Outcome Measurements:
  1. Monitor BP, Weight & Waist Circumference
  2. Review Food Diaries weekly & discuss for tips

- Patient Goals:
  1. Identify Carbs, Fats & Sodium
  2. Label Reading Skills (Calorie King Book Given)
  3. Health Choices & Lifestyle changes
  4. Chair Exercise (Tension Bands given)
  5. Water Consumption (Water Bottles given)
  6. Document in Food Diary all meals

CaroMont Health

Outcome Discussion

Healthy You Program

Member Case Study 1

Pre	Post
Weight=230 lbs	Weight=208 lbs
A1C=7.0	A1C=6.5
LDL=68	LDL=50
Trig=204	Trig=118
Waist Circumference=51	Waist Circumference=49.5
*Pt referred to the CaroMont Health and Fitness Center	

Member Case Study 2

Pre	Post
Weight=211.4 lbs	Weight=195.6 lbs
Waist Circumference=40.25	Waist Circumference=37.5
LDL=116	LDL=103

CaroMont Health

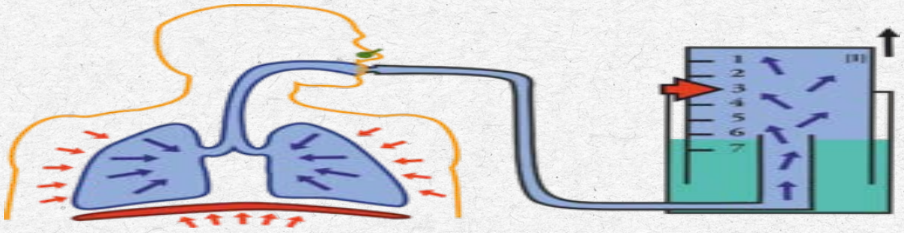
Patient Outcome

- Past Medical History: Diabetes, High Blood Pressure, and High Cholesterol
- Diabetes Education on November 2015
- Enrolled in Healthy You class on January 2016
- 4th week of class beneficiary expressed concern that they were having intermittent palpitations and tightness in their chest when they had increased their activity.
- Next day appt. with PCP for evaluation
- Scheduled stress test
- Abnormal stress. Heart catheterization completed.
- Noted CAD (Coronary Artery Disease)
- Patient was able to return back to class and complete 10 of the 12 weeks of class

CaroMont Health

Spirometry Training

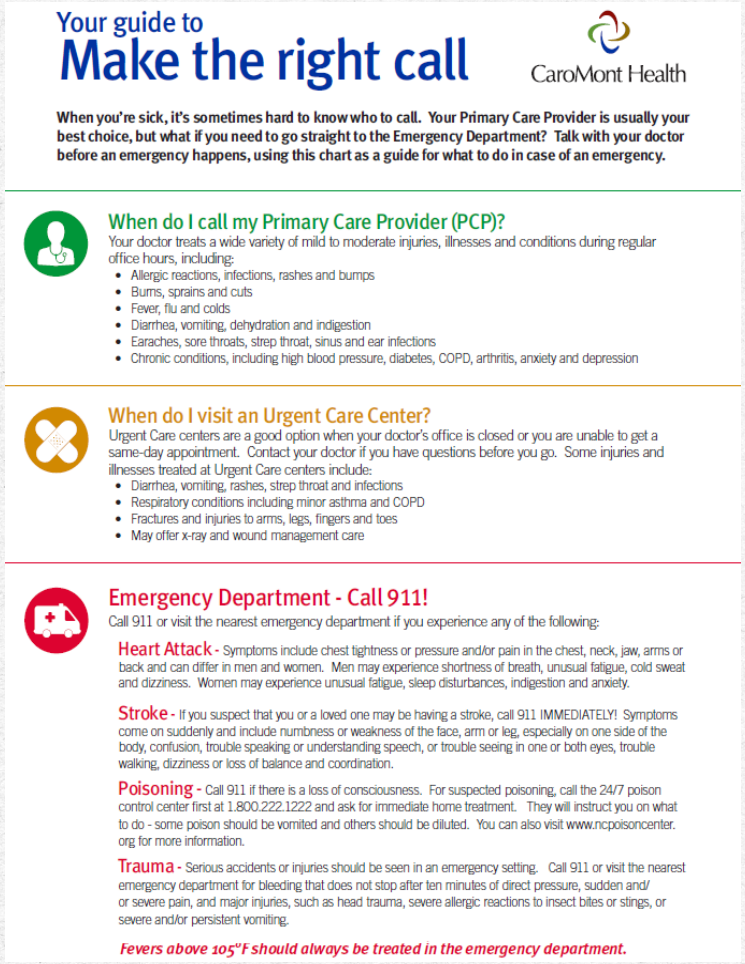
- Background: CMG Care Coordination identified a barrier with Patients diagnosed with COPD not qualifying for Pulmonary Rehab due to lack of diagnosis by spirometry.
- Spirometry Training was provided to clinic staff
- Respiratory Therapist trained clinic staff:
  - Providing spirometry testing
  - Testing and calibrating the equipment
  - Screening Appropriate patients
  - Educating patients on the procedure to ensure accurate data



CaroMont Health

Make the Right Call

- New Initiative at CaroMont to help patients "Make the Right Call" between using their PCP vs Urgent Care vs ED visits
- Roll out to clinics in 2016
- Plan is to educate the providers and clinic on giving the information out to all new patients and those with inappropriate use of the ED



Your guide to
Make the right call

CaroMont Health

When you're sick, it's sometimes hard to know who to call. Your Primary Care Provider is usually your best choice, but what if you need to go straight to the Emergency Department? Talk with your doctor before an emergency happens, using this chart as a guide for what to do in case of an emergency.

When do I call my Primary Care Provider (PCP)?

Your doctor treats a wide variety of mild to moderate injuries, illnesses and conditions during regular office hours, including:

- Allergic reactions, infections, rashes and bumps
- Burns, sprains and cuts
- Fever, flu and colds
- Diarrhea, vomiting, dehydration and indigestion
- Earaches, sore throats, strep throat, sinus and ear infections
- Chronic conditions, including high blood pressure, diabetes, COPD, arthritis, anxiety and depression

When do I visit an Urgent Care Center?

Urgent Care centers are a good option when your doctor's office is closed or you are unable to get a same-day appointment. Contact your doctor if you have questions before you go. Some injuries and illnesses treated at Urgent Care centers include:

- Diarrhea, vomiting, rashes, strep throat and infections
- Respiratory conditions including minor asthma and COPD
- Fractures and injuries to arms, legs, fingers and toes
- May offer x-ray and wound management care

Emergency Department - Call 911!

Call 911 or visit the nearest emergency department if you experience any of the following:

Heart Attack - Symptoms include chest tightness or pressure and/or pain in the chest, neck, jaw, arms or back and can differ in men and women. Men may experience shortness of breath, unusual fatigue, cold sweat and dizziness. Women may experience unusual fatigue, sleep disturbances, indigestion and anxiety.

Stroke - If you suspect that you or a loved one may be having a stroke, call 911 IMMEDIATELY! Symptoms come on suddenly and include numbness or weakness of the face, arm or leg, especially on one side of the body, confusion, trouble speaking or understanding speech, or trouble seeing in one or both eyes, trouble walking, dizziness or loss of balance and coordination.

Poisoning - Call 911 if there is a loss of consciousness. For suspected poisoning, call the 24/7 poison control center first at 1.800.222.1222 and ask for immediate home treatment. They will instruct you on what to do - some poison should be vomited and others should be diluted. You can also visit www.ncpoisoncenter.org for more information.

Trauma - Serious accidents or injuries should be seen in an emergency setting. Call 911 or visit the nearest emergency department for bleeding that does not stop after ten minutes of direct pressure, sudden and/or severe pain, and major injuries, such as head trauma, severe allergic reactions to insect bites or stings, or severe and/or persistent vomiting.

Fevers above 105°F should always be treated in the emergency department.

CaroMont Health

Satisfaction

- Patient Satisfaction
    - Centralized Scheduling
    - Patient education programs offered in community
    - Nutrition Counseling offered in primary care office so member has no out of pocket
- Physician Satisfaction
    - Communication; newsletters and Ops Meetings
    - Embedded Nurse Navigators within Primary Care Offices

HealthStream-3rd party vendor satisfaction surveys

CaroMont Health

Lessons Learned/Opportunities

- Lessons Learned
  - Patient readiness assessment
  - Optimizing Patient Outreach for this population

- Opportunities
  - Claims Data Sharing
  - Redefine a flexible engagement strategy
  - Motivate/Incentivize members to improve engagement and self management

CaroMont Health

NC State Health Plan – PCMH

Board of Trustees Meeting

New Hanover Medical Group

NHRMC Physician Group

May 12, 2016

North Carolina State Health Plan
FOR TEACHERS AND STATE EMPLOYEES
A Division of the Department of State Treasurer

ActiveHealth MANAGEMENT

ROLL CALL / INTRODUCTIONS

North Carolina State Health Plan
FOR TEACHERS AND STATE EMPLOYEES
A Division of the Department of State Treasurer

New Hanover Medical Group
NHRMC Physician Group

ActiveHealth MANAGEMENT

Agenda

* Motivation for participating in pilot effort with NCSHP
* Evolution of practice during year 1
* Physician engagement and leadership
* Quality Improvement
* Sustaining change post pilot
* Practice recommendations-Quality care and outcomes

Motivation for Participation

* Form a collaborative relationship to manage the patient population
* Learn how to manage the population with access to payer and pharmacy data
* Pave the way for future efforts in managing patient populations

Evolution of Practice Year 1

* Implementation Costs:
  * Investment of time of management staff working through the processes was likely our greatest expense. In addition, staff time working with SHP patients.

* Internal Processes:
  * Created standing orders to expedite quality care and to allow clinical staff to work at the top of their license
  * Identification of State Health Plan members in Epic, viewable in Epic banner
  * Recognized need to change fragmented workflow and processes throughout the continuum of care
  * Continuous collaborative efforts between inpatient and community resources with focus on continuity of care

* Staffing changes:
  * Expanding Care Management Department staffing and capabilities

Physician Engagement & Leadership

* Role of physicians:
  * Act on identified Care Considerations
  * Support and adhere to the standard work that has been developed

* Physician Leadership:
  * Share the value of pilot participation:
    * Access to data to enhance patient care
    * Introduce patient population management
    * Prepare us for future reimbursement models

* Strategies to engage physicians:
  * Support from executive leadership, physician champions and practice as a whole
  * Ability to identify the patient population inside Epic
  * Present "future state" of alternate payment models highlighting NHMG State Health Plan pilot to primary care and specialty management staff (Presented by Network Leadership)

Quality Improvement

* Change in Quality Metrics:
  * Identification of patient population in Epic for population management
  * Best practice advisory point of care alerts impacted ability to close care gaps
  * Implemented standard work to expedite quality care and allow clinical staff to work at top of license

* Other Outcomes:
  * Discrete Data Capture
  * Analysis to Calculate Performance Metrics

* Patient and Physician Satisfaction:
  * Patients are appreciative of the outreach and communication regarding their care and disease
  * Standardized communication and collaboration between physician/clinical staff to enhance medical decision making resulting in improved patient outcomes and patient satisfaction

* Lessons Learned:
  * Validation to build and implement Healthy Planet dashboard
  * Best Practice Advisories at point of care are essential
  * Need to ensure statistical significance due to low case numbers (#'s)
  * Utilization of Epic data as source of truth for Diabetes Bundle. Accurate denominator

Measure Name	Num.	Den.	Source	2014 Baseline	2015 Q2 Results	2015 Q3 Results	2015 Q4 Results	2016 Q1 Results	2015 Target	Region 5 Percentile
Diabetes Composite	126	158	EMR	70.51%	79.29%	77.42%	80.71%	79.75%	75%	N/A
HBA1c Test 2x Year, LDL Screening, Blood Pressure every visit, Diabetes Tobacco Assessment, Aspirin Therapy										
Persistent Asthma on ICS	18	19	AHM	95%	95%	90%	94.7%		93%	N/A
Rate of ED Visits per 1000	N/A	N/A	AHM	93.6	82.3	89.3%	86.3%		93.6	89
Rate of Inpatient Avoidable Hospitalizations (Admits/per 1000)	N/A	N/A	AHM	2.7	1.3	3.9	1.40		2.23	100
Rate of Readmissions	52	54	AHM	7.1%	3.6%	3.3%	3.7%		6.5%	92
Radiology Costs PMPY	N/A	N/A	AHM							
Influenza Vaccine	1003	1271	EMR	47.77%	63.84%	63.84%	57.78%	78.91%	53.3%	N/A
Tobacco Screening	1549	1572	EMR	90.34%	87.35%	82.67%	89.06%	89.28%	90%	N/A
Engagement	16	39	AHM	N/A	N/A	N/A	41.0%		See Tier PY2	N/A
Medical Attention for Nephropathy	171	172	AHM	87.6%	90.2%	92.7%	90.7%	99.42%	90%	82
Screening for Clinical Depression (PREV12)	1346	1696	EMR	58.09%	72.18%	63.60%	63.83%	79.36%	60%	N/A
Colorectal Cancer Screening	650	753	EMR	83.4%	84.92%	83.46%	85.36%	86.32%	72%	N/A

Sustaining Change Post Pilot

* Culture Shift towards population management
  * Expansion of the Care Management Department staffing and capabilities
  * Further development of standing orders to expedite quality care and to allow clinical staff to work at the top of their license

* Healthy Planet
  * Native to Epic
  * Care Gap Reports
  * High Risk Patient Identification
  * Outreach Tracking
  * Patient Outreach Encounter
  * Bulk Messaging/Orders

* Ongoing relationship and collaboration with ActiveHealth

Practice Recommendations

* Use approved quality metrics for standardization amongst payers and reporting, which aligns with payment reform

* Utilization of USPTF clinical guidelines and recommendations

Questions/Comments/Feedback

New Hanover Medical Group
NHRMC Physician Group

BOT meeting

May 12, 2016 4 to 6 p.m.

Motivation for participating in pilot effort with NCSHP

- Ability to work collaboratively with NCSHP to identify opportunities to improve the quality of care to our patients. This included coordinated efforts and resources between Novant Health, State Health Plan (SHP), and Active Health Management (AHM).
- Opportunity to receive and utilize attribution reports from SHP to identify this particular patient population.

Evolution of group during year 1

- Attributed population is approximately 12,000 patients between Winston-Salem and north Mecklenburg sub groups
- Novant Health achieved a 100 percent attribution match rate in Epic dashboard dedicated to the SHP population.
- Dedicated staff committed to SHP, including
  - 2 RN FTEs to work the transitions of care and referrals from SHP
  - 1 RN FTE to work quality measures from SHP and dashboard reporting
  - 1 pharmacist working medication alerts (adherence, high risk, etc.)
  - 1 value-based performance coordinator dedicated to the success of the contract

Physician engagement and leadership

- Novant Health has physician leadership dedicated to:

  Population health
  Information technology
  Pharmacy
  Quality & HEDIS
  RAF/HCC coding

- CMIO instrumental in setting up payor dashboards and reviewing metrics in program

- Communicate with care coordinators through Epic on care gaps, chronic conditions, pharmacy and social needs

- Novant Health providers have patient-level detail dashboard reports

- Medical group quality operations team comprised of MDs, CNO, population health, managed care representation to set goals

Program Successes

- 100 percent attribution match rate in Epic
- Improvement in A1c screen rates for diabetic population in both Winston-Salem and north Mecklenburg markets
- Patients express appreciation for the care coordination outreach, including help in “getting back on track” with preventive screenings
- Care coordinators express satisfaction in developing more in-depth relationships with patients

Quality improvement challenges

- **Engagement contractual requirement**: The two outreach connections by care coordinators and an office visit makes it difficult to determine patient engagement and reporting.

- **Quality metrics**: Contractual quality metrics vary greatly from dashboard metrics (e.g., diabetic composite), making it difficult to utilize Epic reporting for quarterly reporting to SHP.

- **Transitions of care reporting:** Care coordinators are required to complete weekly spreadsheets and return to SHP.

- **Data sharing**: Timing of reports and claims lag creates difficulty reconciling data between SHP and Novant Health

Making healthcare remarkable, one patient at a time

Meet Saundra: Female age 43, diagnosed with multiple sclerosis in 1999. Receiving infusions for MS, and is active in making appointments with her neurologist. She agreed to engaged with the RN care coordinator. One concern was her ability to attend holiday parties due to immunocompromised state and the need to wear a mask. The care coordinator suggested decorating mask, which delighted the patient.

Meet Catherine: Female patient, age 26, diagnosed with Hodgkin's Lymphoma during her pregnancy. Care coordinator called patient post hospital discharge to review discharge plan and ensure follow up appointments were in place. She connected patient with a cancer navigator and referred her back to the Active Health Management pregnancy program.

NOVANT HEALTH

Recommendations and next steps

Recommendations

- Work with ActiveHealth to streamline the identification and risk stratification of members
- Explore better integration with existing Novant Health care coordination processes and workflows to address patient needs more holistically directly from our EHR platform.
- Novant Health assumes responsibility for the full process of care gap identification and resolution, which aligns with existing Novant Health quality improvement initiatives and our PCMH pilot contract metrics.
- Continue to identify opportunities to improve care gap closure and increase SHP member engagement utilizing EHR platform.

Next steps

- Plan for program year 2 with SHP and AHM
- Discuss process improvements, automation and operational efficiencies with AHM