

2018 Summa Health

Quality Report



summahealth.org/quality

Opening Remarks

The mission of Summa Health is to provide the highest quality, compassionate care to our patients and members and to contribute to a healthier community. Quality is engrained in not only the mission of the health system, but also within our vision and commitments. Serving with passion, personalizing care, valuing every person, taking ownership, working collaboratively and partnering with the community require the expertise, coordination and commitment of all to provide reliable, high quality and safe care. To deliver the highest quality care is a powerful promise. This promise in our mission requires every employee to live each of our commitments every day.

We are fortunate to have a healthcare system that delivers the highest quality care. We are even more fortunate that the quality team and the Summa Health workforce are committed to continuously improving the safety and quality of our healthcare system by honoring our commitments. In 2018, Summa Health made significant progress in meeting many of its quality and safety goals, and the contributions to providing safe and high quality care can be seen through the many successful projects that were completed throughout the year.

You will read about many of the employees, departments and service lines that provide the best possible patient care through education programs, use of best practices, leadership development, innovation and problem solving in quality and safety. We understand the significance of sharing performance and progress and being transparent with our results. The more we can share about our quality, safety and innovative work, the more informed you will be about your important healthcare choices and the more comfortable you will be in trusting us with your care.

On behalf of the quality team at Summa Health, we invite you to review and compare our 2018 outcomes and learn more about our programs and quality improvements and how our healthcare teams work each day to provide the highest quality care.

Our best,

The Summa Health System Quality Team

Although the breadth of the quality improvement at Summa Health is expansive, in the 2018 report we will highlight some activities in our various settings including:

- Summa Health System (hospitals)
- Summa Health at Home
- Summa Health Medical Group
- SummaCare
- NewHealth Collaborative
- Performance Solutions
- Institutes and Service Lines



Awards and Accreditations



The Joint Commission

Summa Health System Hospitals are accredited by The Joint Commission, meaning we have met The Joint Commission's strict quality and safety measures.



Leapfrog

The Leapfrog Hospital Safety Group, the leading scorecard on hospital safety across the country, has awarded its top "A" grade to both the Summa Health Akron and Barberton Campuses for the fall 2018 review period. Of the 2,600 general acute care hospitals nationwide that were studied by Leapfrog, only 32 percent earned the "A" mark. Leapfrog examines how well hospitals score in safety measures in five categories: infections, inpatient surgery, medication safety, maternity care and inpatient care management.



U.S. News & World Report 2018

U.S. News & World Report has ranked Summa Health as a top-performing Ohio hospital in Ohio. Our Akron and St. Thomas Campuses were rated as "high-performing" in seven adult specialties: Diabetes and Endocrinology, Gastroenterology and Gastrointestinal Surgery, Geriatrics, Nephrology, Neurology and Neurosurgery, Pulmonology, and Urology. We also ranked in several adult procedures and conditions.



HeartCARE Center 2018

The American College of Cardiology (ACC) designated the Akron Campus of the Summa Health Heart and Vascular Institute (SHHVI) a 2018 HeartCARE Center™. This national distinction of excellence recognizes Summa among an elite group of forward-thinking hospitals and institutions that go above and beyond to ensure that patients have access to the highest levels of consistent cardiovascular care. To be eligible for consideration, organizations must meet a set of criteria that can be realized through participation in the ACC's existing suite of quality improvement programs.

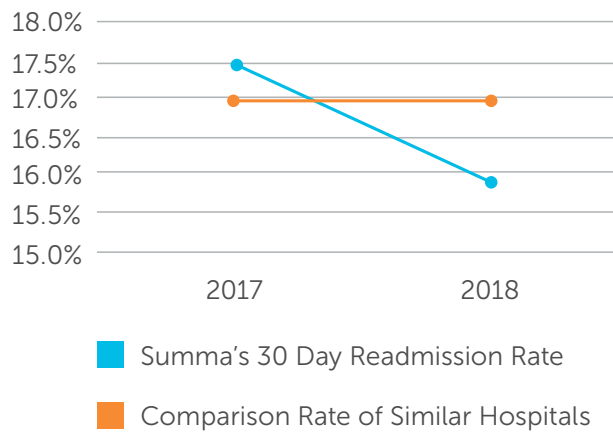
Summa Health System (Hospitals)

COPD Disease Management

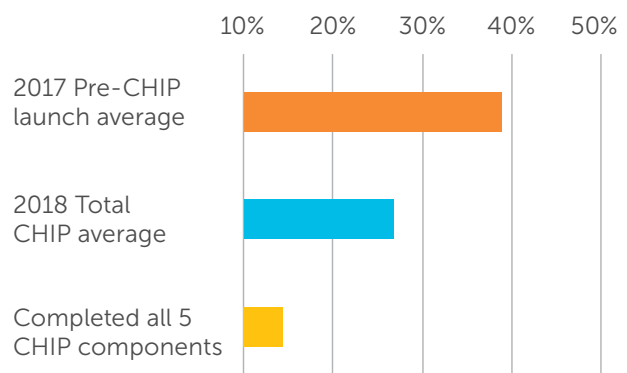
Summa Health serves a large number of patients with Chronic Obstructive Pulmonary Disease (COPD) within the system's surrounding communities. Significant effort and initiatives such as Summa's CHIP (COPD Home Intervention Program), which was piloted in the fourth quarter of 2017 and fully implemented in 2018, have been put into place to better care for and manage our patients with COPD, which is a lifelong disease.

2018 was no exception to our dedication to continuously improving the care of our patients with COPD. One of our clinical initiatives for COPD patients continues to be working to decrease repeat hospital visits. Summa's 30-Day COPD Readmission Rate decreased significantly in 2018 and is better than the average 30-Day COPD Readmission Rate of similar hospitals. One of the key contributors to this improvement was the success of the CHIP initiative, especially for patients that completed all five (5) components of the program (14% 30-day readmission rate compared to 39% of CHIP eligible patients readmitted within 30 days in 2017 prior to the launch of CHIP). We look forward to continued improvement in our COPD care with the implementation of a system-wide COPD Care Pathway in May 2019.

COPD 30-Day Readmission Rate



30-Day Readmission Rate of CHIP Eligible Patients



In 2018, the ASP at Akron Campus made a total of 5,594 interventions

Antimicrobial Stewardship Program

The Antimicrobial Stewardship Program (ASP) at Summa Health System has been in place since September 2010. It began on the Akron Campus, with expansion to the Barberton Campus in February 2016. The goal of the ASP is to ensure the appropriate use of antimicrobial agents, ultimately improving patient outcomes, reducing adverse effects of antimicrobials (including *Clostridioides difficile* infection [CDI]), and decreasing bacterial resistance and healthcare costs.

In 2017, Summa Health System was designated as one of the first four Centers of Excellence for Antimicrobial Stewardship by the Infectious Diseases Society of America. The ASP has demonstrated a positive impact at Summa Health System since its inception, including reduction in: doses/days of antimicrobials, length of stay, readmission rate, mortality in the ICU, bacterial resistance, hospital acquired CDI rates and antimicrobial costs. Summa Health has been at the forefront of demonstrating the beneficial impact of newer microbiological molecular diagnostic tests on antimicrobial utilization, with several members of the Akron ASP presenting their findings at national meetings.

In 2018, the ASP at Akron Campus made a total of 5,594 interventions. Of these interventions, 4,557 were recommendations made to providers, with a 97.1% acceptance rate. The most common recommendation was de-escalation, or narrowing the spectrum of the antimicrobials used based on culture results and/or infection type, and discontinuation of unnecessary antimicrobials. Another area of focus for Summa Health's ASP is reducing fluoroquinolone utilization (including ciprofloxacin and levofloxacin). Fluoroquinolones are a class of antimicrobials with broad coverage that have the potential for causing significant patient adverse events, including CDI. Akron Campus has been successful in reducing fluoroquinolone usage as demonstrated below.

The ASP on the Barberton Campus has continued to grow its stewardship of inpatient antimicrobial use since its inception in February 2016. 2018 was the first full year providing stewardship for all inpatients with an increase in recommendations made of 22.7% over 2017 (1,506 vs 1,848) and an increase in recommendation acceptance by practitioners of 93.7% to 94.6%. The most common recommendation was de-escalation. As seen below, left, Barberton has also been successful in reducing the overall days of therapy for the fluoroquinolones.

Quinolone Utilization (Days of therapy/1,000 Patient days)

	2017	2018
IV		
Ciprofloxacin (Barberton)	5.7	2.9
Levofloxacin (Barberton)	5.0	3.2
Ciprofloxacin (Akron)	3.1	1.6
Levofloxacin (Akron)	1.9	1.1
IV + PO		
Ciprofloxacin (Barberton)	8.7	5.5
Levofloxacin (Barberton)	7.1	3.2
Ciprofloxacin (Akron)	6.9	4.1
Levofloxacin (Akron)	4.0	2.7

Actual Day of Therapy (DOT): The actual days of therapy regardless of the number of doses administered on a single day.

DOT/1,000 Patient Days: The actual days of therapy regardless of the number of doses administered on a single day normalized for patient census.

DOT/1,000 Patient Days = Actual Days of Therapy*1,000/Census



Front Row: Michael Tan, M.D.; Paula Politis, PharmD; Thomas File, M.D. **Back Row:** Aimee Mandapat, M.D.; Sheryl Santos, RPh; Melanie Enslay, PharmD; Matthew England, Ph.D.



Lisa Hoisington, PharmD; Kristin Lehotsky, PharmD; Munshi Moyenuddin, M.D.; Nancy Reynolds, MSN, RN; Josh Leffel, PharmD

Not Pictured in Either Akron or Barberton Team Photos: Shanu Agarwal, M.D.; Amanda Colonna, PharmD; Anthony Leung, D.O.; Joseph Myers, M.D.; Jose Poblete, M.D.; Brandon Singer, RPh; David Wagner, RPh

Always Event at Barberton Campus

To support Summa Health System— Barberton Campus’ mission to provide the highest quality, compassionate care to our patients and members and to contribute to a healthier community, Michael Hughes, M.D., president of Barberton Campus, introduced the Always Event in January 2018 at a senior leadership meeting as a platform for improving patient satisfaction.

TJ DeAngelis, MBA, BSN, RN, NE-BC, CNO, chief nursing officer at Barberton Campus, and Steve Monacelli, MBA/HM, BSN, RN, CNOR, NE-BC, director of surgical services, saw this idea as a way for nurses to meet the mission of the hospital and align to the nursing professional practice model.

After the concept was introduced a team was formed, led by Steve Monacelli. A voice of the customer survey was designed and implemented, and the results were categorized and translated into specific actionable items. The actionable items were voted on by the group to form one “Always Event,” which was “Commit to Sit.” Each nurse should sit down with his/her patients once per day and discuss “What is most important to the patient.”

Steve’s team presented their findings and recommendations at the Barberton System Provider Operations Committee (BSPOC) in February 2018. The measurement of this change in practice was driving improvement in the nursing communication domain patient experience questions, which in turn, drove improvement on the overall “rate this hospital” question which meets the mission outcome.

The scope of the project was narrowed to three nursing units initially as there was too much variability in the types of departments involved. A few units (1 East/1 West, Same Day Surgery, and OB/GYN Unit) began this approach in February 2018.

Their implementation plan was reported on at the monthly BSPOC meetings until it was fully implemented in May 2018.

Feedback from the initial implementation on the selected units was gathered and then TJ DeAngelis presented this at the Nurse Practice Council meeting in April 2018. The Council agreed to the implementation for all inpatient nursing units after that meeting. A “soft” rollout started in April and May 2018.

VIDEO CHALLENGE

1. Inspiration for engagement
2. High participation in Always Event
3. Raise level of enthusiasm

- Partner with our patients
- Improve patient experience
- Provide comittment to patient-centered care



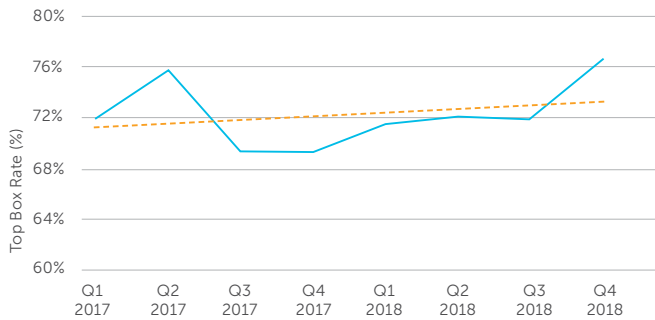
“Commit to Sit”

Make the time to connect with your patients each shift every day.

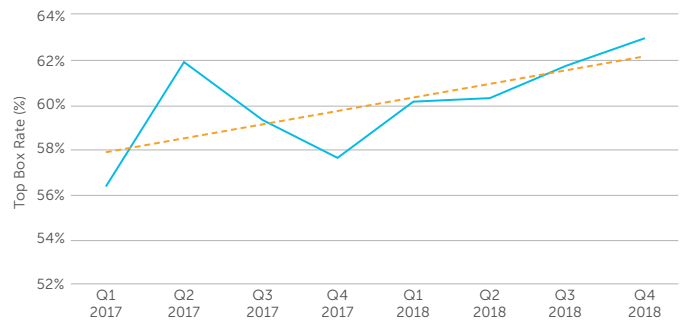
Help us to make a difference in your patients’ lives and with their experiences at Summa Health.

- ## Video Challenge:
1. Inspiration for engagement
 2. High participation in Always Event
 3. Raise level of enthusiasm

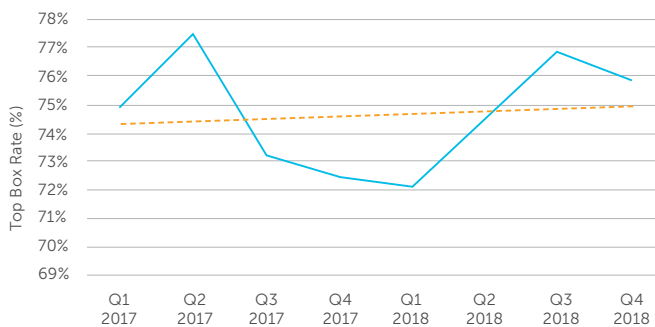
SBH: Communication with Doctors



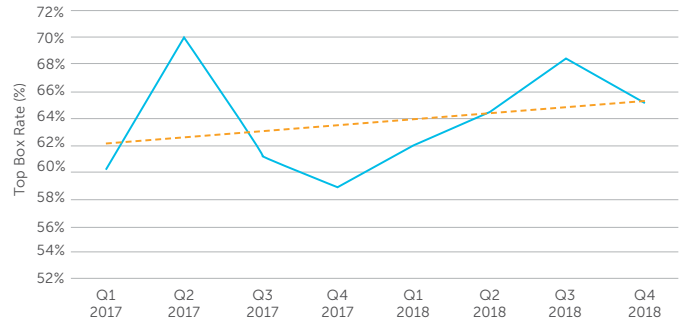
SBH: Recommend this Hospital



SBH: Communication with Nurses



SBH: Rate the Hospital 0-10



Steve Monacelli and Matt Gustovich, senior process engineer, met with each nurse manager to discuss the program and talk about ways to educate their staff. Nurse Managers presented the concept at staff meetings and shift huddles and also communicated to their staff through their normal communication mechanisms such as email newsletters and bulletin boards. To track compliance, nurse managers asked patients if anyone discussed their "Always Event" during their leadership rounds.

At the June 2018 Nurse Practice Council meeting the council suggested making a training video for the Always Event with our nurses as the actors. Jaimee Rood, BSN, RN, OCN took the lead on this project.

A project update was given at the July 2018 Nurse Practice Council and the August BSPOC meetings. Education was assigned through HealthStream, our electronic learning management system, to ensure that all current nurses and newly hired nurses were aware of this initiative.

This education included two videos and an Always Event challenge invitation. The first video, "The Always Event Patient Experience", provides explanations of patient satisfaction/nurse communication domain and showcases our nurses first role playing the wrong way to communicate with patients, then highlights an example of excellent nurse communication focusing on "Commit to Sit" as our Always Event.

The second video, "Always Event Throw Down Challenge", invites nursing units to create their own patient experience video highlighting each unit's patient experience efforts. Videos were submitted for a chance to win a pizza party and the winning video is to be posted in HealthStream to share with all nurses and staff.

This has been a very successful initiative in nursing practice that is consistent with the organization's mission statement and it has successfully increased patient satisfaction scores.

Summa Health at Home

Summa Health at Home provides clinical care and patient support in a home setting for home health services or hospice services at home or in a facility.

Clinical Quality Data Comparison

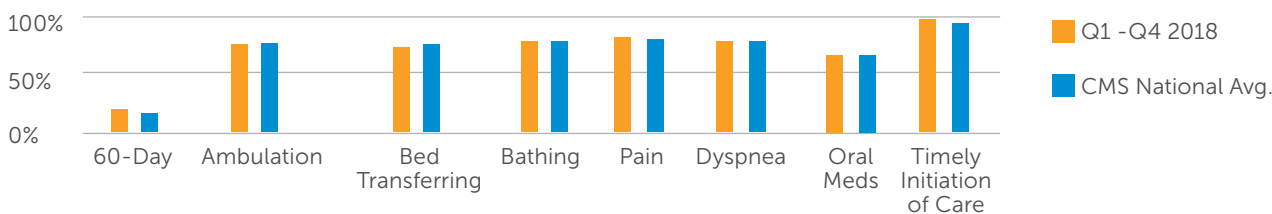
The Centers for Medicare and Medicaid Services publishes clinical quality process data and outcome measures based on clinical assessment information from home care and hospice organizations across the nation. This data is publicly accessible on Home Health Compare (HHC) and on Hospice Compare at medicare.gov. The website allows patients, family members and healthcare providers to read about the quality of care each agency provides.

Home Care

The Home Health Star Rating is a unique tool that consumers, providers, and other stakeholders are using to summarize current measures of home health providers' performance. Summa Health at Home has improved to a 3.5 Star rating. Our continued commitment for improvements in the Star Rating and patient outcomes are highlighted in ongoing initiatives:

- Improvement of patient functional outcome measures, specifically improvement in ambulation and transfers
- Reducing re-hospitalization for high-risk groups with complex chronic diseases by developing disease specific programs and committing to greater patient education and high frequency contact with our patients.

Summa Home Care Star Quality

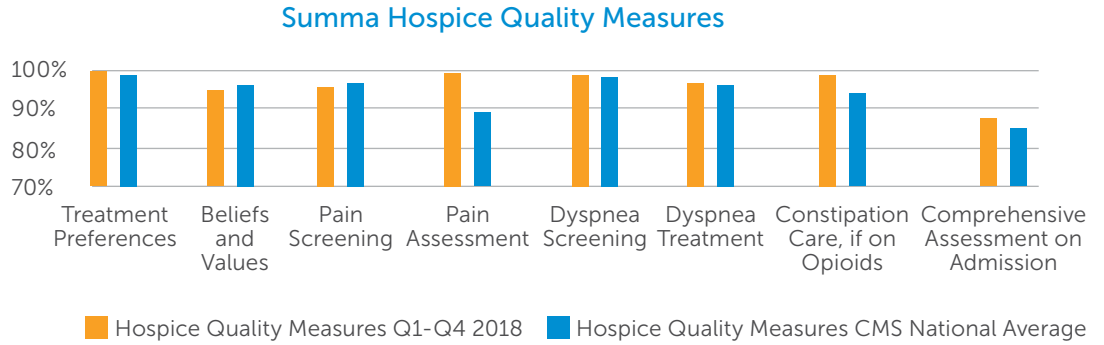


COPD Home Intervention Program (CHIP)

Home Care and Summa Health Medical Group have collaborated to improve care for patients diagnosed with COPD by developing the COPD Home Intervention Program (CHIP). The goals of this program are promoting self-management of chronic disease, transitioning patients to lifelong maintenance and reducing re-hospitalizations. Data has consistently demonstrated an overall decrease in hospitalizations for patient participating in all components of the program and also improved connectivity with pulmonary follow-up and disease management.

Hospice

Summa Hospice achieved outcomes at or above the national average in the majority of hospice quality measures measured in 2018. Quality improvement for 2019 is focused on incorporating patient beliefs and values into their care plan and conducting pain screenings at enrollment for all patients.



Patient Experience

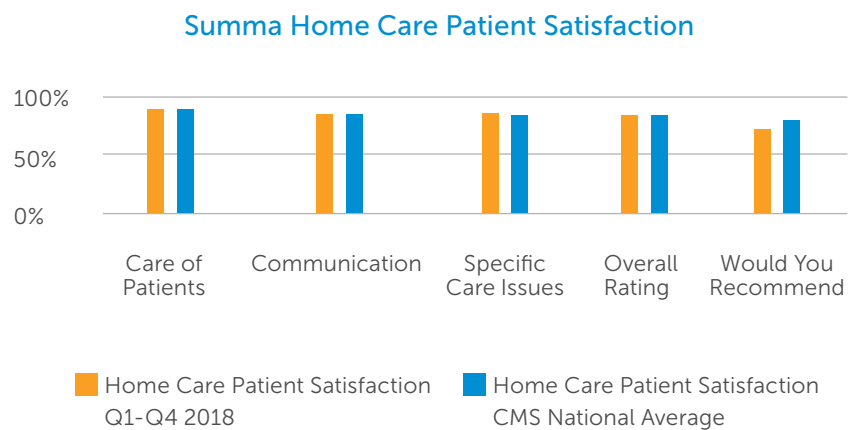
Patients of families receive experience surveys after discharge from home care or hospice. The standardized surveys enable comparisons across home care and hospice providers.

Home Care

Patient survey Star Ratings include information on

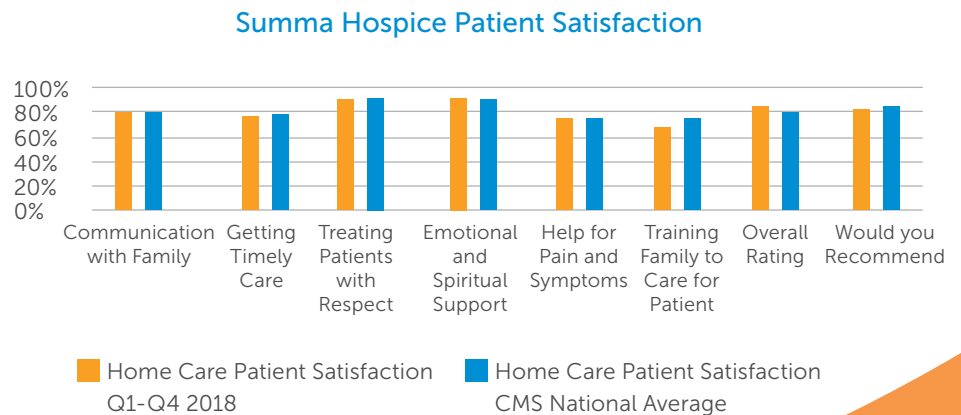
- Care of patients
- Communication between providers and patients
- Specific care issues

Summa Home Health is achieving at or better than national average in the majority of measures. Quality improvement initiatives are currently focusing on increasing percentage of patients who would recommend our agency.



Hospice

Patient survey Star Ratings include information on holistic symptom control, education and communication with caregivers, and access to care. Summa Hospice initiatives are currently focusing on clinician education to align quality care and survey performance as well as ensuring support and training for family members around patient care.



Summa Health Medical Group

All 20 Summa Health Medical Group (SHMG) primary care office sites have achieved National Committee for Quality Assurance -PCMH level III recognition. In addition, 13 SHMG primary care office sites were selected to participate in the Comprehensive Primary Care Plus (CPC+) Program, an advanced, primary care medical home model that rewards value and quality by offering an innovative payment structure. Practices make changes in the way they deliver care, centered on five key Comprehensive Primary Care functions:

1. Access and Continuity
2. Care Management
3. Comprehensiveness and Coordination
4. Patient and Caregiver Engagement
5. Planned Care and Population Health

In 2018, behavioral health care teams and RN care managers were expanded into the primary care setting to support complex patient needs. These teams support long-term care management for high-risk patients. Nurses focus on diabetic and hypertensive patients in primary care. Clinical coordinators teach group diabetic education classes (DEEP) continuously throughout the year for patients at the office site. Summa Health Medical Group nurses contact patients seen in Summa Health emergency departments for follow-up assessment and navigation support within seven days of ED visit. The team developed a “know before you go” campaign to educate patients where to seek appropriate emergent care and the medical group commitment to open access for same day appointments. Patients identified with social determinants affecting access have additional social service support follow-up.



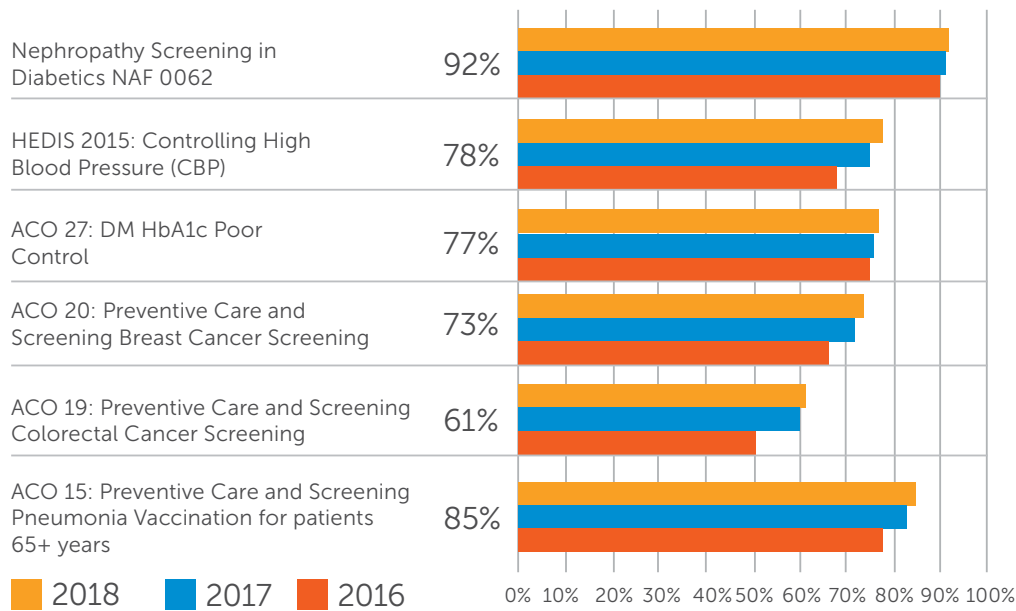
All 20 SHMG primary care offices sites have achieved National Committee for Quality Assurance – PCMH level III recognition.

In addition, last year SHMG developed rooming standards for primary care. CMS quality metrics along with HEDIS and Summa Six quality metrics were identified, defined and properly demonstrated how to document correctly in the EMR. SHMG had multiple skills lab for clinical staff to demonstrate mastery of primary care office tasks and procedures and correctly document in the chart. SHMG focused a performance improvement project around hypertension documentation and follow-up management during the rooming process. Sharing the rooming standards with all clinical staff helped raise quality ratings again this year.

In 2019, SHMG is focused on improvement of the patient experience through:

1. Expanding the Medicare Annual Well Visit
2. Scheduling screening mammograms at office visit
3. Consistently scheduling a follow-up appointment
4. Developing within the EMR communication between specialist and primary care around controlling high blood pressure
5. Developing follow-up workflows for patients that “no show” and involving additional care team members to decrease “no-show” occurrences
6. Striving for an excellent patient experience with every encounter

Summa Health Medical Group Summa Six Run Chart



Quality within the Medical Group

The “Summa Six” is a set of quality metrics with a focus on wellness screening, disease management and immunization adherence. As a medical group, there has been a steady improvement in these outcomes over the past year by working to standardize office processes in order to identify care gaps and develop care teams to support high-risk patients.

SummaCare

SummaCare received a rating of 4.5 stars (out of 5) by the Centers for Medicare and Medicaid Services (CMS). The annual star ratings help beneficiaries determine how well a health plan is performing in areas such as:

- How satisfied members are with the health plan
- How well the health plan detects and prevents illnesses
- How quickly and how well the plan handles member appeals

Using Lean Six Sigma tools to implement process improvements across SummaCare, teams were able to deliver results leading to valuable, lasting change. Some of the areas of improvement include:

Data Source	Measure Name	2018 Star Rating	2019 Star Rating
HEDIS	Controlling High Blood Pressure	★★★★	★★★★★
HEDIS	Diabetes Care - Medical Attention for Nephropathy	★★★★	★★★★★
HEDIS	Colorectal Cancer Screening	★★★★	★★★★★
HOS	Improving or maintaining physical health	★★★	★★★★★
HOS	Improving or maintaining mental health	★★★★★	★★★★★
CAHPS	Overall Rating of Health Care Quality	★★★★★	★★★★★
CAHPS	Getting Appointments and Care Quickly	★★★★★	★★★★★
CAHPS	Getting Care Needed	★★★★★	★★★★★
Appeals Data	Health Plan makes timely decisions about Appeals	★★★★★	★★★★★

SummaCare's Quality Management and 5 Star Committee continued to execute existing clinical campaigns that have demonstrated success and increased member outreach. By beginning campaigns early in the year, members had ample time to schedule appointments, screenings or tests. The exchange of information from high volume labs and EMRs was improved to allow Condition Management teams to engage health plan members

earlier to establish healthy lifestyle and behavior changes. Member satisfaction surveys were analyzed and action plans were implemented to improve member experience. Primary Care engagement has increased through regular communication sharing member care gaps. These steps led to more members receiving appropriate screenings, vaccinations and interventions.

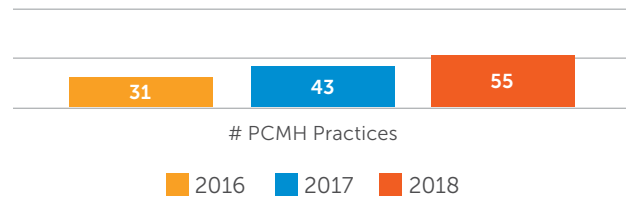
NewHealth Collaborative

Primary Care Transformation

NewHealth Collaborative's transformation team leads practices in improving care delivery by using a team-based approach utilizing the framework from the National Committee for Quality Assurance (NCQA) for Patient-Centered Medical Homes (PCMH). The PCMH model provides a foundation for advanced primary care and prepares practices for success in value based payment arrangements.

More than three-quarters (77 percent) of NewHealth Collaborative's primary care practices have achieved and maintained PCMH recognition by NCQA. This work received national recognition from American Hospital Association (AHA) as an example of PCMH in the AHA Center for Health Innovation Market Insights publication, *Evolving Care Models* Aligning care delivery to emerging payment models.

NHC Primary Care Practices PCMH Recognition



"We feel we have learned so much about how to better manage the practice and where to focus efforts with staff. We believe it has been well worth the effort of going through PCMH (recognition)."

-Leader from a transforming practice pursuing PCMH recognition

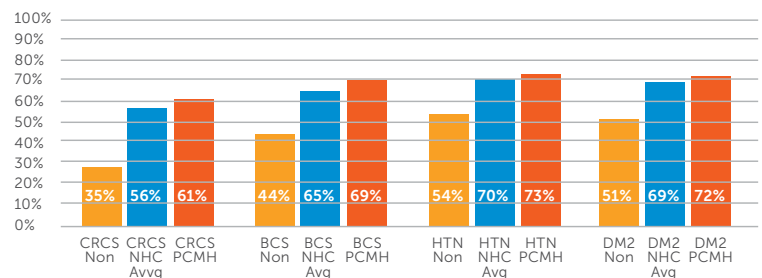
Care Transformation Leads to Better Performance

Simply put, PCMH practices assure patients have access to their care team when they need it. The higher quality of care exhibited by PCMH practices can be attributed to population health activities, pre-visit planning, standardized care team workflows and communication processes and an array of other care delivery processes. This includes standardized care processes for identifying patients with care gaps and engaging and educating patients about preventive care and chronic condition management. In addition to this, care is coordinated with specialists and facilities. Team-based quality improvement systems, which involve staff (and patients) in assessing processes and testing changes promote continuous improvement in practice operations, outcomes and patient experiences.

Our data show that NHC practices who achieved PCMH recognition have better clinical quality outcomes than non-PCMH recognized practices.

Practice transformation takes time and is ongoing. Investments must be made to continue providing patient-centered care and to support future changes. Quality metric data show that practices with mature systems and sustained PCMH recognition achieve higher quality metrics.

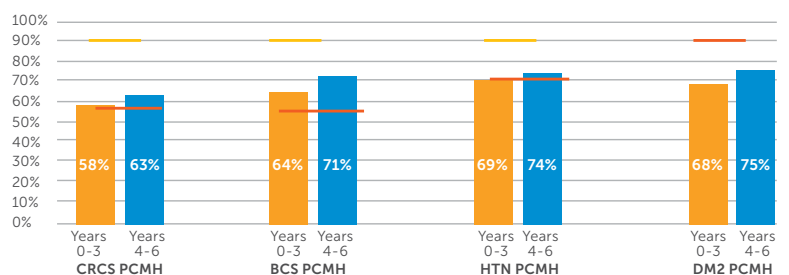
PCMH effect on NHC Quality December 2018



- 26% higher rate for colorectal cancer screening
- 25% higher rate for breast cancer screening
- 19% higher rate for blood pressure control
- 21% higher rate for diabetes control

Source Data: Independent Practices MD Datarcom, practice EMR, SHMG Explorys

PCMH Years and effect on Quality December 2018



- Dec-18 CPC+ (70th %tile)
- Dec-18 MSSP (90th %tile)

Source Data: Independent Practices MD Datarcom, practice EMR, SHMG Explorys

Focal Areas for Transformation Team Initiatives in 2019 Include:

SummaCare received a rating of 4.5 stars (out of 5) by the Centers for Medicare and Medicaid Services (CMS). The annual star ratings help beneficiaries determine how well a health plan is performing in areas such as:

- Care Coordination between primary care providers and specialists with the PARTNER program. The PARTNER program is NHC's model for care coordination including care compacts between providers, practice/workflow redesign, and support of an overall culture of working together.
- Supporting select specialty practices in NCQA's Patient Centered Specialty Care (PCSP) recognition.
- Engaging practices with the Advanced Primary Care Committee, allowing them to share their own best-practices and learn from others in a robust interactive format.
- Data transparency with development and distribution of quarterly quality metric dashboards.
- Ongoing practice transformation activities includes:
 - Performance improvement for clinical quality metrics, care coordination and healthcare utilization
 - Engaging patients in their own care; development of self-management plans
 - Practice screening for social determinants of health; resources are needed to assist patients and address social factors impacting health.

Integrated Care Management

Integrating care management is an essential component to Summa Health's overall population health strategy. Fully integrated and coordinated care across the continuum is the key to increasing efficiencies, reducing waste, lower cost and most importantly helping people live healthier lives. Today care management activities occur across all levels of care and weaving these together is key. How well these areas function independently and with each other impacts our ability to achieve the quadruple aim of better patient experience, better outcomes for populations, improved provider experience at a reduced cost.

In 2018 we turned our focus toward integrating care management services across the continuum with an aim to remove the silos separating acute care and community-based care management and improve care transitions. Kaizen events, also known as improvement events, took place in acute and ambulatory care management settings resulting in revised or newly developed policies, procedures, forms and standard work instruction, identification of documentation platform needs, reporting needs for regulatory programs, patient identification and referral processes for care management services, and disease education needs. Care management staff across the continuum, representing 20 locations within the organization, participated in the event driving changes to be implemented in 2019.

The integration of care management relies heavily on its ability to communicate amongst members of the care team. The enhancement of tools for care management in our EMR and the implementation of our population health platform are moving us in this direction. Care delivery, care planning and collaboration were the focus of Phase I implementation in 2018. Phase II implementation in 2019 will focus on future capabilities that include specialty care management, social work, behavioral health and pharmacy services integration.



Kaizen events took place resulting in revised or newly developed policies and procedures to be implemented in 2019.



MSSP Quality Performance

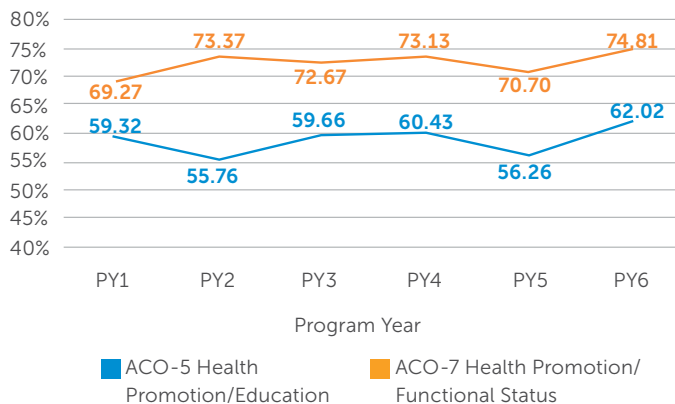
As part of its commitment to providing better care for individuals, achieving better health for the populations it serves, and lowering the growth of health care expenditures, as well as to meet regulatory requirements, NewHealth Collaborative reports quality data to CMS on an on-going basis. Quality performance is measured using standardized metrics, and spans four domains, including the patient/caregiver experience, care coordination and patient safety, preventive health, and clinical care for at-risk populations. The domains include measures derived from the Consumer Assessment of Health Care Providers and Systems (CAHPS) for ACOs survey, claims-based and administrative data, and ACO-reported clinical quality data.

NewHealth Collaborative’s overall quality score has consistently been more than 90 percent since the program’s inception in 2012, despite increasingly stringent benchmarks and changes to

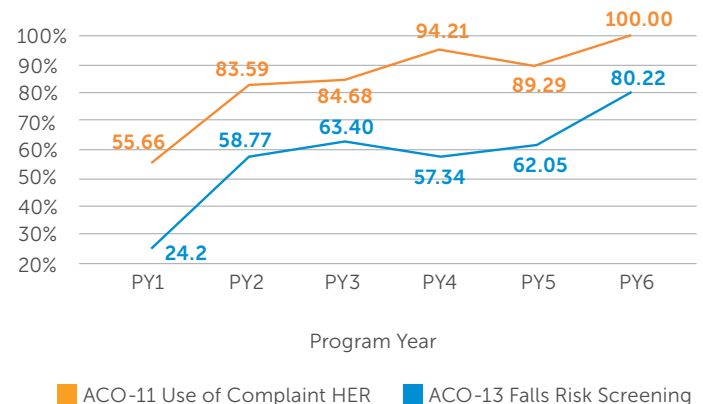
measures. NHC has seen significant performance improvement in all four domains across several metrics, including:

- Patient/Caregiver Experience: Health promotion and education (ACO-5); Patient health/functional status (ACO-7)
- Care Coordination/Patient Safety: Primary Care Providers attesting for the use of an EHR (ACO-11); Screening for fall risk (ACO-13)
- Preventive Health: Influenza immunization (ACO-14) and pneumococcal pneumonia vaccination (ACO-15); Depression screening (ACO-18) and colorectal cancer screening (ACO-19); and statin therapy for the prevention and treatment of cardiovascular disease (ACO-42)
- At-Risk Populations: Comprehensive diabetes management (ACO-27 and ACO-41); controlling hypertension (ACO-28); and use of aspirin or another antithrombotic in patients with ischemic vascular disease (ACO-30).

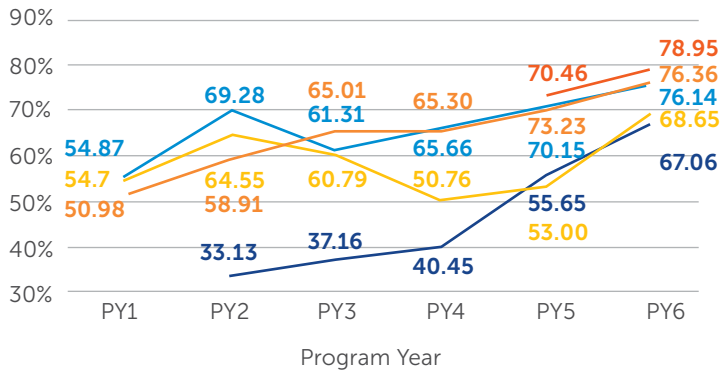
Patient/Caregiver Experience



Care Coordination/Patient Safety

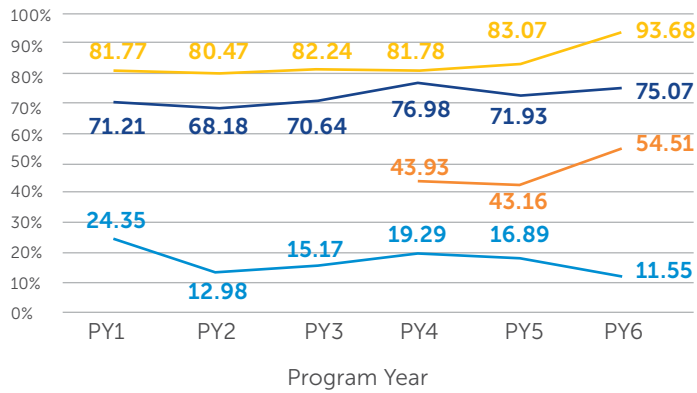


Preventive Health



- ACO-14 Influenza Immunization
- ACO-15 Pneumococcal Vaccination
- ACO-18 Depression Screening
- ACO-19 Colorectal Cancer Screening
- ACO-42 Statin Therapy

At-Risk Populations



- ACO-27 HbA1c Poor Control (lower is better)
- ACO-28 Controlling Hypertension (<140x90)
- ACO-30 Antithrombotic Use with IVD
- ACO-41 Diabetic Eye Exam



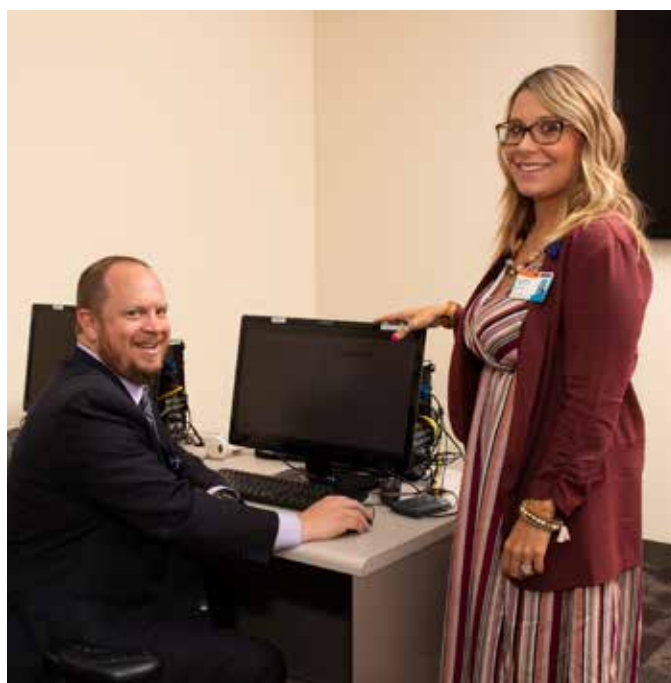
HR Employee Development

HealthStream Learning Center (HLC) Learning Management System

One of HR Employee Development's primary duties is to manage the HLC. This entails course creation and assignments, class registration, attendance tracking, certification renewal, and a variety of other daily database management activities. Use of the HLC allows for quick and efficient distribution of educational materials to staff, licensed independent practitioners, and students while providing documentation of training completed.

Activities completed in 2018:

- Provided required regulatory training to 7,626 employees, contracted staff and providers.
- Implemented use of Safe Care library to provide easy access to technical manuals for hundreds of pieces of equipment throughout the system.
- Implemented use of hStream manager dashboards to provide up-to-date information to managers regarding training and certification needs of their staff.
- Processed 159 instructional design/course development requests from various departments throughout the system resulting in the creation of 155 HLC courses with an average processing time of less than 19 days from receipt of request.
- Processed 226 course assignment requests from various departments in addition to standard regulatory and new hire assignments.
- Developed, reviewed and/or assigned 32 Practice Pointer courses for nursing personnel to highlight changes in policy, procedure, equipment or documentation.



American Heart Association (AHA) & American Academy of Pediatrics (AAP) Certifications

Summa Health is an AHA Training Center. In addition to training offered to our employees, HR Employee Development coordinates with certified AHA instructors throughout our service area to provide community training.

Activities completed in 2018:

- Provided cards to 1,100 non-employees via community courses conducted by instructors certified through our Training Center (numbers from May-December only).
- Provided CPR training to 90 members of the community via Summa-sponsored courses.
- Completed 60 instructor-led skills check offs.

HR Employee Development provides access via HealthStream to allow clinical employees to complete required resuscitation training every two years. These certification programs include, from the AHA, HeartCode® Basic Life Support (BLS), HeartCode® Advanced Cardiac Life Support (ACLS), and HeartCode® Pediatric Advanced Life Support (PALS); and from AAP, Neonatal Resuscitation Program (NRP).

Certification completions in 2018

BLS	ACLS	PALS	NRP	Total
1,785	771	92	142	2,790

In addition to the HeartCode® programs, employees completing ACLS certification for the first time are required to attend a classroom session, Putting ACLS Into Practice, with an RN Educator where they practice hands-on skills application for Code Blue situations.

Putting ACLS Into Practice attendance in 2018

Number of Classes	Number of Attendees
8	42

Nurse Residency Program

In 2018, HR Employee Development was instrumental in coordination and instruction of Summa's inaugural Nurse Residency cohort. An important part of securing Summa's continued Magnet® designation, the program brings newly graduated RNs together over a six months period for group discussion/learning on the following topics:

- Communication, Conflict Resolution, and Functioning in an Inter-Professional Team
- Quality and Evidence-Based Practice
- Patient/Family-Centered Care and Ethics
- Care Delivery, Delegation, and Managing Changing Patient Conditions
- enABLE Yourself to Respond to Workplace Violence
- Professional Development, Stress Management and Informatics

Non-Violent Crisis Intervention (NVCI) Certification/Re-Certification

HR Employee Development, in partnership with Protective Services, provides NVCI classroom training to various departments annually. Utilizing techniques developed by the Crisis Prevention Institute after years of study, participants receive training in assessment of, communication with, and physical intervention for individuals in crisis with the ultimate goal of achieving de-escalation before a violent situation occurs.

Activities completed in 2018:

- 10 initial certification classes (8 hours) provided, with 82 class attendees
- 31 refresher/recertification classes (4 hours) provided, with 315 class attendees
- Recertification of four staff members as NVCI instructors
- New certification of two staff members as NVCI instructors

Leadership Institute

A division of the HR Employee Development team, the Leadership Institute provides a variety of educational programs to support new managers in their roles as well as encourage leadership development for all Summa employees. In addition, development coaches provide one-on-one counseling upon request and work with various Summa departments to provide team building and development support.

Activities completed in 2018:

- Offered 123 leadership courses, with 1,652 employees in attendance.
- Achieved an average participant rating of 90.91% for all educational programming.
- Provided team development programs for more than 50 Summa departments throughout the system.

Educational Assistance Program

The Educational Assistance Program is a benefit available to all benefits-eligible Summa Health employees. The program allows Summa to support individual employee career development by offering reimbursement for continuing education courses, professional certification/re-certification, and pre-approved degreed coursework.

Activities completed in 2018:

- Processed 539 reimbursement requests for 306 eligible employees.
- Paid \$476,606.28 in reimbursement to for an average of \$1,557.54 per employee.

Degrees and continuing education paid in 2018:

- Masters degree for 83 employees
- Bachelor degree for 77 employees
- Associate degree for 11 employees
- Doctorate degree for 2 employees
- Continuing education including certification and recertification for 134 employees

Most common degree programs:

- Bachelors degree in nursing pursued by 57 employees
- Masters degree programs in nursing including nurse practitioner and clinical nurse specialist pursued by 56 employees
- Masters degree in business administration (MBA) pursued by 19 employees



Pictured: (front row) Lisa Shonberg-Manager Environmental Services, Deanna Battle, Kristin Smith, Charita Brown; (back row) JaVeon Day and Renee Titus
Not Pictured: Lisa Clark and Amanda Powell

Careers in Progress (CIP)

HR Employee Development offers a five-week program that focuses on developing skills for employees at Summa Health who have the desire and motivation to advance in a healthcare career. The CIP program focuses on providing foundational learning in communication, computer and interviewing skills.

Activities completed in 2018:

- Seven employees from Environmental Services successfully completed the program.

Clinical Information Technology

Thrive and CarePATH Optimization: Addressing Provider Burnout and Improving Work/Life Balance

It is well recognized that physicians and mid-level providers are experiencing alarmingly high levels of “physician burnout.” As described in the cover story for the American Society of Hematology by Mikkael Sekeres, M.D., “With electronic medical records, the poetry of medicine, the songs we sing for our patients, is gone.” It is no secret that personalizing the system leads to happier and more efficient providers. Even a little bit goes a long way and there are many opportunities to leverage Epic to fit a provider’s practice and to bring back that “poetry of medicine.”

Now that Summa Health Medical Group providers have been using CarePATH, Mercy’s platform on Epic, for the past five years, it is pivotal to start helping providers who are experiencing physician burnout within our organization.

In 2018, the ambulatory clinical analysts received specialized training in specific areas of CarePATH to help customize and optimize use of the electronic health record (HER). The areas of focus are Chart Review, Diagnosis & Orders, Inbasket, Navigating Efficiently and Progress Notes.

In the planning stages of bringing the EHR Wellness (Thrive) program and this training to our market, we collaborated with our CMIO, SHMG Operations, IT Managers and the clinical analyst who was the lead on the project to develop a process where we prioritized who would be offered training. We based this on those that voiced burnout and combined it with a Provider Efficiency Profile (PEP) score.

While the training was originally meant to be offered in a computer classroom setting, we felt it would be better received if we offered one-on-one training in the provider’s office. Additionally, the office practice manager or coordinator would reserve a 90-120 minute time block for the private training session and RVU/productivity metrics would not be effected by the reservation of this time on schedules.



We then piloted the program with the providers at our Urology and Family Medicine Center practice. The clinical analyst utilized the PEP report to customize individualized training that is provider driven and trainer led. After training, we asked the provider to complete a survey; results were mostly positive. To date, our department has trained 25 physicians and many more sessions are scheduled. In addition, individual efficiency scores have improved from a score of 2 to a score of 6 (on a 10 point scale). However, the biggest success is that every provider trained has shown a measurable improvement in efficiency and/or proficiency with the EMR.

Our goal is to offer Thrive training to all of our SHMG Providers and improve efficiency, in turn reducing burnout and improving work/life balance. Our second goal is to develop Thrive training for clinical users in all specialties. We are committed to the success of this program and the satisfaction of our providers.

Performance Solutions

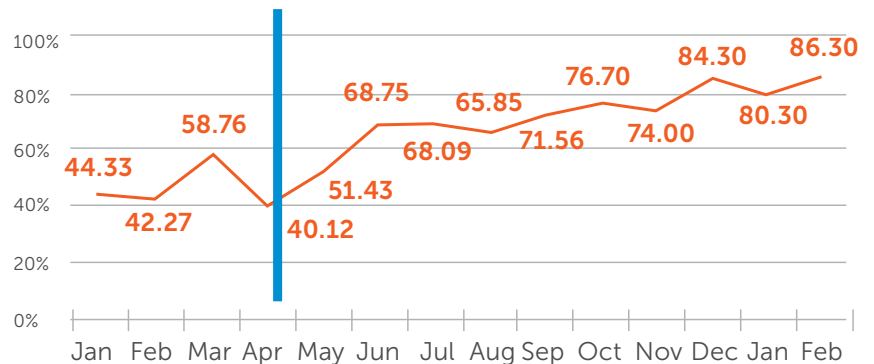
To ensure that Summa Health delivers outstanding service to our community and patients' lives we have the following motto: everyone has two jobs— doing the job and improving the job. To improve the job, clinical teams had the opportunity to use a Lean Six Sigma structured approach in 2018.



Pre-op Antibiotic Documentation

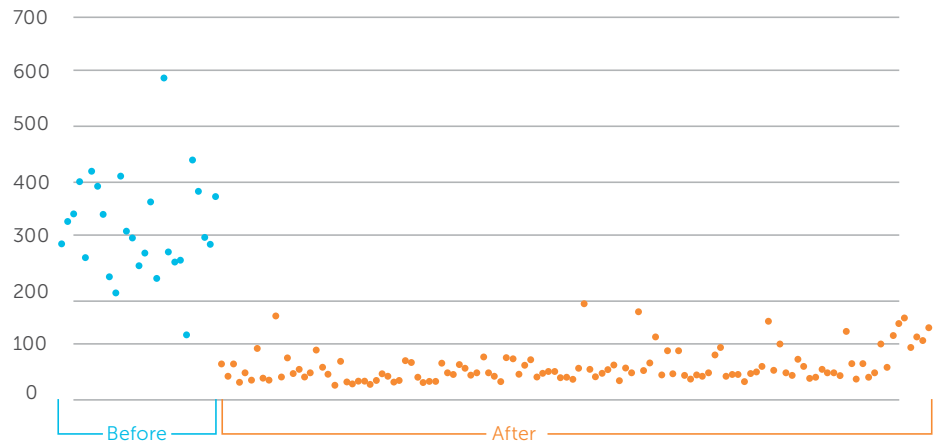
A Lean Six Sigma project at Barberton Campus significantly improved the pre-operative antibiotic documentation by staff in the post-anesthesia care unit. Prior to the project, Ancef (cephalosporin antibiotic) was prescribed pre-operatively for post-operative care at an average documented rate of 46%. As a result of the project, this documentation rate increased to 85%. Antibiotic documentation improvement led to a decrease in medication errors and improvement in the prevention of possible harm to surgical patients from potential post-operative infections.

Properly Charted Pre-Op Ancef Rx



Vascular Testing on Rehab Hospital Patients

The Summa Lean Six Sigma project team in noninvasive vascular services decreased the time from vascular ultrasounds ordered to exam performed for Rehab hospital patients from **300 minutes on average to less than 59 minutes**, increasing patient comfort and satisfaction. The project team was able to identify and eliminate the non-value added steps resulting in mistake proofing of order notifications, image locations, and reporting interfaces.



Mammogram Completion Rate at Family Medicine Center

A cross-functional team including the Clinical Access Center, Family Medicine Center and Performance Solutions improved the breast cancer screening rates by using proactive outreach methods. A multimodal intervention consisting of telephone calls and electronic portal messages increased breast cancer screening rates by approximately 12%. Instead of the regular reminder calls, the Clinical Access Center was able to schedule the mammogram appointment while the patient was on the phone, which resulted in a higher success rate. Therefore, this project process (connection between practice and Clinical Access Center) will be replicated into the other primary care practices.

Community Involvement

The Performance Solutions department conducted FREE community classes called "DECLUTTER YOUR LIFE" in 2018. These classes emphasized the application of productivity toolsets to our serving community members' home and/or work life including their desk, closets, computer, emails, financials, garage, commitments and routines. The Japanese productivity method, called 5S+1, is a simple system for decluttering. Used by companies around the world and Summa Health, this process was taught at these classes and highlighted the benefits of decluttering to lower stress, save money and time.

Lean Six Sigma Training

In 2018, Performance Solutions provided Lean Six Sigma training to more than 254 students including Summa Health employees and the Area Agency on Aging employees as part of our commitment to community. Yellow Belt training prepares graduates to implement the use of Lean Six Sigma tools in the workplace. Green Belt training builds the capability of completing department level projects to drive business and clinical improvement results.

Institutes and Service Lines

Summa Health Behavioral Health Institute

The Opioid Epidemic and Summa Health Initiatives

In 2017, The U.S. Department of Health and Human Services proclaimed the nation's opioid epidemic to be a public health crisis. According to the CDC, Ohio ranked second in the nation in the rate of unintentional drug overdoses (4854). At the same time, Summit County ranked sixth in the state in the number of overdose deaths (239). An internal task force formed and immediately developed a strategy in collaboration with community stakeholders to:

- Improve access to treatment – counseling, medication-assisted treatment (MAT)
- Provide care coordination to assist those in crisis and wanting help to identify the resources available to them
- Provide harm reduction strategies to those not ready to enter treatment and resources for when they are ready
- Improve screening and identification of those with opioid dependence and those at risk

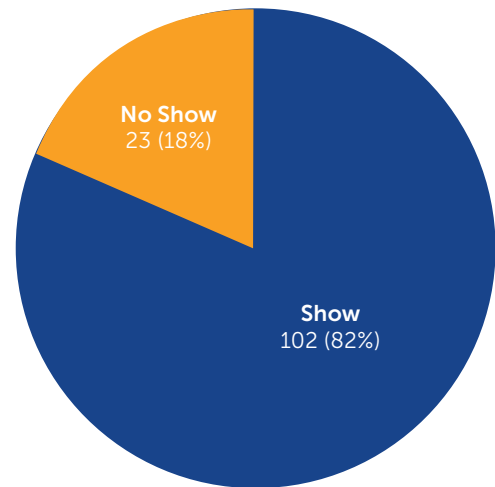
In February 2018, Summa Health became one of the few healthcare systems in the country to offer MAT for opioid withdrawal in an emergency department setting at the Summa Health Barberton (SHB) Emergency Department. An addiction collaborative lead by Summa Health and the United Way of Summit County (UWSC) was formed and resulted in the development of a comprehensive approach to the treatment of Opioid Use Disorder with the SHB ED at the center.



In June 2018, the "First Step" addiction medicine program launched in the Summa Health Barberton ED with the following elements:

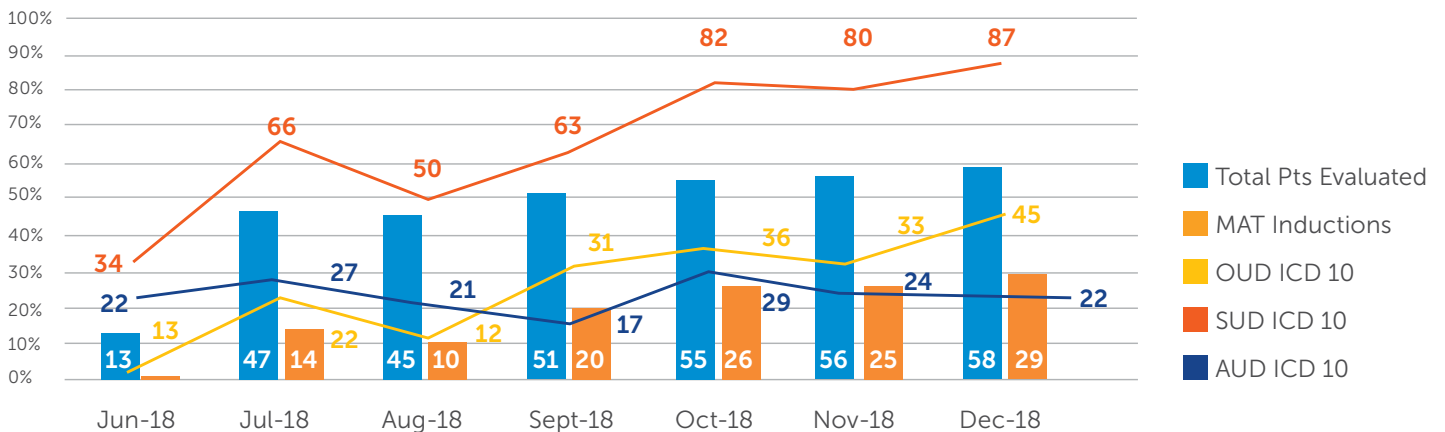
- 24/7 access to MAT and other treatment for addiction
- RN addiction care coordinators (ACC's) staff the ED seven days a week from 1:00 p.m. - 1:30 a.m.
 - Provide primary nursing to patients with addiction
 - Coordinate follow-up addiction, behavioral health and/or medical treatment
- Peer Recovery Services on call 24/7 are individuals who are in recovery from substance use disorders and have gone through training and certification through the OhioMHAS. Their main role is to help a person cope with problems and navigate the challenges ahead of them. The coaches follow the patient after discharge from the ED.
- Recovery support services are available to patients that have a barrier to receiving treatment. A service coordinator will meet with them and connect them with resources.
- Patients in which transportation is a barrier to treatment are provided "Lyft" rides to Summa Health treatment locations and back home.

From June 2018 through December 2018, the ACC's completed 325 evaluations. One hundred twenty five of the patients qualified clinically for MAT. Screening and identification of patients with Opioid Use Disorder (OUD) and Substance Use Disorder (SUD) improved from month to month (graph 1 below). The program has shown great success in engaging patients with addictions, especially opioids. Eighty-two percent of the patients initiated on MAT (buprenorphine) attended their follow-up appointment with their outpatient addiction treatment provider (see chart to right).



Attendance rates for initial appointments in substance abuse facilities range from 33% to 52% (Festinger et al. 1996, Festinger et al. 2002, Blow et al. 2010)

Volumes





ED Incidental Lung Nodule Project Team: Rami Abboud, M.D. (pulmonary); Sandy Kohut, RRT, Lead Lung Navigator; Tammy Smithson, CNP (pulmonary); Mary Kay Cook, RRT, ED Lung Navigator; Niraj Niraula, M.D. (pulmonary); Brian Bauman, M.D., Medical Director, Pulmonary Nodule Program; Laura Musarra, MBA, Senior Business Performance Analyst

Not pictured: Jon Sugano, M.D. (radiologist), Masroor Mustafa, M.D. (pulmonary), Eric Espinal, M.D. (Cardiothoracic Surgery)

Summa Health Cancer Institute

Incidental (unexpected) lung (pulmonary) nodule findings on imaging studies (Chest CT, Angio CT, Chest X- rays) performed in Emergency Departments are common and have historically proved problematic for follow-up. Follow-up rates for incidental nodules range from 30% - 50%, according to the Journal of the American College of Radiology (Feb. 2016). Patients seen in the emergency room potentially risk being lost to follow-up for incidental findings that may require further diagnostic studies or surveillance. Arranging follow-up care for asymptomatic incidental findings can divert and challenge emergency physicians and teams striving to provide care to a population of patients that may present for unrelated urgent symptoms.

The growing use of CT chest imaging has resulted in increased incidental lung nodules findings. A recent study found that between 2006 and 2012, the annual rate of pulmonary nodule identification in a large, integrated health system increased from 3.9 to 6.6 per 1,000 person-years. These incidental findings require appropriate management to avoid care gaps that may lead to missed early lung cancer detection or conversely to avoid unnecessary follow-up scans. The American College of Radiology called for "better systems for appropriate identification and follow-up of incidental findings".

In January 2016, a dedicated lung navigator at Summa Health was assigned to the interdisciplinary thoracic team to manage follow-up of incidental lung nodules for emergency patients. During the first year, referrals to the navigator averaged eight patients per month.

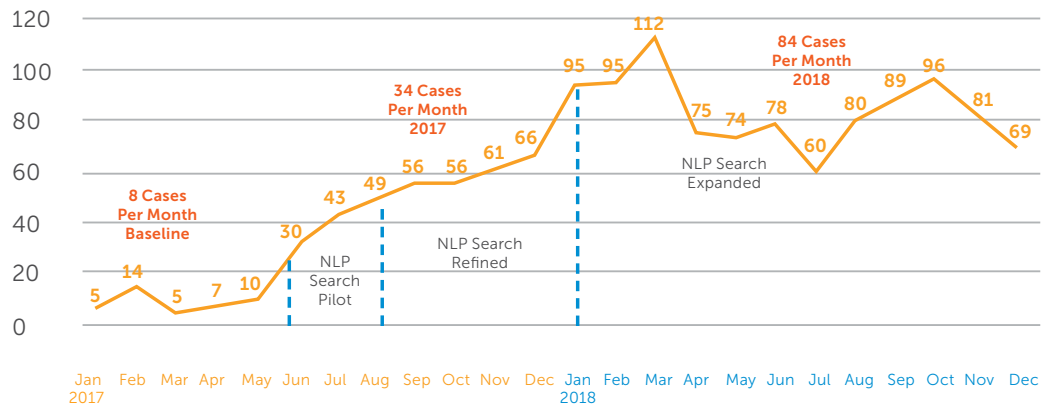
A data review based on national benchmarks derived an expected monthly volume of 40 lung nodule follow-up patients. As a result, the team launched a quality improvement project to transition from a referral to a search-based program. A radiology-specific natural language processing (NLP) platform was utilized to search unstructured, dictated notes in thousands of radiology reports to reliably identify lung nodules. Weekly findings were sent to the lung navigator for review and coordination of appropriate follow-up.

In the first six months, referrals increased 662 percent, from eight to more than 60 per month. Continued quality improvement strategies and an increasing number of referrals contributed to the approval of a new Lung Nodule Clinic, which opened in early 2018.

The application of an Incidental Lung Nodule Navigation Model of Care and Clinic, supported with data analytics, provides lung navigators with a framework to support patient centered best practice. A dedicated lung navigator for emergency patients as a member of an interdisciplinary team is key to impact timeliness for lung care delivery. Coordinating nodule follow-up care requires consistent and frequent communications, which is possible with the newly opened Lung Nodule Clinic.

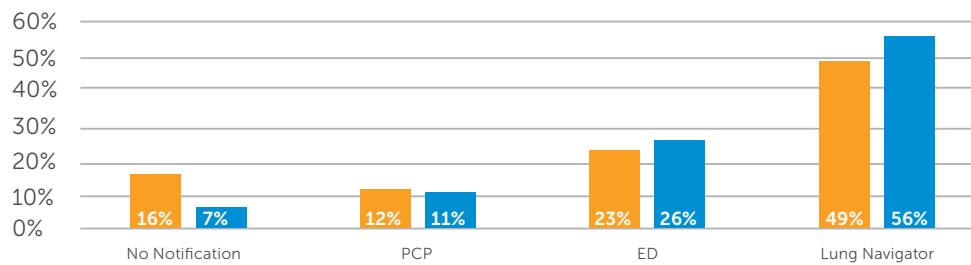
Emergency Incidental Lung Nodule Cases # Cases Identified for Navigational Review – 2017 vs. 2018

Results from Search Using Natural Language



Results – Retrospective case review 2018 Navigated patients have higher follow-up rates

% ED incidental lung nodule patients completing recommended follow-up imaging (by type of referral) (n=172)



■ High Risk, Smoking History (n=118)

■ Low Risk Smoking History (n=54)

Source: Impact of NLP Software and Lung Navigation on Referral of Actionable Incidental Lung Nodules, Summa Health System, Sarah Eapen, M.D., Eric Espinal, M.D.

Summa Health Heart & Vascular Institute

CT Surgery

As part of our team's quality surveillance, we realized that our use of blood products in open heart surgery patients was higher than the national average. Because research has shown that transfusion is associated with increased rates of complication and length of stay, we performed a deep-dive analysis into the commonalities of those patients that required blood transfusions. After identifying a pre-surgical medication commonly used in heart attack patients that was correlated with transfusions in our patients, the team worked with their cardiologist colleagues to adjust the timing of the medication administration when a patient was likely to require and heart surgery.

Results:

- 19% relative reduction in the number of bypass patients receiving transfusions after their surgery from 2017 to 2018.
- 28 patients didn't receive a transfusion because of this reduction.

Care Coordination for Heart Attack Patients

Summa Health recognizes that the early days after a heart attack can be very confusing and scary for our patients. To ease the burden or worry in our patients, in 2018, The Heart and Vascular Institute created a role for an MI Nurse Practitioner Navigator. Matt Genet provides individualized patient education after heart attacks and continues to care for patients after they leave the hospital through phone calls and office visits. "I am a fear calmer in the hospital and a life coach to patients in follow-up," shared Genet.

Results:

- Patients have reported a higher understanding of
 - Purpose of taking their medications
 - Managing their health
 - Symptoms and problems to look for when they go home
- 29% relative reduction in heart attack 30-day readmissions from 2017 to 2018

Percutaneous Coronary Intervention/Invasive Cardiology

Percutaneous Coronary Intervention (PCI) is a minimally invasive procedure effective for increasing the blood flow in the arteries of the heart due to atherosclerotic disease and acute heart attacks. While the procedure is relatively low-risk, there are known complications that occasionally occur as a result of gaining access to the arteries and the use of contrast agents required to visualize the circulation of the heart to assess the blockages. Summa's team individualizes care to ensure each patient has their best chance to avoid these complications.

Results:

- Mortality
 - In-hospital mortality for PCI patients better than national average for both 2017 and 2018
- Kidney Injury
 - Relative reduction of 12% in risk adjusted AKI in 2018
- Bleeding Events
 - Includes transfusions, GI bleeds, hematomas and large drops in hemoglobin
 - Relative reduction of 36% in 2018 compared to 2017



"I am a fear calmer in the hospital and a life coach to patients in follow-up."

Matt Genet, MI Nurse Practitioner

Vascular Surgery

Summa's vascular surgeons perform procedures to clear the plaque from the arteries of the neck to decrease the risk of stroke. A known complication of carotid endarterectomy (CEA) is stroke. While the national rate is about 2-2.5%, Summa's rate of in-hospital stroke after CEA remains 0% for the second year in a row!

Additionally, our care team does a great job of getting patients home quickly after these surgeries. Over 90% of elective patients go home the next day. Across the country, approximately 23% of patients stay at least one extra day after surgery.

Our rate of complications after endovascular abdominal aortic aneurysm repair is 26% lower than the average regional rate.

Summa Health Neuroscience Institute



Summa Health Neuroscience Institute's Expanding Team

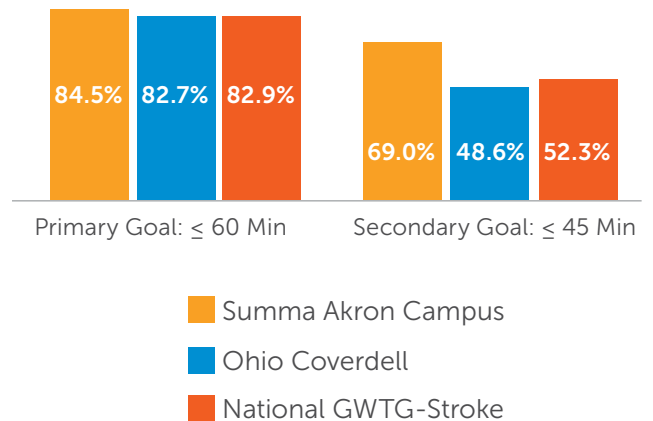
Stroke Care

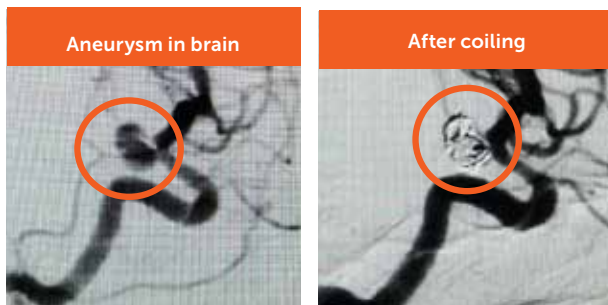
The stroke program is committed to continuously improving the stroke care we provide to our patients. In 2018, readmission and mortality rates were decreased for ischemic stroke patients. While length of stay was already below expected for ischemic stroke, we were able to decrease length of stay for both TIA and hemorrhagic stroke patients from the prior year.

Stroke is a medical emergency and treatment time is critical in reducing disability and improving patient outcomes. Summa Health System— Akron Campus Emergency Department average time from arrival to clot buster drug (tPA) treatment was 47 minutes, 13 minutes faster than the national goal of 60 minutes. This equates to a savings of 26 million neurons per patient due to timely treatment. We further excel in administering the clot busting drug by treating 69% of our patients even more rapidly in less than 45 minutes, which is 20% faster compared to other Ohio hospitals.

American Heart Association guidelines for acute stroke treatment were updated in 2018, recommending treatment of patients with low stroke severity scores that may have a disabling deficit.

Door to Needle Time





Due to more aggressive treatment for patients with stroke-like symptoms, the Akron Campus ED ran a total of 440 stroke teams resulting in 83 more stroke teams than the prior year. With additional patients qualifying for acute stroke treatment, we administered clot busting drug to 100 ED patients, 23 more than in 2017.

Through telestroke services provided by Summa Stroke neurologists, Barberton Campus ED ran a total of 67 stroke teams and treated 26 additional patients with tPA – that’s 19 more patients receiving treatment on the Barberton Campus than the prior year.

In order to further expand the Neuroscience Services Summa provides to the community, we hired our first neurointerventional surgeon in July 2018. This addition led to increasing our thrombectomy (clot retrieval procedure) volumes by 41%, to 29 minimally invasive acute stroke rescue treatments. Not only did we grow our expert advantage in providing the best regional stroke treatment, we also expanded services to provide additional minimally invasive endovascular treatments such as aneurysm coiling to the local community.

Furthermore, the program also hired an RN Stroke Navigator in the third quarter of 2018 to improve the continuity of care for patients throughout the hospital stay and post discharge. By the end of the year, approximately 75% of stroke and TIA patients were scheduled a follow up PCP appointment prior to discharge. The goal is that this additional role will not only increase patient compliance with plan of care, but also decrease adverse events as well as readmissions to the hospital.

All of these recent improvements have aligned Summa to advance our Stroke Center Certification in 2019, providing high quality, comprehensive neuroscience care.

Summa Health Orthopedic Institute



Mary Nemec – Hip Replacement patient
Keith Pfefferle, M.D. – Total Joint Reconstruction
Nicole – Physical Therapist

In efforts to fulfill the mission of Summa Health by providing the highest quality care, the Orthopedic Institute works hard on research and scholarly activities.

In 2018, research and scholarly activity was up 57 percent from prior years. One of the many activities included presentations at venues such as: MidAmerica Orthopaedic Association, Ohio Orthopedic, American Academy of Orthopaedic Surgeons, Orthopaedic Trauma Association and the Musculoskeletal Tumor Society. The Institute also had multiple peer-reviewed publications in journals such as: The Journal of Cellular Biochemistry, Orthopedic Journal of Sports Medicine, The American Journal of Sports Medicine, Arthroscopy, JBJS Case Connector, Journal of Shoulder and Elbow Surgery, The American Journal of Orthopaedics, Hand, and The Orthopedic Journal of Sports Medicine.

In addition, the Orthopedic team created a “Barrier to Care” program where every PGY2 resident class worked on a quality improvement project as a team. The goal of this initiative was to teach the residents how to identify and improve issues they encounter related to patient care. Many notable projects emerged through the program that further helped the residents to design process to provide safer care to patients. As a group, the residents worked together to brainstorm ideas to improve identified issues ranging from physician education to modifying our electronic medical record workflow.

The Institute overall had other quality successes in 2018 which included decreasing the patient’s length of stay and decreasing unplanned readmission rates.



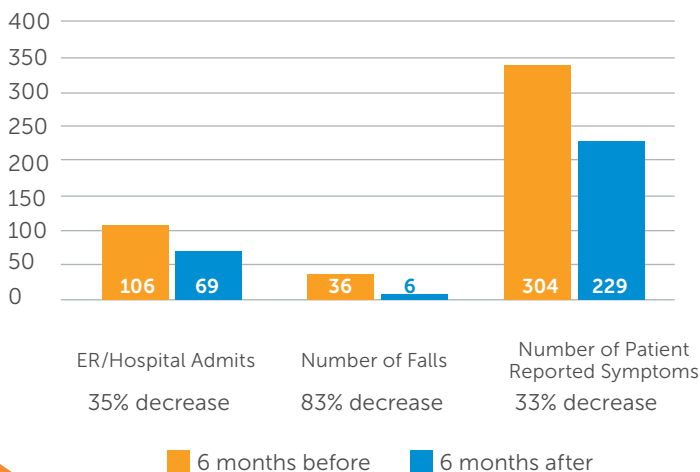
Summa Health Seniors Institute

High Intensity Clinic

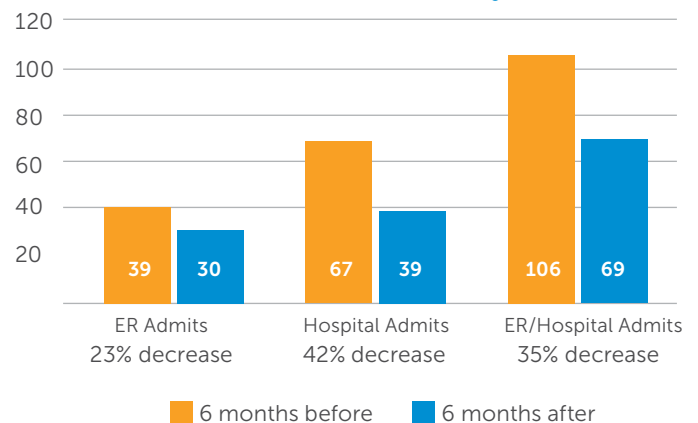
The High Intensity Clinic targets patients with multiple chronic illnesses that have complex care needs. It provides an interprofessional approach to meet the healthcare needs of the patient. The core team consists of a geriatric fellowship trained geriatrician, a social worker, a nurse case manager, and a pharmacist. The team targets not only patients with chronic disease, but those with chronic disease and decreased function.

The team has been successful in decreasing high cost healthcare utilization (ER and hospital visits), decreasing patient falls and patient reported symptoms. The graphs that follow illustrate these successes.

ER/Hospital Admits/Number of Falls/Number of Patient Reported Symptoms before and after entry into High Intensity Clinic



Emergency (ER) and Hospital Visits 6 months before and after entry into clinic



More than 3,000 learners have been educated through this GWEP grant.



Geriatrics Workforce Enhancement Program

The department of geriatrics personnel are finishing the fourth year of a grant from Health Resources and Services Administration (HRSA). This \$2.79 million grant, the Geriatrics Workforce Enhancement Program (GWEP), was the only such grant issued in the state of Ohio and was only one of five issued to a healthcare institution. The grant goals included education of students, faculty, providers, patients and families regarding effective management of important geriatrics issues, as well as interprofessional team work. An additional grant goal included support of work in the High Intensity Clinic. Partners included NEOMED, The University of Akron, Direction Home Area Agency on Aging 10B, and Cleveland State University.

More than 3,000 learners have been educated through this grant to improve care throughout the region for the geriatric population. Work on the projects that were begun under this grant will continue and expand under a new five-year GWEP grant from HRSA.

Summa Health Weight Management Institute

Summa Health System – Akron Campus is a MBSAQIP Accredited- Comprehensive Center, or Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program. We meet rigorous program guidelines set by the American Society for Metabolic & Bariatric Surgery that directly benefits each patient.

A bariatric surgical center achieves accreditation following a rigorous review process during which it proves that it can maintain certain physical resources, human resources and standards of practice.

To meet program requirements for standards of practice, the bariatric team collects and monitors quality of care data and works continuously to refine and improve its processes and programs to make sure each patient receives the highest level of care. Below are just a few examples of how the bariatric team has improved in the past year:

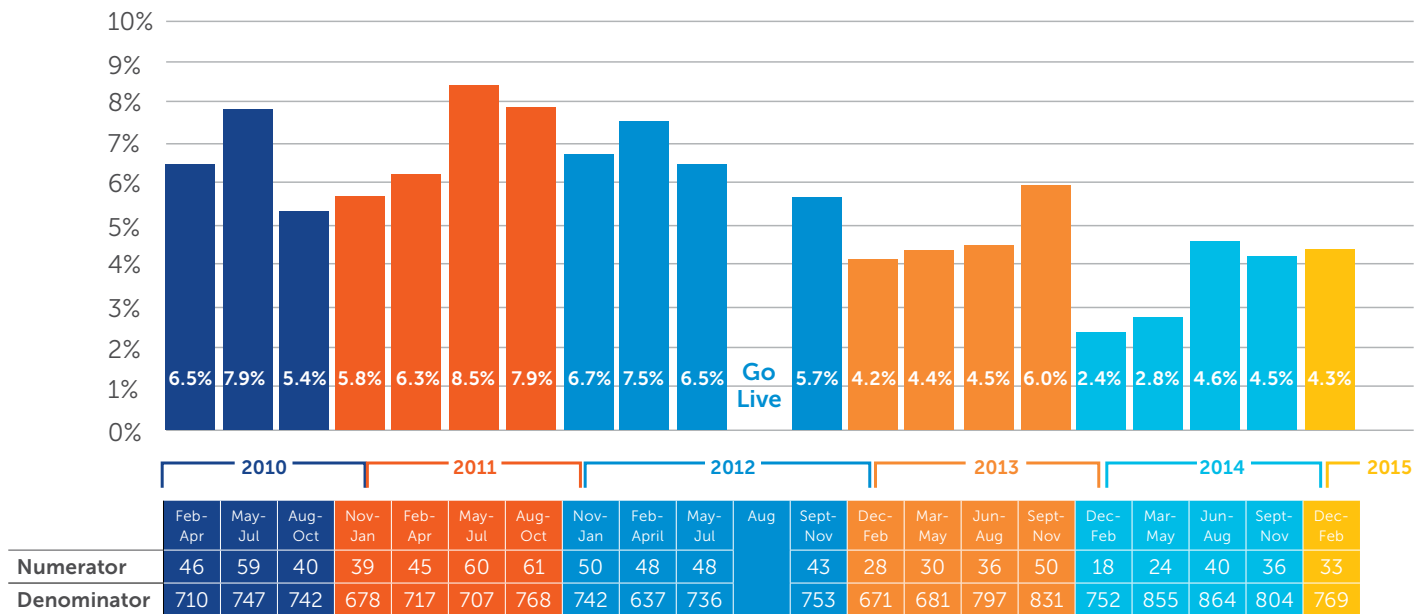
- Surgical volumes have increased more than 12 percent since 2017. Patients trust us with their care and the increase in surgical volume emphasizes this trust.
- The cost per surgical case decreased by almost 8 percent since 2017.
- Hospital length of stay has decreased significantly since 2017 and is well below the national average.

One of our most important quality improvements is maintaining and improving our patient satisfaction scores. The Summa Health Bariatric Care Center has consistently received a 95 percent patient satisfaction rating because of its comprehensive and supportive surgical program. We are proud that our patients not only trust us with their care but that they also value our care and highly recommend our services.

Summa Health Women's Institute

Under the leadership of Dr. Edward Ferris and a dedicated multidisciplinary team, the Women's Health Institute has been focused in 2018 on projects to improve perinatal care. These projects have targeted maternal and infant mortality, perinatal quality of care, enhanced models of prenatal care and breastfeeding. Here are some highlights.

Postpartum Hemorrhage Treatment Rates of All Subject Women Before and After Introduction of a Standardized Oxytocin Administration Protocol for Postpartum Hemorrhage Prophylaxis



Standardized Prevention of Postpartum Hemorrhage

Postpartum hemorrhage is a leading cause of maternal death in the United States, and its rate and severity have been on the rise. Hemorrhage accounts for half of severe maternal morbidity. Hemorrhage is usually preventable with proper prophylaxis of oxytocin ('pitocin') given after birth. However, the ideal oxytocin dose is unknown and non-standardized administration practices have created quality and safety concern across the country.

Our multidisciplinary team of Summa OB physicians and nurses developed a standardized protocol of oxytocin for hemorrhage prophylaxis. We hardwired the protocol into practice then researched hemorrhage rates for two years. We had impressive

results. The rate of hemorrhage treatment after protocol-introduction was significantly reduced from 7.0% to 4.6% of all women delivering at Summa Akron Campus ($p < 0.001$). The figure below shows the rate reduction in quarterly increments. This translated to two fewer hemorrhages per week. This research study was led by Jennifer Doyle, MSN, WHNP, RN and was recently published in The Joint Commission Journal on Quality and Patient Safety: [jointcommissionjournal.com/article/S1553-7250\(18\)30085-0/abstract](http://jointcommissionjournal.com/article/S1553-7250(18)30085-0/abstract).



Enhanced Group Prenatal Care

According to the Centers for Disease Control and Prevention (CDC), infant mortality is one of the most important measures of the overall health of a nation. The United States ranks THE WORST of all industrialized nations. Racial disparities are significant, whereas African-American infants die at more than twice the rate of white infants. Our state of Ohio is among the worst states in infant mortality. Our service area includes zip codes designated as ‘hot spots’ for the highest infant mortality rates.

To meet these unmet needs, we partnered with community resources and stepped outside the traditional healthcare model. We established group prenatal care for our most vulnerable pregnancies: a) African-Americans in the ‘hot spot’ zip codes at New Seasons with Dr. Cheryl Johnson and Crystal Jones, JD of Project Ujima, and b) Opiate Addiction at The Women’s Health Center with Dr. G. Dante Roulette and Case Manager Karen Frantz, RN. This program has been referred to as ‘the Best care for Underserved Moms in Pregnancy’ (BUMP).

BUMP is an enhanced model of Centering© Pregnancy group visit care that creates social networks and allows more education and time with the provider. The women meet for two hours with a consistent team and 8-12 other participants every 1-2 weeks. The first hour is ‘belly checks’ and the second hour is facilitated educational discussion. The curriculum is highly individualized to each groups’ needs and life experience.

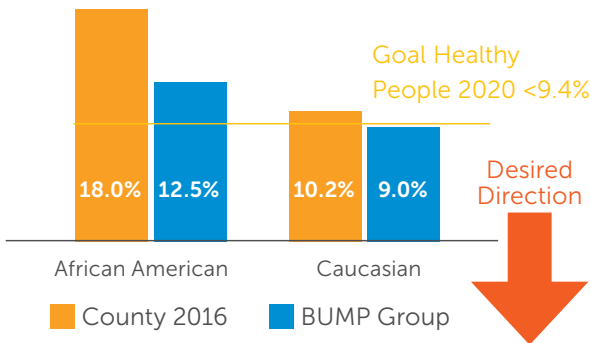
Underserved women often experience inadequate prenatal care due to personal challenges (childcare, transportation, addiction, lack of support) and the care system (negative behaviors of caregivers, distance, long wait and short visits). **To the contrary, BUMP women experienced frequent care** (Table below). Some BUMP women have returned multiple times after birth with their babies in order to socialize and mentor other participants.

Enrollment period: 7.31.16 - 12.31.18 (N=236)

Characteristic	Combined Overall (N=136)	African-American High Risk Infant Mortality (N=69)	Opiate Addiction (N=67)
Medicaid Insurance %	95%	93%	97%
Number of Group Prenatal Visits (Mean (range))*	9 (1-27)	5 (1-16)	12 (2-27)
Postpartum Visit Attendance (%)	87%	88%	86%

*Prenatal care additionally included other visits such as ultrasound, high risk clinic and traditional model OB appointments.

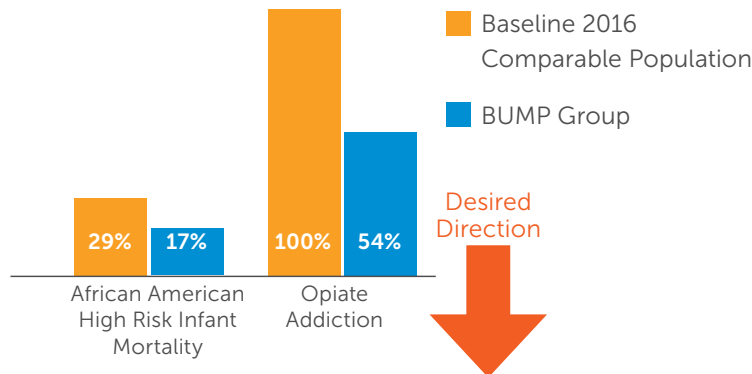
Preterm Birth (Baby born too early at <37 weeks)



Preterm birth accounts for half of all infant deaths in our state of Ohio. **BUMP participants are at high risk of preterm birth but experienced less preterm birth than women of similar race in our county** (Figure). These results are especially profound to us because BUMP participants are significantly more complicated medically and socioeconomically than their county comparison group.

The number of NICU babies improved dramatically for BUMP participants (Figure). This result reflects better maternal and newborn health, as well as a decrease in the potential emotional stress and dyad separation. We have also decreased costs as one NICU day costs approximately \$10,000 and entire stays can easily cost hundreds of thousands of dollars.

Neonatal Intensive Care Unit (NICU) Admission

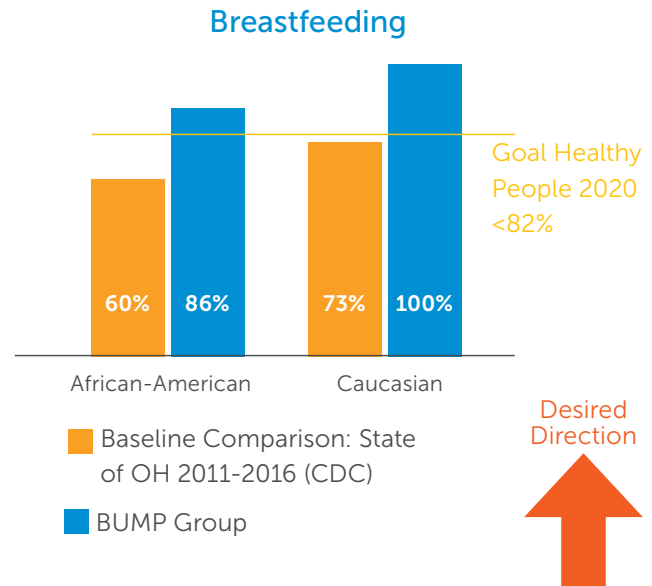


Science indicates that breastfeeding yields far superior maternal and neonatal health benefits as compared to formula. Underserved women often have low breastfeeding rates due to inadequate receipt of breastfeeding information from providers, and lack of access to breastfeeding support. **Breastfeeding rates for BUMP women improved significantly and exceeded the Healthy People 2020 goal** (Figure). BUMP women have the best breastfeeding rates in our health system, despite tremendous racial disparities, socioeconomic barriers and drug addiction. African-American women have the lowest breastfeeding rates in America, but the breastfeeding rate of our BUMP group of African-American women (86%) exceeded the CDC breastfeeding rate national average for African-Americans of 64% and the National Target rate of 83%.

High Quality Care at Barberton

Barberton Campus has been recognized as a “3 Star” hospital by the Ohio First Steps for Healthy Babies program offered by The Ohio Hospital Association and the Ohio Department of Health. The purpose of this program is to recognize maternity centers in Ohio that have taken steps to promote, protect and support breastfeeding in their organizations.

The maternity unit at Summa Barberton Campus was a hallmark of perinatal care quality metrics in 2018. They met all targets for the national core perinatal measures as well as additional departmental metrics (Figure). The Barberton maternity unit was recently renovated and is an excellent site for low risk birth. Patients enjoy one room for their entire stay from labor through postpartum.



Perinatal Quality Metric	2018 Barberton	Target
Total Deliveries	636	
Overall Cesarean rate	24%	<31%
PC 01: Early Elective Delivery	0%	0%
PC 02: Cesarean low risk, first time mothers	19%	<24%
PC 05: Exclusive Breastmilk Feeding	64%*	<70%
Skin to Skin contact first 2 hours after birth	100%	>80%
Cesarean Section Surgical Site Infection	2	SBH 2017: 1
Abdominal Hysterectomy (Inpatient) Surgical Site Infection	1	SBH 2017: 2

*While the Joint Commission target is 70% few hospitals are achieving this goal. Our internal goal is 60%

Online Patient Education Tools

The Women’s Institute has published many online tools @summahealth.org>medical services>womens to support the World Health Organization and Baby-Friendly USA’s Ten Steps to Successful Breastfeeding. Some examples include:

- ‘Birth Preferences’ tool. This is been popular with expectant mothers and engages the mother to be involved in decision-making. Unlike ‘birth plans’ reputed by clinicians for unrealistic requests, our Birth Preferences tool explains and prompts standard, evidence-based, Baby Friendly interventions. The woman completes the form online then a pdf is e-filed to their chosen Summa L&D unit- ready for her and her delivery team when the time comes.
- ‘Feeding plan.’ Our OB leaders couldn’t find an ideal tool for obtaining infant feeding informed consent so they developed one with a team of expectant mothers and support persons in our childbirth classes. This feeding plan is completed prenatally.
- Videos to promote exclusive breastfeeding- Core messages from our doctors and nurses in short vignettes to counter exclusive breastfeeding barriers commonly reported in our population.
- Online education modules available for breastfeeding, safe sleep, infant feeding, skin to skin, rooming-in and pacifier use.

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