

2017 Summa Health

# Quality Report



[summahealth.org/quality](http://summahealth.org/quality)



“The overall theme for 2017 was the resilience and commitment our Summa Health leadership and staff showed in times of adversity.”

In this report, you will read about our history of quality improvement and commitment to patient care at Summa Health. We had a few challenges to overcome during 2017. A series of events causing leadership changes and visits from outside agencies questioning our quality of care occurred when a new emergency physician group started at the beginning of the year. As the year progressed, our residency programs were placed on probation by the Accreditation Council for Graduate Medical Education (ACGME) and the emergency medicine residency program ceased.

Despite these challenges, we have since proven the quality of our residency programs and achieved the highest accrediting status for a teaching institution. Reestablishing the emergency medicine residency program is a priority in 2018 and work is underway.

The Joint Commission conducted a three-year accreditation survey in September 2017. Each on-site surveyor said Summa Health’s quality survey was the largest survey scope they had seen due to the scope of our services in one system. Summa successfully earned accreditation for an additional three years and ended 2018 with no questions about the quality of our services.

Summa Health had yet another challenge in 2017 - to overcome a fire at one of our inpatient facilities. The heroic work from our clinical staff ensured that all patients moved safely to other facilities while we worked rapidly to get our hospital back in working order. The overall theme for 2017 was the resilience and commitment our Summa Health leadership and staff showed in times of adversity.

Speaking of commitments, our interim CEO, Cliff Deveny, M.D., commissioned a team of employees representing multiple aspects of operations to designate core-guiding values. Their work resulted in identifying six priority commitments:

At Summa, we **Serve with Passion** every day to ensure those who need care see our compassion and integrity. We strive to create an environment where patients feel welcome and get good care. We **Personalize the Care** by working with the extension of our care team, which includes patients and family members, to understand goals of care and barriers to getting well. We are constantly working to improve how well we communicate with patients, families and each other. We **Value Every Person** who comes to our hospitals and community locations to receive care. We work to respect and meet the unique needs of every person. We have thousands of talented team members who come to work every day to be the support that our community needs. We **Take Ownership** of our care. We work to find solutions to ensure that we have a safe environment where patients obtain quality outcomes. We **Work Collaboratively** within our teams, with our families, and with community partners to address the needs of our community. Our patients are our number one priority. We **Partner with the Community** because we are the community. Our employees improve the areas where we live and work to ensure our communities thrive through volunteerism.

The 2017 Quality Report will outline improvements made throughout 2017 and reflect that Summa is where patients can know they will receive great care focused on their needs. On behalf of the entire care team at Summa Health, we invite you to learn more about our quality programs and what we are doing in 2018 and beyond to continue to deliver exceptional care.

**Dave Orr**  
Vice President of Quality

# Summa Health System

## (Hospitals)

### Our quality priorities for 2017 included:

#### Patient Experience

Our patients' experiences at our facilities and while transitioning away from the hospital continue to be a priority at Summa. In 2017, our patients better understood transitions from the hospital to their home and other care locations. In 2018, our staff is focusing on improving communication with patients and families to ensure they fully understand what care is needed and how to receive that care.

#### Clinician Engagement

In 2017, we surveyed our physicians and employees to measure their satisfaction in working at Summa. We found that we had significant improvements in satisfaction and engagement versus our performance in 2015, the last year we conducted a survey. We are still working to ensure that all Summa team members understand their value to the organization and our community and that we provide what they need to do a great job.

#### Care Transitions

One of our priorities in 2017 was to make our various transitions in healthcare safer and more efficient. **The 2017 30-day readmission rate dropped to the lowest level measured over the past seven years.** Our work continues in 2018 as we reorganize our efforts to ensure our patients have everything they need to stay out of the hospital.

In 2011, we launched a series of activities to improve patient safety at Summa that continues today. The work included adopting four behaviors:

#### Practice with a Questioning Attitude

We think critically in everything we do and stop if we are unsure in our work.

#### Communicate Clearly

We use various tools and techniques to avoid misunderstanding the safety events that result from these behaviors.



We have reduced the number of serious safety events - events which have resulted in harm to a patient - by 74% since 2011.

### Focus on the Task

We make sure that we concentrate on our work and avoid distraction.

### Support Each Other

We make sure that we not only focus on our work, but we help our team use safe practices as well.

Through this work and other safety-focused initiatives at Summa, we have reduced the number of serious safety events - events which have resulted in harm to a patient - by 74% since 2011. In recognition of quality improvement, Summa Health received patient safety awards from independent organizations. When safety indicators were measured by the Centers for Medicare and Medicaid Services, Summa performed better than 60% of Ohio hospitals. We remain committed to practicing these four behaviors to continue to foster a safe environment.



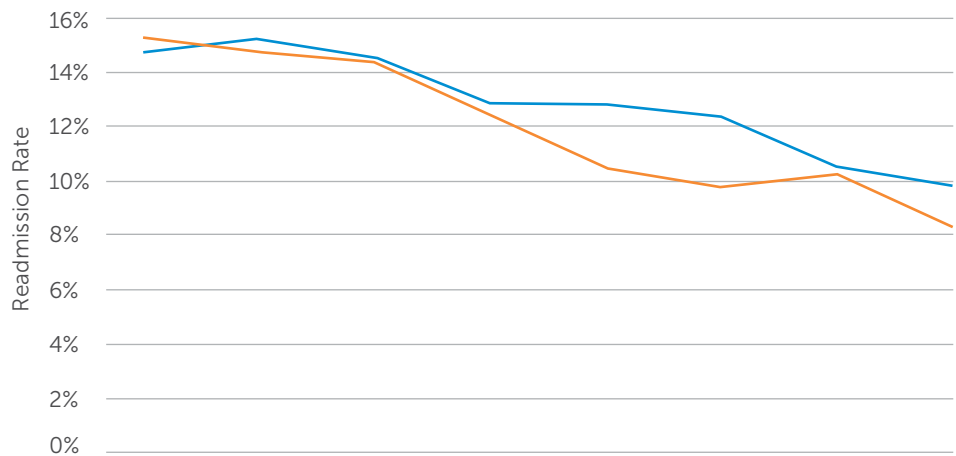
## Transparency

In an effort to continue our vision of transparency, Summa continues to ensure our community has access to our performance statistics. Along with third party sources such as CMS.gov, we share our own quality data on our website. This way, if patients have any questions about our services, we are able to show outcomes information. Learn more by visiting [summahealth.org/quality](http://summahealth.org/quality).

## Outcomes of Care: Hospital Readmissions

Since 2010, the 30-day readmission to the hospital rate has continued to decline, representing an improvement in overall care outcomes. The rate reduction is a product of our focus on ensuring that patients have the information and resources they need to be well after their hospital visit. Summa has also taken steps to reduce hospital mortality, specifically sepsis mortality.

30-Day Readmission Rates for Any Reason



	2010	2011	2012	2013	2014	2015	2016	2017
<b>■ Akron &amp; St. Thomas Campuses</b>	14.79%	15.20%	14.49%	12.86%	12.84%	12.38%	10.55%	9.83%
<b>■ Barberton Campus</b>	15.33%	14.76%	14.36%	12.36%	10.51%	9.74%	10.24%	8.34%
<b>Grand Total</b>	14.90%	15.11%	14.46%	12.75%	12.41%	11.87%	10.49%	9.54%



The number of hospital-acquired conditions at Summa reduced by a remarkable 47% in only two years.

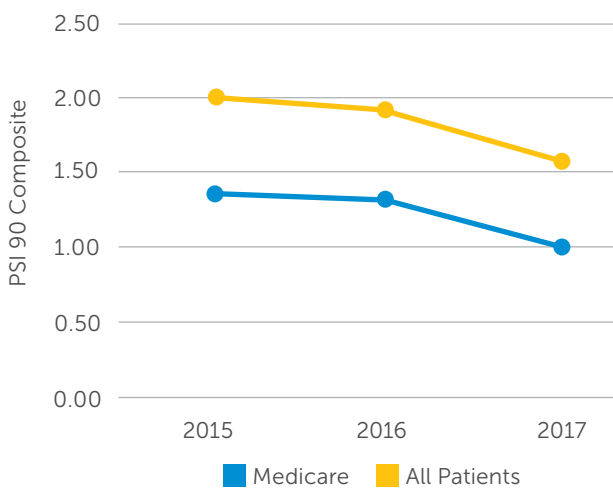
## Hospital-Acquired Conditions

Hospital-acquired conditions are conditions affecting a patient that began during a hospital stay or visit. Our doctors, nurses, and care teams work diligently to bring the rate of hospital-acquired conditions as close to zero as possible. The number of hospital-acquired conditions at Summa reduced by a remarkable 47% in only two years.

In an effort to reduce hospital-acquired conditions, Summa frequently reviews products used and processes we follow. When we identify a patient with a hospital-acquired infection, we investigate the situation to determine a cause so that we can put a solution in place to prevent future occurrences. Our improvement in the Central line-associated bloodstream infection rate is due to improved maintenance of the central line by ensuring that they are kept clean and are only left in for as long as necessary. We have improved our Clostridium difficile and MRSA performance through our nationally recognized antibiotic stewardship work in which we use the correct antibiotic to avoid drug-resistant organisms.

Metric	Improvement Since 2015
Catheter-associated Urinary Tract Infections	36.6%
Central Line-associated Bloodstream Infections	50.0%
Clostridium Difficile	39.0%
MRSA	76.9%
Surgical Site Infections: Colon	58.8%
Surgical Site Infections: Abdominal Hysterectomy	42.9%
Possible Ventilator-associated Pneumonia	76.7%
Overall	47.0%

## Patient Safety Indicator Performance

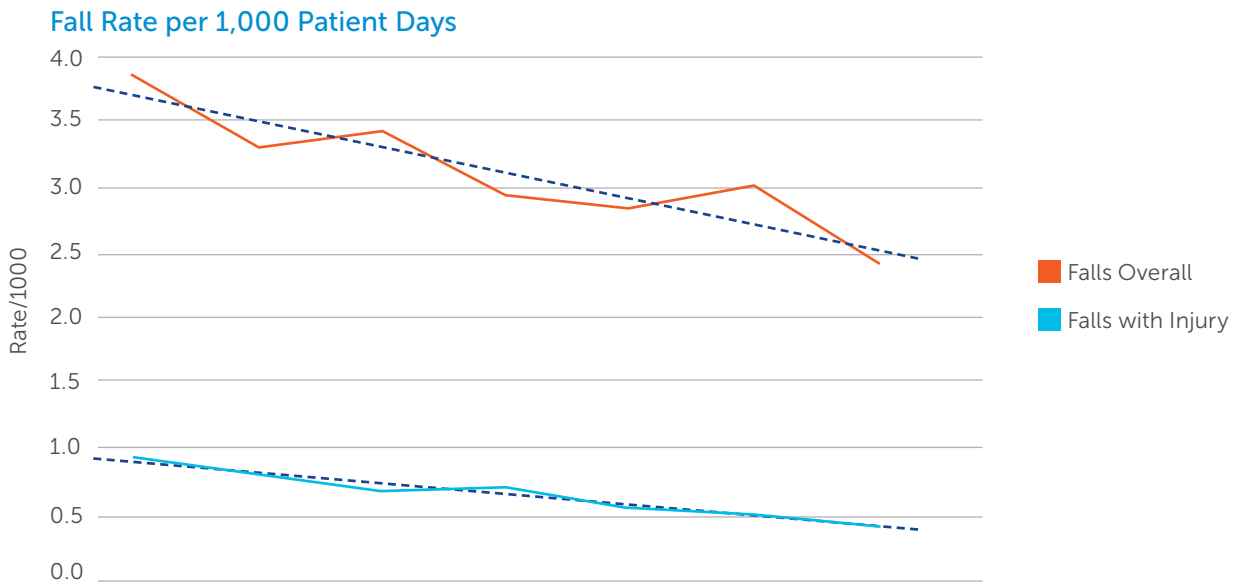


Another major driver of improved performance has been our Patient Safety Indicator Composite Measures (PSI-90) performance, which is a composite of other measures created by the Agency for Healthcare Research & Quality. Patient Safety Indicators provide information about hospital complications and adverse events after care delivery. It is important for this figure to trend downward. Since 2015, we have improved our performance across all patients by 19% and by 26% for Medicare patients specifically. We have eliminated all errors in 36% of the measures for our Medicare patients. You can read more about how Summa compares with other hospitals at [medicare.gov/hospitalcompare](http://medicare.gov/hospitalcompare).

## Safety of Care: Reducing Falls and Hospital-Acquired Pressure Ulcers

Through the diligence of our nursing and support staff, the patient fall rate has decreased by 37% over seven years. Falls that resulted in an injury decreased by 57% during that same time. Our work to prevent falls includes:

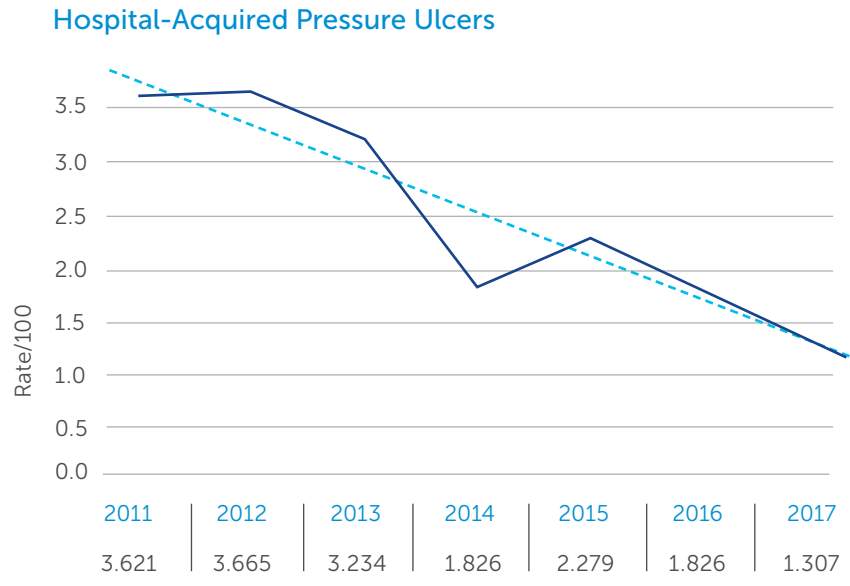
- Screening all patients for fall risk
- More frequent visits to patient rooms by nurses and aides to evaluate any patient needs
- Technology to raise awareness of a potential fall
- Targeted reductions in the use of some medications that may make the patient dizzy or unsteady
- Patient and family education
- Nursing education
- Starting a culture to empower any employee, regardless of position, to answer a call light from a patient.



Measure Name	2011	2012	2013	2014	2015	2016	2017
Falls Overall	3.826	3.300	3.419	2.925	2.830	2.995	2.397
Falls with Injury	0.921	0.782	0.677	0.689	0.542	0.500	0.400



Over the past seven years, our nurses reduced frequency of patients experiencing bedsores, or “hospital-acquired pressure ulcers,” by 64%. Our primary strategy was to leverage using beds designed to reduce this complication. We also work to help patients move while confined to a bed and we utilize equipment to alleviate pressure on the skin in areas where a patient is likely to develop a hospital-acquired pressure ulcer.



## Patient Experience

Committing to excellence in patient safety also means a commitment to providing a great patient experience. The Centers for Medicare and Medicaid Services assign Hospital Star Ratings to identify the quality of services the hospital provides and how patients of that hospital rate the care they received. In the area of Patient Experience, Summa received three out of five stars.

In 2018, we are focusing on improving how we communicate with each other, our patients, and the families of our patients. We understand that being in the hospital is a stressful time and that it can be confusing and we will continue to make sure we work together with our patients to help them stay healthy.

Despite a change in physician staffing in our emergency departments and struggling with some operational issues that initially caused delays during that transition, our patients still ranked their experience with us better than the national median. Along with providing good care, these physicians and our nurses will be focusing on providing better service for our patients who come to our emergency locations. Our emergency department wait times are better than average nationally, but our team is focusing on strategies to further reduce the wait. We also outperform most academic hospitals on our performance metrics.

Our patient experience in the physician practices of Summa Health Medical Group is excellent - more than 92% of our patients would recommend Summa Health Medical Group physicians. This is good evidence of the compassion and focus on patient care that our physicians and office staff bring to work every day.

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# Summa Health at Home

Summa Health at Home provides clinical care and patient support in a home setting.

Summa Health at Home services include:

- Home health services
- Hospice services at home or in a facility
- Palliative care services in the hospital or in the community
- Case management services
- Home infusion.

## Clinical Quality Data Comparison

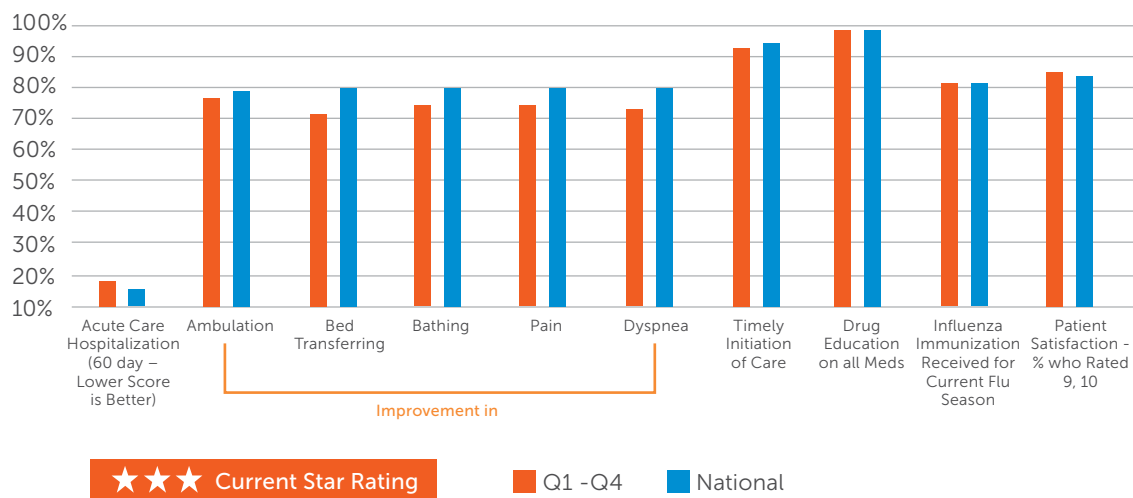
The Centers for Medicare and Medicaid Services publishes clinical quality process data and outcome measures based on clinical assessment information from home care and hospice organizations across the nation. This data is publicly accessible on Home Health Compare (HHC) and on Hospice Compare at medicare.gov. 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. The Rating also forms the basis for the home health value-based reimbursement model currently piloting in several states. In an effort to improve our 3-star score to a 5-star score, Summa Health Home Care has been working on the following initiatives:

- Providing timely initiation of care and preventing the need for acute care hospitalization
- Improved discharge transition from hospital to home with a newly created organizational structure focusing on care management across the continuum
- Reducing rehospitalization for high-risk groups with chronic disease.

Home Care Star Quality Project Q1-Q4, 2017  
Quality Improvements (not risk adjusted)



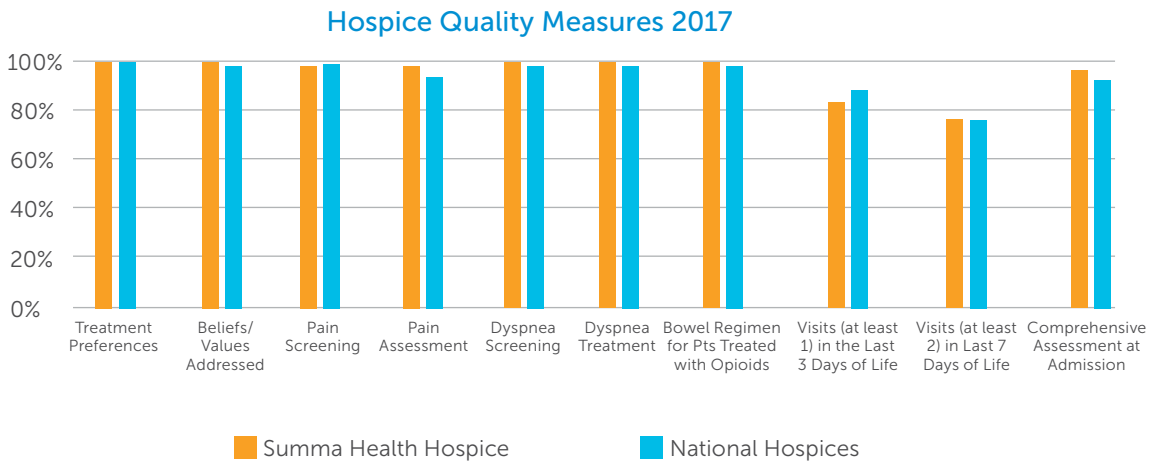


## COPD Home Intervention Program (CHIP)

Home Care and Summa Health Medical Group collaborated to improve care for patients diagnosed with COPD by developing the COPD Home Intervention Program (CHIP). The goals for this program include promoting self-management of chronic disease, transitioning the patient to life-long maintenance, and reducing re-hospitalization. Data from the first three months of the pilot demonstrated an overall decrease in hospitalization and an increase in follow-up care when compared to COPD patients with routine home care prior to the program.

## Hospice

Summa Hospice achieved outcomes at or above the national level in the majority of hospice quality measures in 2017. Quality improvement focused on tracking visits in patients' final three days of life.



## Patient Experience

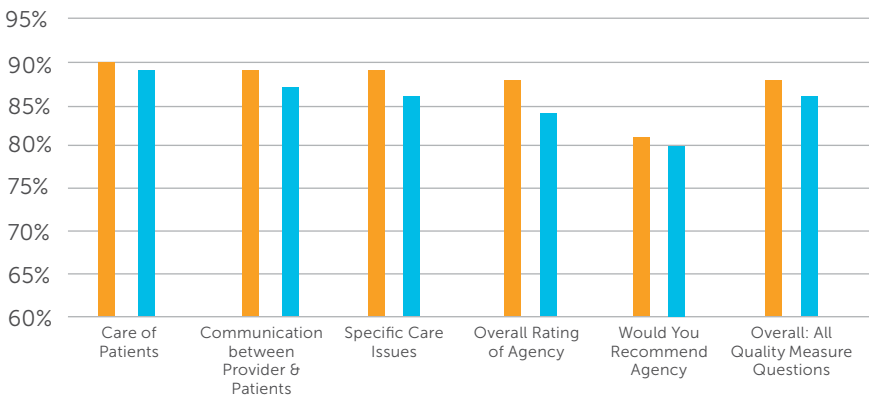
Patients or families receive experience surveys after discharge from home care or hospice. The standardized surveys enable comparisons across home care and hospice providers.

### Home Care

Patient survey Star Ratings include information on:

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

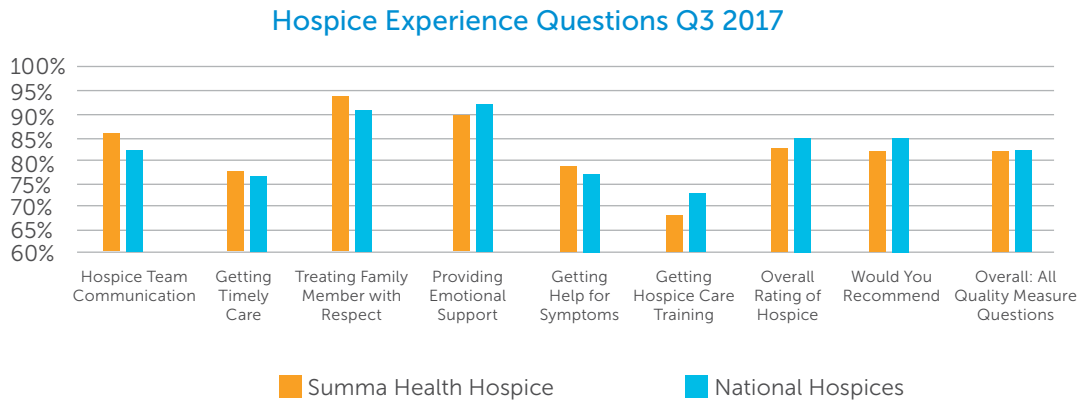
## Home Care Experience Questions Q3 2017



★★★★ Current Star Rating
■ Summa Health Home Care      ■ National Home Cares

## Hospice

Summa Hospice implemented process improvement efforts to address timely care and help for patient symptoms. Satisfaction results are above national benchmarks in the majority of measured areas.

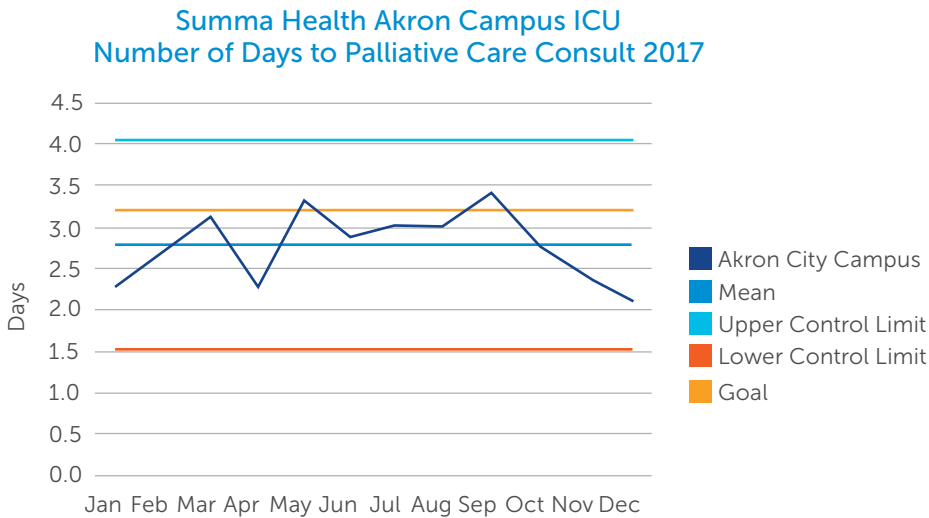


## Effectiveness of Care

While the majority of our focus has been on publicly reported process and outcome measures, we also evaluate measures that are examining the output of care or the prevention of utilization for high-risk groups helping to support patients and their families to remain at home.

### Palliative Care

In 2017, Summa achieved Advanced Palliative Care Certification by the Joint Commission again, demonstrating the commitment to patients with complex illness. One of the goals of the 2017 accreditation process was to improve the management of complex or chronic illness. We decreased number of days it takes for a patient to meet with a physician to discuss palliative care.



# Summa Health Medical Group

## Primary Care Improvement

The Patient-Centered Medical Home (PCHM) is a model of care that puts patients at the forefront by building better relationships between people and their clinical care teams. This patient-centered approach to care results in patients who are happier and healthier. In 2017, all 23 Summa Health Medical Group primary care office sites achieved National Committee for Quality Assurance - PCMH level III recognition, indicating a commitment to quality improvement.

In addition, 13 Summa Health Medical Group 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. CPC+ payments support primary care practices that provide comprehensive care that meets the needs of all their patients, particularly those with complex needs. 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.

Our improvements include changes such as implementing nurse and behavioral health care teams into the primary care setting to support complex patient needs. These teams support long-term care management for high-risk patients.

For many patients with recent visits to the hospital for emergent or inpatient care who are likely to benefit from care management, Summa Health Medical Group provides short-term care management along with medication reconciliation. Our team coordinates with emergency departments to schedule follow-up appointments within one week of a patient's discharge. We also contact at least 75% of patients hospitalized in target hospitals within two business days to make sure that they get the follow-up care that is needed.



In 2017, all 23 Summa Health Medical Group primary care office sites achieved National Committee for Quality Assurance - PCMH level III recognition.

## Patient Family Advisory Councils

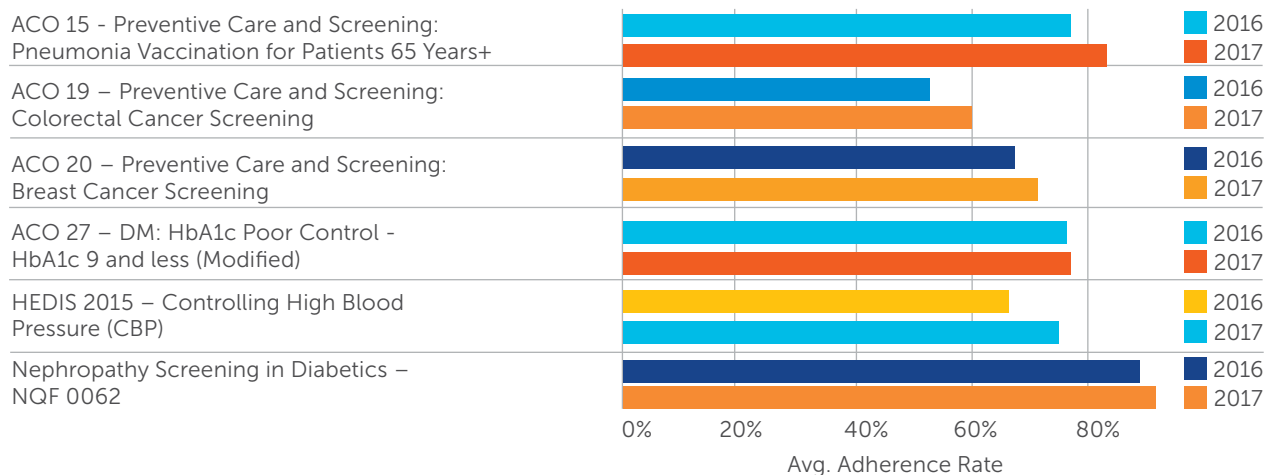
In 2017, Summa Health Medical Group held quarterly patient and family advisory councils (PFAC) meetings to engage patients for feedback. We encouraged feedback on how the office can do things better, what we did right, and their experience with the office.

## 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, develop care teams to support high-risk patients, and ensure proper immunization.

### Summa Health Medical Group Primary Care Six Measures Run Chart

Source: IBM Watson Explorys SuperMart



## 2018 Summa Health Medical Group Goals

In 2018, Summa Health Medical Group's goal is to improve upon our Summa Six quality metrics performance as well as to develop consistent care models of support around high-risk and complex patient care needs. We plan to expand our transitional care management and continue our work with patients and families to improve their experience.

SummaCare received a rating of 4.5 stars (out of 5) by the Center of Medicare and Medicaid Services (CMS). The annual star ratings help our members and served communities 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 well the health plan helps members use safe and recommended prescription medications
- How quickly and how well the plan handles member appeals.

Using Lean Six Sigma tools with a Kaizen mentality, that is “change for the better” mindset, as well as robust sustainment plans, 11 project teams were able to deliver results leading to valuable, lasting change. Some of the highlights include the following projects:

Performance Category	Measurement	2017 Star Rating	2018 Star Rating
Part C Clinical Measures	Improving or Maintaining Physical Health	★	★★★★
Part C Clinical Measures	Improving or Maintaining Mental Health	★★★★★★	★★★★★★
Part C Clinical Measures	Comprehensive Diabetes Care (CDC) – Medical Attention for Nephropathy	★★★★	★★★★
Part C Clinical Measures	Comprehensive Diabetes Care (CDC) –Poor HbA1c Control	★★★★★★	★★★★★★
Part C Clinical Experience Measures	Getting Care Needed	★★★★	★★★★★★
Part C Clinical Experience Measures	Overall Rating of Health Care Quality	★★★★	★★★★★★
Part C Clinical Experience Measures	Care Coordination	★★★★	★★★★★★
Part D Member Experience Measures	Rating of Drug Plan	★★★★	★★★★
Part D Member Experience Measures	Getting Needed Prescription Drugs	★★★★★★	★★★★★★

SummaCare’s Corporate Quality Program 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 and screenings or tests. We improved the exchange of information from lab providers to SummaCare to improve the quality of

the information. We analyzed member satisfaction and developed and implemented action plans to improve. We also increased primary care engagement through regular communication with members about care gaps. These steps led to more members receiving appropriate screenings, vaccinations and interventions.



# NewHealth Collaborative

## Transforming Primary Care

NewHealth Collaborative (NHC) leads change efforts in primary care to achieve the triple aim of better care, improved health outcomes, and lower costs. NHC led an additional 19 new practices through the rigorous National Committee for Quality Assurance (NCQA) patient-centered medical home (PCMH) recognition process in 2017, a 39% increase in new recognitions over 2016. There are currently 43 primary care practices with PCMH recognition, representing 58% of the 74 primary care sites. In 2018, an additional 18 primary care practices are working toward earning PCMH recognition for the first time.

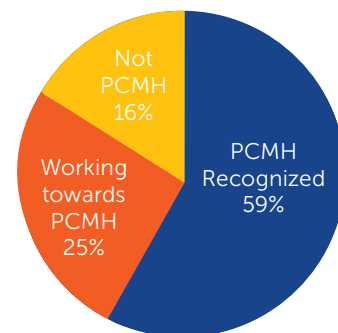
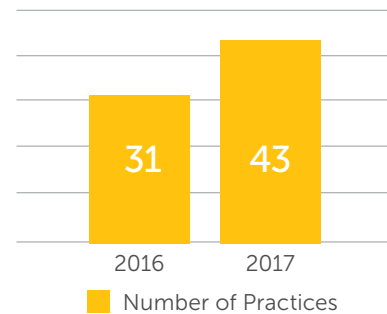
Key Focal Areas for PCMH Transformation in 2017:

- Proactive patient outreach for follow-up care following inpatient stays, including timely identification of discharges and contact for follow-up visits and care coordination
- Prepared, proactive care teams who conduct pre-visit planning, including identification of care gaps and daily huddle communication
- Care coordination with specialists, including timely follow-up on specialist reports as well as lab and imaging reports
- Planned outreach to patients with care gaps and to those not recently seen by a provider
- Improving access, including assessing supply and demand for same-day appointments, new patient visits and transition of care visits.

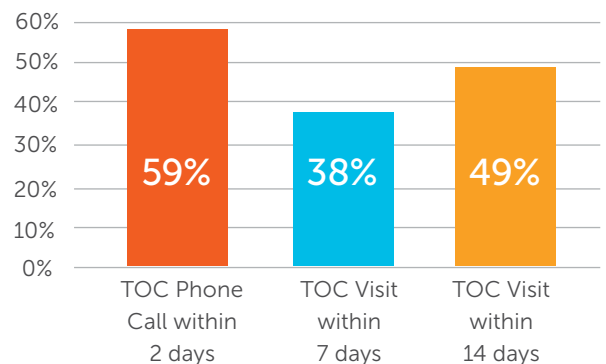
Though transformation priorities remain focused on access, population health and huddle communication, additional focal areas for change initiatives in 2018 include:

- Identify and address social determinants of health
- Enhance the transition of care processes for both hospital and emergency department patient discharges
- Engage patients in self-management support
- Develop the care team to support patients with chronic conditions, provide care coordination, and to foster optimal medication management.

## NHC Primary Care Practices PCMH Recognition



## Transition of Care (TOC) Improvement 3rd and 4th Quarter 2017



# NHC has saved more than \$29 million over the past four years.

## Advanced Transformation

Year one of a five-year national advanced primary care alternative payment model, Comprehensive Primary Care Plus (CPC+), began in 2017. This program aims to strengthen primary care through payment reform and care delivery transformation. Thirty NHC practices entered into this five-year CMS Innovation Center initiative.

NewHealth Collaborative leads a workgroup for the CPC+ practices to foster community and to promote shared learning. The CPC+ care requirements are aligned with and build upon the PCMH standards. The workgroup addressed advanced topics including:

- Patient and family advisory councils
- Comprehensive risk stratification
- Assessing opportunities to expand efforts related to supporting self-management support, including diabetes self-management support programs
- Assessing social functioning
- Social determinants of health, assessing medication management and medication adherence, and integrated behavioral health services.

## Integrated Care

Treating both mental and physical health is a concept central to providing holistic care. Large-scale studies have shown that programs that are team-driven, population-focused, measurement-guided, and evidence-based have resulted in positive outcomes. In the fourth quarter of 2017, NHC facilitated implementation of integrated behavioral health in primary care. To date, seven primary care practices participating in the CPC+ program have embedded a behavioral health consultant in their practice. An additional 23 sites are planning to integrate behavioral health consultation in 2018.

## Patient Experience

All of these efforts translate to improved experiences for patients and families. Patient experience scores ranked in the 90th percentile nationally. In addition to quantitative patient experience data, practices are required to obtain qualitative feedback from patients as part of NCQA PCMH recognition. A primary care practice that began PCMH transformation in January 2017 received this comment from a patient in December 2017: "Much better than last year." It has been rewarding for practice staff to hear directly from patients that their efforts make a difference.

## Resource Use

The emphasis on team-based primary care with enhanced care services to support the needs of all patients and targeted care management to provide the right care, at the right time, in the right place has continued to result in lower total costs of care. NHC has saved more than \$29 million over the past four years. Performance year 2016 is the most recent Medicare Shared Savings Program data available. Our total expenditures per capita in 2016 for traditional Medicare beneficiaries were 18.5% lower than the national rate. In addition, all-cause 30-day readmissions are 4.5% lower than the national ACO rate.

From 2016 - 2017, integrated care support for Summa employees and their families, provided by NHC's RN Care Manager, increased by 63%. Personalized interventions resulted in increased satisfaction of healthcare provision and included services such as assistance to select PCP or specialist care; facilitation of emergent appointments; navigation and education of new, complex disease diagnoses; advocacy for billing corrections; benefit appeal guidance; and coordination of care between multiple providers. A number of seriously ill employees received high-touch, individualized care, resulting in timely diagnosis and enabling life-saving healthcare outcomes.

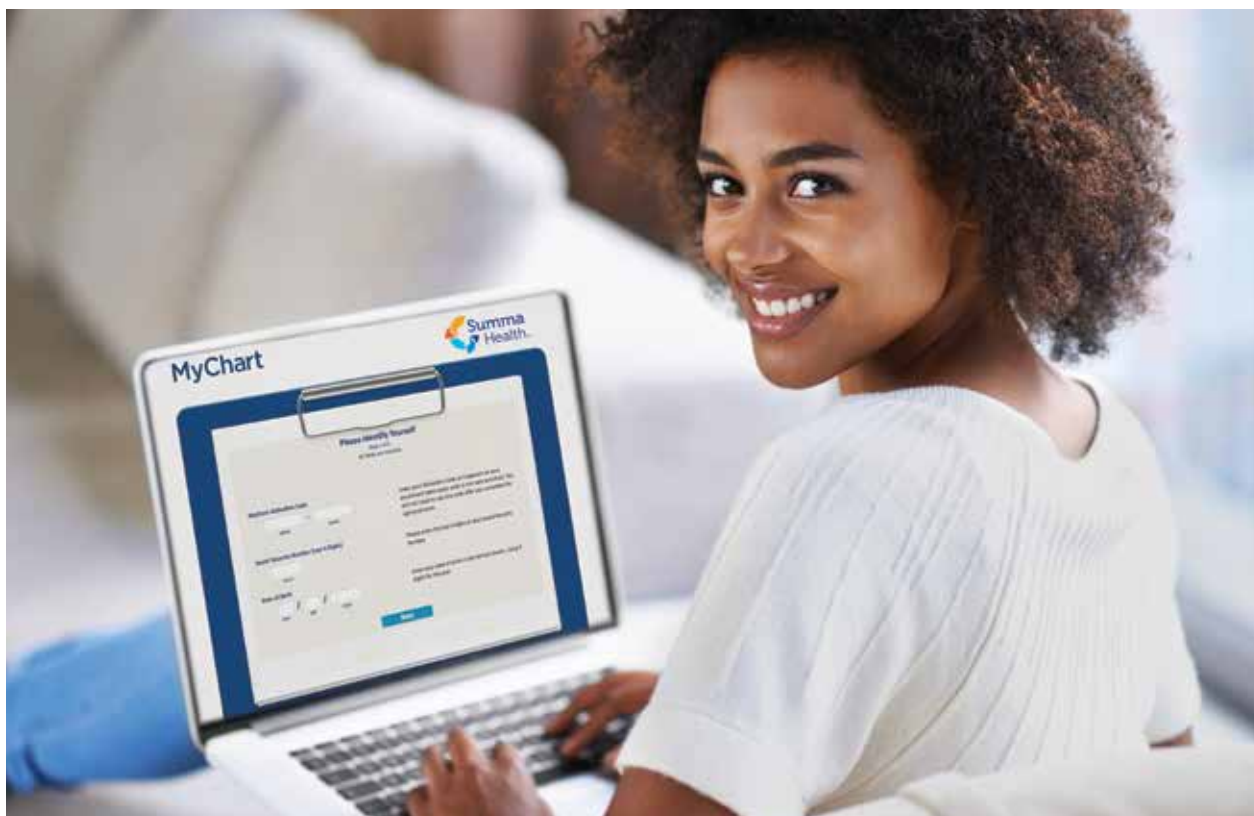
# Clinical Information Technology

Summa completed a two-and-a-half-year journey to upgrade the electronic medical record (EMR) system for both Summa Health Medical Group and the hospital in 2017. This improves our ability to see all that is happening with our patients regardless of where they seek care at Summa. Some great benefits include:

1. Our patients can sign up for MyChart to access visit summaries, care instructions, lab results, radiology reports, medication history, and billing information. Patients can schedule appointments and even communicate with their physicians through MyChart.
2. Our community partners that are caring for patients can utilize the system to get information to better care for their patients who may have visited one of our facilities.

3. We are able to track performance on various safety and quality indicators, such as Computerized Provider Order Entry, which is a way to minimize medical errors. We have found that due to our long history of using technology to improve patient outcomes, we are performing well in the measures that we are monitoring in the EMR.

In 2018, we are striving to work closer with all providers in the community to improve the coordination of patient care through technology. We also are encouraging our patients to sign up for MyChart so that they can reap the benefits of this service. Our new Chief Information Officer, Tanya Arthur, is working with the technology team to ensure that we are focused on improvement that will impact our patients and caregivers.



# Performance Solutions

Summa Health's Lean Six Sigma team supported outstanding quality projects in 2017. Care delivery teams closest to the process of care utilized structured project implementation methodologies under the guidance of a process engineer. Some of the highlights include the following projects:

## Endoscopy Stock Ordering Process in the OR Inventory Room

Continuous improvement initiatives at Summa Health System's Akron Campus operating rooms decreased order time from 107 to 53.5 minutes, optimized the inventory levels, and improved room and shelf set-ups to support improved efficiency in inventory ordering and greater reliability in product availability in endoscopy carts.



## Standardized Health Literacy Assessments in the Internal Medicine Center

A Lean Six Sigma Project at the Internal Medicine Center created a patient-centered care environment by implementing a health literacy assessment within the patient visit. Knowing patients' health literacy levels earlier in the care process enabled physicians and residents to communicate more effectively with patients and improve patient engagement and involvement in their own care. Prior to the project, health literacy was assessed in only 6% of patients. As a direct result of the project, health literacy is now assessed in 80% of patients seen in the clinic, enabling more effective patient-provider communication.

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## Practice Pointers

The Employee Development and Performance Solutions teams reduced the number and types of practice pointers to make vital process changes and patient safety information easier for nurses to find in critical moments, thus supporting the consistent use of evidence-based standards of care. We eliminated 169 practice pointers and 100% of the 2017 guidelines now adhere to a standard format and a systematic distribution method.

## Decreasing Variability in Routine Repeat Head CTs (RRHCT) in Elderly Anticoagulated Trauma Patients

The Summa Lean Six Sigma Project Team in Trauma Services significantly reduced the risk of discharging patients that may potentially have an underlying life-threatening injury by improving the repeat CT scan rate for eligible patients. In some cases, traumatic head injury is not evident in the first completed scan; a second scan performed hours later can reveal latent injury. By leveraging mistake-proofing tools and tactics, now all at-risk patients receive repeat head CT scans before they go home.



## Training

One measure of a Performance Improvement program's success is the degree to which the organization embraces Lean Six Sigma training and certification.

### Lean Six Sigma Yellow Belt

Performance Solutions provided Lean Six Sigma Yellow Belt training to 228 students. This is an increase of more than 25% over the previous year and is twice the number taught in 2015. Lean Six Sigma Yellow Belt training prepares graduates to implement the use of Lean Six Sigma tools in the workplace. Lean Six Sigma Yellow Belt students completed over 230 tool usage projects in 2017, all of which are available to all Summa employees on the Lean Six Sigma community page on the intranet.

### Lean Six Sigma Green Belt

Performance Solutions trained over 70 students in 2017 and certified 17 new Lean Six Sigma Green Belts. These Green Belts are capable of completing department-level projects. Each certified Green Belt was required to complete one project that met stringent standards for performance and prepared a video explaining their projects to help others learn from their experiences.

### External Training

Performance Solutions contributed to Summa Health's requirement to contribute to the community by collaborating with the Area Agency on Aging to provide Lean Six Sigma Yellow Belt training to 24 students. Summa also provided training to other national healthcare organizations to help others improve as well.



# Institutes and Service Lines

## Summa Health Women's Institute

Along with the quality improvement work that has benefited women who come to Summa for care, Edward Ferris, M.D. became the permanent leader for the institute and hospital department in 2017 through an internal promotion. Thomas Mendise, M.D. replaced Dr. Ferris as the leader of the residency program. Both physicians have done an incredible job leading quality improvement since their appointments.

### CenteringPregnancy®

Dante Roulette, M.D. and Cheryl Johnson, M.D. led teams to work on improving outcomes for opiate-addicted women and their babies. This work develops a peer support network and a venue to support each other to battle the addiction. Since implementing the CenteringPregnancy® Model for opiate-addicted pregnant women, results show there is a:

- Significant increase in prenatal visits
- Reduction of Neonatal Intensive Care Unit (NICU) admissions
- Longer gestation age
- Improved birth weight
- Increased breastfeeding rates at discharge.

In addition, the program offers women access to addiction medicine fellows who are able to provide psychiatric support and write Subutex prescriptions to help with opioid dependency for women who are healthy and making every effort to have the healthiest pregnancy possible.

### Infant Mortality

Cheryl Johnson, M.D. has been recognized for Summa's leadership on reducing infant mortality. She serves as a health equity medical expert for the Ohio Commission on Minority Health. Dr. Johnson also serves on two Infant Mortality Teams formed by Governor John Kasich and Mayor Daniel Horrigan of Akron.

### Resident Education

Summa's OBGYN residency program continues to provide a great education to doctors. Our program is fully accredited with no citations. Ninety-four percent of our residents pass their medical boards. In 2017, we received the highest in service exam score in program history and some of our residents continue into a specialized fellowship.



### Baby-Friendly®

The Summa Health Akron Campus has been certified as Baby-Friendly® by Baby-Friendly USA, Inc. and Summa is working toward earning certification at our Barberton Campus. We have implemented the Ten Steps to Successful Breastfeeding which are:

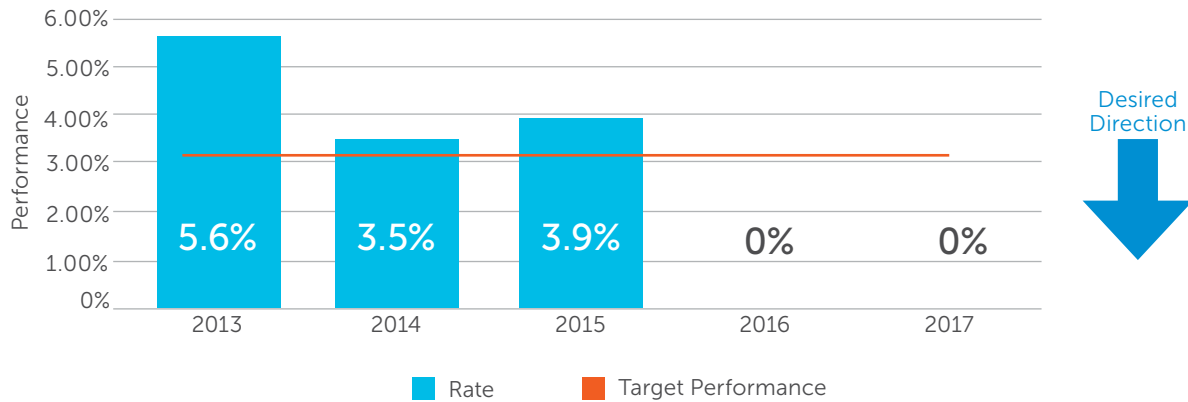
- Have a written breastfeeding policy that is routinely communicated to all healthcare staff
- Train all healthcare staff in the skills necessary to implement this policy
- Inform all pregnant women about the benefits and management of breastfeeding
- Help mothers initiate breastfeeding within one hour of birth
- Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants
- Give infants no food or drink other than breast milk, unless medically indicated
- Practice rooming in - allow mothers and infants to remain together 24 hours a day
- Encourage breastfeeding on demand
- Give no pacifiers or artificial nipples to breastfeeding infants
- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.



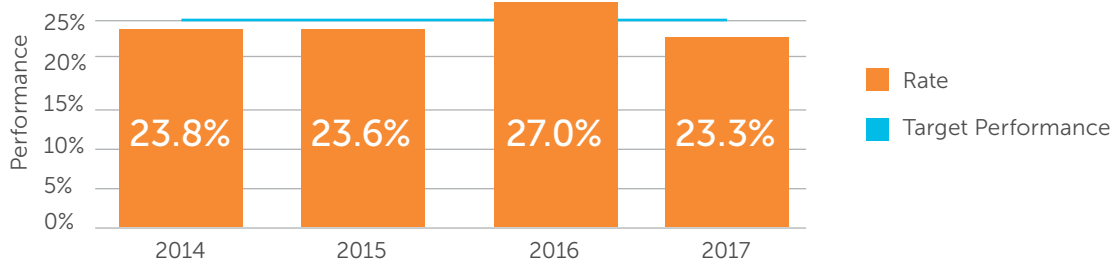
### Processes of Care

Our Obstetrics team used data collected by the Centers for Medicare and Medicaid Services and other payers to prioritize improvement efforts. Our cesarean section rates are monitored to minimize bleeding and infection risks for pregnancies where a natural birth is a better option. Actual performance in three of the last four years was better than the targeted performance rate. In addition, the team eliminated elective deliveries of babies prior to 39 weeks of the pregnancy. Both of these measures improve safety for both mothers and babies.

#### PC-01 Elective Delivery



#### PC-02 Cesarean Section





## Summa Health Seniors Institute

Beginning in 2015, the team improving care for our seniors has been focusing their efforts on improving care for patients who need to go to a skilled nursing facility (SNF) upon discharge from the hospital. We selected a group of skilled nursing facilities based upon quality and patient satisfaction to collaborate with SummaCare team members.

In collaboration with these skilled nursing facilities, we developed metrics and a scorecard to monitor and improve performance on key quality measures. We meet with the leadership of these facilities, review performance, and develop actions to improve on a quarterly basis. We have worked to ensure that we do an excellent job transitioning patients from our hospitals to these facilities. In some cases, our geriatricians and nurse practitioners take care of the patients in the facilities.

Metric	Goal	Network Performance		
CMS Five-Star Rating	Overall facility star rating at Four- or Five-Star	2015: Average was 3.82 Stars. (4 out of 11 facilities were Five-Star)	2016: Average was 4.6 Stars. (6 out of 11 facilities were Five-Star)	2017: Average was 4.55 Stars. (7 out of 11 facilities were Five-Star)

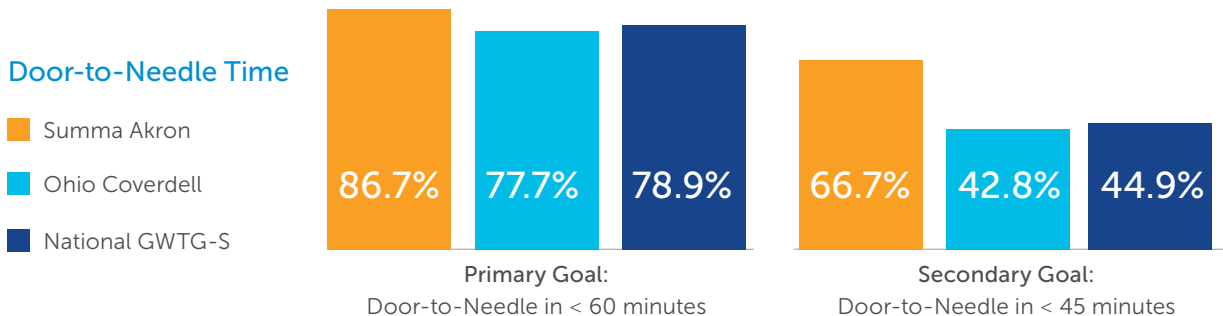
## Summa Health Neuroscience Institute



The stroke program continues to perform exceptionally well. We have continued to improve our door-to-needle time – the amount of time from when the patient arrives until we provide treatment, if eligible – to the point where we perform significantly better than both the national and Ohio averages. Summa Health Akron Campus has received the American Heart Association Gold Plus quality award for stroke care annually since 2010. Summa is the only Akron area hospital to receive this level of award status. During an acute stroke, one minute of time passed equals the death of two million brain cells. For our patients who are eligible to go straight to CT scan, we have an average time of 37 minutes to clot buster treatment versus the national goal of 60 minutes. **Patients going straight to CT received tPA (clot-buster treatment) on average 23 minutes faster than the national standard, saving on average an additional 46 million brain cells per patient.**

While continuing to improve our already excellent stroke care at the Akron Campus, we also have worked to improve stroke care at the Barberton Campus. One hundred percent of our patients who received IV Thrombolytic Therapy (clot buster) received that therapy in less than 60 minutes and 57% received it within 45 minutes.

We have continued to improve our door-to-needle time – the amount of time from when the patient arrives until we provide treatment, if eligible – to the point where we perform significantly better than both the national and Ohio averages.





# Summa Health Cancer Institute

As one of only 12 groups in Ohio that is engaged in the Oncology Care Model, we care for over 100 different types of cancer. Our processes ensure that our patients get the most effective treatment for their cancer. Our early identification of cancer through screening programs improves outcomes.

## Multidisciplinary Clinics (MDCs)

Summa Health Cancer Institute began a comprehensive Multidisciplinary Clinic (MDC) in the arena of breast and thoracic malignancies. These clinics aim to reduce the number of physician visits with one easy visit whereby a patient meets with all physicians and ancillary staff on their care team at the time of diagnosis. This eliminates the need for multiple visits and patients have increased satisfaction with their care as they feel empowered and understand what lies ahead on their journey. We are planning a virtual Summa Gastrointestinal MDC later this year. The team at Summa hopes to publish the results of this work and demonstrate improved quality and outcomes on a national level.

## Commission on Cancer Accreditation

The Commission on Cancer has awarded Summa the Gold Medal for receiving commendations in seven areas. This is the highest possible level of commendation awarded and Summa was honored by a resolution for this from the floor of the Ohio State Senate. This is a testament to Summa's high quality on a national level.

## Research

Research continues to be an area of growth and quality for Summa. As Main Members of the NRG Oncology Cooperative Group sponsored by the National Cancer Institute (NCI), Summa is expanding the number of available clinical trials. This correlates with Summa's high quality national standing in that only the best, most rigorous programs are able to maintain robust research programs as mandated by the National Cancer Institute.

## Oncology Care Model

Summa Health Medical Group is one of 190 practices across the country and one of only 12 in Ohio that has been accepted and enrolled in the Oncology Care Model (OCM) program. The program focuses on providing well-coordinated, higher quality care to patients at a reduced overall cost. Since the program's inception in July of 2016, our practice has outperformed other OCM practices in a number of quality-related categories. Our mortality rate of 3.9% is well below the OCM median of 4.9% and **our overall patient satisfaction metric is better than 80% of other groups that are participating in this program.**

Although we do everything we can to help patients become disease-free or reach remission, some patients do not recover. Hospice care can be beneficial in managing patients' symptoms and provide grief-related services for family members. National studies of these patients indicate hospice improves quality of life, has no negative impact on quantity of life, and keeps patients in an environment they are more comfortable being in - i.e. at home versus in the hospital.

In an effort to avoid providing futile services to patients, we analyze hospital use, ICU care, and chemotherapy use in the final two weeks of life. In an effort to lower rates of futile care, providers work to engage patients in advance care planning.

In addition to the quality metrics, our total expenditure per patient per month is 6% below the middle of the performance of the other OCM practices. So, we are providing higher quality care at a lower expense when compared with other practices.

Metric	Summa Health Medical Group	National OCM Practices
Mortality	3.9%	4.9%
Any hospice care within 30 days before death (% deaths)	71.8%	65.2%
Days of hospice care within 90 days before death	26.4	18.9
% Hospital use within 30 days before death	42%	54.9%
% ICU within 30 days before death	22.6%	26.6%
% receiving chemotherapy within 2 weeks before death	7.4%	12.7%



## Summa Health Heart and Vascular Institute

### Structural and CT Surgery

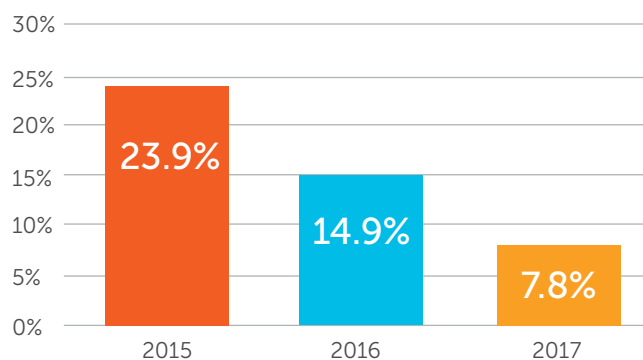
The team focused clinical improvement in three areas: contrast-induced nephropathy from pre-procedural testing and TAVR-related imaging, post-procedural medication protocols, and conscious sedation during the procedure. These three areas were leveraged to significantly reduce 30-day readmissions while at the same time decreasing patients' average length of stay in the hospital and maintaining excellent outcomes.

Summa's Valve Team has been an overwhelming success since its formation in 2014. The focus and structure that the team model brings to treatment planning for patients with valvular disease has been instrumental in the overall mortality improvements for both surgical and transcatheter valve patients over the past five years.

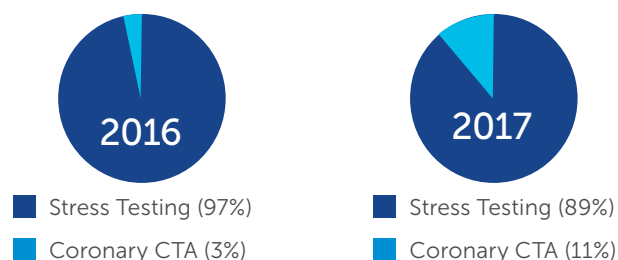
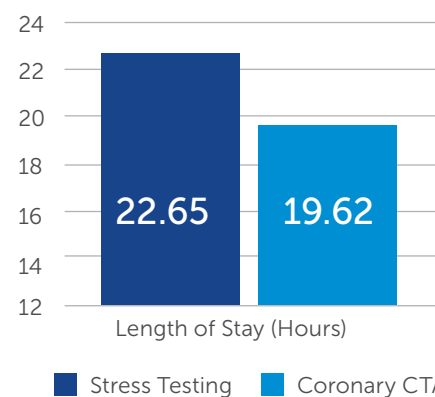
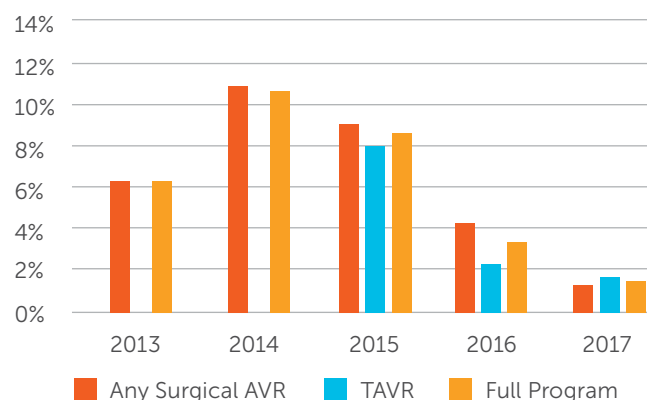
### Imaging and Chest Pain

The Imaging Continuous Improvement Committee worked with the Chest Pain Accreditation Committee and leaders of Emergency Medicine and the Clinical Decision Unit (CDU) to create a process for the accelerated use of coronary CT angiography in patients with chest pain. The test can be ordered after one negative biomarker result, leading to quicker decision on further treatment or disposition home. Patients who received the CT study instead of a typical stress test went home three hours sooner than those awaiting a second negative blood test before proceeding to stress testing.

TAVR 30-Day Readmissions



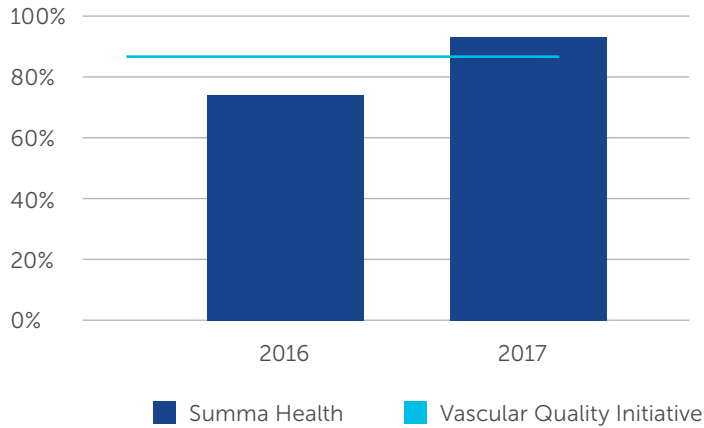
% 30-Day Mortality by Aortic Valve Procedure



## Vascular

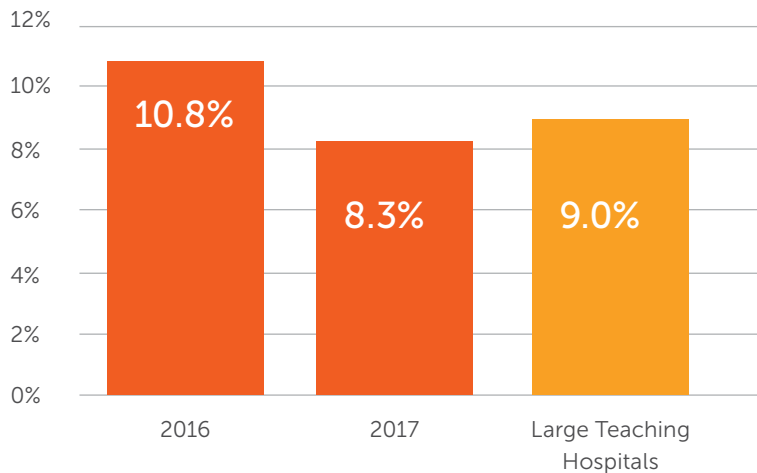
Patients undergoing lower extremity bypass procedures have fewer infections when chlorhexidine is used to prepare the surgical site when compared to alcohol or iodine-based preps. The Vascular surgery group used this information to undergo an improvement project with the Surgery and Pre-Admission Testing departments to increase the use of chlorhexidine in appropriate patients. They achieved a rate of over 90% performance on this metric in 2017, and now are better than the national standard.

### Chlorhexidine Skin Prep in Infringuinal Bypass Procedures



Patients admitted for Endovascular Abdominal Aortic Aneurysm repair, Carotid Endarterectomy, and Lower Extremity Bypass procedures had lower 30-day readmission rates in 2017 compared to 2016.

### 30-Day Readmissions for EVAR, CEA, Bypass Procedures



The Vascular Testing department worked with Summa Rehab Hospital to improve the process by which their patients received ultrasound testing for suspected DVTs, a common problem in post-surgical patients like those seen at the Rehab Hospital. After examining the testing process using Lean Six Sigma methodology, the process was redesigned so patients did not need to be transported to the Summa Health Akron Campus for their test, decreasing the time from when the order was placed to the test being performed from an average of more than five hours to an average of 59 minutes.

## Heart Failure

Summa's Akron Campus received Heart Failure Accreditation from the American College of Cardiology in April 2017.

The Heart Failure Multidisciplinary Committee identified early diuresis in the emergency department as an area of clinical opportunity. The team worked to establish a standard clinical protocol, accelerating the administration of medication based on clinical evaluation rather than awaiting the results of lab work and radiography.

## Heart Rhythm

Patients with Atrial Fibrillation (A-Fib) have a high symptom burden that affects their function and quality of life (QOL). In 2017, the A-Fib team completed an initial analysis of long term QOL improvements in the patients who have undergone A-Fib ablation procedures to ensure the procedures had a positive impact on patients. On average, patients self-reported a 27.6 point improvement on a one-hundred point QOL questionnaire. This quantifiable improvement in symptom burden validates that the procedures performed are improving our patients' lives as well as improving their heart function.

## Summa Health Orthopedic Institute

As Summa Health builds an internal orthopedic program, we have been able to add some great resources to our team. We have a robust sports medicine team to handle nonsurgical treatment of patients and have developed a highly skilled team of surgeons to handle surgical needs.

We are part of the Comprehensive Joint Replacement payment initiative from Centers for Medicare and Medicaid Services. In 2016, we were eligible for a payment from Centers for Medicare and Medicaid Services due to value that we offer our patients. Our low complication and 90-day readmission rates contributed to our eligibility for this payment. Complication rates were 12% lower and 90-day readmission rates were 25% lower when compared to a national comparison group in 2017. Some patients undergoing knee and hip surgeries are able to return home on the day of surgery as a result of minimally invasive techniques.



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# Our Leadership Team

## Corporate Office

Dave Orr  
Vice President, Quality

## Summa Health System

John Fink, M.D.  
Vice President, Surgical Affairs

Bradley Martin, M.D.  
Vice President, Medical Affairs

Trish Enos  
System Director, Quality Assurance and  
Performance Improvement

Nancy Reynolds  
System Director, Infection Prevention

## Summa Health Medical Group

Matthew Wayne, M.D.  
Chief Medical Officer, Summa Health  
Medical Group

## SummaCare

Charles Zonfa, M.D.  
Chief Medical Officer, SummaCare

Karen Mitchen  
Director, Quality

## NewHealth Collaborative

Matthew Wayne, M.D.  
Chief Medical Officer, NewHealth  
Collaborative

## Clinical Information Technology

Linda Gleespen  
Chief Nursing Information Officer

Justin Catlett, M.D.  
Chief Medical Information Officer

## Performance Solutions

Chris Powers  
Vice President, Performance Solutions

## Institutes and Services Lines

Margaret Sweigert  
Vice President, Service Lines

## Women's Institute

Edward Ferris, M.D.  
Medical Director, Women's Institute

## Seniors Institute

Natalie Kayani, M.D.  
Medical Director, Seniors Institute

Kathy Blake  
VP, Integrated Care Management and  
Complex Care Programs

## Neuroscience Institute

Susana Bowling, M.D.  
Medical Director, Neuroscience  
Institute

## Cancer Institute

Gilbert Padula, M.D.  
Medical Director, Cancer Institute

## Heart and Vascular Institute

Roger Chaffee, M.D.  
Medical Director, Heart and Vascular  
Institute

Renee Brinker  
System Director, Quality and Outcomes

## Orthopedic Institute

Scott Weiner, M.D.  
Medical Director, Orthopedic Institute

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