2016 Summa Health

Quality Report





Opening Remarks

As our quality journey has progressed, our quality and clinical staffs have repeatedly demonstrated their dedication to understanding and continually improving our quality. Our quality and patient safety committees, clinical consensus groups, ambulatory workgroups, Performance Solutions team and hospital based committees work to identify opportunities, address them and sustain gains. We use evidence-based best practices, practice-based best practices, continuous improvement tools and data analysis to drive our improvement.

Quality at Summa Health Includes:

Cost of Care

- Are our patients minimizing use of resources while maximizing health?
- Are we avoiding preventable complications of care?
- Are our patients returning to the emergency department or hospital within their acute episode?
- How are we performing on episodic payment models?
- Are our patients going to the most appropriate level of care after an acute episode?
- Are our treatments affordable and accepted by our patients?
- Are our patients getting back to their normal lives as soon as possible after receiving treatment?

Outcomes of Care

- Are our patients getting the best end of life care?
- Are we avoiding preventable readmissions, returns to the emergency department, or deaths?
- Are we avoiding preventable complications of care?
- Did we fix the problem that our patients are having, or did we give our patients tools to manage the problem?

Process of Care

- Are we following evidence-based best practices for care?
- Is our care appropriate and timely?
- Are we looking for opportunities to reduce variation and acting on those opportunities?
- Are we coordinating our care episodes for all patients from their first visit to their return home?
- Do we provide the right education and resources as our patients need them?

Patient Safety

- Are we reporting safety events?
- Are we enforcing safe practices that are proven to reduce safety events?
- Are we analyzing events where we deviated from our process to ensure that errors don't happen in the future?

Patient Experience

- Do the patients see a care team when they come to Summa Health or do they see a disorganized group of people trying to care for them?
- Are we talking to patients about goals of their care?
- Are we including the patient in care decisions versus telling patients what our care will be?
- Are we fixing the patient complaint that started the episode of care?
- Do we show compassion with our patients and each other?



This report shows our commitment to answering these questions and continuous improvement to become the health system that patients in the Akron area want to go to for routine or emergent care.

Although the breadth of the quality improvement at Summa Health is expansive, 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

Our quality priorities for 2017 include:

Patient Experience

Patient experience has been our biggest quality opportunity for many years. As other health systems have worked to improve performance, until recently our performance has stayed stagnant. Since 2015, we have started to see some improvement, but much more effort is needed to reach our five-star goal.

2 Clinician Engagement

We want working with Summa Health to be a good experience for our patients and clinical staff. In order to accomplish this, we are working on improvements to credentialing, adding tools for care such as the EMR and creating processes to empower our talented staff and affiliates to improve our standard of care.



Through projects such as Summa Transitions Excellence Program (STEP), we are working to make our various transitions in healthcare safer and more efficient.



Our activities in the various entities of Summa Health work to support these quality goals as well as our corporate goals.

Transparency

In the last couple years, we have worked toward a vision of transparency. In 2015, our leadership endorsed the Summa Health Quality Outcomes internet page where we post any quality measure that is publically reported elsewhere or is an opportunity to show our high quality of care. Since inception, we have reported nearly 60 measures on our public website from the hospital, home care and hospice along with explanations of what the measures mean and what we are doing to improve. We continue to expand the measures we report.

Internally, we expect our employees and medical staff to affect change. They must be informed to do so. For this reason, all of our hospital quality and utilization committee meeting minutes and materials are published on our intranet for any employee to browse.



We also created the Clinical Performance Improvement registry to help track clinical improvement in a data driven and accountable manner. The goal is to provide resources in areas where despite our best efforts, we have not been able to improve as rapidly as we need to improve. We use the "Plan, Do, Study, Act" improvement cycle to improve our projects on the registry.

summahealth.org/quality



Summa Health System

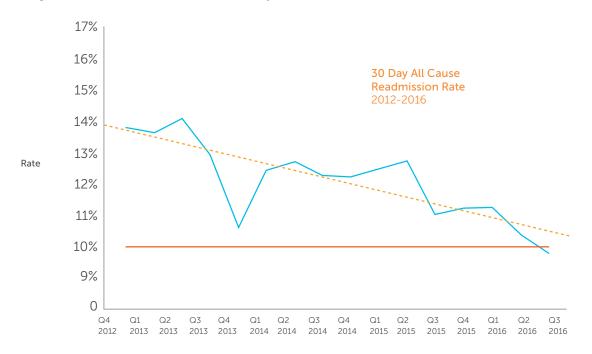
The government and commercial payers focus their quality improvement efforts on the hospital because that is where most of the expensive cost of care occurs. In past years, the quality improvement programs were based upon process of care or timeliness of care measures to ensure that hospitals followed best practices. In the last couple years, the focus has shifted more to outcome and experience measures. Summa Health System maintains a quarterly quality report that is distributed throughout Summa Health System. Any metric that is performing poorly is addressed through improvement efforts.

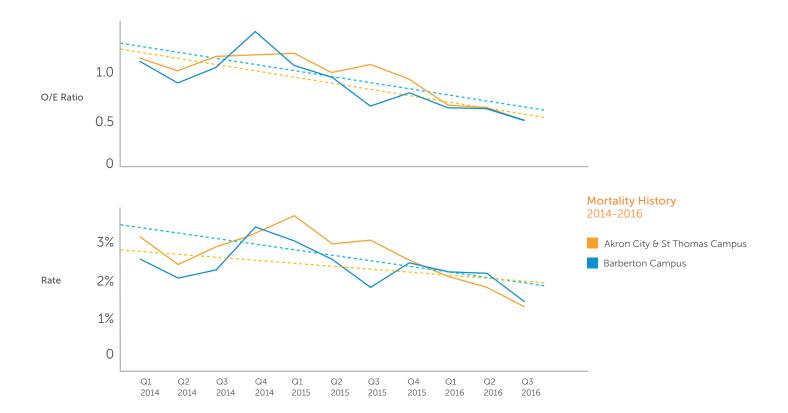


The main domains of care at Summa Health System that are being measured include:

Outcomes of Care

30-Day Survival and 30-Day All-Cause Readmissions are the primary outcome measures used by most payers. Since Medicare publishes data on these measures, some other payers use the Medicare data while others compile their own data based upon claims for their population. Summa Health System's performance on outcomes of care has been average, with some opportunities for improvement. In the last 18 months, however, we have seen a continuous reduction in both measures to the degree we can measure them internally.





Hospital Acquired Conditions

Infection rates for colon surgeries and abdominal hysterectomies have been major drivers of past performance on hospital acquired conditions. In 2016, we drastically improved on these measures due to the engagement of surgeons in developing protocols to improve our performance.



Another major driver of our performance on hospital acquired conditions has been our Patient Safety Indicator Composite Measures (PSI-90) performance. Eight percent of this measure is from post-operative sepsis, 26 percent of this measure is due to post-operative Deep Vein Thrombosis or Pulmonary Embolism and 49 percent of this measure is accidental lacerations. Our documentation and coding from that documentation has made our performance on the PSI score a major driver of our Hospital Acquired Condition scores.

The other measures are nursing sensitive indicators. We perform at or better than the national average on all scores except central line associated blood stream infections. Unfortunately, 2016 was one of our worst years. However, our nursing teams have worked on interventions to improve performance that led to a large improvement in the fourth quarter of 2016.

Patient Experience

Patient Experience doesn't only affect payments to the hospital but also patient loyalty. Starting in 2015, Summa Health System nursing started to work on actively improving patient experience. With a focus on nursing communication, pain management and discharge information, we were able to start improving the satisfaction scores to as high as a four-star rating for nursing communication. In 2016, additional efforts were started to work on other domains of Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). Although we have not achieved our goal of five-star satisfaction, we have improved from a two-star hospital overall to a three-star hospital in patient experience.

	Summa Performance for 7.1.15 to 6.30.16			Summa Performance for 7.1.14 to 6.30.15		
HCAHPS Measure	Star Rating	Our Score (% top box)	National Average	Star Rating	Our Score (% top box)	National Average
Nurse Communication	4	79	80	3	73	80
Physician Communication	3	75	82	2	75	82
Responsiveness of Staff	3	64	69	2	58	68
Pain Management	3	69	71	2	64	71
Communication re: Medicine	3	62	65	2	54	65
Cleanliness	2	68	74	2	66	74
Quietness	1	44	63	1	48	62
Discharge Information	3	88	87	3	85	86
Care Transition	4	52	52	2	49	52
Overall Rating	3	69	72	2	62	71
Willingness to Recommend	3	69	72	3	66	71

Use of Resources

Medicare uses claim information and coded records to analyze the cost of care for specific diseases or the hospital population overall. These metrics are episodic in nature with a usual duration of 30 days from the acute hospital stay. We have had modest improvement in these metrics over the past two years. The primary drivers of cost are post-acute care costs like skilled nursing or rehab facilities or complexity of the patient which is largely influenced by documentation in the primary care records. The use of resource measures have nothing to do with actual costs within the hospital.

Effectiveness of Care

When Medicare started with quality measure in the hospital setting, the measures were largely process of care measures or timeliness of care measures. As quality improvement has matured, Center for Medicare and Medicaid Services (CMS) has graduated to looking at outcomes and resource use which are harder to control. We continue to have solid performance on the process and timeliness of care measures that we continue to monitor. As new measures are introduced, we work to put processes in place to meet those measures as we find opportunity for improvement.



Summa Health At Home

Summa Health at Home provides care and support of patients in their home setting and serves patients of Summa Health, and the surrounding community. The quality improvement efforts are integrated across services with unique focus to those measures that are publicly reported or are performing poorly.

Summa Health at Home services reported on include:

- Home Health Services
- Hospice Services at home or in the hospital
- Palliative Care Services at home or in the hospital
- Case Management Services
- Pharmacy and Equipment Services

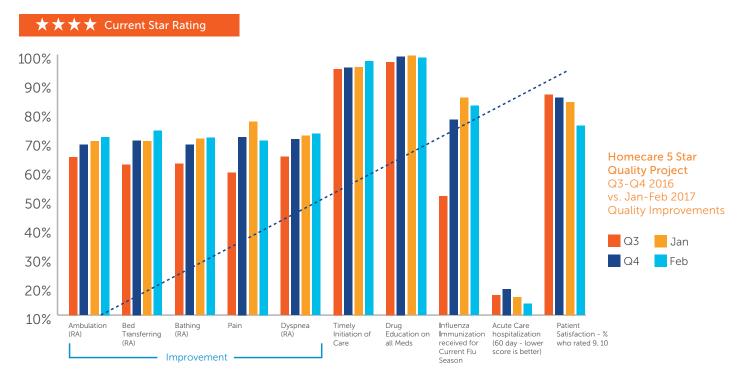
The main domains of care that are being measured include:

Clinical Quality

Medicare publishes data on clinical quality outcomes and process measures such as timeliness of care based on submission of information from the clinical assessment from Homecare and Hospice organizations across the nation. For homecare, this data has been published on Home Health Compare (HHC) since 1/1/2016. It will be publically reported for hospice starting in 2017.

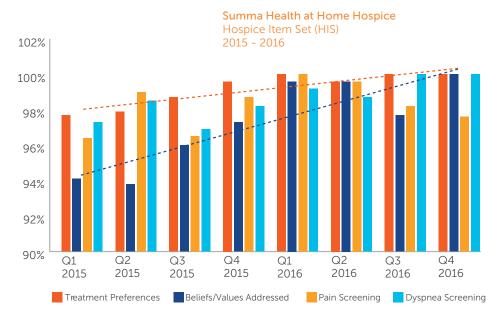
Homecare

Summa Health Home Care developed a 5-star project improvement committee in October 2016. The focus of the committee was to strive to achieve 4-star status on the publically reported Home Health Compare website. There are seven process measures and 11 outcome measures reported. Results of the Homecare 5 Star Quality Improvement Project are below.



Hospice

In 2014, Center for Medicare and Medicaid Services (CMS) implemented the standardized patient-level data collection instrument called the Hospice Item Set (HIS). Hospices are required to complete this tool upon admission and discharge on all patients admitted to hospice. The item set consists of data elements to collect standardized patient level data for specific domains of care that include pain, respiratory status, patient preferences and beliefs and values. Our analysis from first quarter 2015 through fourth guarter 2016 demonstrates improvement in all four areas.

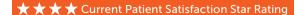


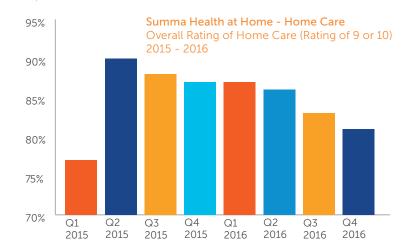
Patient Experience

Patient satisfaction is measured through surveys sent directly to patients after being discharged from home care or to patients' families after discharge from hospice.

Homecare

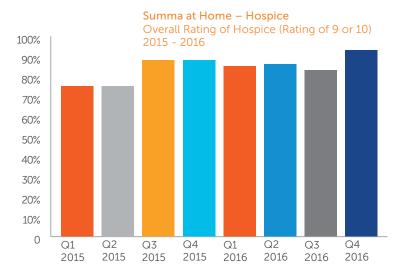
Patient survey star ratings are based on the patient experience of core measures. All information about Patient Survey Star Ratings is publically reported. Our home care has maintained a 4-star patient satisfaction since public reporting of survey results began.





Hospice

As of January 1, 2016, all hospices were required to collect satisfaction data for hospice patients using the Hospice CAHPS survey. We have continued to improve on this measure year over year and our target is to be in the top 10 percent of the nation.



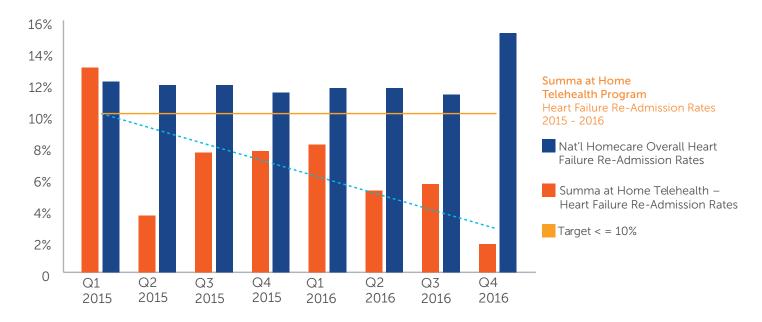
Effectiveness of Care

Until recently, the focus of the quality measures for home care has been on both the process and outcome measures. As an industry we have shown improvement and have begun to see measures that are examining outputs of care based on the processes or resources we have implemented during the course of care. Some of the newer measures are focused on preventing unplanned hospital care such as 30-day and 60-day re-hospitalization. In the future, performance measurement will include the prevention of ED utilization. Many of the transitional programs that have been developed to support chronic disease management are also focused on the reduction of re-hospitalization and the utilization of unnecessary resources.

For the first time, in 2017 hospice has begun to look at the effectiveness of care by examining service utilization in the last week of life.

Chronic Disease Management: Reducing Heart Failure 30-day re-hospitalization

By implementing an advanced illness management program for heart failure which involves a collaborative care model with the primary care physician or specialist and the home care team utilizing evidenced based practice for care, we have seen an improvement in the 30-day re-hospitalization rate as comparted to the typical patient served in home care.



Bridge to Home Transitional Care

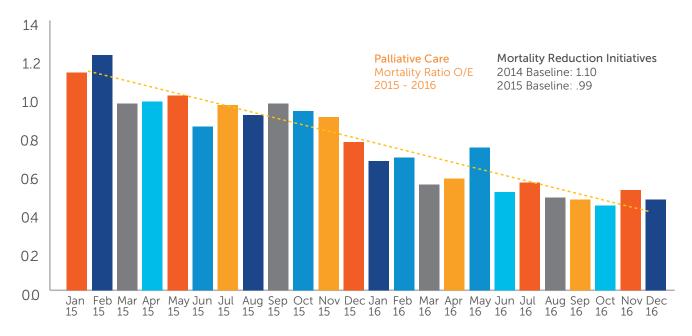
The goal of this program is to provide discharge support to improve the transition to home as measured by a reduction in the hospital readmission rate. The HEDIS Plan All Cause Readmission (PCR) measure for the Medicare line of business is measured annually. SummaCare's goal is to be less than 6 percent. The Bridge to Home program participation rate goal is 90 percent or greater. Quarter 4 readmission rate for Bridge to Home was 7.46 percent. Participation rate for 2016 was 91.4 percent.

Strategic Initiatives

Palliative Care Mortality Ratio

We are measuring the number of patient deaths per number of admissions. A ratio less than 1 indicates fewer than expected number of patients died. A ratio of greater than 1 indicates that more patients than expected died.

Our performance from January of 2015 through December of 2016 has steadily improved. We believe the primary drivers of mortality are having end of life conversations with chronically ill patients sooner and informing them of their options when treatment for their disease process is limited.





Summa Health Medical Group

In order to build a culture of quality improvement and patient-valued outcomes, Summa Health Medical Group began measuring provider outcomes in key national quality measures. We developed a visual management system to equip providers with performance measure dashboards and personal scorecards.

As a result of a new focus on quality improvement in 2016, the medical group was able to accomplish the following:

- Corporate recognition from the National Committee for Quality Assurance, which activated the process of Patient Centered Medical Health recognition for all 23 primary care practices.
- Improved process of care measures such as:
 - Breast Cancer Screening adherence by 20 percent
 - Pneumonia Vaccination adherence by 23 percent
 - Diabetic Patient A1C Control by 13 percent
- The Summa Health Breast Center accomplished full accreditation from the National Accreditation Program for Breast Centers.



The Center for Medicare and Medicaid Services (CMS) awarded the medical group appointments in alternate payment models such as:

Oncology Care Model

We have financial and performance accountability for episodes of care surrounding chemotherapy administration to cancer patients. We have committed to providing care coordination, navigation and national treatment guidelines for care. The Performance Solutions team supports our caregivers in this model to help ensure success.

Comprehensive Primary Care Plus (CPC+)

Summa Health Medical Group has committed to improve the quality of care, improve patients' health and reduce spending.

We will improve:

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

We receive three payments as part of the program:

- 1. A Care Management Fee is paid on a Per Member Per Month to support non-reimbursable expense.
- 2. A Performance-Based Incentive Payment is paid based upon how we perform on patient experience, clinical quality and utilization.
- 3. Payments under the Medicare Physician Fee Schedule are paid for the services that we traditionally would provide.



SummaCare

At SummaCare, 2016 was a busy year. SummaCare has achieved 4 Stars on the CMS quality rating system. Out of 364 Medicare Advantage plans, only 178 have achieved 4 stars or above. This was accomplished using mini-kaizen teams to address areas that needed improvement.

This work improved the overall star rating to 4 stars and included:

- Increasing Diabetic hemoglobin A1C testing from 4 to 5 star
- Increasing Colonoscopy screening from 3 to 4 star

Improvements in the efficiency of analytics and reporting have led to clinical studies and interventions to improve member care. The entire SummaCare team worked to improve processes that were highlighted by the Center for Medicare and Medicaid Services (CMS) audit and drop in star rating.

In 2017, SummaCare continues to "Strive for Five" with the five selected mini-kaizen teams identifying areas for improvement and addressing gaps. The Performance Solutions team members dedicated

to working with SummaCare have helped create this culture of improvement and support the Strive for Five. Working with NewHealth Collaborative, we will improve quality gaps and member experience. As we continue to form as a health system, SummaCare will be emphasizing patient safety and incorporating the I'm 4 Safety Coach program.

The SummaCare team will use data, member engagement and continuous improvement principles to improve quality metrics and member experience. The Grievance and Appeals department will be participating in biannual audits to identify high risk opportunities.

The support of SummaCare's leadership in the transformation to a continuous improvement culture through the utilization of Lean Six Sigma will help high performers in the organization to obtain yellow, green and black belt certification while improving internal processes to be more efficient and effective with a focus on the customer.

NewHealth Collaborative

NewHealth Collaborative (NHC) is focused on driving improvements in patient outcomes, patient experience and cost of care. To do so, we focus on the development of high functioning primary care teams across the region, supported by population health infrastructure including information technology tools, ambulatory care coordination personnel and transitional and post-acute care service coordination. Its clinical strategies for performance improvement are developed with input from physicians across the Akron/Canton community, and have been focused on care management support for high risk patients, practice-based redesign to drive evidence-based best practices for routine and preventive services and the development of aligned clinical partnerships with post-acute care providers. Summa Health Quality Report

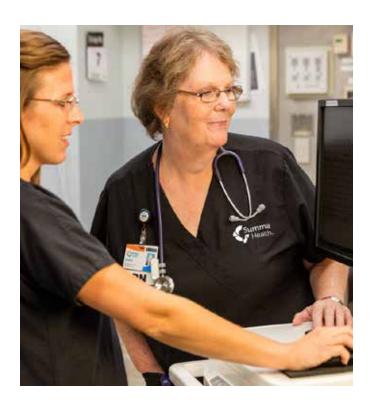
Effectiveness of Care

NHC supports primary care practices in their journey to transform into Patient Centered Medical Homes (PCMH) by performing an initial assessment and gap analysis to identify areas for improvement, coaching practices through a detailed performance improvement process to evolve their physicians and staff into high performing teams, and provides assistance with documenting how practices are meeting the requirements to be recognized as PCMHs by the National Committee for Quality Assurance. As of the end of 2016, over half of the 62 primary care sites had achieved the highest level of recognition as PCMHs. This translates into better healthcare outcomes for patients. PCMHs perform better in terms of making sure that their patients are receiving all necessary preventive and chronic care services; many of them are providing care at rates better than 90 percent of all other practices across the U.S.

Outcomes of Care

NHC's support of primary care physicians includes the integration of ambulatory care team support for the identification and care management of patients who are facing significant illness. A small team of RN care managers, social workers, a health coach, and a clinical pharmacist are available to join the primary care team to stabilize these patients and return them to a healthy state. In 2016, this team helped more than 1,000 patients avoid the need for emergency department or inpatient care, and helped to decrease the readmission rates for patients returning home from the hospital.

NHC has identified a clinically aligned group of skilled nursing facilities and has entered into care relationship agreements with them. The goal of these relationships is to facilitate smooth transitions from the hospital, through the skilled nursing facility, and then home for patients and their families. Early results indicate that we are seeing declines in the readmission rate for these patients as well, and quicker return to home from the nursing facility as a result of more coordinated medical management.



Patient Experience

In the ambulatory setting, we assess patient satisfaction with our physician practices through the use of the CGCAHPS tool. This survey measures satisfaction with communication, treatment planning, understanding of care and overall experience in the ambulatory physician office. Our physicians were rated in the 90th percentile, compared to peers, for patients' satisfaction with their level of communication and their overall performance.

Use of Resources

The focus on enhanced and team-based primary care services to support the needs of all patients more effectively has continued to result in reduction in overall costs of care. NHC has saved over \$26 million while improving on its quality score by more effectively delivering care to the community's traditional Medicare beneficiaries over the last three years. In 2016, with an enhanced focus on integrated care support for Summa employees and their families, NHC helped Summa reduce its health benefit spend and increase the level of satisfaction expressed by families served by its RN care navigator.

Performance Solutions

Summa Health by providing project support, project management, education and business intelligence that eliminates waste and variation in both clinical and other operations.

During 2015 and 2016, Performance Solutions completed numerous projects at both Summa hospitals and SummaCare. Some of the highlights include the following projects.

Sterile Processing **Backlogged Trays**

Performance Solutions worked with Sterile Processing personnel with the result being a significant reduction in the number of backlogged trays within the Sterile Processing department. This project led to a decrease from 153 backlogged trays per day to 8 trays per day. A Capacity Management Plan was completed by Performance Solutions process engineers to address staffing issues at critical times, and daily huddles were implemented to prioritize instruments needing sterilized. This resulted in an increase in effective capacity and a decrease in lead time for procedures that require sterile supplies.

STEP (Summa Transitions Excellence Program)

Performance Solutions worked to create the Summa Transitions Excellence Program. STEP is a multidisciplinary approach focused on patient and caregiver needs. Focus areas include pharmacy support, self-management education, patientfriendly discharge instructions, assistance with follow-up appointments and emotional support. As a result of this implementation, readmission rate on 7W at Summa Health System— Akron Campus decreased from 19.7 percent to 14.9 percent. Also, patient satisfaction scores on the HCAHPS

Discharge Domain increased from the 30th percentile to the 70th percentile. We also received the Ohio Patient Safety Institute award for 2017 due to our innovation on this process.

Sterile Supply Case Cart Completeness

Performance Solutions used Lean Six Sigma techniques to improve the completeness of supply carts. Percent of case carts completed at 7:00 a.m. saw a statistically significant increase from 72 percent to 81 percent. Staff has begun waiting until schedule is closed to pull cases in order to reduce rework due to schedule changes. Also, a new staffing model was created and aligned with standardized job duties.

Family Medicine Center

Performance Solutions process engineers worked with Family Medicine Center staff and providers to decrease patient wait time, increase immunization and mammogram rates and increase the percentage of residents who complete graduation requirements. This has led to increased patient, staff and faculty satisfaction, as well as an increase in HEDIS scores. The amount of energy around performance improvement in the Family Medicine Center is contagious and impressive due to the engagement of our providers and staff.

SummaCare

Performance Solutions has worked with SummaCare on over 15 projects during 2015 and 2016. These projects have had dramatic results, with the most important being the removal of all Center for Medicare and Medicaid Services (CMS) restrictions, and an increase in SummaCare's rating from 3-Star to 4-Star. This increase improves SummaCare's reimbursement from CMS and increases the number of members that can enroll in SummaCare plans. These both have dramatic, positive impacts on SummaCare's revenue, producing an increase of over \$12 million dollars.

Training

One measure of a Performance Improvement program's success is the degree to which the organization embraces Lean Six Sigma training and certification. During 2015 and 2016, Summa Performance Solutions has provided Lean Six Sigma

education to over 350 students. As shown below, there has been a dramatic increase in Lean Six Sigma Yellow Belt and Green Belt certification and class attendance.

Lean Six Sigma Yellow Belt

Performance Solutions provided Lean Six Sigma Yellow Belt training to 271 students (124 in 2015 and 182 in 2016). Lean Six Sigma Yellow Belt training prepares graduates to implement the use of Lean Six Sigma tools in the workplace. To that end, Lean Six Sigma Yellow Belt students completed over 320 tool-usage projects in 2015 and 2016.

Lean Six Sigma Green Belt

Performance Solutions trained 109 students in 2015 and 2016 and certified 19 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 presented these projects at the All Entity, All Directors meetings.

External Training

Performance Solutions contributed to Summa Health's requirement to contribute to community benefit by partnering with the Area Agency on Aging and providing Behavior Change Management training to 529 students and Lean Six Sigma Yellow Belt training to 30 students. Other healthcare organizations have also paid Summa Health to send their physicians and office leaders to get Lean Six Sigma training. One of our ACO partners has a Black Belt candidate that is being trained by Performance Solutions.





Summa Health Women's Institute

Summa Health Women's Institute has had many successes over the past couple of years including five grants, thirteen research publications, eight conference presentations and eleven awards or designations. One of the greatest achievements was the Baby-Friendly® designation where Summa Health showed its commitment to helping mothers develop good breastfeeding habits.

The institute also worked to improve its quality outcomes by setting targets, developing standards of care and reinforcing these standards with caregivers. The Women's Institute is an example of a functioning Clinical Consensus Group that is removing unnecessary care variation.

Summa Health Seniors Institute

Summa Health Physician House Calls Services

The Physician House Calls (PHC) program is an inter-professional home based primary care (HBPC) practice targeting homebound frail elderly patients with difficulties in seeking medical care in the community leading to delayed treatment, decreased quality of care and increased healthcare utilization. There are approximately 500 patients enrolled in the PHC program who live in the community, Independent and Assisted Living facilities in Summit, Stark, Portage, Medina and Wayne counties. Outcomes we track include healthcare utilization, quality metrics including depression and falls screenings and transitions of care.

Geriatric Stewardship Rounds

The goal of this project was to implement and evaluate the effects of an inter-professional Geriatric Stewardship Rounding protocol to reduce 30-day readmission rates in high risk geriatric populations that include COPD, pneumonia and heart failure patients who likely have many other health concerns. We were able to make improvements to this process including:

- Readmissions improved from 22 percent in group assessed prior to geriatric stewardship rounds to 7.4 percent in group that received geriatric stewardship
- An average of 3.4 medication changes per patient was recommended in the intervention group with 79 percent of these recommendations taken by the attending physician
- Improved medication adherence

Falls Clinic

We received a grant (Grant Number UD7HP28539) from The Health Resources and Services Administration (HRSA) in collaboration with The University of Akron, Direction Home and Northeast Ohio Medical University. This \$1.46 million, three-year grant, is a nurse-led initiative that helps develop a community resource for falls prevention and treatment, as well as provide education to students to prepare them to practice in an inter-professional healthcare environment. Our falls clinic team at Summa Health System— Akron Campus is funded by this grant.

Our core falls clinic team includes a nurse practitioner, nurse, social worker and pharmacist that directly interact with the patient either while in the hospital or in the Falls clinic. Each patient case is discussed with an extended team which also includes a social worker, EMS, geriatrician, family medicine physician and physical therapist. Recommendations are made to patients and to the patients' physicians to decrease the risk for falls.

Outcome data from 2016 includes the following:

- A significant decrease in falls (p<0.001) occurred (an average of 2 less falls per patient) comparing falls that occurred in the 3 months prior to the time the patient was seen by the Falls team and the 3 months after seen by the Falls Team
- A falls risk medication score decreased from an average of 3 at an initial visit to an average of 1 after being seen by the Falls clinic (a higher score indicates a higher risk)
- An average of 1.6 medication changes were made by the patient's physician in response to Falls team recommendations; additional medication changes for over the counter medications were made by the Falls team.

High Intensity Clinic

Summa Health's High Intensity Clinic is based on a geriatric primary care model that utilizes multiple specialties to improve adherence to medical advice, utilization of the emergency department and hospital resources, patient satisfaction, and general well-being of the patient. The clinic targets patients with multiple chronic illnesses that have complex care needs.

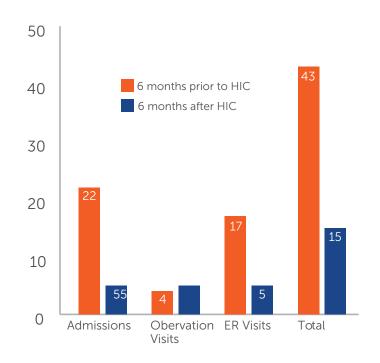
Eligibility for the high intensity clinic is based on one of the three criteria which includes three emergency room visits or two hospitalizations in the last six months, a primary care physician request due to the patient's complexity or a score of 4 or greater on the geriatric risk tool listed.

Score of four or greater on the geriatric risk screening tool.

Risk	Yes	No
Patient has cognitive impairment (forgetfulness, confusion, disorientation, etc.)	2	0
Patient lives alone or limited family support		0
Patient has trouble walking or has falls	1	0
Patient was hospitalized within three months		0
Patient takes more than five medications daily	1	0
Patient rates his/her health as worse than others	1	0

High Intensity Clinic Utilization Outcomes

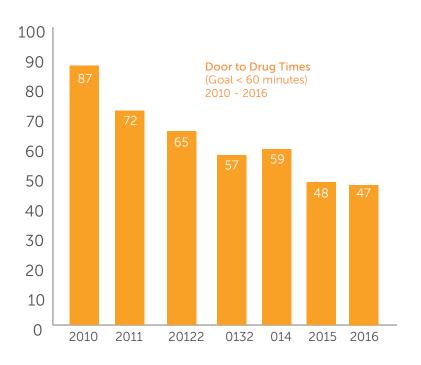
Overall utilization of a combined endpoint of ER, observation and emergency room visits were down by 65 percent (from 43 visits to 15 visits). This is shown graphically.

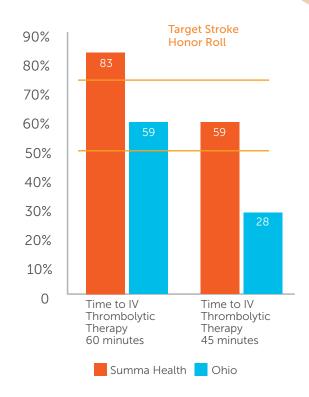




Neuroscience Institute

Our stroke service has consistently performed well in many areas. In 2015, our times to Tissue Plasminogen Activator (tPA) were significantly better than other Ohio hospitals. Our average Door to Drug times have steadily decreased since 2010.





Target Stroke

We have achieved Gold Plus award status for eight consecutive years. Our other stroke measures have continued to improve including:

- Door to Groin Access for Mechanical Clot Retrieval from 165 minutes to 121 minutes
- tPA to transfer from the ED from 88 minutes to 63 minutes
- Our 30-Day All Cause Readmission Rate has decreased over 2016



Summa Health Cancer Institute

Summa Health has received a number of honors and accreditations over the last two years.

Accreditations and Certifications

- Summa Health Parkview Pavilion on Barberton's Campus received its third National Accreditation Program for Breast Centers (NAPBC) re-accreditation. This is a continued testament to the outstanding quality provided to the breast patients at Barberton.
- The Akron City Campus was awarded the NAPBC breast center designation in spring 2017.
- Our Medical Oncology practice was re-accredited by the Quality Oncology Practice Initiative (QOPI). This places our group amongst the top medical oncology practices nationwide in the arena of quality, safety and outcomes. This initiative is sponsored by the American Society of Clinical Oncology.
- The Radiation Oncology departments were awarded American College of Radiology (ACR) certification for top performance in the areas of clinical care, quality, safety and patient outcomes. Barberton and Akron City Campuses merged their programs in cancer to develop one system-wide model of care under the umbrella of the Commission on Cancer (CoC).

Awards and Publications

• Dr. Sameer Mahesh was published in the Journal of the American Medical Association (JAMA) for our work with the Ohio Colorectal Cancer Prevention Initiative. This publication places Summa Health in the top tier of organizations internationally for this type of work.

Alternate Payment Models

Summa Health Medical Group was awarded by the Center for Medicare and Medicaid Services (CMS) for its participation with the Oncology Care Model (OCM). This funding is quite prestigious and is awarded to the top practices nationally for innovated care design and quality cancer care delivery.

New Initiatives

- New initiatives planned for 2017 include the strengthening of Summa Oncology Research with the opening of more National Cancer Institute (NCI)-sponsored clinical trials to serve our patients. We plan to develop more Summa Investigator Initiated clinical research and publish this work nationally and internationally.
- We are planning to initiate Multidisciplinary Teams (MDTs) in breast, lung and gastrointestinal cancers with the development of Multidisciplinary Clinics (MDCs) where we circulate our work around the patient. We will collect baseline information on in-migration (patients brought in from outside to the clinics), patient satisfaction and clinical outcomes. We will demonstrate these improvements to payers locally and nationally.
- We hope to secure dedicated space for enhanced complementary therapies and integrative medicine as well as Multidisciplinary Clinic space in Summa Health Jean & Milton Cooper Pavilion.
- Knowing that there are health disparities in northeast Ohio, we will be seeking pilot funding to help close those gaps for patients in the region.

Summa Health Heart and Vascular Institute

The Heart and Vascular Institute has developed a structure and a culture of patient-centered continuous improvement under the support of the physician leaders and staff. We have formed seven clinical performance improvement committees that meet regularly to address opportunities for improvement.

Structural Heart

The Structural Heart Committee has developed protocols for performing TAVR procedures under conscious sedation, and initiated that model as the default for most of the cases starting late 2016. Conscious sedation, when compared to general anesthesia, means less medication delivered to the older population, and requires no Foley catheter or intubation. Early results show that patients are up and moving even quicker, and this protocol has the potential to impact length of stay.

Vascular Surgery

The Vascular Surgery Committee identified a gap in performance around the prescription of both statins and antiplatelet medications at discharge from vascular procedures when compared to the benchmark of the quality registry. This combination of medications has been shown to increase the 5-year survival in this population of patients. The physicians worked with the IT team to add additional structure to the medication reconciliation in the EMR to achieve great results.

Concern was raised over peripheral vascular intervention cases with high amounts of contrast dosage. Excessive contrast can lead to kidney injury, and thus is of concern to quality care. The team applied a practice initiated by the catheter lab earlier in the year where the Maximum Allowable Contrast Dose (a calculation based on the patient's weight and creatinine clearance) is added to the procedural timeout. Since focus was added to this concern, there has been an observable decrease in cases where the contrast amount exceeds 75 percent of the maximum allowable.

Ischemic Heart Disease

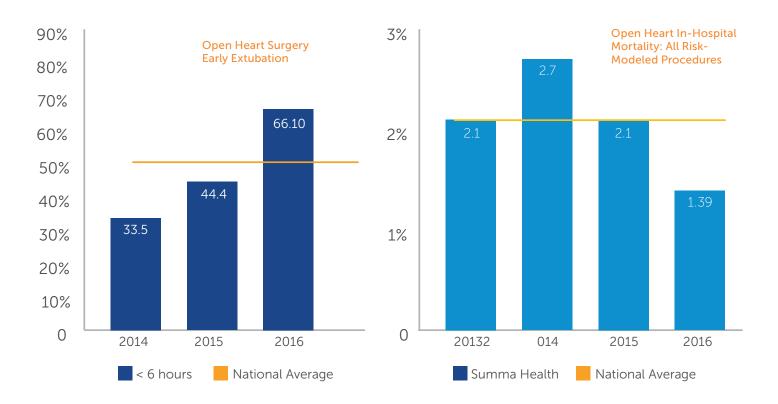
This committee, along with the Chest Pain accreditation group, streamlined protocols for treatment stratification of patients with chest pain in the ED. The work of the pharmacist in the Heart and Lung Unit has led to significant cost savings and standardization in the use of several medications. The group operationalized the work of the type II NSTEMI coding by initiating a chart review and guery process in conjunction with the Clinical Documentation Improvement department. This is critical to our publically reported quality measures as well as our success in the Acute Myocardial Infarction Episodic Payment Models. The contrast protocol mentioned above was adopted by the catheter lab, along with updated hydration protocols to impact our high risk-adjust acute kidney injury rates, as reported by the CathPCI registry.

Heart Failure

Daily documentation of weight and inputs/outputs is essential to the acute treatment of a patient with congestive heart failure. Data collection on the Akron Campus in early 2016 showed that less than half of the time we were documenting these figures daily in the inpatient care record. The Heart Failure CPI committee teamed up with the Performance Solutions team to identify root causes and establish standard care practices around improving this important part of the care process. A pilot on 5W has shown improvement from a 49.3 percent to an 84.3 percent success rate. Plans are ongoing to roll the pilot project out to all off the nursing floors, along with scorecards to keep staff and leadership apprised of progress made.

Cardiothoracic Surgery

There has been great work around the vent times, both in the early extubation and the prolonged vent complication. Our Coronary Artery Bypass Graft mortality is an excellent metric to show the quality of our surgical care. The team is currently preparing for the Coronary Artery Bypass Graft Episodic Payment Model by looking for improvement opportunities with care transitions.



Cardiac Imaging

The Cardiac Imaging Committee has revised the non-invasive lab coverage procedure to improve patient safety and the responsiveness of physicians for urgent needs. The committee has also revamped and streamlined peer review process for over reads in the cardiology department. This work yields more consistent and higher quality imaging studies.

Heart Rhythm

The Heart Rhythm Committee has developed protocols for some of their implanted devices to allow patients to go home on the same day of the procedure. Their improvement efforts in physician documentation and abstraction have led to an increase in the star ratings.

Our Leadership Team

Corporate Office

Dave Orr Vice President, Quality

Patty Martens Manager, Patient Safety

Summa Health System

David E. Custodio, M.D., MBA Vice President, Hospital Chief Medical Officer

Joseph Myers, M.D. Vice President, Medical Affairs

Trish Enos Director, Quality Assurance and Performance Improvement

Joyce Gannon Director, Quality Resource Management

Summa Health at Home

Melissa Soltis, M.D. Medical Director, Home Care/Hospice/Palliative Care

Cynthia Struk President, Home Care

Christine Lipster Director, Quality

Summa Health **Medical Group**

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Amy Guthrie Director, Quality Improvement and Population Health

SummaCare

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

Karen Mitchen Director, Quality

NewHealth Collaborative

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

Leslie Szabla Director, System Population Health

Performance Solutions

Chris Powers System Director, Performance Solutions

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Summa Health Women's Institute

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Susan Sorboro Vice President, Summa Health Women's Institute

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Kathy Blake Vice President, Summa Health Seniors Institute

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

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Sylvia Radziszewski Vice President, Summa Health Cancer Institute

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