

A photograph of an operating room from a low angle, looking up at the surgical team and the overhead lights. Two surgeons in blue scrubs and masks are visible, focused on the patient. The room is filled with medical equipment, including IV stands with bags and monitors. The lighting is bright and clinical.

## QUALITY & SAFETY REPORT



## Dear MUSC Health Community

The Annual Quality and Safety Report serves several vital functions to the clinical enterprise. It allows our care team members to reflect upon past accomplishments and re-commit to areas needed for continuous improvement. It also encourages our teams to revitalize our commitment to continuous learning, innovation, and improvements on behalf of the patients and families that we serve.

This past year has been marked by many accomplishments and goal achievements. As the clinical enterprise continues to grow in size, scope, and complexity, quality and safety can never be compromised. We have a relentless focus on both process and outcome metric and goal accomplishments, to ensure our hard work is resulting in better patient outcomes.

At the same time, as a health care system, we are pivoting from volume to value. This requires our people and our systems to work extremely efficiently and effectively in all areas.

Given these changes, we started a journey toward Baldrige two years ago. Baldrige is a federally supported performance excellence framework that helps organizations become focused, unified, efficient, and effective.

The Baldrige framework serves as a “binder” that helps the organization stay focused on its mission, vision, and values, with a heavy emphasis on the six process areas of leadership, customers, workforce, operations, strategy, and knowledge management. Within the six process areas, each has an expectation to meet and exceed the relevant outcome measures within its realm.

As such, the framework of this year’s Quality and Safety Report will mirror the Baldrige Framework and will highlight processes, accomplishments, and relevant outcomes within the six categories. Each category has a well developed improvement team, consisting of a Baldrige subject matter expert, a content senior leader, and an administrative fellow. This “triad” spearheads all improvement efforts within the categories, with the help of a wide variety of care team members.

We are confident that this framework will help our complex organization deliver on our mission and exceed all of our metrics and goals. We currently have 10 leaders at MUSC Health that are Baldrige certified examiners; pictured above are some of those from this year’s cycle. L to R: Bob Warren, Alice Boylan, Danielle Scheurer, Stephanie Taylor, Bart Sachs and David Louder. Not pictured: Dennis Burns and Lauren Parnell.

# As we plan for the future, what will we continue to do and what will we do differently?

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We will expand our Quality Assessment and Performance Improvement (QAPI) program to go “wide and deep” within the organization. This means that all areas of the organization will have their own QAPI program, to define, measure, and improve upon the quality of the work in all areas of the organization (e.g. “wide”). Moreover, some areas will have multiple QAPIs, depending on the complexity of their area (e.g. “deep”).

The QAPI structure was started in an effort to support the quality efforts of the 10 clinical and five collaborative Integrated Centers of Clinical Excellence (ICCE). MUSC has now expanded this QAPI infrastructure to the other areas that support the ICCE, such as case management, supply chain, environmental and food services, and many others. The purpose of the QAPI structure is to have all areas measure the quality of their work, in both process and outcome measures, to ensure that the ICCE and the organization as a whole all meet and exceed expected performance.

With such QAPI expansion, it is necessary that each area is fully supported by analytics, process improvement, and other areas of quality including infection prevention and control, patient safety, and organizational excellence. This ensures that each QAPI will be equally successful in meeting their goals as well.

*Danielle Scheurer*

Danielle Scheurer, M.D., MSCR  
Chief Quality Officer, MUSC Health







## Organizational Profile

The senior leadership team of MUSC Health sets the Mission, Vision, and Values of the organization, and reinforces these through words and actions.

### MUSC HEALTH MISSION

- We improve health and maximize quality of life through education, research, and patient care

### MUSC HEALTH VISION

- Leading health innovation for the lives we touch

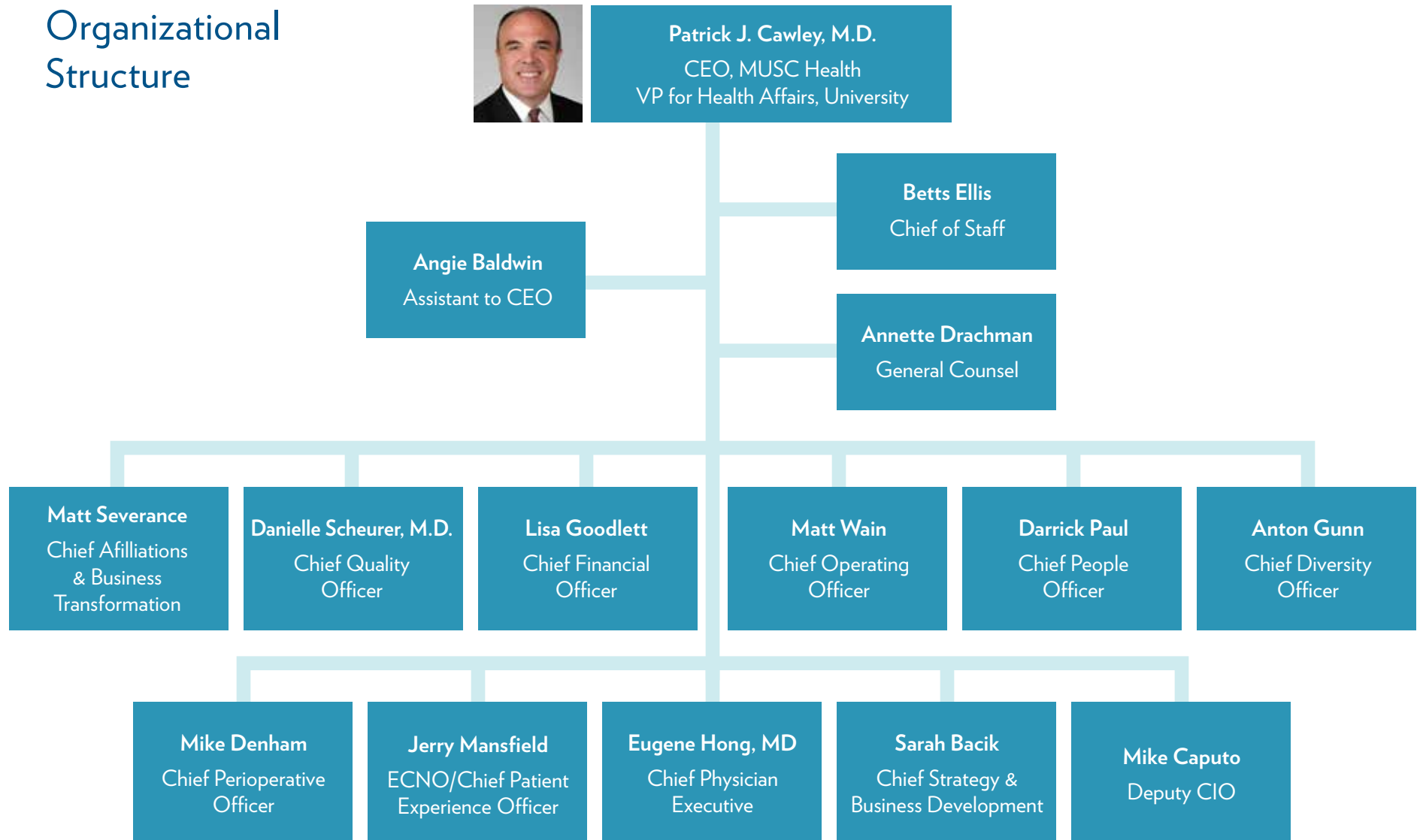
### MUSC HEALTH POSITION STATEMENT

- Changing What's Possible

### MUSC HEALTH VALUES

- Compassion
- Teamwork
- Diversity
- Accountability
- Innovation

# Organizational Structure



## LEADERSHIP

MUSC Health (MUSCH) heavily invests in recruiting and retaining excellent leaders to exceed expectations every day. The leadership recruitment process begins with a clear vision of what MUSCH needs to achieve, and finding people with the perfect knowledge, skills and attitudes to lead us there. Once recruited, MUSCH further invests in leaders' growth via multi-modal trainings to ensure the highest performance.

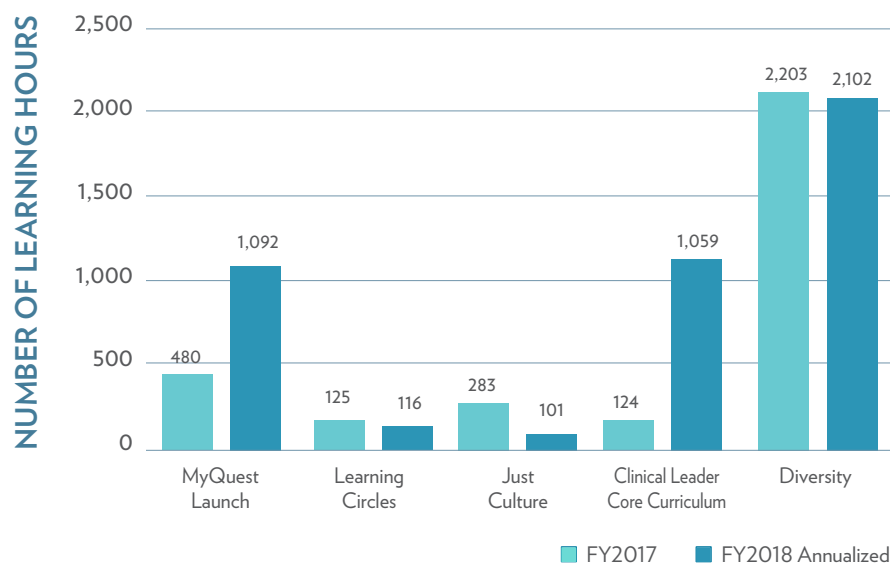




## LEADERSHIP

Leaders are continuously developed with online and in-person learning and development opportunities including quarterly off-site all-day Leadership Development Institutes, Diversity Learnings, Just Culture learnings, and interactive learning circles.

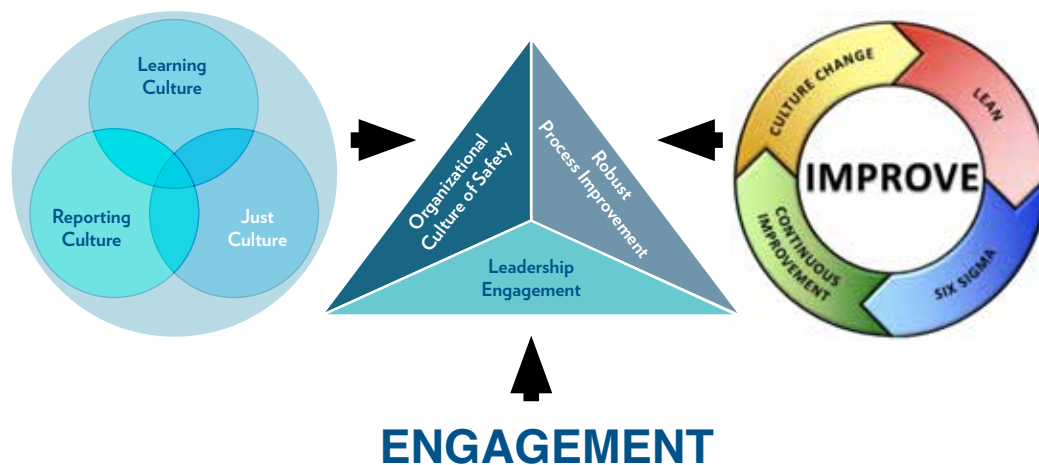
### Leadership Development Hours



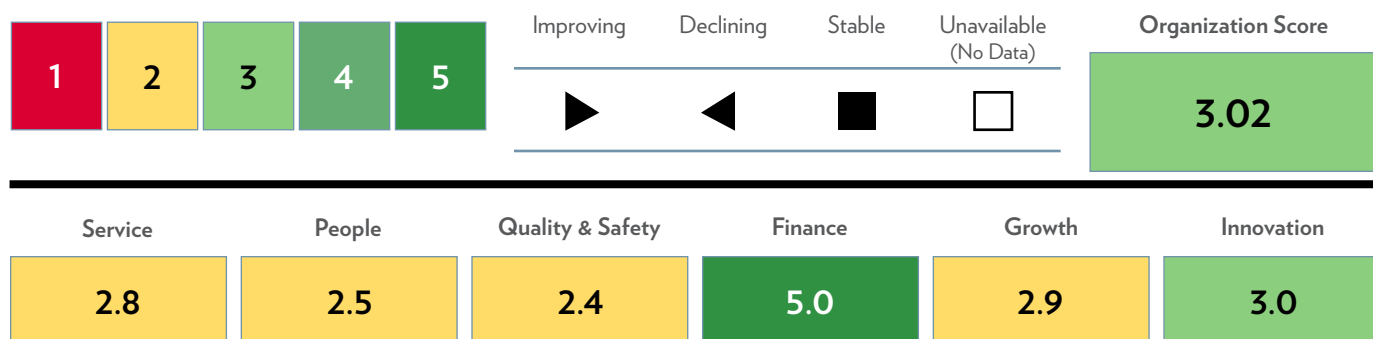
Leaders have many communication modalities to ensure care team members are engaged, informed, and committed to meeting and exceeding expectations of performance.



Senior leaders utilize the framework of high reliability to ensure performance excellence across all areas. Within high reliability, one area of particular emphasis for leaders has been training and execution of a Just Culture. MUSC Health has worked tirelessly to provide convenient and engaging on-site training to become Just Culture certified. As of now, MUSC has more than 100 certified trainers on campus, which is more than any other academic center in the country. Just Culture curriculum has been weaved into all new care team member onboarding and annual learnings.

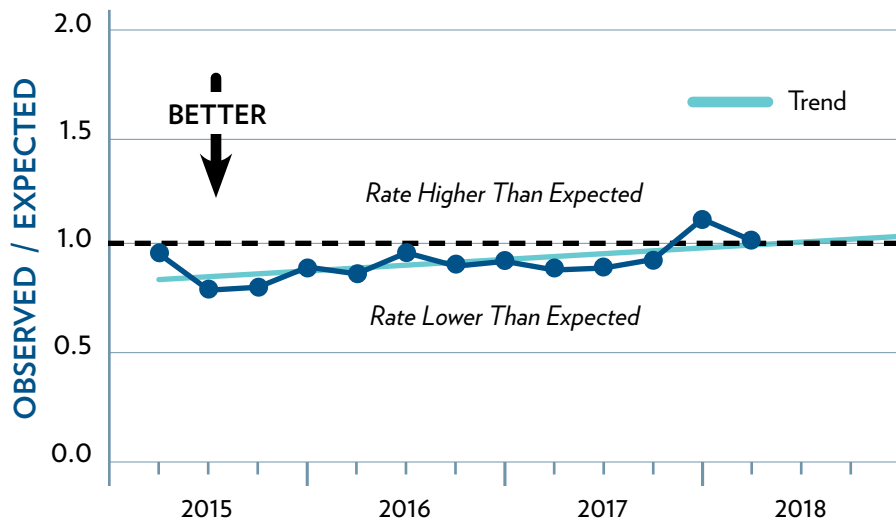


Leaders ensure performance expectations are met by utilizing a robust Performance Management System, which includes a mature goal development and cascading system, which is tied to compensation at all levels of the organization.

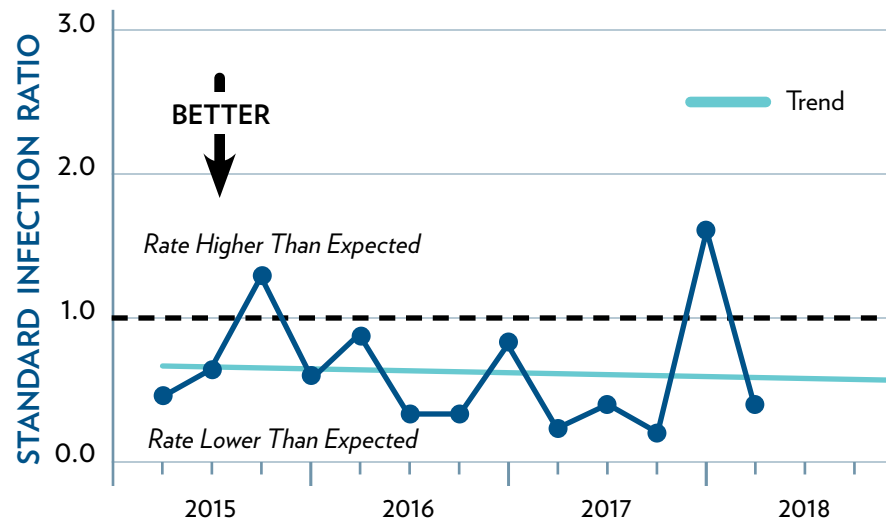


Senior leaders use a variety of organization scorecards to monitor goal progress throughout the year. For transparency and ease, these scorecards are available to all care team members and allow “drill downs” for specific action plans to be constructed and deployed.

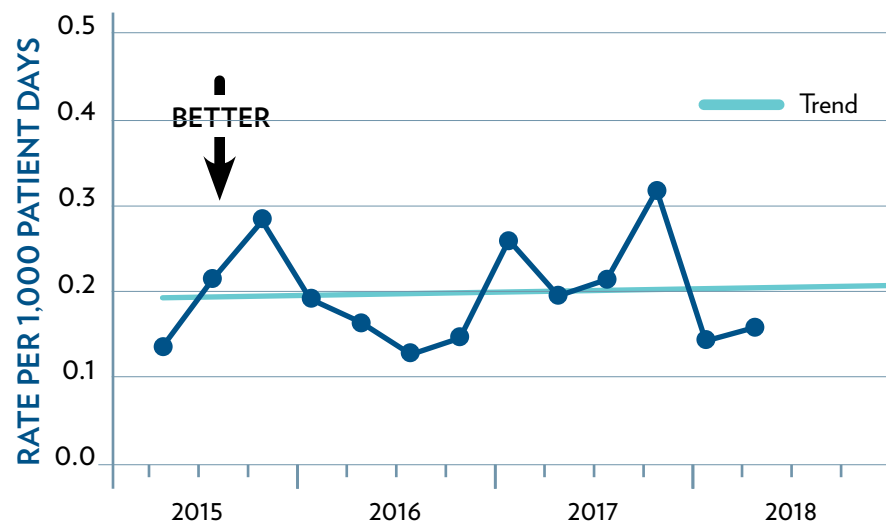
## Inpatient Mortality Index



## ICU Catheter-Associated Urinary Tract Infections

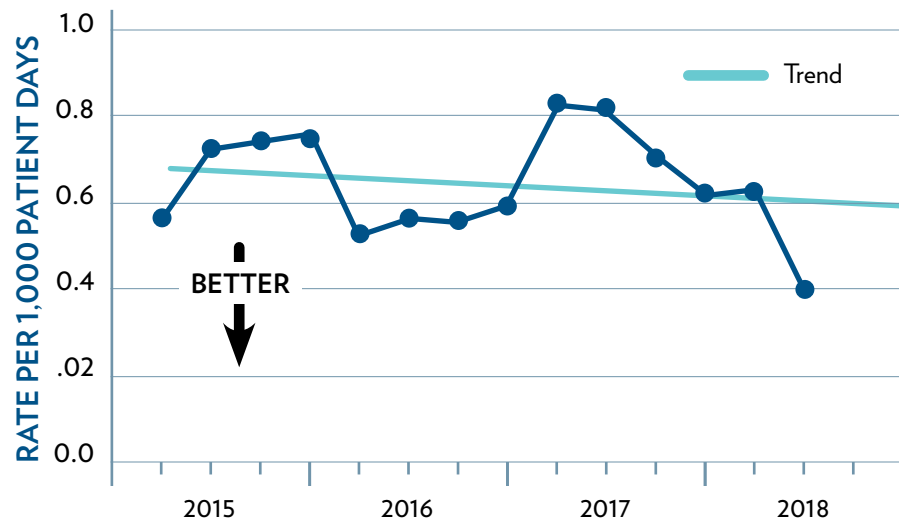


## Hospital-Acquired MRSA Infections



Quality and Safety Key Performance Indicators are widely displayed to ensure high performance. We have met or exceeded expectations on most of these over time, including: our hand hygiene, mortality index, patient safety indicators and key hospital-acquired infections.

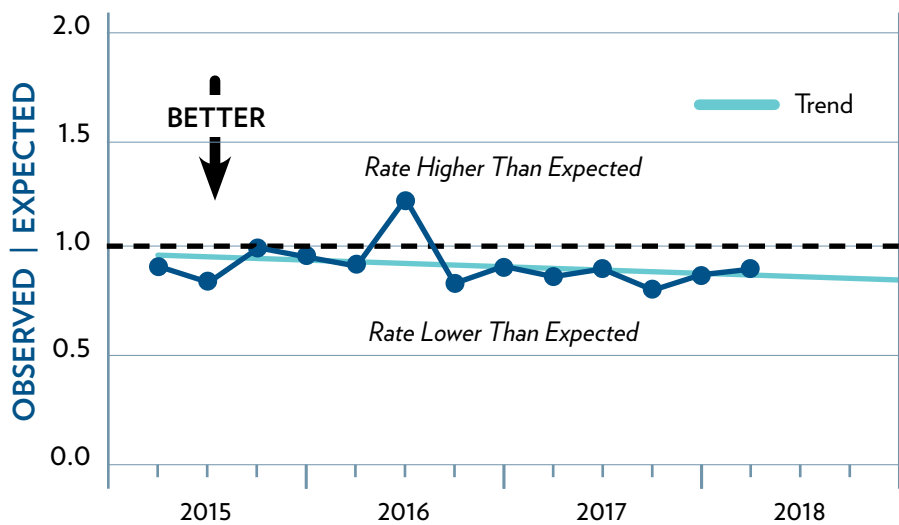
Hospital-Acquired C-Diff Infections



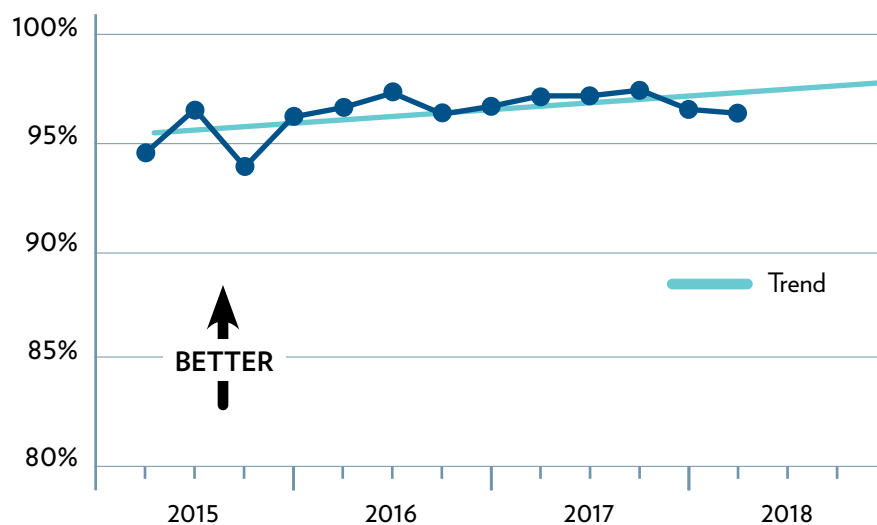
ICU Central Line-Associated Blood Stream Infections



Patient Safety Indicators



Hand Hygiene Compliance



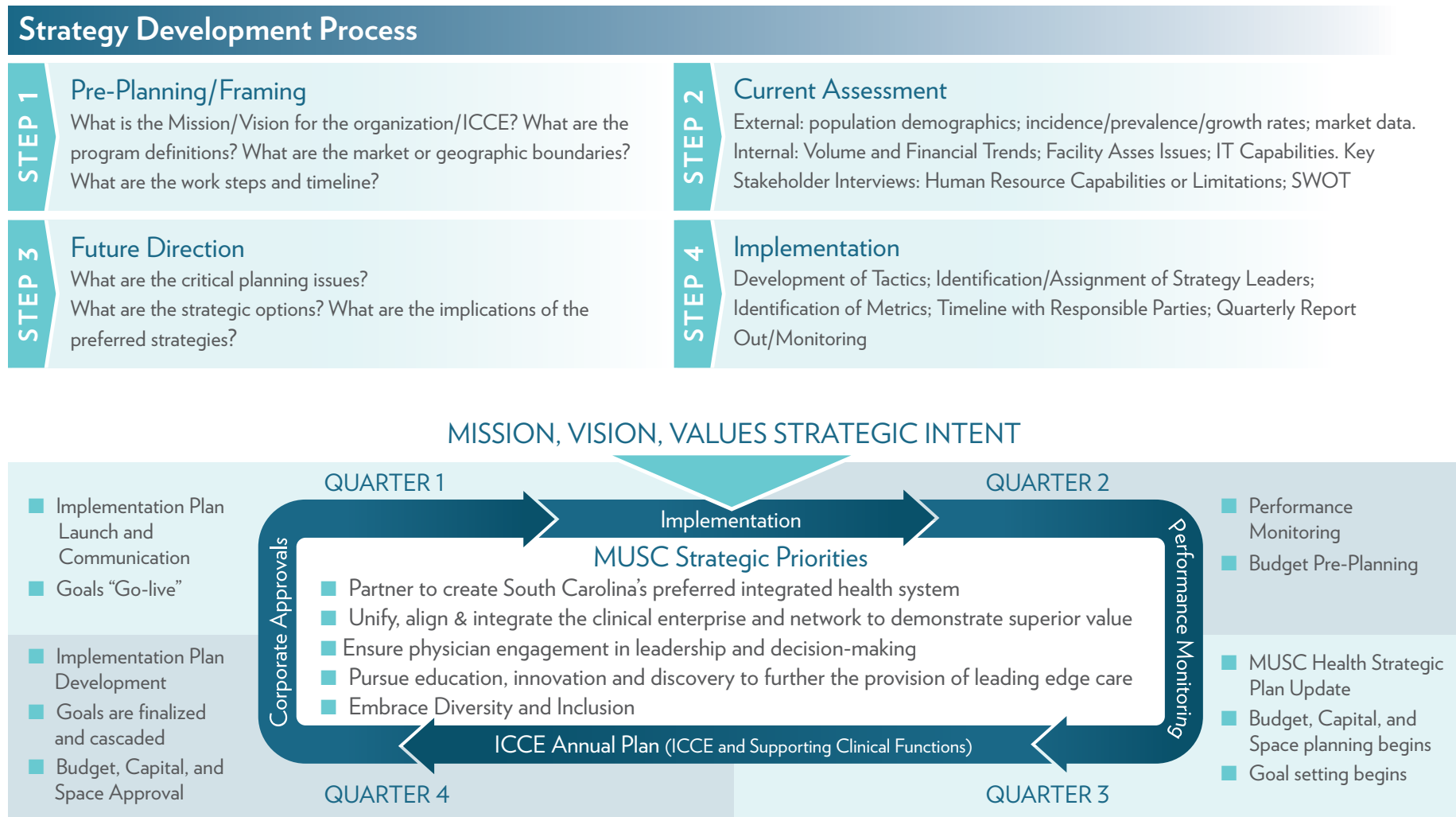


## STRATEGY

The MUSC Health strategy development process includes multiple prompts to stimulate and incorporate innovation. The Strategic Planning process allows MUSCH to develop strategic objectives that produce sustainable results through clearly defined guiding principles. All new opportunities are evaluated to ensure they align with one of the initiatives in MUSCH's Strategic Plan.



The strategic planning process ensures that MUSC Health is meeting and exceeding the expectations of the market demand, for the good of our patients and their families. This planning process is conducted through a comprehensive 4-step process, which allows us to meet our short and long term goals.





Based on the MUSC Health core value of innovation, our strategic planning center heavily relies on innovation practices and principles to constantly change the business for the better.

This past fiscal year, over 500 care team members took part in an innovation idea campaign, resulting in more than 40 poster presentations and a “shark tank” funding exposition. Such innovation and energy is critical to ensure our future success and will continue this coming fiscal year.

In addition, the center for innovation hosts year round innovation idea cycles, and is training a core group of leaders on design thinking principles, to speed the rate of adoption of patient-centered design.



## CUSTOMERS

MUSC Health recognizes the importance of incorporating patients and their families into our mission, vision and values. Care team members understand that in order to provide excellence in patient care, it is critical that patients and their families partner with care team members in the delivery of their care.



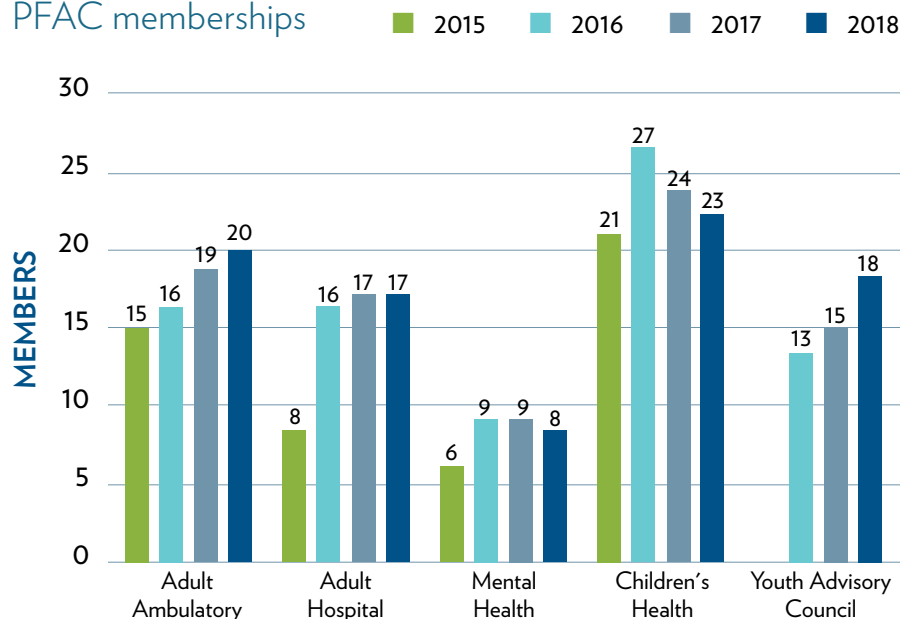


## CUSTOMERS

Our patients and their families are at the center of everything we do. We ensure that all care team members remain patient and family-centered by a variety of “listening methods” which undergo constant refinement.

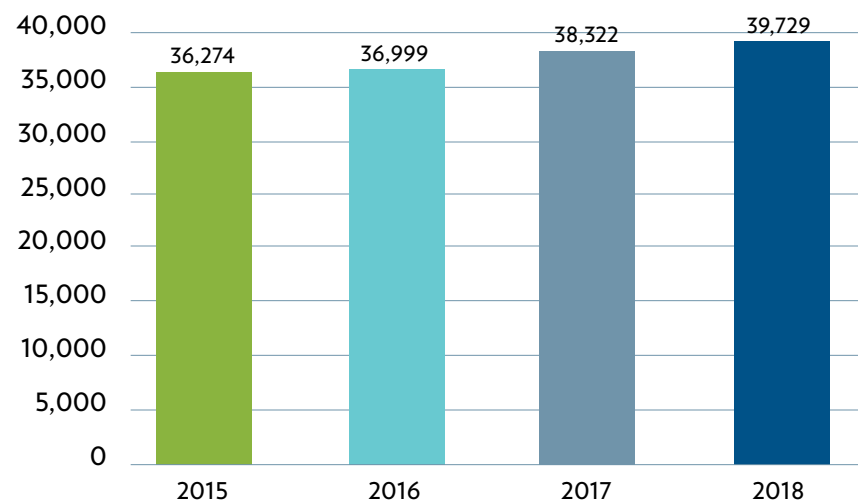
Through our patient and family advisory councils (PFAC) MUSC Health is increasing efforts to partner with patients and families in policy and program development, patient safety, quality improvement, patient experience, health care redesign, professional education, and facility design planning.

### PFAC memberships

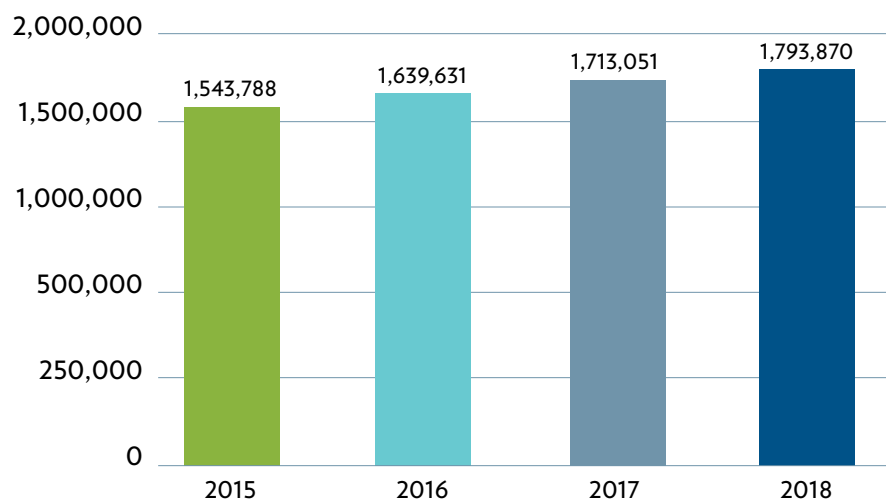


By being patient- and family-centered, we have seen continued growth in our inpatient and outpatient care services, indicating we are meeting and exceeding the care expectations of our patients.

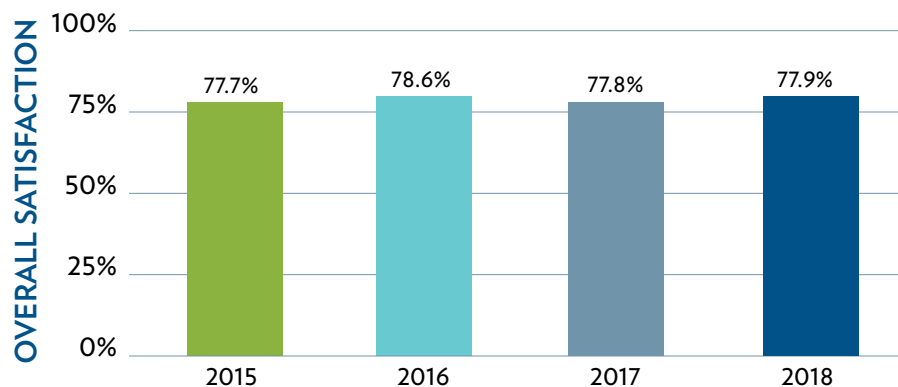
### Inpatient Visits



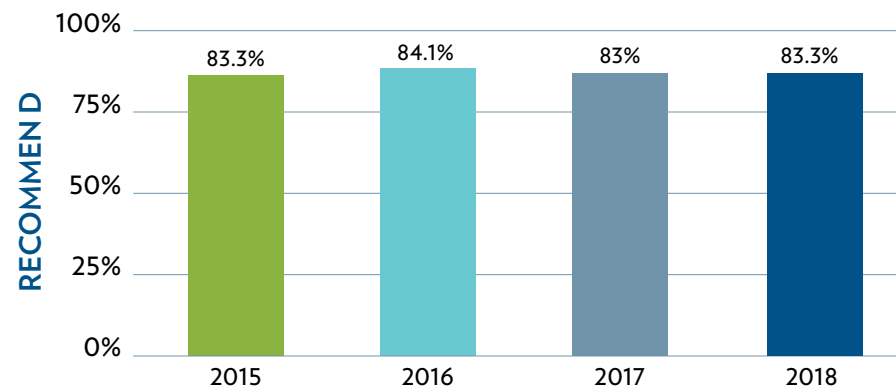
### Outpatient Visits



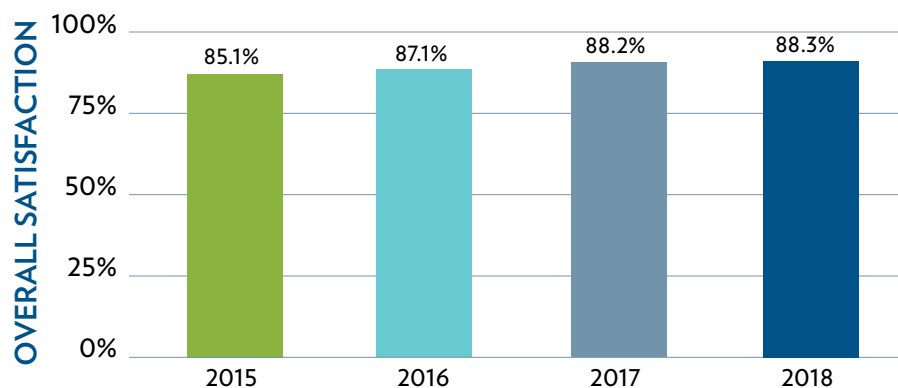
H-CAHPS % top box overall satisfaction (inpatient)



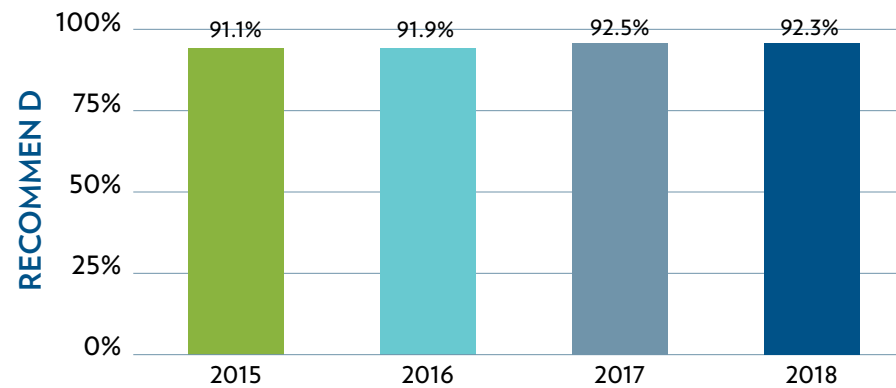
H-CAHPS % top box willingness to recommend (inpatient)



CG-CAHPS % top box overall provider satisfaction (outpatient)



CG-CAHPS % top box willingness to recommend (outpatient)



We constantly measure how well we are meeting patient and family expectations by a variety of patient surveys, which we can benchmark against other health care centers, and use for constant feedback and improvement activities throughout the enterprise.

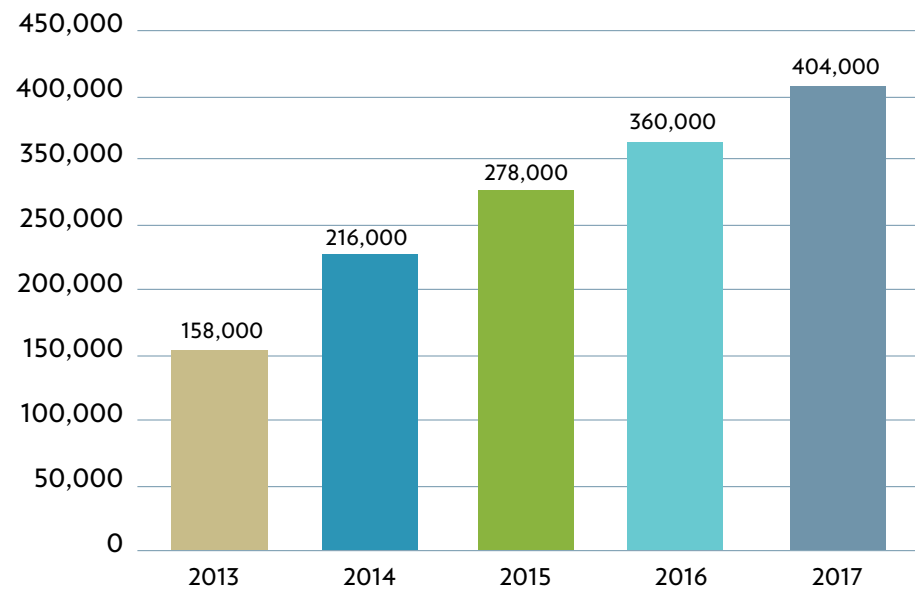
One of those widely used surveys is “H-CAHPS” which measures patient satisfaction and engagement within the inpatient areas, and “CG-CAHPS” which measures our ambulatory areas. Data from these surveys show that we are meeting or exceeding goals and benchmarks in most areas.

CUSTOMERS

We also utilize innovative technologies to communicate with and engage our patients, including systems called GetWellNetwork and MyChart.

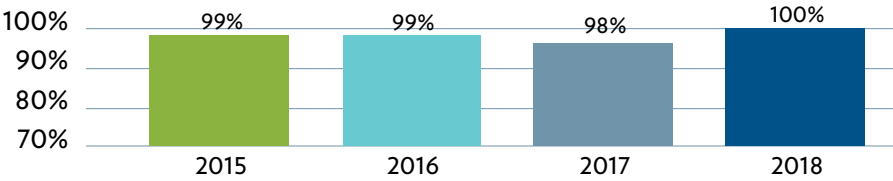
MyChart is an interactive patient portal to the medical record, which allows patients to communicate directly with any member of their care team, schedule appointments, request medication refills, or pay their bills online. Such access also continues to rise and indicates active and engaged patients and families.

Number of MyChart users

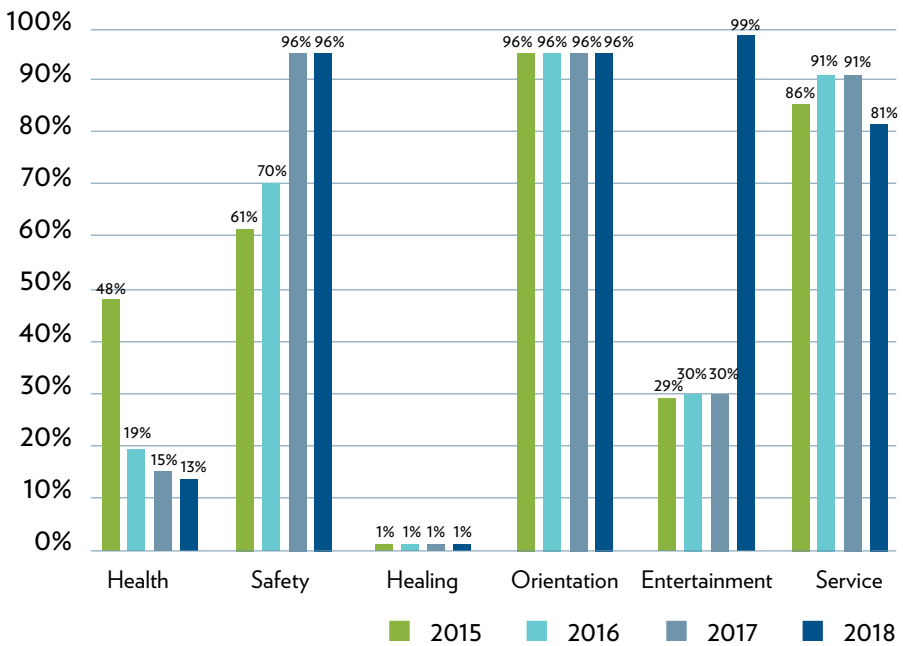


The GetWellNetwork is an interactive patient engagement and education library, the use of which continues to rise, indicating our patients and families are routinely seeking and receiving educational content to ensure the best outcomes.

Utilization of GetWellNetwork

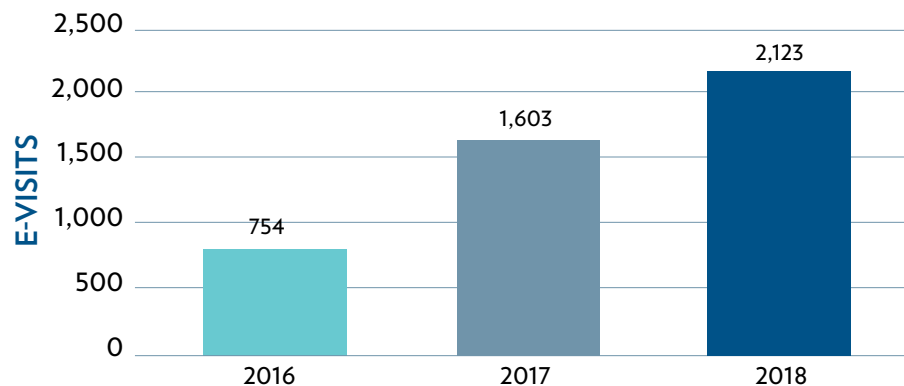


Utilization of GetWellNetwork by feature

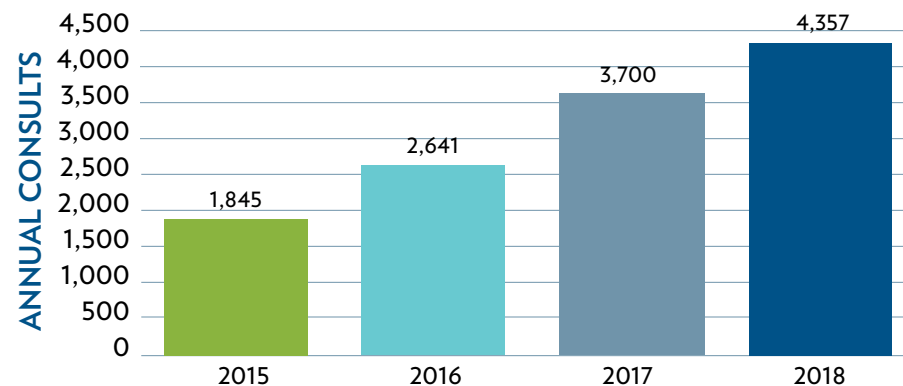




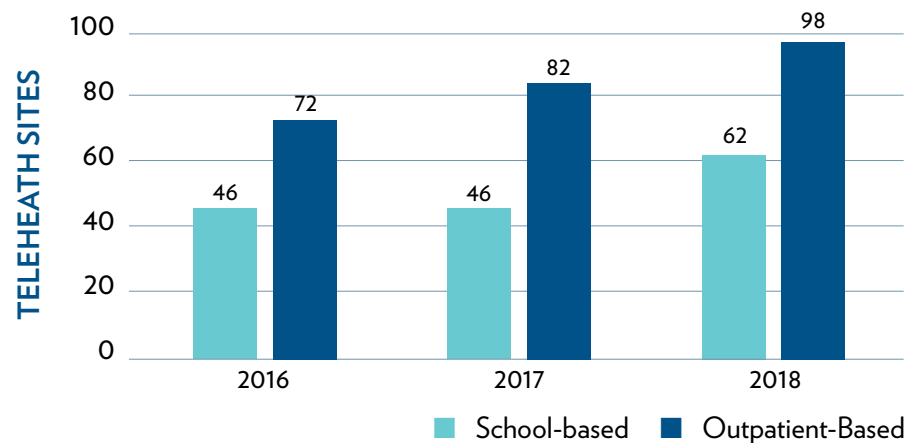
Number of E-visits



Number of Telestroke Consults



Number of Telehealth Sites



MUSC Health has also made substantial investments in virtual care access technologies, such as “e-visits” and telehealth. The former are asynchronous virtual visits for unexpected or low-risk uncomplicated conditions, such as upper respiratory infections or rashes. The patient can request an appointment and be “seen” virtually from the comfort of their own home. Similarly, telehealth can be used for more complex care, including school-based visits, stroke, and even intensive care unit.

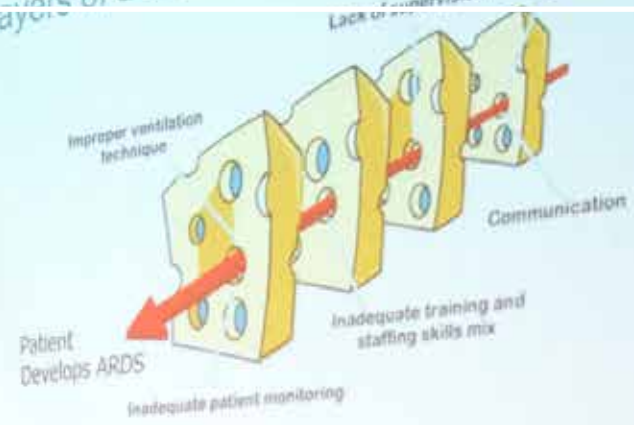
The growth of telehealth is outstanding, and allows our patients to receive state-of-the-art specialty care from MUSC Health providers at a distance. Use of both e-visits and telehealth has continued to grow at a very rapid pace

## KNOWLEDGE MANAGEMENT

MUSCH uses knowledge to embed learning from organizational operations through a variety of approaches and has also embarked on an intentional strategy to foster learner-driven education through the creation of MyQuest. Care team members, particularly nurses, have financial and other incentives to continue their education.



# Layers of defense to reduce adverse events

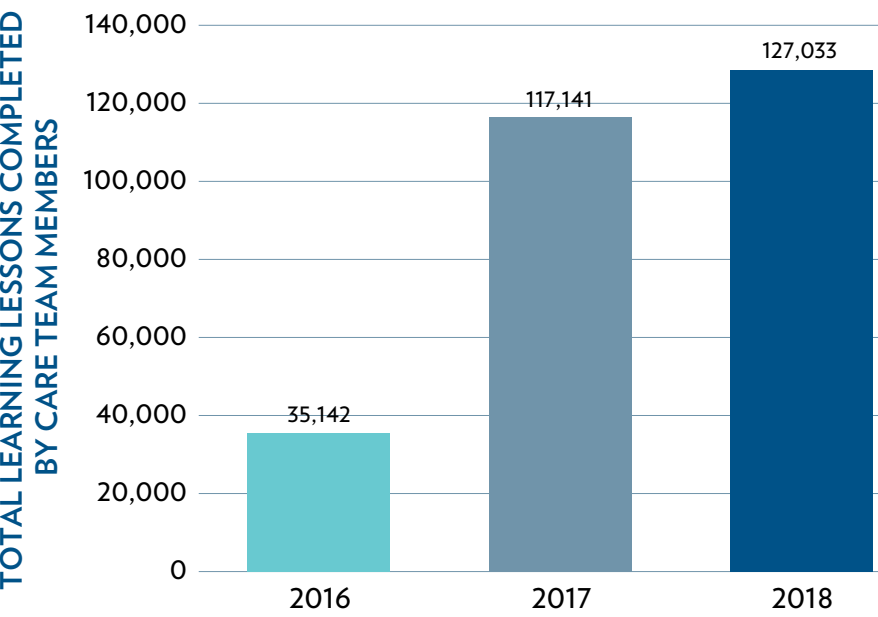


Most errors are the result of individual, system, and communication failures.

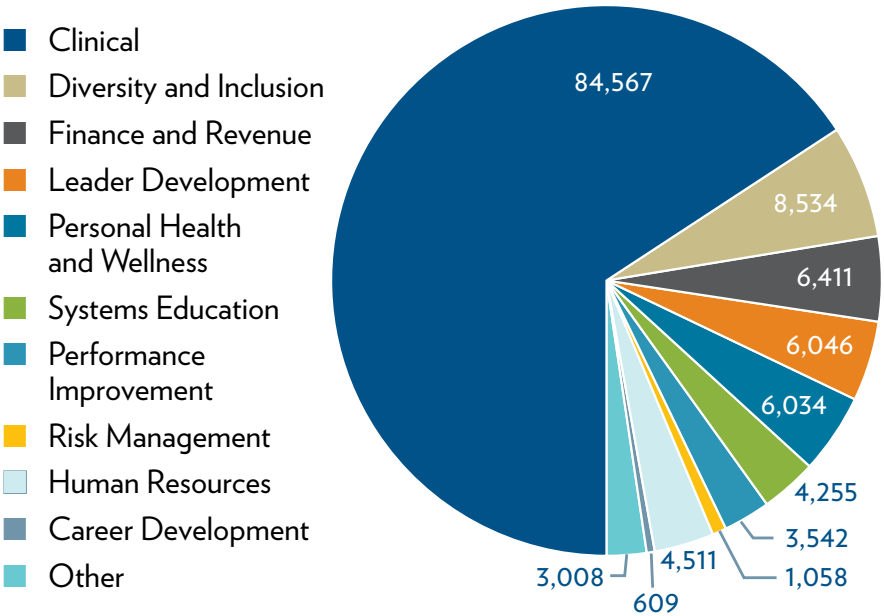
As a high reliability organization, it is essential that knowledge and information is available, accurate and reliable to support quality and safety.

We ensure our leaders and care team members have ready access to training and learning, via both internal and external sources. One mechanism is an online learning portal called MyQuest, which houses thousands of learning modules for our care team to access and track 24/7. Use of MyQuest has grown substantially, a testament to the knowledge and learning needs of our care teams

Number of learning lessons completed by care team members



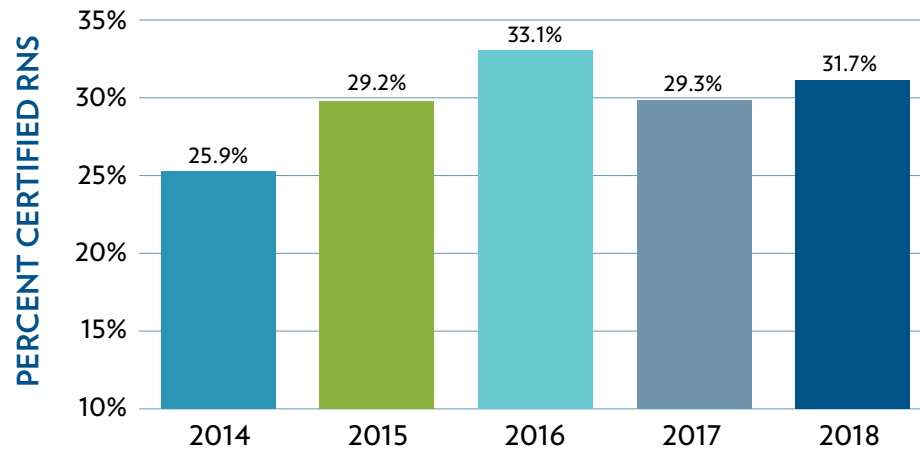
Types of learning lessons completed by care team members



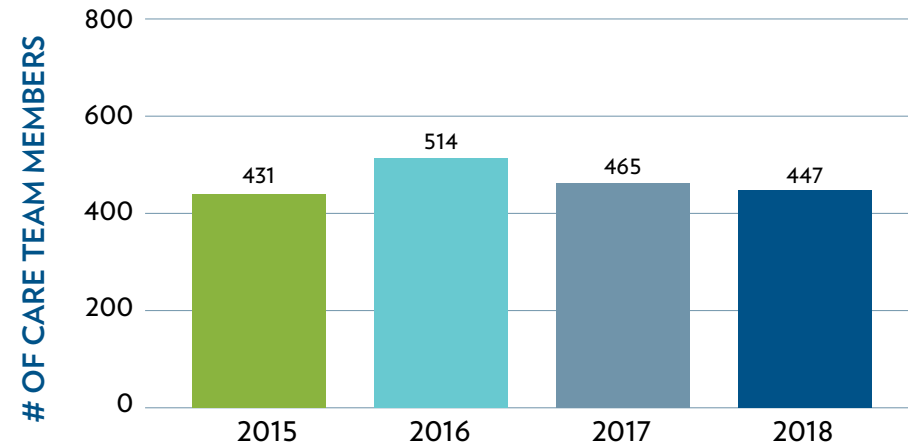
We also support our teams' knowledge and skills through scholarship programs, certification bonuses, and tuition assistance programs, which have also grown at a fast pace.



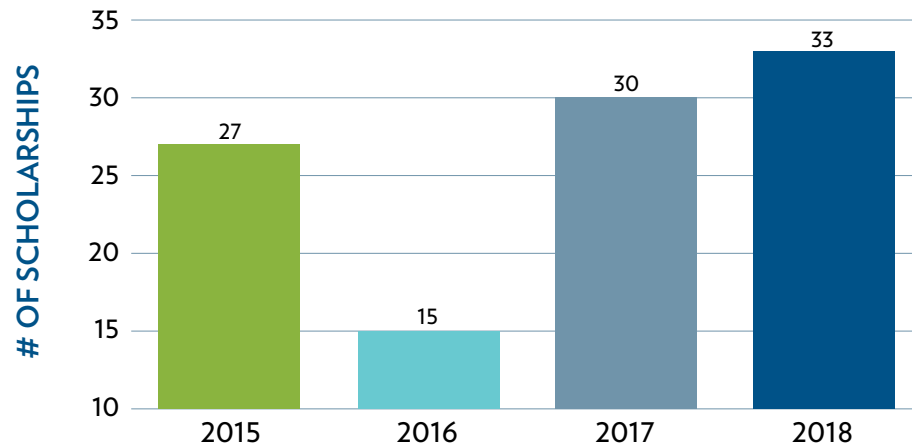
MUHA Registered Nurses with advanced certifications



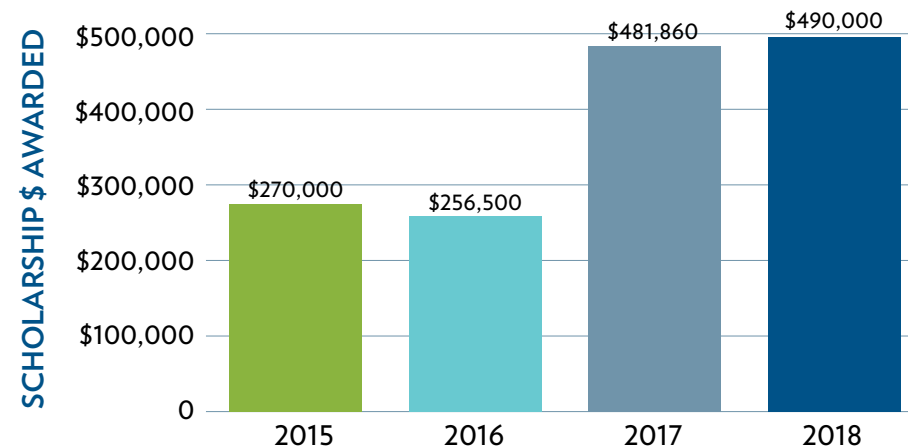
Care team members that received tuition assistance



Nursing scholarships awarded



RN to BSN scholarships given



## WORKFORCE

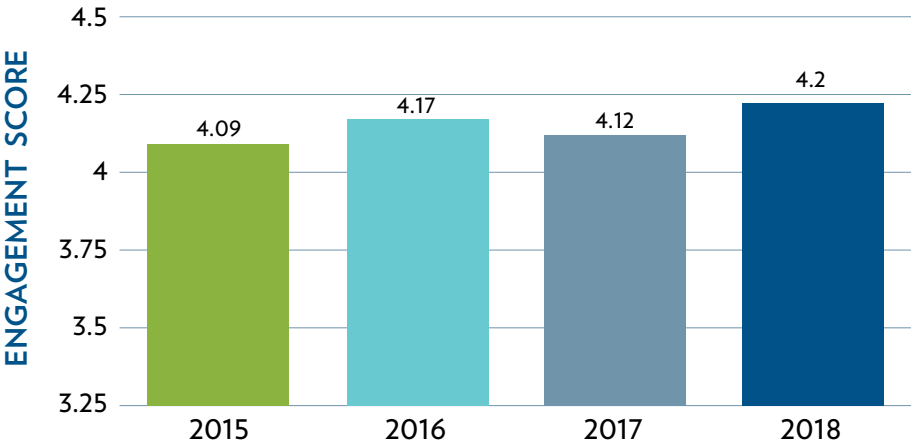
MUSC Health seeks to hire, retain and develop care team members and provide an environment that makes both patients and care team members safe. Our staffing capability and capacity is based on a number of metrics that compare the performance within each subunit to potential need with industry benchmarks, regulations and quality indicators.



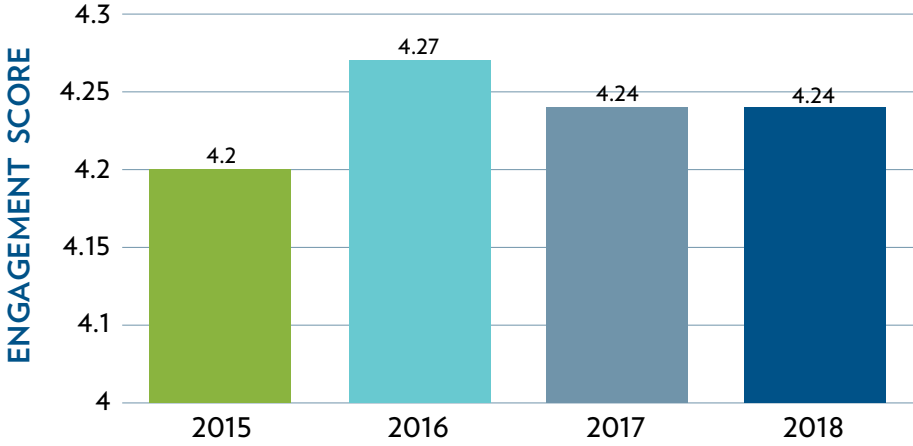
WORKFORCE

Our care team members are the lifeblood of the organization. As such, MUSC Health has committed to keeping our care team members engaged and safe, so that they can do the same for our patients and families. We measure our care team member engagement annually, and have seen improvements, particularly among our nursing care team members, one of the largest segments of our workforce.

Nursing Engagement Overall Score

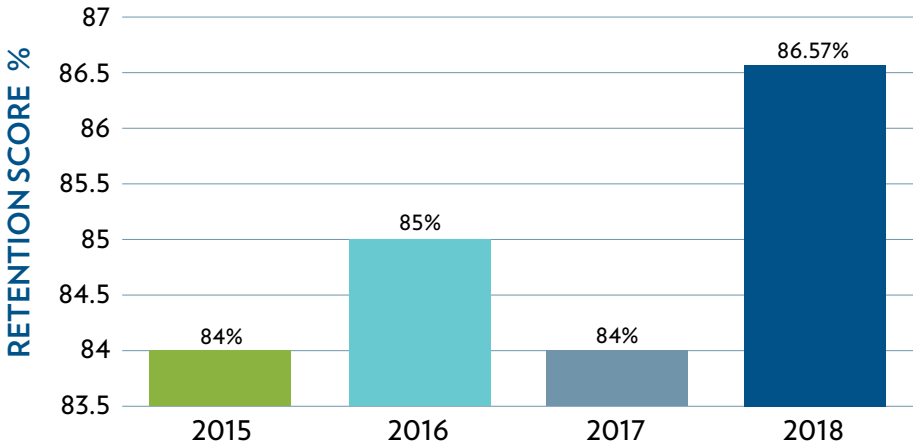


Overall MUSCH care team member engagement score



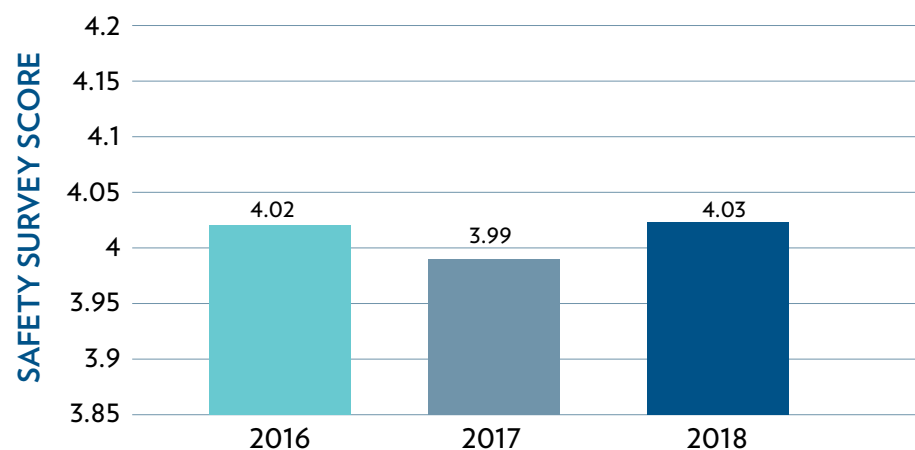
Also as a proxy to engaged care team members, we closely track our ability to retain our care team members, knowing that losing a care team member can disrupt the safety and operations of the enterprise. Through a variety of efforts, we have seen our care team member retention improve over time.

MUSCH Overall Retention Rate

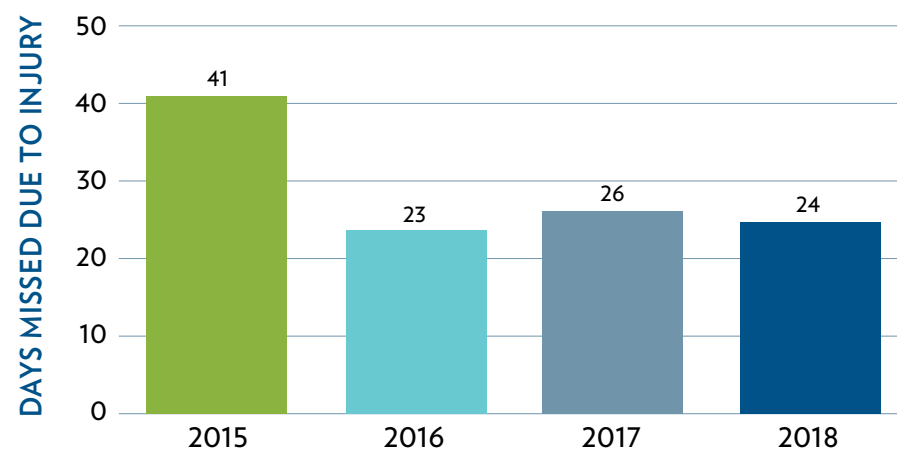


Within the High Reliability framework, we closely track how our care team members rate the Culture of Safety at MUSC Health, both overall and a few select high impact questions from the annual culture survey. To build a culture of safety our teams spend at least three hours of weekly safety rounding in all clinical areas, produce daily “safely speaking” emails, and house a safety learning portal based on real patient events, called the “Safety Institute.” From these activities, we have improved our culture of safety scores, year over year.

Overall culture of safety survey score



Care team member work days lost due to injury



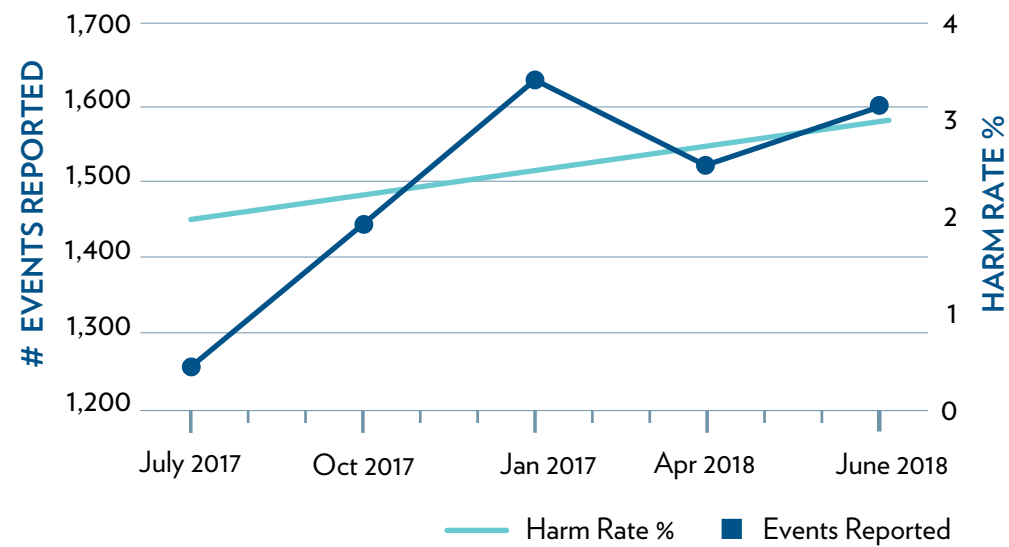
In addition to a high culture of safety, we have also worked diligently to improve care team member safety, as evidenced by a declining rate of care team member work days lost due to injury.



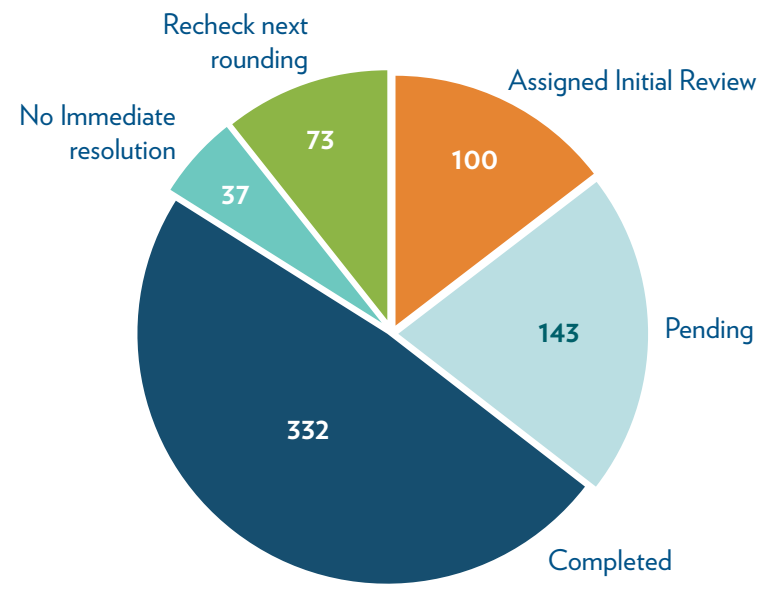
Another good proxy for a culture of safety is our reporting culture. This reflects the willingness of our care team members to report harm, near misses, or unsafe conditions. We track the total volume of reports, and well as the % of reports that represent actual harm. In a high culture of safety, overall reporting should be high, but the % of reports that represent harm should be low. We have seen continued and impressive results year over year, indicating a very high reporting culture. Although our harm rate % has increased somewhat, other academic health systems average a mean harm rate % of 4-5%.

The safety team also tracks the volume of issues raised on safety rounds, and how many of those issues are resolved. Year over year we have hundreds of issues both addressed and resolved via safety rounds, which further enhances our culture of safety.

Safety Event and Harm Rate



Safety Rounds

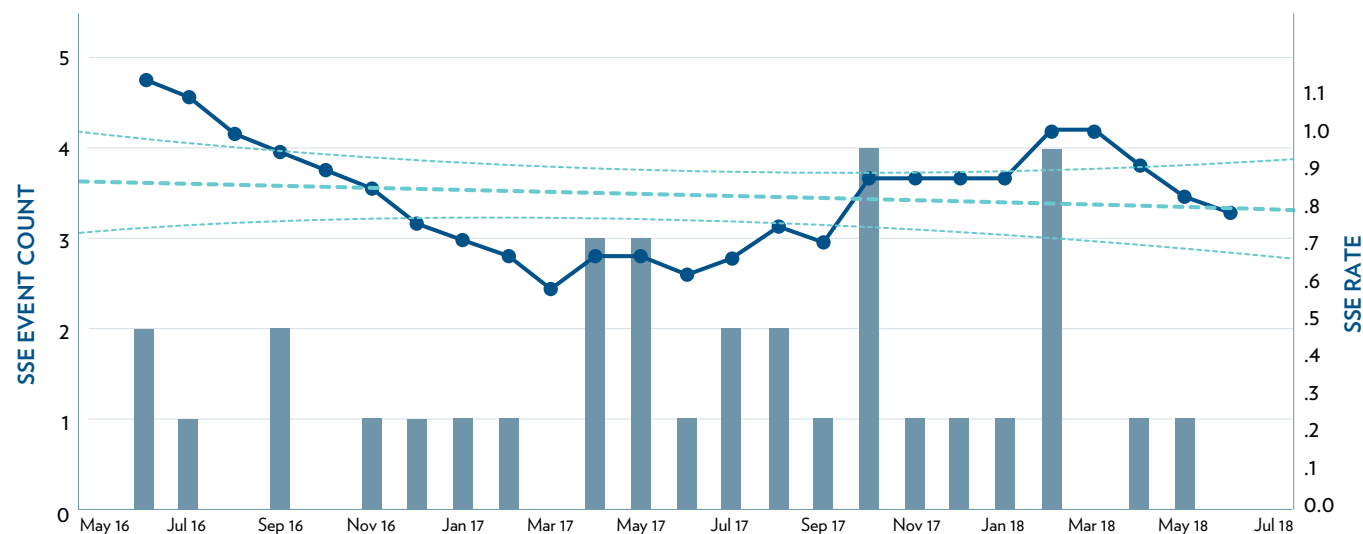




Ultimately, through these efforts to improve a culture of safety, we need to ensure patient care is also becoming safer in the organization.

We track this by our “serious safety event rate”, which measures all preventable harm throughout the clinical enterprise. Although our rate has not yet seen a definitive downward trend, yet many organizations have found rates may actually increase first, as the reporting culture improves

## Serious Safety Event Rate



## OPERATIONS

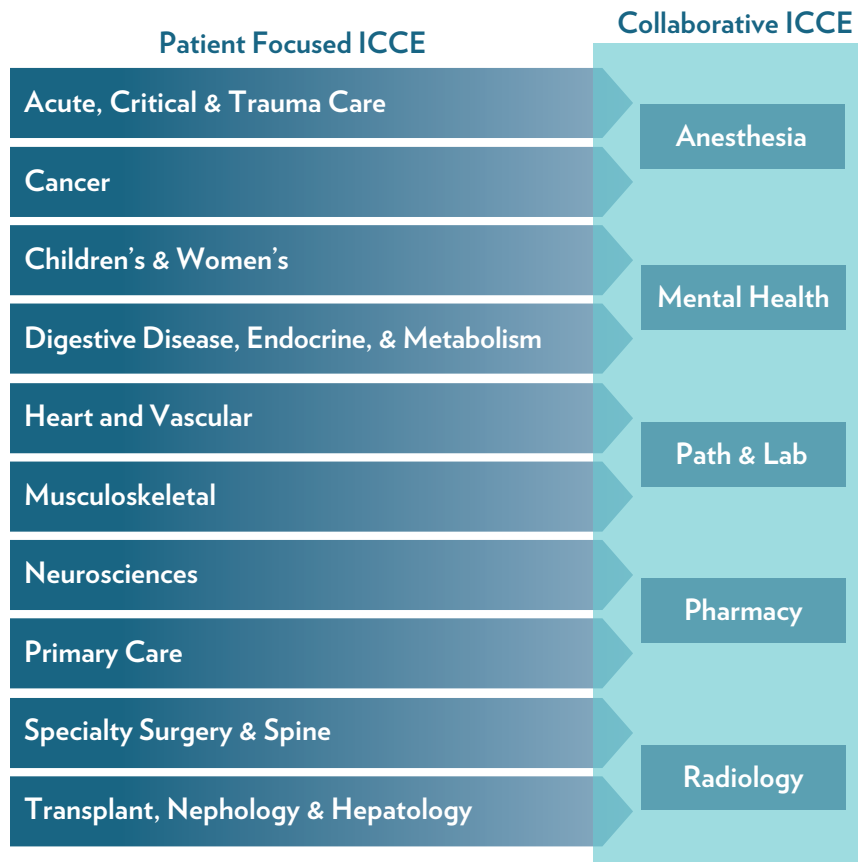
Our key work processes are those that represent the most significant impact on the performance of operations, delivery of patient care, and the fiscal sustainability of the organization. These include long-term planning for events such as environmental emergencies to unit-by-unit, real-time assessments of operational readiness.



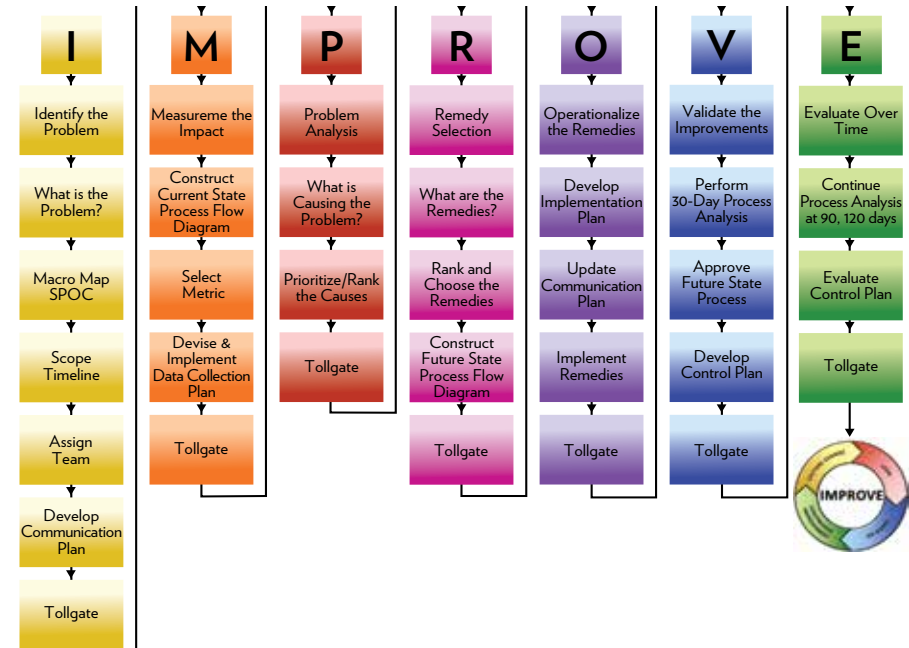


## OPERATIONS

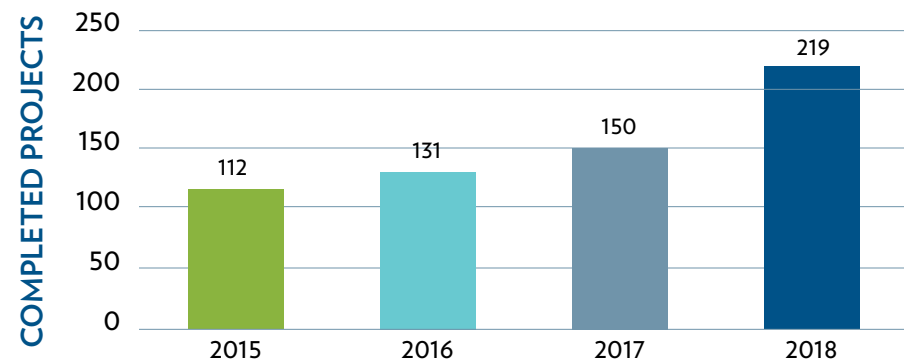
Our operational structure is via our Integrated Centers for Clinical Excellence (ICCE) structure. Each ICCE is co-led by a physician ICCE Chief and ICCE administrator. This dyad structure ensures the successful operations and quality-safety of all patient care activities.



Through the framework of High Reliability, operations ensures that process improvement is deeply embedded into all activity improvements. Each year, the Process Improvement department oversees a growing number of IMPROVE projects, with a cumulative cost savings that far exceeds the overhead of the department.

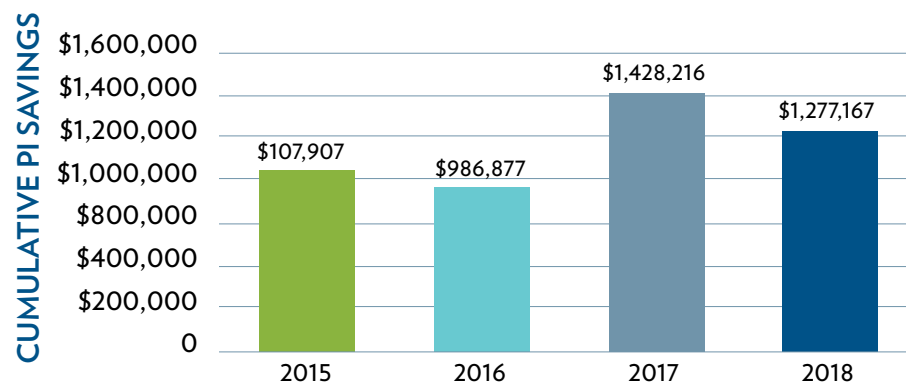


Completed performance improvement (PI) projects



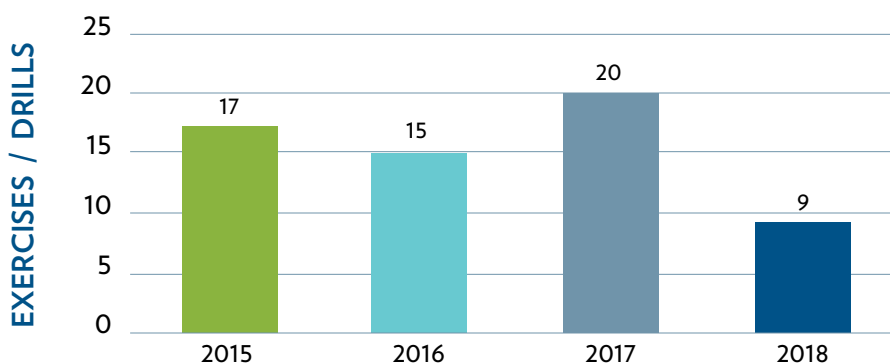


### Cumulative savings from PI projects



Also as a key management strategy within operations, MUSC Health maintains a robust and proactive infrastructure to mitigate disturbance due to weather and to recover from any disasters, weather damage and such. In addition, we have maintained an active Specialized Medical Unit and Team, poised to deploy an ultra-skilled team of care team members at a moment's notice for any highly contagious disease. The disaster preparedness team keeps all care team members informed, engaged and prepared through a variety of simulations and drills throughout the year.

### Disaster preparedness drills and tabletop exercises



Also as an HRO, the operations team oversees a repertoire of two-way email, phone, and web-based daily communications, to inform and assist care team members with any daily operational challenges that could threaten quality or safety.

