

Quality Matters



2018



INOVA[®]

Join the future of health.

Dear Community members,

At Inova, we strive to ensure our patients and our communities have quality of care information available to them to make their health care decisions easier. We take this opportunity to reflect on the past 12 months and share our progress with you on a number of key quality, safety and patient experience measures. In addition, we received a number of honors from external organizations; a few are listed below:

- Four of our 5 hospitals (Inova Alexandria (IAH), Inova Fairfax (IFMC), Inova Fair Oaks (IFOH) & Inova Loudoun(ILH) received Healthgrades Clinical Excellence designation, that means that they are in the top 5% in performance of hospitals nationally.
- Four Inova hospitals received 5 stars, the highest rating given by the Centers for Medicare and Medicaid Services (CMS): Inova Fair Oaks Hospital, Inova Fairfax Medical Campus, Inova Mount Vernon Hospital (IMVH), and Inova Loudoun Hospital. This means that Inova Health System received the first-ever 5 star ratings in the Washington, DC Metropolitan area. Hospitals are evaluated by CMS on up to 57 measures to calculate the Star Rating. It is important to note that only 337 of all hospitals rated, or seven percent, received 5-star ratings.
- Inova received the US News & World Report “Best Rankings” for DC and Virginia regions and High Performing Hospital rankings.
- IFOH was re-designated with Magnet status.
- IAH attained American Nurses Credentialing Center Pathway to Excellence.

For 2019 and going forward, our team members-will continue to focus on creating an exceptional patient experience accelerating our zero harm initiatives, with a particular focus on Inova being a healthcare organization you would recommend to others.

We are grateful to our Inova team members who focus on maintaining quality and safety standards for every patient, every day. It is because of these individuals that we are able to share examples of the effective quality improvement programs across Inova.

Sincerely yours,

Loring S. Flint, MD
Executive Vice President
Chief Medical Officer and High Reliability Officer

Acknowledgements

Thank you to the following Inova staff for their contributions to this report:

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Overview

On behalf of our over 18,000 employees, we are pleased to present Inova's 2018 Quality Matters report to our community. This is Inova's sixth annual public key quality and safety metrics report. As an organization on a high reliability journey, Inova places a high value on transparency and accountability.

Healthcare organizations are continuing to zero in on the issue of patient harm, which, along with patient safety, first gained national attention in 1999 after a study was published by the National Institute of Medicine of the National Academies. The study concluded that 98,000 patients were dying each year as a result of preventable medical errors, adverse events, infections, and other instances in which patients are harmed. Recent studies suggest that medical error is the third leading cause of death in the United States (after cancer and cardiovascular disease).

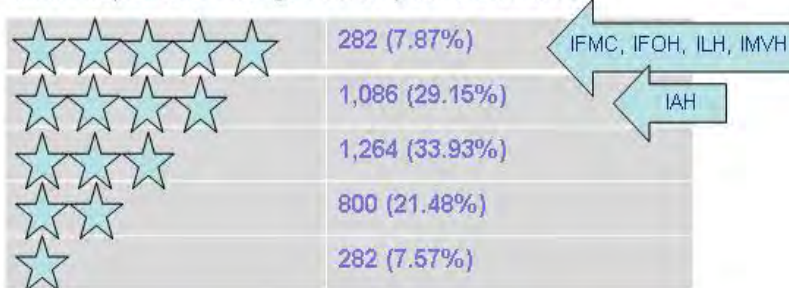
National initiatives such as the Center for Medicare and Medicaid Services (CMS) Partnership for Patients, aims to reduce hospital-acquired conditions, are helping healthcare organizations focus their energies given the complex and dynamic healthcare environment. The first step toward solving the problem of reducing patient harm is engaging all stakeholders – patients, families, hospitals, doctors, nurses, government agencies, and private sector partners in the issue. We hope that this quality report helps to further this important national conversation.

The report is organized by outcomes-related data regarding patient safety, clinical care and patient satisfaction. Section 1 of this year's report covers various types of patient harm, including infections, measures of serious complications, serious reportable events, hand hygiene compliance, adverse medication events, early elective deliveries and C- section rates. Section 2 includes patient outcomes, including readmissions, patient deaths, and measures of patient experience. In section 3, we highlight examples of changes focused on improvements that Inova teams made in 2018. These examples include quality award-winning programs and additional system wide programs.

To give readers a broader context to understand the importance of data, each Inova hospital's performance is compared with external standards, either government issued statistics or reliable comparative data from the Premier healthcare alliance, which includes over 1,300 hospitals across the country. Data from previous years is also included in this report for comparison. Following each section's data summaries are details about where Inova is focusing improvement efforts.

Notable Inova accomplishments in 2018

CMS Hospital Star Ratings February 2019 Distribution



5 of 5 Hospitals received A on Hospital Safety Grade!



DC Metro Rank	Virginia Rank
IFMC #2	IFMC #5
IFOH #3	IFOH #6
ILH #7	ILH #14
IMVH #7	IMVH #14



IFMC - 8*
IFOH - 7*
ILH - 3*
IMVH - 3*
*Specialties, Procedures & Conditions

CMS' Hospital Compare website reports on quality measures for 4,573 hospitals from around the country. CMS overall star ratings assigned to hospitals are based on 57 quality measures across seven areas of performance: mortality, safety of care, readmission, patient experience, effectiveness of care, timeliness of care, and the efficient use of medical imaging.

Healthgrades is the leading online resource for patients to find and connect with the right doctor or hospital.

The Leapfrog Group is a national nonprofit organization that collects and reports hospital performance on various domains. The Leapfrog Hospital Safety Grade assigns letter grades to hospitals based on their record of patient safety, helping consumers make informed decisions.

The U.S. News Best Hospitals analysis reviews hospitals' performance in adult and pediatric clinical specialties, procedures and conditions. Scores are based on several indicators under various domains including 1. Structure (Number of patients, Intensive Care Unit doctors, Patient services, Nurse staffing, etc.); 2. Outcomes (Patient survival score after discharge from the hospital); 3. Physician Reputation; 4. Patient Safety complications of care, etc.

Nursing Excellence

Alexandria Hospital attained American Nurses Credentialing Center Pathway to Excellence Designation – this means that Alexandria nurses set a global quality standard and they rank among the best nurses in the world. IAH is among 171 hospitals to have received this designation.

Fairfax Medical Campus implemented Beyond the Bundle Rounds (BtB) in 2018, using humble inquiry to connect with the members of our team regarding Healthcare Associated Infections (HAIs). BtB focuses on removing roadblocks for team members to practice standard work.

BtB Rounds:

- Are multidisciplinary and centered around Inova’s cultural values– Patient Always, Value People, Stronger Together, Focus, Engage & Decide, and Tell Me.
- Demonstrated collaboration between subject matter experts from Infection Prevention, Quality, physician & nursing leaders and frontline team members
- Empowered frontline team members to freely share their processes and barriers regarding HAI prevention and are used to identify best practices and improvement opportunities
- Established feedback loops with the BtB newsletter to all team members across the campus, professional practice huddle messages, and escalation of opportunities to the CAUTI Improvement Committee and the CLABSI Improvement Committee.

Fair Oaks Hospital was re-designated for Magnet in August 2018, effective for a 4-year period. This is an accomplishment that recognizes the commitment to the highest standards in the delivery of nursing excellence. Magnet Recognition® from the American Nurses Credentialing Center (ANCC) is the highest distinction a healthcare organization can receive for nursing excellence and high-quality patient care.

Loudoun Hospital Intensive Care Unit received the Gold Beacon Excellence award by the American Association of Critical Care (AACN). This is the third Beacon designation for the Intensive Care Unit (ICU), but the first gold for Inova. The ICU at ILH was one of only 108 units nationwide and the only Inova ICU to receive the gold. The Progressive Care Unit at Loudoun Hospital also received a Silver Beacon Award of Excellence designation from AACN. This is the third Beacon designation for the unit.

Mount Vernon Hospital received the American Heart/American Stroke Target Elite Gold Plus recognition. Our Emergency Department received the American Board of Cardiology’s recognition as a transferring facility-Certificate of Excellence.

Inova staff presented at the annual Press Ganey National Client Conference on the topic of “Building a Partnership of Engagement and Alignment between Nursing and Support Services”. The presentation highlighted how IFOH bridged the teamwork gap between nursing and support services to better meet patient needs. This included the need for a strong commitment to a culture that inspires staff and engagement in the patient experience. Together this fosters alignment and strengthens the strategies for measurement, accountability, and real-time problem solving.



Quality Highlights for 2018



Quality Ratings 2018

Overall Hospital Rating by Patients

77%
Excellent

3 out of 5 hospitals
improved.



Discharge Instructions

Patients Felt They Were Appropriately Prepared for Discharge

3 out of 5 hospitals
improved performance
in the last two years.

5 out of 5
hospitals met
or exceeded the
national average.



Communication with Patients

Patients Reporting **Doctors** 'Always' Communicated Well

84%

5 out of 5 hospitals
met the national
average.



Patients Reporting **Nurses** 'Always' Communicated Well

83%

5 out of 5 hospitals
improved their
ratings.



4 hospitals
exceeded
the national
average.



Measures of Serious Complications

0.803

5 out of 5 hospitals exceeded
the average performance goal
of **0.803** for all patients.



1.54

5 out of 5 hospitals exceeded
the national average performance
goal of **1.54** for Medicare patients.



Hand Hygiene Compliance

+6%
improvement



Section 1: Patient Harm Indicators

Healthcare-associated infections

What they are:

Healthcare-associated infections (HAIs) are infections that a person contracts while receiving medical care for another condition. Nationwide, HAIs are a significant cause of patient harm and patient deaths. Low HAI numbers indicate that a hospital is doing a great job of preventing infections.

Why it matters:

HAIs cause patient harm and may unnecessarily extend the need to remain in the hospital to be treated. HAIs can, in most cases, be prevented by following guidelines for safe care.

How HAIs are calculated:

HAIs are reported using a standardized infection ratio (SIR). This calculation that compares the actual number of infections in a hospital to an expected number, based on national benchmarks and adjusted for risk factors about the type of care the patient is receiving as well as other patient risk factors. The CMS SIR benchmarks will be different for each infection type and are based on national performance for that type of infection. Lower SIRs represent better-than-expected infection rates. A score of zero — meaning no infections — is best. When the number of expected infections is less than one, a SIR is not calculated. In those instances, the graph will note this by indicating the SIR is “Not Reported” (NR). In this year's report, Inova has divided HAI data into four charts that report data for three of the most common and costly HAIs: central line-associated blood stream infections (CLABSIs), catheter-associated urinary tract infections (CAUTIs), Clostridium difficile (C. diff) and surgical site infections (SSI) after colon surgery and abdominal hysterectomy.

Notes on HAI data

In comparing data points on these infection charts, it is helpful to remember that the Inova Fairfax Medical Campus is the largest and the only tertiary care center in the Inova Health System. The Inova Fairfax Medical Campus has higher patient volume and a greater complexity of cases, and is expected to have a higher number of infections. Other Inova hospitals have low expected numbers of infections relative to the Inova Fairfax Medical Campus. Therefore, a single infection at, for example, Inova Loudoun Hospital can result in an SIR higher than the CMS benchmark. The goal across Inova is always zero infections.

CLABSI: Central Line Blood Stream Infections

What they are:

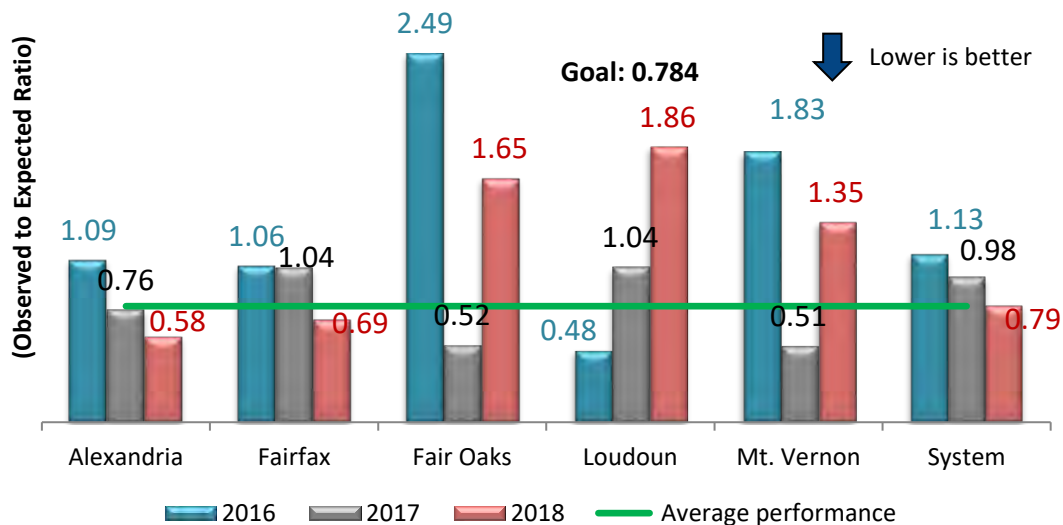
A central line is a tube that is inserted into a large vein of a patient's neck or chest to deliver medications. Central lines can be an easy way for germs to enter the body when they are not put in correctly or kept clean, and are at higher risk of infection if left in for a long period of time.

How they are prevented:

CLABSIs can be largely prevented by using central lines only when they are needed, using good infection control steps to insert them, keeping them as clean as possible, and removing them as soon as they are no longer needed.



Chart 1: Central Line-Associated Bloodstream Infections



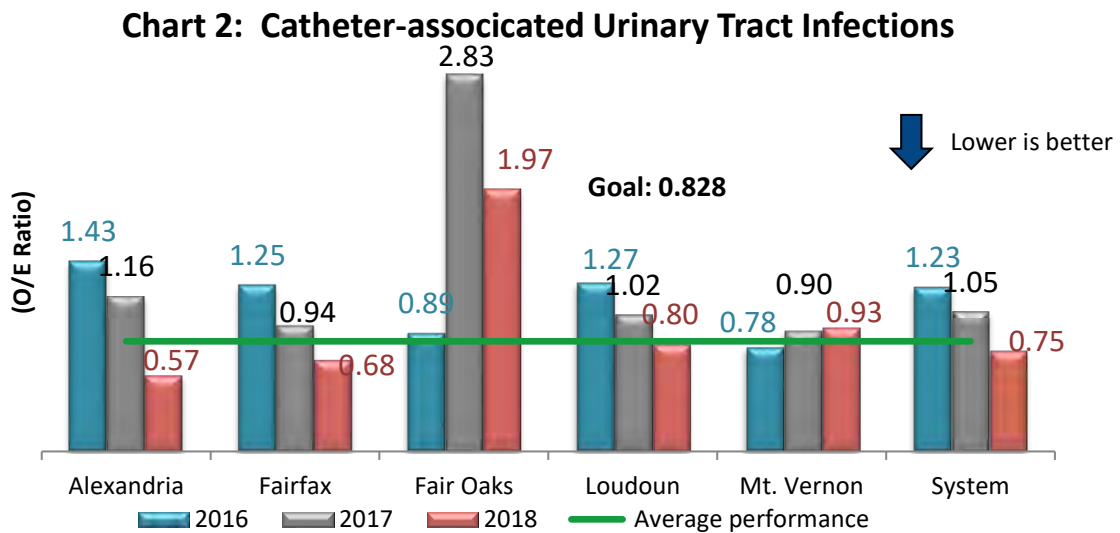
CAUTI: Catheter-Associated Urinary Tract Infections

What they are:

A urinary catheter is a tube inserted into a patient's urinary bladder that is left in place to collect urine. When a urinary catheter is incorrectly inserted, not maintained properly, or left in for long periods of time, it can become an easy way for germs to enter the body and cause a urinary tract infection. In those cases, the infection counts as an HAI because the catheter contributed to it.

How they are prevented:

Like CLABSIs, CAUTIs can be largely prevented by using catheters only when they are needed, using good infection control steps to insert them, keeping them as clean as possible, and removing them as soon as they are no longer needed.



Clostridium difficile (C. diff)

What this is:

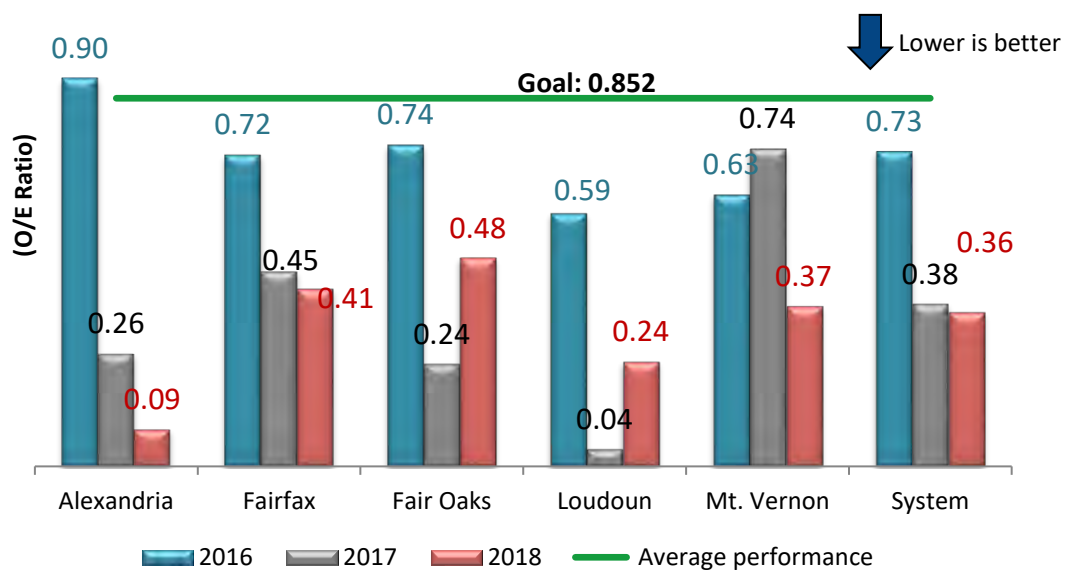
C. diff is a type of bacteria that causes inflammation of the colon. Many people have these bacteria in their intestines and never have any symptoms. However, if they are taking strong antibiotics for too long, the antibiotics may kill enough of the healthy bacteria inside of the body and allow C. diff to grow unchecked. C.diff can also occur without taking antibiotics if you are exposed to the bacteria, especially for people who have a weakened immune system.

How they are prevented:

C. diff is contagious and can be spread from person-to-person by touch or by direct contact with contaminated objects and surfaces. C. diff infections can be prevented by strict hand washing, appropriately sanitizing all medical equipment and the environment, and using isolation precautions for patients with signs and symptoms of a C. diff infection. C.diff can also be prevented by using the right antibiotics for only as long as necessary.



Chart 3: C.difficile Infections



Surgical Site Infections (SSIs)

What they are: Surgical site infections occur when germs enter the body following surgery and cause serious infections to the skin, tissues under the skin, body organs or implanted material. SSIs can be especially high after colon surgeries.

How they are prevented: The risk of an SSI can be prevented by following evidence-based processes of care, appropriate use and timing of preventive antibiotics, following pathways to enhance a patient's early recovery after surgery, and other basic prevention strategies.

Chart 4: Surgical Site Infection: Colon Surgery

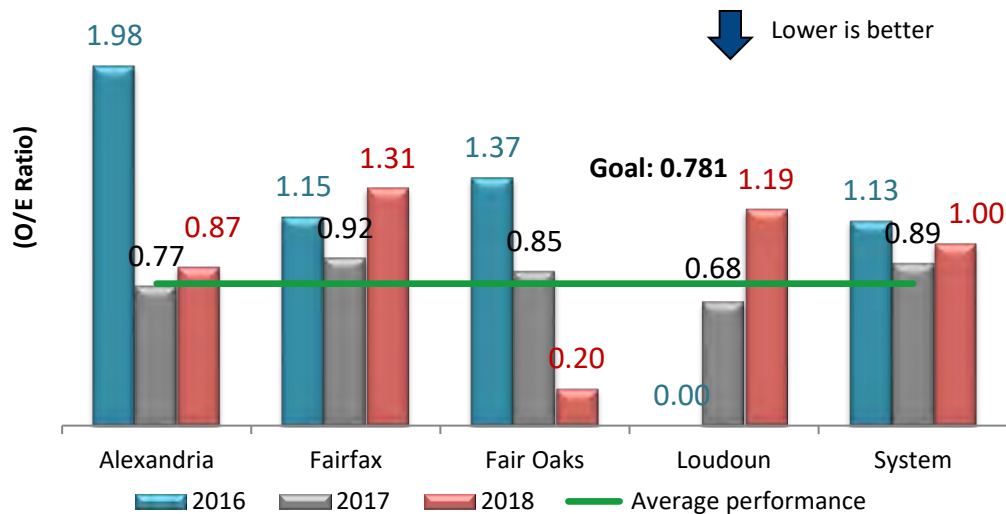
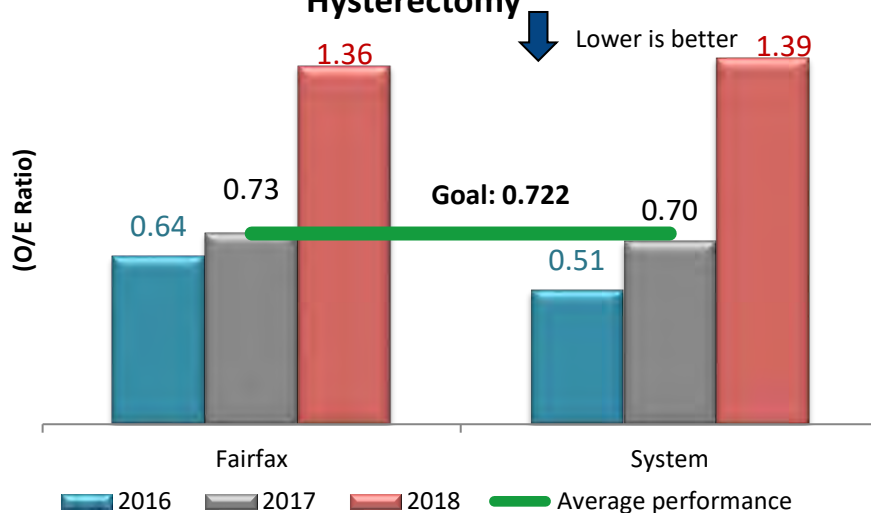


Chart 5: With the exception of Inova Fairfax, all of the other Inova hospitals had SIRs Not Reported (NR) due to the lower volume of abdominal hysterectomy procedures.

Chart 5: Surgical Site Infection: Abdominal Hysterectomy



Hand Hygiene Compliance

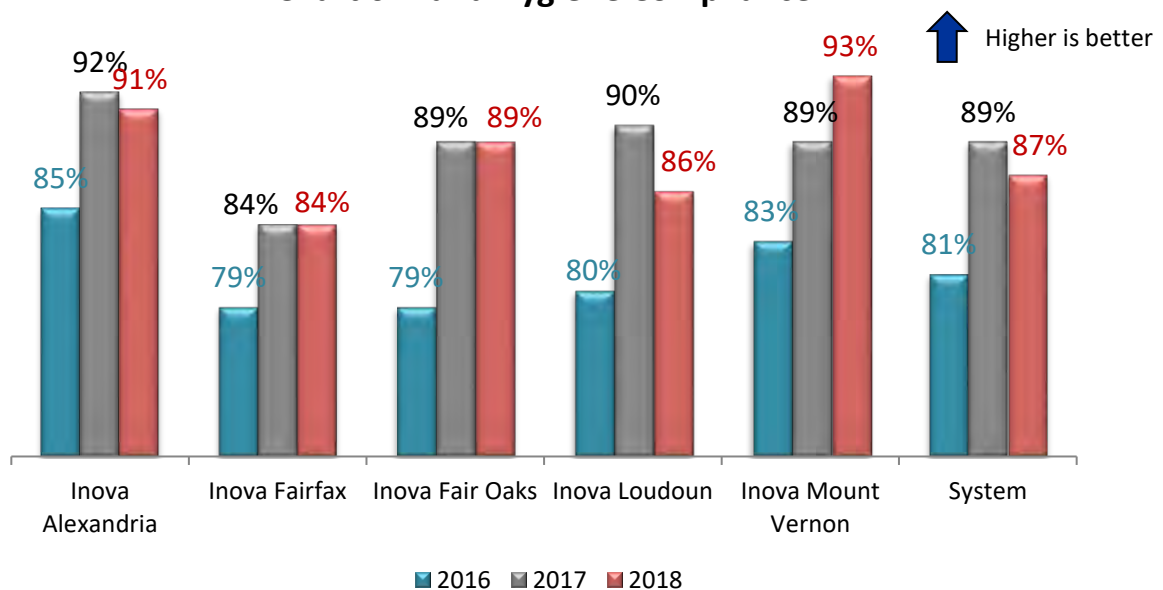
Hand hygiene is the single most important action that healthcare providers can take to prevent an infection. In 2015, Inova began a system wide hand hygiene campaign aimed at improving hand hygiene compliance through accountability.

What we are doing:

In 2018, Inova remains committed to improving hand hygiene through peer-to-peer coaching as well as patient feedback. In addition to compliance observations and reporting, Inova uses internal checks and real-time coaching to improve hand hygiene. Staff are trained in the World Health Organization’s “5 Moments for Hand Hygiene” protocol, which requires proper handwashing at five points: before patient contact, before an “clean” or sterile task, after body fluid exposure risk, after patient contact and after contact with a patient’s surroundings.¹



Chart 6: Hand Hygiene Compliance



¹ World Health Organization. “Your 5 Moments for Hand Hygiene.” http://www.who.int/gpsc/tools/5momentsHandHygiene_A3.pdf?ua=1 Accessed April 22, 2016.

Your 5 Moments for Hand Hygiene



1	BEFORE TOUCHING A PATIENT	WHEN?	Clean your hands before touching a patient when approaching him/her.
		WHY?	To protect the patient against harmful germs carried on your hands.
2	BEFORE CLEAN/ASEPTIC PROCEDURE	WHEN?	Clean your hands immediately before performing a clean/aseptic procedure.
		WHY?	To protect the patient against harmful germs, including the patient's own, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHEN?	Clean your hands immediately after an exposure risk to body fluids (and after glove removal).
		WHY?	To protect yourself and the health-care environment from harmful patient germs.
4	AFTER TOUCHING A PATIENT	WHEN?	Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side.
		WHY?	To protect yourself and the health-care environment from harmful patient germs.
5	AFTER TOUCHING PATIENT SURROUNDINGS	WHEN?	Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.
		WHY?	To protect yourself and the health-care environment from harmful patient germs.



World Health Organization

Patient Safety

A World Alliance for Safer Health Care

SAVE LIVES
Clean Your Hands

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May 2009

Inova's improvement focus for healthcare-associated infections

Infection prevention depends on many things because there are many contributing factors that must be taken into account. Each Inova hospital has implemented process improvements and strategies that are widely known to reduce infections. "Prevention bundles" are groups of evidence-based guidelines and best practices from the content experts at the Centers for Disease Control and Prevention (CDC) and other agencies. Prevention measures for each type of infection are bundled together to form a consistent, evidence-based infection prevention practice. For example, a bundle to prevent a CAUTI includes only inserting an indwelling catheter when needed, using sterile technique to insert the catheter, keeping the area around the catheter clean, positioning the drainage bag below the level of the bladder at all times, and removing the catheter as soon as it is no longer medically needed. Inova's infection prevention team work with the doctors, nurses and other staff to educate, train and monitor that we are following the prevention bundles and monitor compliance with evidence-based practices to prevent infection. We regularly review each piece of the process to assess how we can improve and "hardwire" the practices into the way we deliver care.

Measures of Complication of Care

There are a number of patient safety indicators (PSIs) that were developed by the Agency for Healthcare Research and Quality (AHRQ),² that measure how often patients had serious complications that are potentially preventable. Examples include blood stream infections after surgery, blood clots in the lung or a large vein after surgery, and pressure ulcers or bed sores.

Why it matters:

When a patient develops a complication during their care, it can cause pain and suffering, may require a transfer to a higher level of care and can lead to a longer hospitalization.

What is in the PSI-90 composite?

The PSI-90 Composite is a weighted average of the observed-to-expected ratios for 8 patient safety indicators, or complications:³

- Pressure Ulcer Rate – Pressure ulcers, commonly known as bed sores, are injuries to a patient’s skin and tissue resulting from constant pressure over an extended period of time. People who are not mobile or who have trouble changing position are at greater risk of developing pressure ulcers, including hospitalized patients and people in wheelchairs. PSI-3 measures the percentage of patients who develop severe pressure ulcers while in the hospital.
- Iatrogenic Pneumothorax Rate – An iatrogenic pneumothorax is a lung injury, which can occur as a result of certain medical procedures. It occurs when air leaks into the space between the lungs, causing chest pain, pressure and shortness of breath. PSI-6 measures the percentage of patients who experience this complication.
- Central Venous Catheter-Related Blood Stream Infection Rate – Sometimes a patient may have a catheter inserted into a vein to make it easier to administer fluids or medicine. Another name for a central venous catheter is a “central line.” If the catheter’s insertion site becomes infected, it can cause serious blood infections, called central line-associated blood stream infections, or CLABSIs. PSI-7 measures the percentage of patients who experience this complication.
- Postoperative Hip Fracture Rate –PSI-8 measures how many surgical patients break a hip after surgery.
- Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate – A pulmonary embolism (PE) is a life-threatening condition that occurs when a blood clot breaks off, travels through the blood stream and becomes lodged in the lungs. Deep vein thrombosis (DVT) is a blood clot in a deep vein. PSI-12 measures these complications that can largely be avoided through proper preventative measures.
- Postoperative Sepsis Rate – Sepsis is a life-threatening condition that arises when the body’s response to an infection injures its own tissues and organs. PSI-13 measures

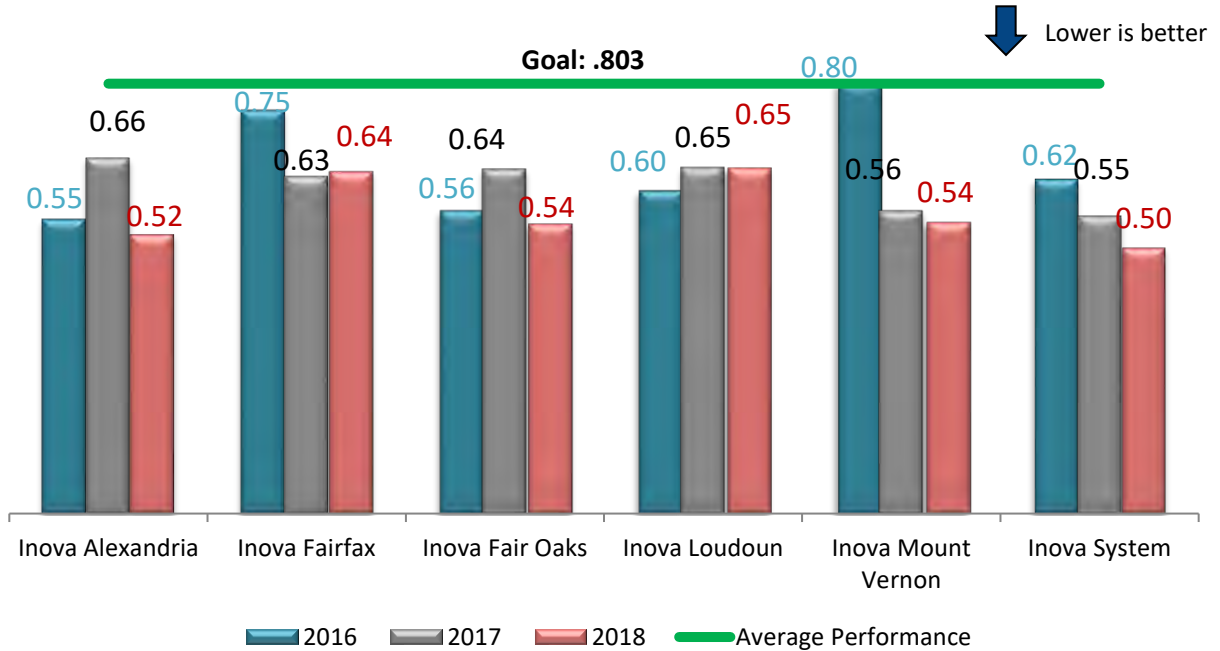
² AHRQ is a federal agency dedicated to improving healthcare quality, safety, efficiency and effectiveness. For more information, visit ahrq.gov.

³ Full information on each of these patient safety indicators is available at www.qualitymeasures.ahrq.gov.

postoperative sepsis, a rare complication of surgery when sepsis occurs shortly after surgery and affects one or more body organs.

- Postoperative Wound Dehiscence Rate – PSI-14 measures how often patients’ surgical wounds in the abdominal or pelvic area re-open after surgery.
- Accidental Puncture or Laceration Rate – PSI-15 measures how often patients are harmed by an accidental puncture or cut (laceration) during surgeries or procedures.

Chart 7: Patient Safety Indicators- All Patients

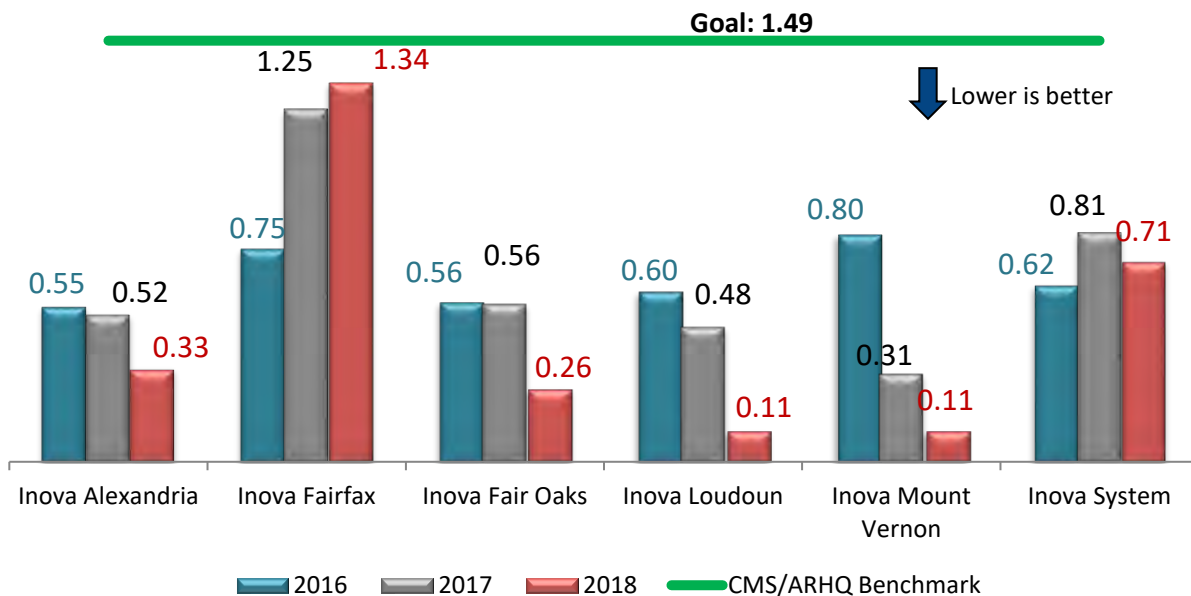


Systemwide average of **0.71** ↓
for 2018 and met the national average performance goal.

5 out of **5** Inova hospitals **EXCEEDED** the national average performance goal.



Chart 8: Patient Safety Indicators- Medicare Patients



Inova’s improvement focus for patient safety indicators

One of the PSIs (PSI-12 PE/DVT) is heavily weighted in the composite score. Most of each hospital’s PSI rate can be attributed to a single indicator: PSI-12, blood clots that develop after surgery and become lodged in the lungs or clots that develop in a deep vein. To reduce these blood clots, Inova has focused on the following:

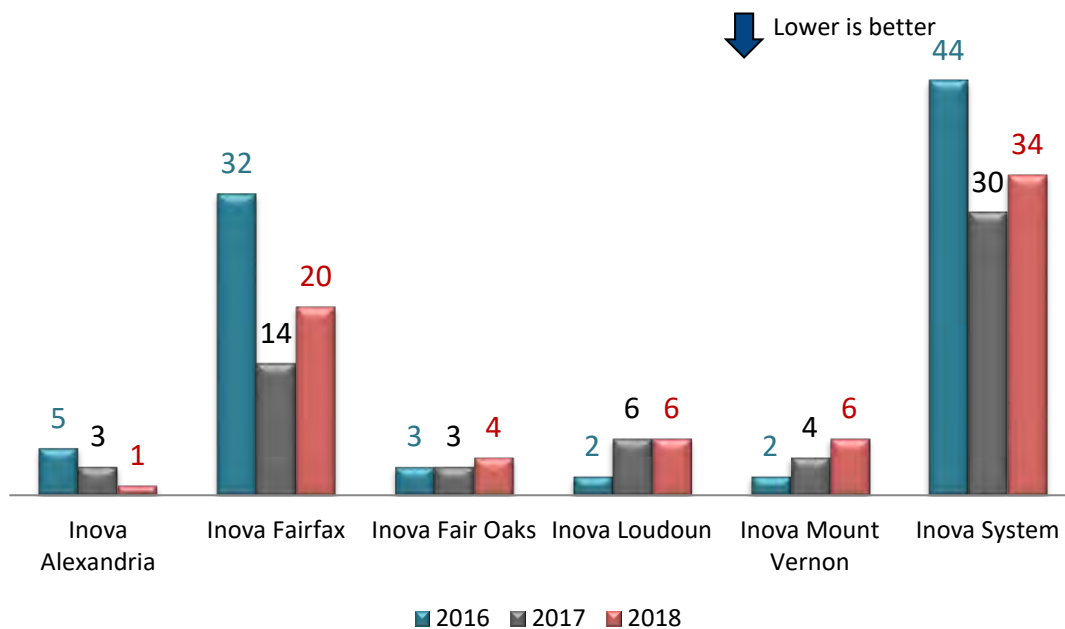
- Assessing each patient’s unique risk for developing a blood clot and making the results of these assessments easily visible in the electronic health record to everyone on the care team so that the right treatment plans are followed
- Making sure that patients wear special stockings and use sequential compression devices to improve circulation in the legs
- Increasing how quickly patients are out of bed and walking after surgery

A Clinical Effectiveness Sprint on Mobility began in 2017 to aim at improving ambulation and mobility for patients to help reduce risk of pressure ulcers/DVTs. Patients in acute care or ICU/step down units are at most risk for pressure ulcers. The Mobility Protocol focused on progressive mobility including bed positioning, supine exercises, transfers, ambulation in room, and ambulation of out room. In 2018, the initiative showed sustained improvement across the system.

Serious Harm Events

A serious harm event⁴ is an adverse event in which a patient suffers death or serious harm because of an error that is usually preventable. They include injuries that occurred during the patient's care (not due to the patient's disease) as well as harm that occurred because a healthcare worker did not follow standard care or hospital protocols.

Chart 9: Serious Reportable Safety Events



Inova's improvement focus for serious reportable events

Patient Identification- What's In a Name: In 2018, proper patient identification was identified as an opportunity for improvement. While this might seem like a simple task that we do frequently with every patient, wide variation in proper use of patient identifiers was noted. Patient Identification is tied to every interaction with patients. An interdisciplinary team was developed to take a system approach to improving patient safety and properly knowing each patient. Best practices, various hospital policies, and team member feedback led to a multi-pronged plan which will be rolled out Spring 2019. Additionally, Safety Always was modified to help identify the scope of the problem so that the team could reliably make improvements.

Fall Prevention: Preventing patient falls continues to be a high priority in patient safety. While total falls declined 8.5% and falls with serious injury declined 20% in 2018, the System Fall Prevention Team recognized the need to accelerate best practices to further prevent falls. To continue the journey to zero harm, the team created a new charter with specific goals for a

⁴ The serious harm event measurement was developed by the National Quality Forum (NQF). The NQF's mission is to improve healthcare quality across the country by establishing and promoting shared quality standards. For more information, visit qualityforum.org.

15% fall reduction at each hospital. Additionally, the team developed a quarterly Fall Prevention Summit meeting hosted by each hospital. This has successfully improved collaboration and communication across the system with a shared mental model for fall prevention. The quarterly summit allows each hospital to act as host, share best practices, and engage their local fall team for the meeting.

Just Culture: In 2018, all leaders completed 4 hours of training on “Leading in a Just Way”. Inova adopted this Just Culture toolkit in support of its continued cultural journey to be a great place to work and create an exceptional patient experience. Just culture refers to a shared accountability model whereby leaders are accountable for the systems and processes in place so that safe choices can be easily made to follow policies and standard work. Team members in turn, are accountable for making the correct choices and striving to make the best choices available. This model of accountability also recognizes that “To Err is Human” , and even when we are trying our best, as human beings, we can make mistakes. Having a just and fair culture is essential to continuous improvement, high reliability, and Inova’s culture of safety. Inova’s Just Culture model will continue to roll out in 2019 to all team members.

Safety Always: Safety Always is an event reporting tool that was implemented within Inova in 2014. Thanks to feedback from team members, Safety Always continues to be improved. Several changes were made in 2018:

- Expanded workplace violence event data capture to gather both patient and team member events
- Created a new category for patient identification and “tagging” of events in other categories when associated with patient identification errors
- Modified electronic ticket system for easier user setup
- Revised Root Cause Analysis screens to improve reporting accuracy
- Corrected individual mapping errors for better access to department reports
- Created Manager Standard Work Guide to assist with managing departmental events and providing feedback to team members
- Safety Always Bootcamps provided across the system for continued learning

Great Catches: A great catch is an event report about a circumstance that might have caused harm but was prevented from reaching the patient due to the active recovery efforts by caregivers or by chance. Great catch reporting continues to increase each year. 3,226 events were reported in 2018, up by 2% from the prior year.

Section 2: Patient Outcomes

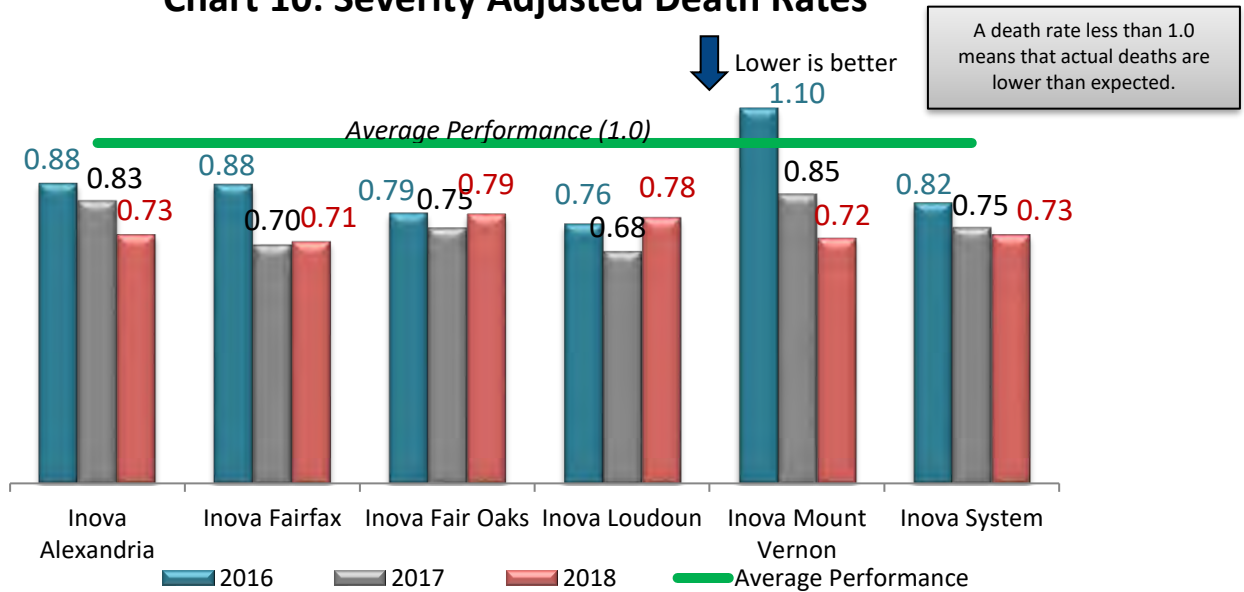
In healthcare, we are shifting away from some process measures – ones that look at the actions healthcare providers should do, to outcome measures – that look at what happened to a patient as a result of the care he or she received. For example, patients coming in with a heart attack should expect certain processes to always occur, such as receiving intervention within a certain amount of time and receiving certain medications during and after hospitalization.

Patient death rates and readmissions are two important outcome measures. For both of these measures, Inova benchmarks its results against the performance of the Premier healthcare alliance. A score of 1.0 indicates that there is no difference between the hospital's actual rate and the expected rate. A score of less than 1.0 means hospital performance is better than expected based on patients' medical condition and risk profile. A score of greater than 1.0 means that the hospital performance was worse than expected based on the same risk parameters.

Severity-Adjusted Patient Death Rates

A hospital's mortality (death) rate refers to risk-adjusted information about the number of people who die while in the hospital. In other words, the death rate takes into account how sick patients were when they were hospitalized, as well as a person's age, medical condition and other risk factors that may increase the likelihood of death. Risk-adjusting the death rate is necessary to have fair and meaningful hospital comparisons, since some hospitals treat sicker patients. Death rates provide information about important aspects of hospital care that can affect patients' outcomes – such as prevention of complications and early recognition and response to a change in a patient's condition. Thus, data about a hospital's death rate can be an important indicator of that hospital's overall quality. For the chart below, a rate less than 1.0 for mortality indicates that the hospital/system performed better than expected.

Chart 10: Severity Adjusted Death Rates



Inova’s Improvement Focus for Severity-Adjusted Death Rates

All five Inova hospitals performed better than expected on severity adjusted death rates, however, we are continuing to focus on reducing our death rates even further. Inova created a rapid cycle improvement project focusing on plan to reduce sepsis deaths by early identification and management of sepsis patients. The focus was on identifying patients that were clinically deteriorating and escalating their care to a specialized team (Rapid Response Team) for earlier intervention. This plan includes new screening tools and order sets, metrics and reporting that help with early identification to aid in earlier treatment. The identification and treatment plans include patients in the Emergency Department, Critical Care, and Inpatient non-Critical Care. Treatment of sepsis is very time sensitive and the use of standardized screening tools will help to reduce sepsis death rates.

Unplanned Hospital Readmissions

Why it matters:

A hospital’s 30-day readmission rate is a quality indicator of whether a patient received high quality care while in the hospital and had an effective transition to care after the hospitalization. When a patient has an unplanned readmission to the hospital a short time after being discharged, it can indicate a problem that a patient developed as a result of the care they received, or it can indicate that the problem for which a patient was treated was not fully resolved. It could also indicate that the patient did not have the support they needed once they left the hospital, with follow up care, medications or community resources, and thus did not

transition to the outpatient setting successfully. In other cases, the readmission is unrelated to the care the patient received during a previous hospital stay.

How it is measured:

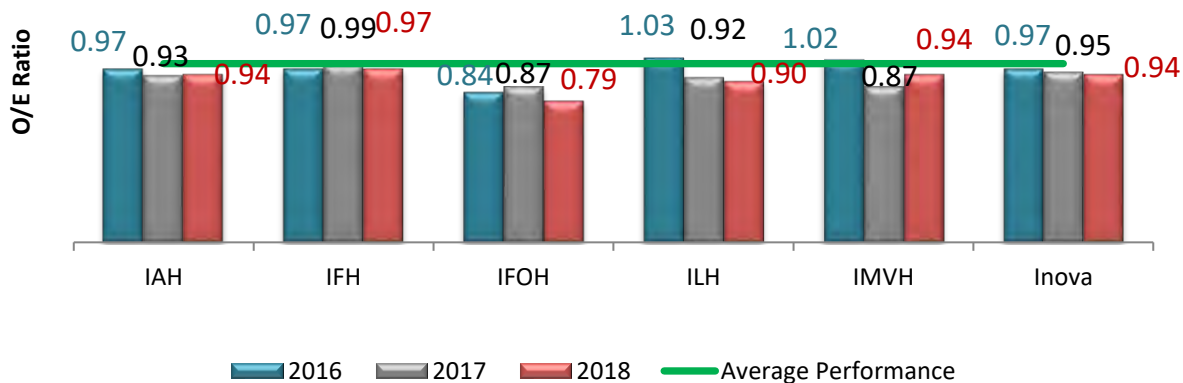
The risk-adjusted rate takes into account risk factors such as a patient’s age, medical history, and other medical conditions that may make a readmission more likely. Accounting for differences in patients’ risk profiles ensures that hospitals are compared with each other fairly. Readmission data is presented as a ratio of a hospital’s observed readmission rate to its expected readmission rate (often called the observed-to-expected, or O/E, ratio) as mentioned previously.

Inova benchmarks its performance using Premier healthcare alliance data. For these charts, a rate less than 1.0 indicates that the hospital/system performed better than expected. Chart 11 shows 30-day readmission data for a three year period including all inpatients, all payers. In 2018, Inova system wide score of 0.94 was better than expected.

Chart 11: 30-Day All-Cause Risk-Adjusted Readmissions

All Inpatients, All Payers

↓ Lower is better



Charts 12 – 17 show three years of 30-day readmission data for focused Medicare populations of individuals age 65 or older. Medicare beneficiaries are important quality focus for CMS because they are considered a vulnerable population.

Chart 12: 30-Day All-Cause Risk-Adjusted Readmissions

Heart Attack Medicare 65+

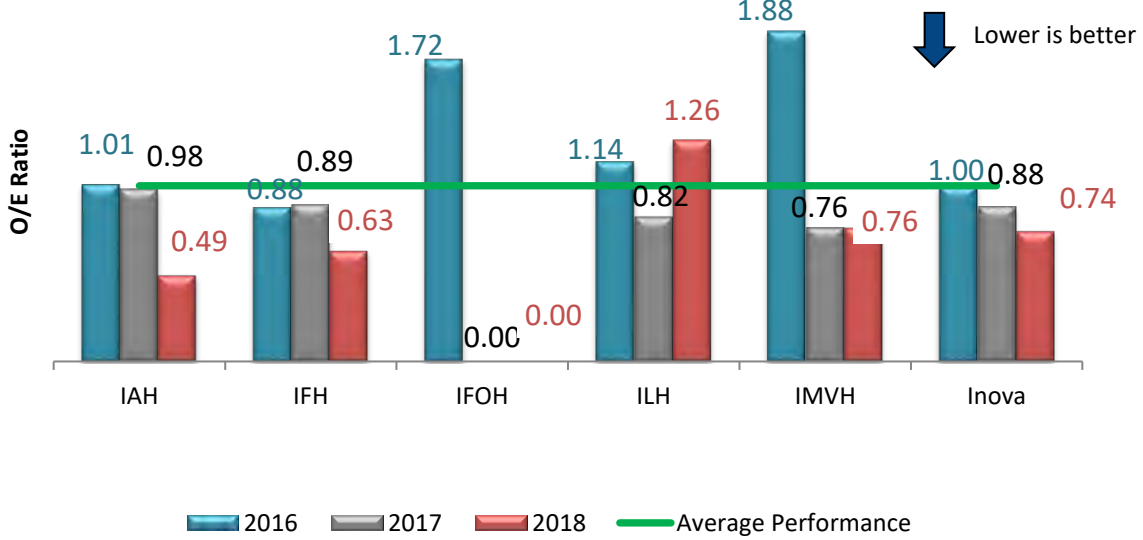


Chart 13: 30-Day All-Cause Risk-Adjusted Readmissions

Chronic Obstructive Pulmonary Disease (COPD) Medicare 65+

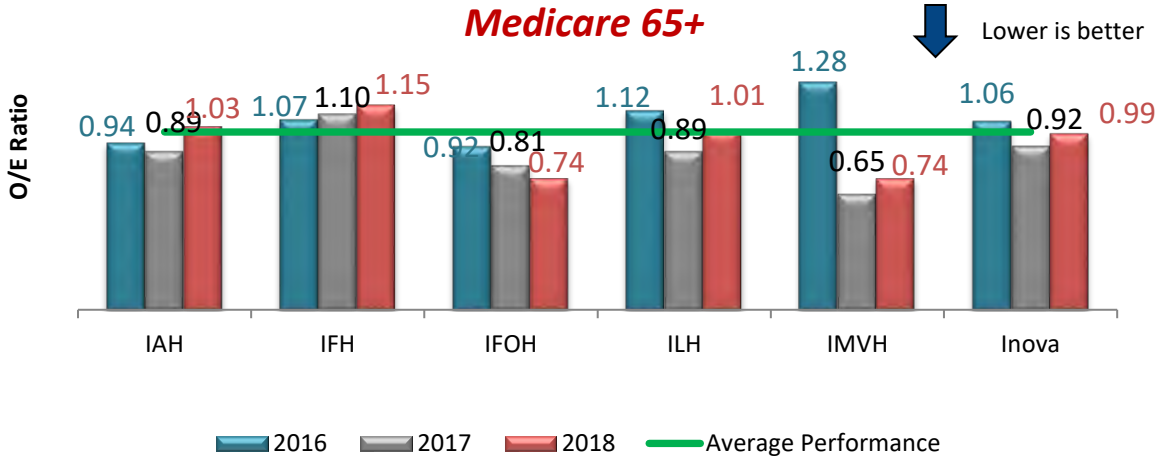


Chart 14: 30-Day All-Cause Risk-Adjusted Readmissions
Heart Failure Medicare 65+

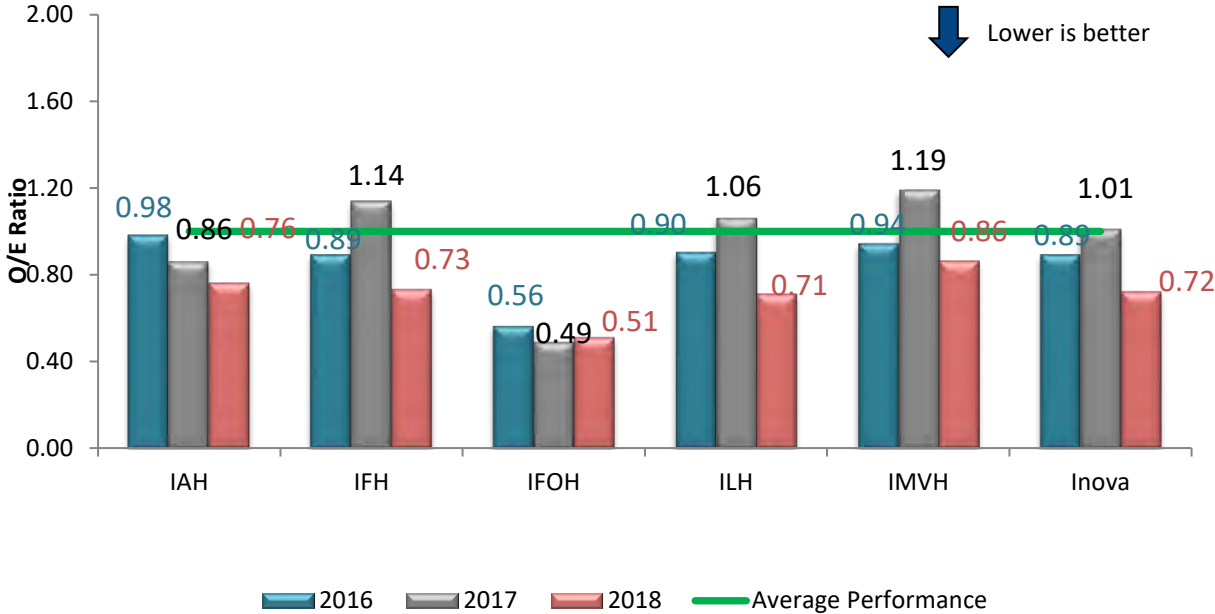
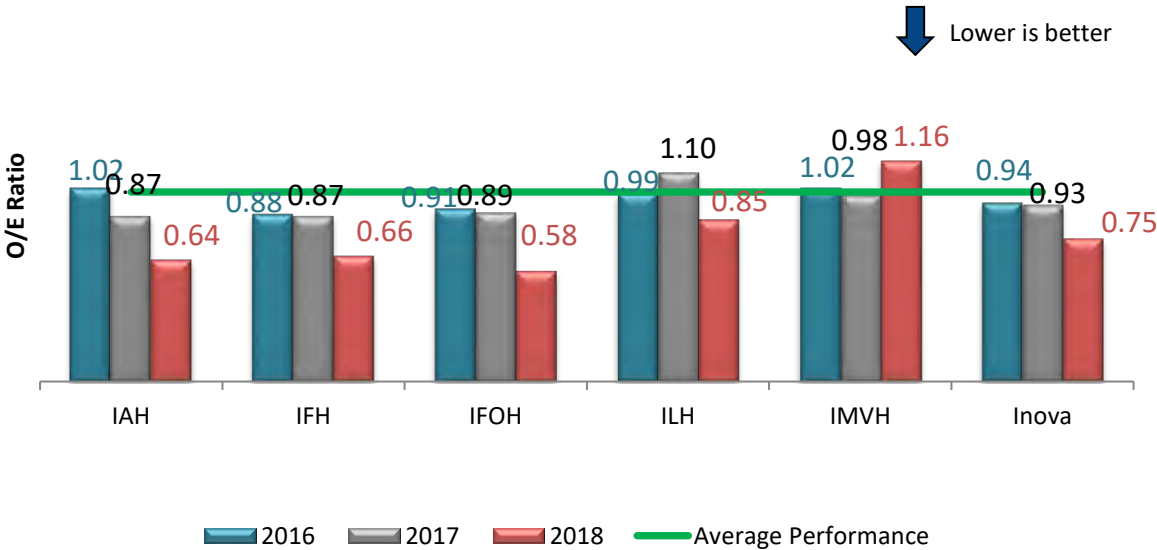
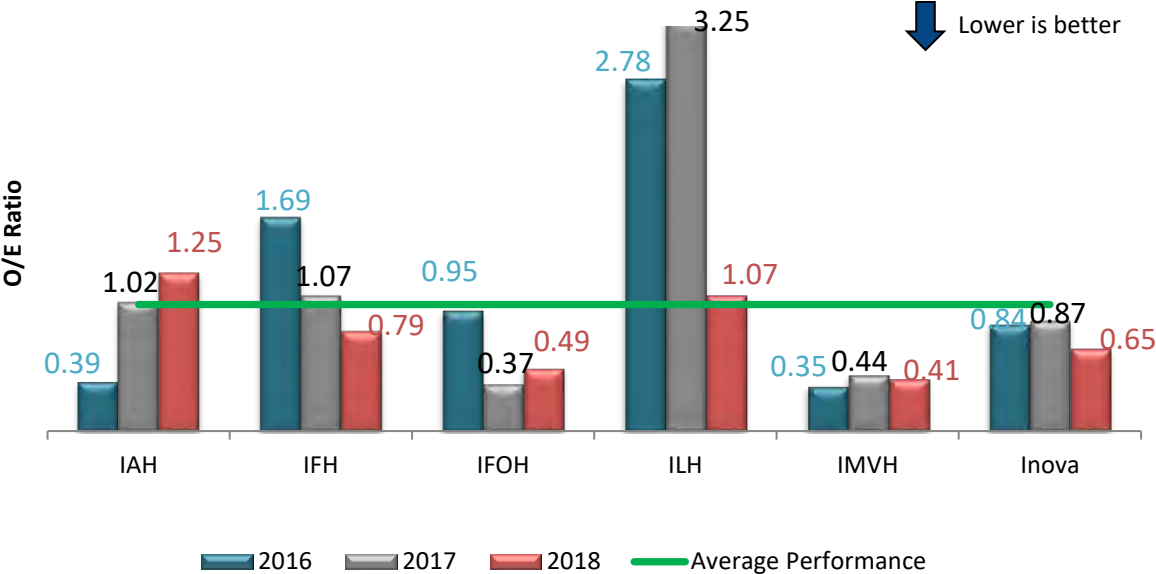


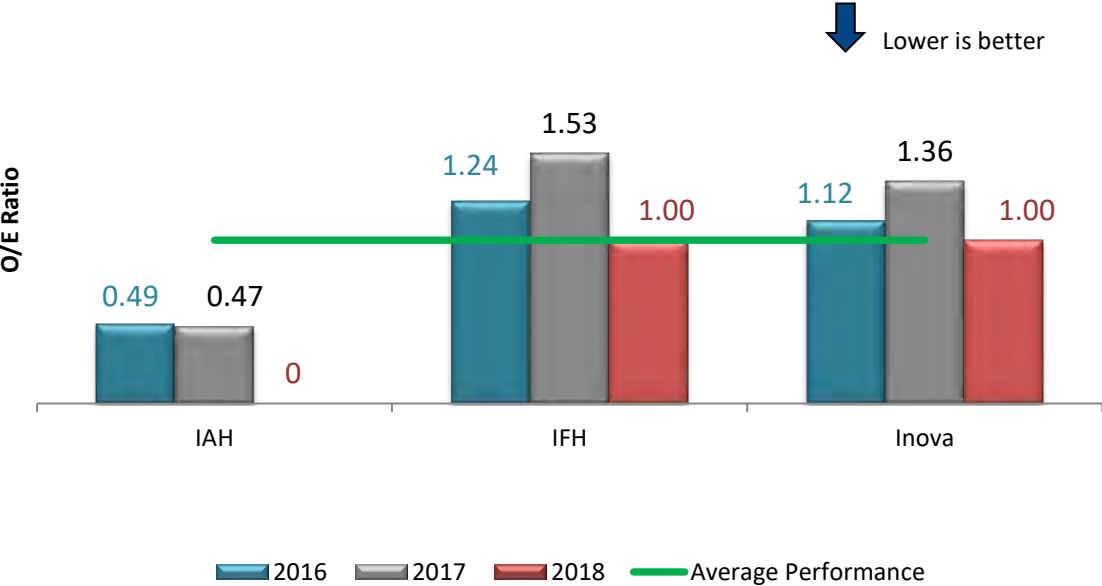
Chart 15: 30-Day All-Cause Risk-Adjusted Readmissions
Pneumonia Medicare 65+



**Chart 16: 30-Day All-Cause Risk-Adjusted Readmissions
Hip/Knee Medicare 65+**



**Chart 17: 30-Day All-Cause Risk-Adjusted Readmissions
Coronary Artery Bypass Graft Medicare 65+**



**CABG procedures are only performed at two of the Inova hospitals.

Inova's improvement focus for readmissions

Inova remains focused on ensuring the quality of discharge from the hospital and then the transition to home, with particular attention to making sure patients are taking the right medications after they leave the hospital. Specific steps include:

- Identifying a patient with a high readmission risk at admission, using a predictive analysis tool in EpicCare, so that the right treatment plans can be put in place.
- Staffing each hospital's emergency department with case management staff to make sure that patients who don't need to be admitted get connected with the right level of care and services.
- Having our pharmacy team work with the patient and the rest of our care team to make sure we know all of the medications a patient is taking before coming to the hospital so that we can continue the medications they need; and make sure the patient knows which medications to start, continue, or stop after they leave the hospital.
- Educating patients about their health conditions and specifically about early warning signs that indicate they may be getting worse so that they can seek treatment early and hopefully avoid the need for another hospital stay
- Connecting the patient to the right resources in the community after they leave the hospital to help them better manage their medical condition
- Conducting an analysis of each time a patient is readmitted to promote learning and to get better at preventing future readmissions.

the Perfect Transition of Care



Begin transition planning immediately

Identify recovery barriers early to avoid later challenges and delays during discharge.

Use “teach back” when communicating

Care team members should clearly communicate instructions and diagnosis to patients and caregivers. Asking open-ended questions ensures patients fully understand.



Provide a “90+ Day Commitment to Care” plan*

Provide patients with a pre-printed, color-coded “90-day Commitment to Care” treatment plan to aid them in their journey to recovery and wellness.

* Only applies to focus diagnosis: Pneumonia, Heart Failure, Heart Attack (Myocardial Infarction), COPD, and Coronary Artery Bypass Graft (CABG)

Involve the Pharmacy

Involve the Pharmacy to get an accurate picture of a patient’s medications upon arrival and to ensure post-hospital medications are optimized. Be sure patients know what medications they’re taking and why.



Arrange a follow-up

Arrange a face-to-face follow-up with the patient’s PCP, specialist, Inova Transitional Services clinic or a home health nurse within 48 - 72 hours of leaving the hospital.



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Perinatal outcomes

This year, we are including outcomes for Early Elective Deliveries and Cesarean sections (C-Sections). C-sections are not yet publicly reported by CMS. While there are a number of factors that influence if a woman has a C-section. Across the country there are efforts to decrease C-section rates. The four Inova hospitals where deliveries occur are working together to decrease C-section rates.

Why it matters: The American College of Obstetricians and Gynecologists (ACOG) published the importance of managing C-section rates. Perinatal outcomes matter because it is important to improve maternal and child health outcomes results in healthy births, therefore reduced cost, reduced recovery, and lower length of stay, etc.

Chart 18: Percentage of newborns whose deliveries were scheduled too early (1 - 3 weeks early), when a scheduled delivery was not medically necessary

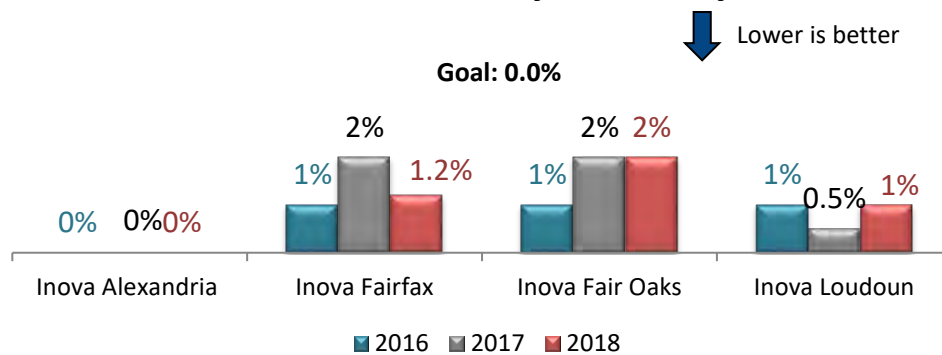


Chart 19: Cesarean Section

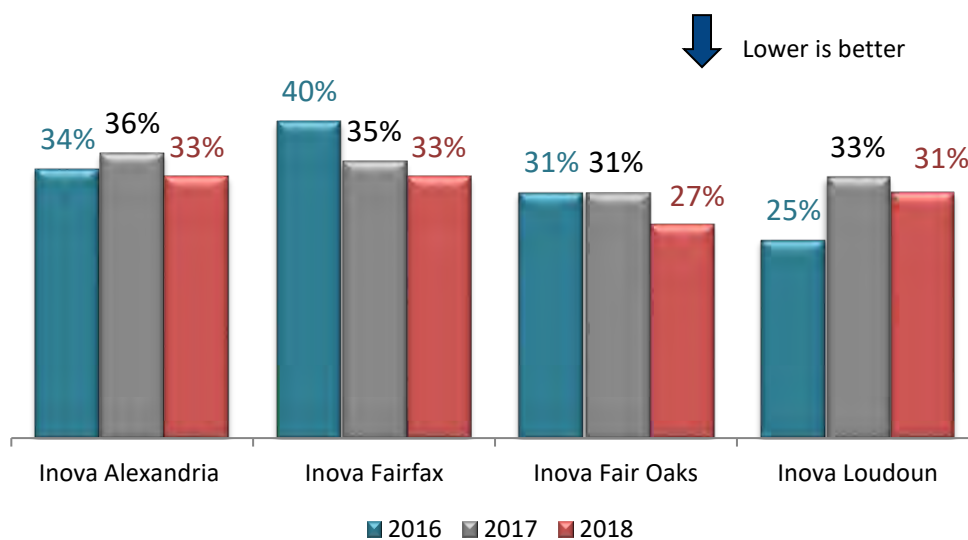


Chart 20: Healthcare Associated Blood Stream Infections in Newborns

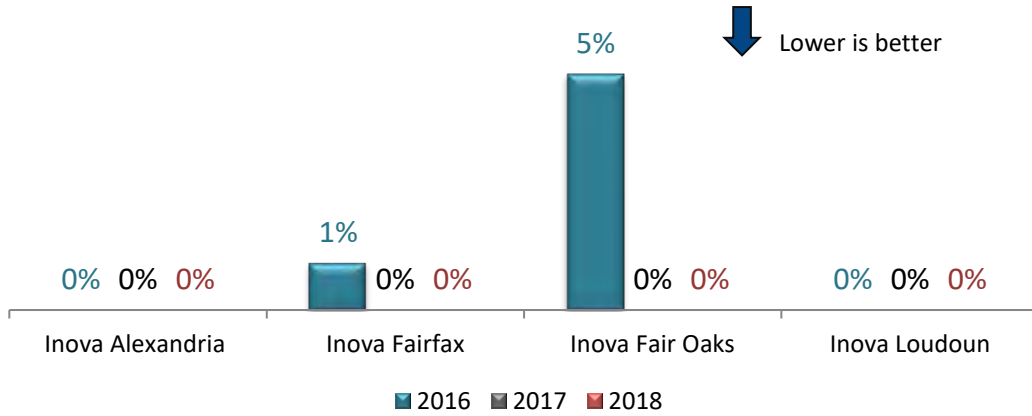


Chart 21: Antenatal Steroids

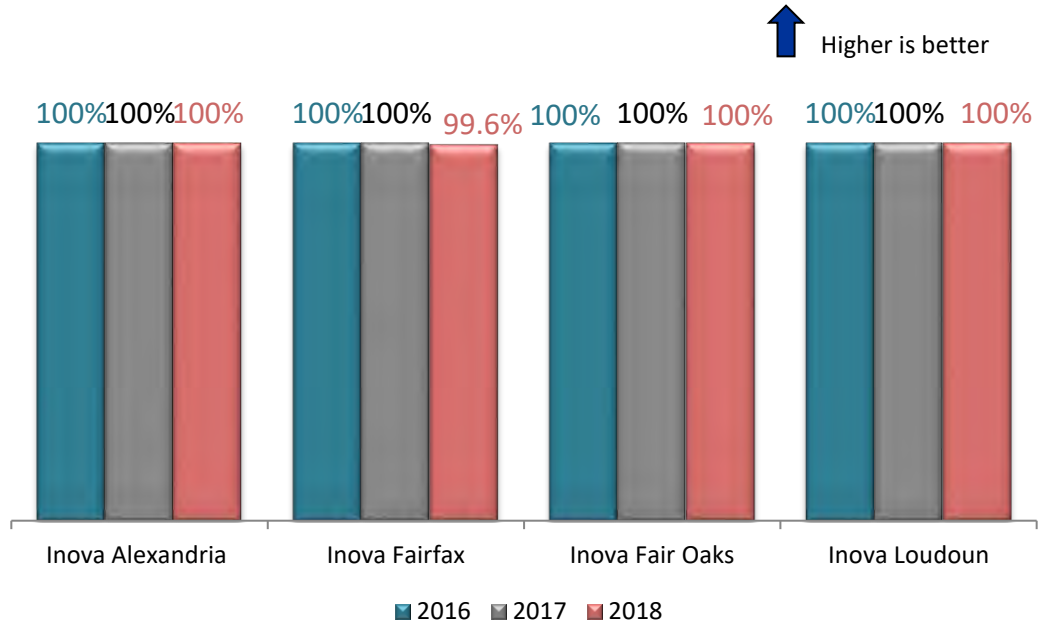
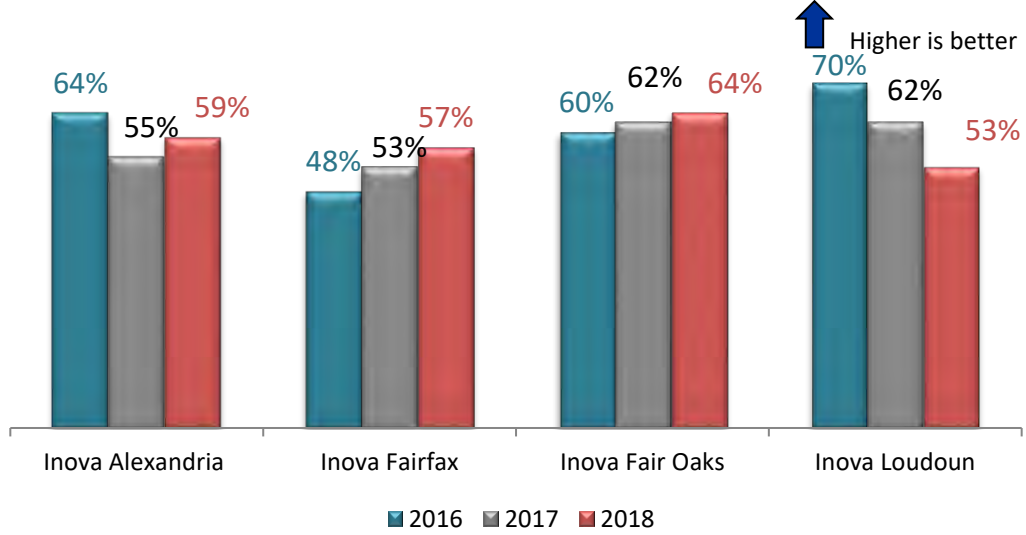


Chart 22: Exclusive Breast Milk Feeding



Patient Experience

Inova is committed to providing an exceptional experience for all patients we have the privilege to serve. To measure the inpatient experience, we use the CMS-mandated Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)⁵ survey. This survey assesses the frequency of various staff behaviors and processes that are critical to providing safe, quality care to our patients. Administration of the survey is completed in accordance with CMS' survey eligibility criteria, and the survey results are compared directly with other hospitals to help us understand how we rank in our performance.

To collect this data, Inova sends surveys to a random sampling of patients within one week of their hospital discharge. In 2018, Inova collected more than 11,000 HCAHPS survey responses system-wide. It is important to note that even if there are multiple positive answer choices – for example, some questions ask the patient to rate on a scale that includes “never,” “sometimes,” “usually,” or “always” – only the most positive “top-box” answer counts. In this example, only a rating of “always” would count as a positive answer. In other words, if a patient reports that the hospital’s staff “usually” responded quickly to the call bell, that answer would count as a negative score.

The charts in this section show our patient experience results for the last three years, 2016 – 2018, with the CMS national average indicated for reference purposes by the green line on each chart.

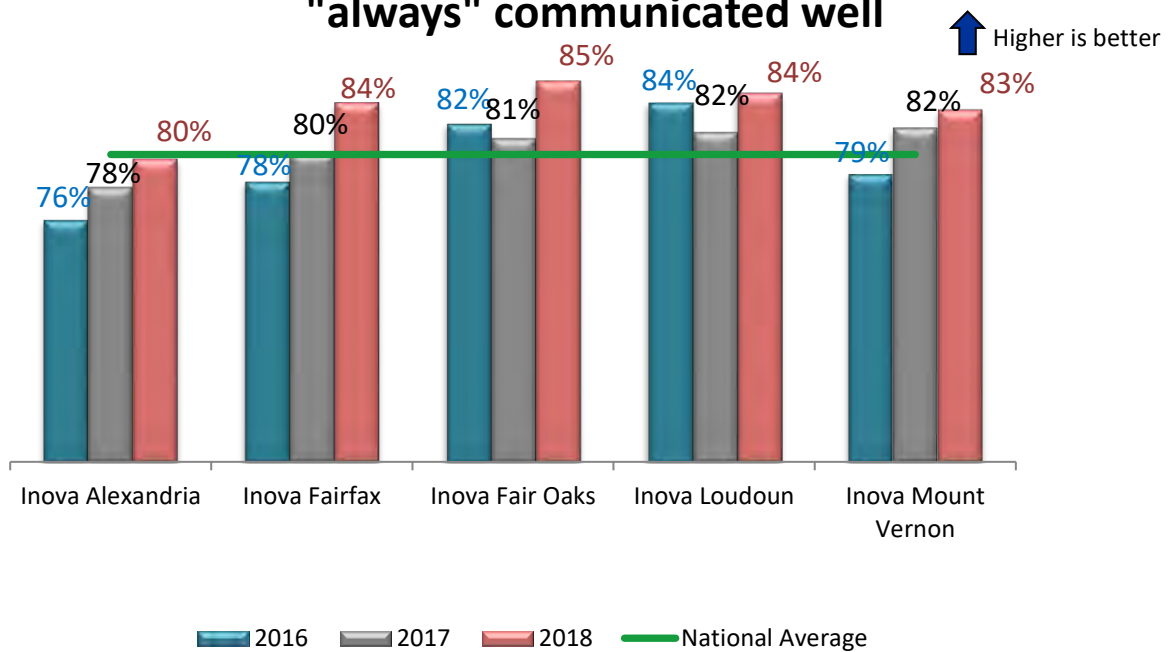
⁵ HCAHPS was developed by CMS and AHRQ. Please note that these results may differ slightly from the official CMS HCAHPS results, because the case-mix adjustment that CMS applies to survey results may vary from the simulated adjustment Inova has used to generate this data.

Nurse Communication

This HCAHPS survey category has three questions asking patients about the frequency of nursing communication behaviors, including: how often nurses treated them with courtesy and respect, how often nurses listened carefully to them and how often nurses explained things in a way they could understand.



Chart 23: Patients who reported that their nurses "always" communicated well

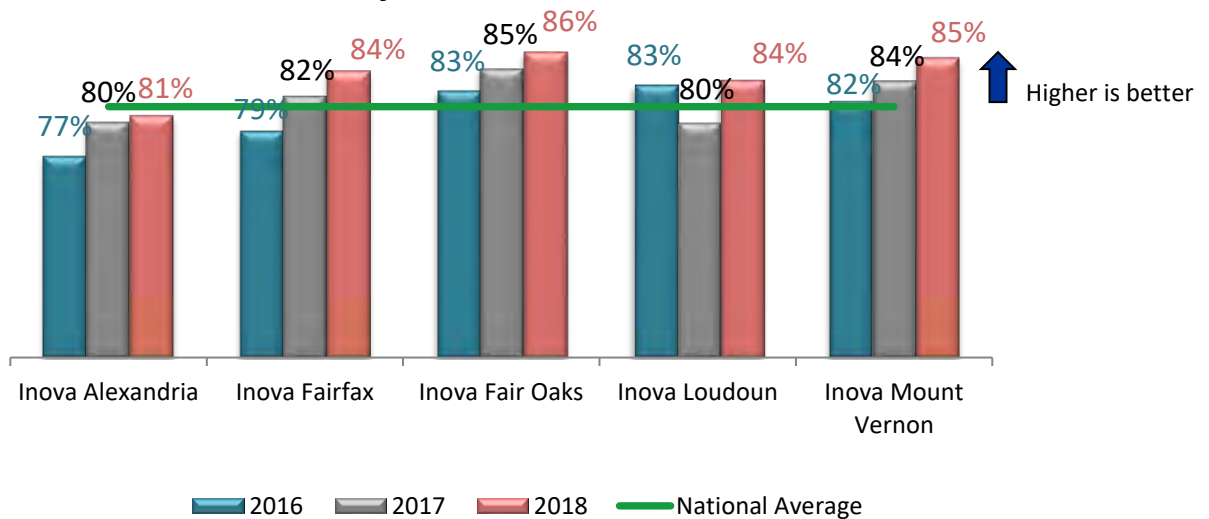


Doctor Communication

In the doctor communication category, patients were asked to identify the frequency of physician communication behaviors, including: how often doctors treated them with courtesy and respect, how often doctors listened carefully to them and how often doctors explained things in a way they understood.



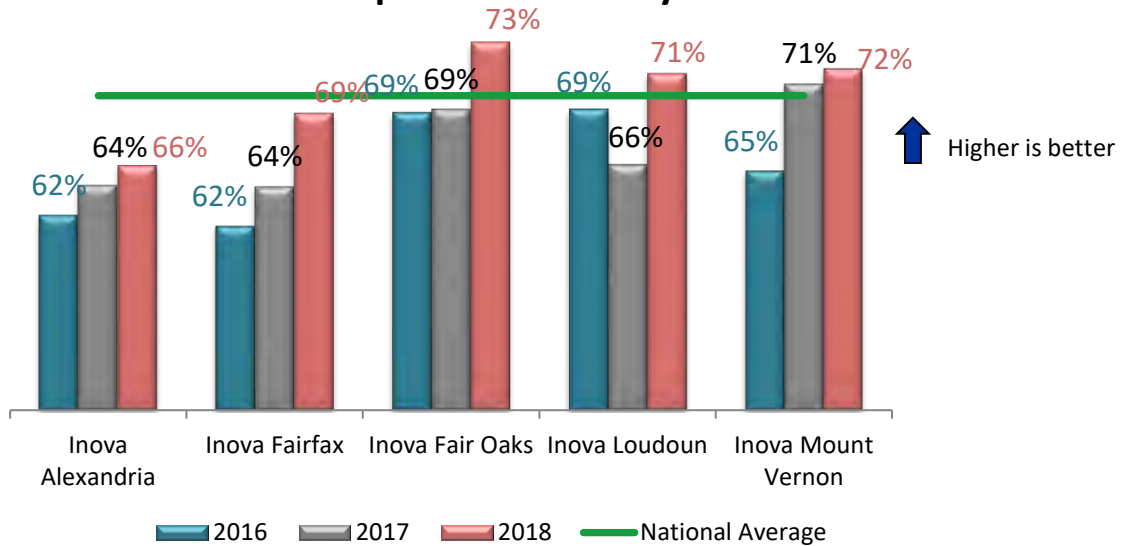
Chart 24: Patients who reported that their doctors "always" communicated well



Responsiveness of Staff

The HCAHPS survey collects data on two aspects of staff responsiveness, measuring the frequency of: timely call bell responses and timely responses for bathroom assistance needs.

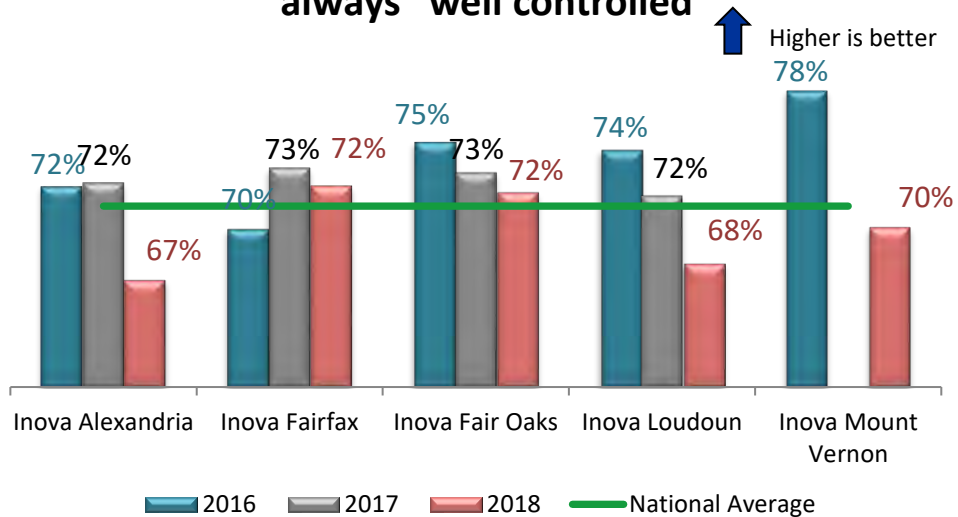
Chart 25: Patients who reported that they "always" received help as soon as they wanted



Pain Communication

In this HCAHPS category, patients were asked to rate their hospital's effectiveness with communicating about pain, including: how often staff spoke about pain and how often staff spoke about pain treatment.

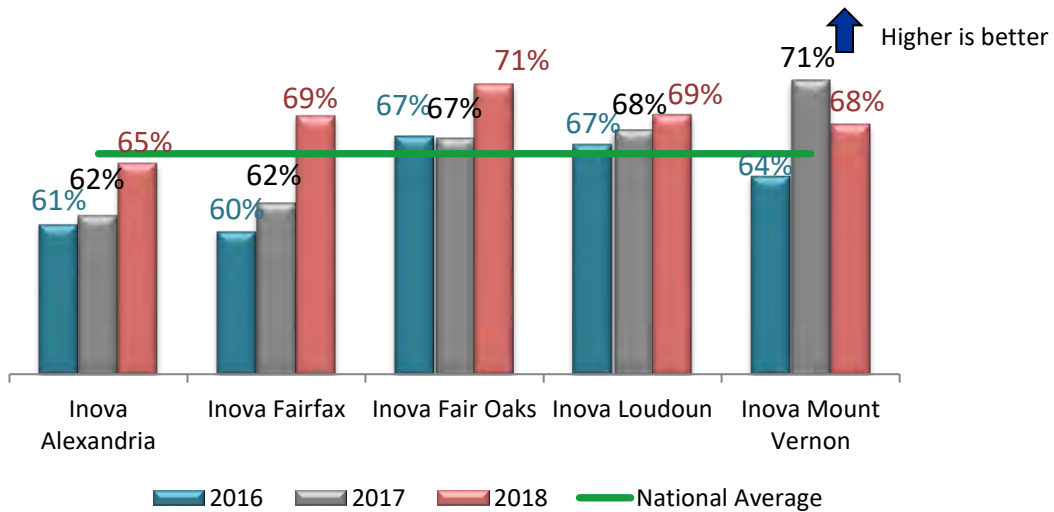
Chart 26: Patients who reported that their pain was "always" well controlled



Communication about Medications

In this category, patients were asked about how well hospital staff explained medicines to patients before administering them, including: how often hospital staff explained what a new medicine was for before giving it to the patient and how often hospital staff clearly explained possible side effects of any new medicine before giving it to the patient.

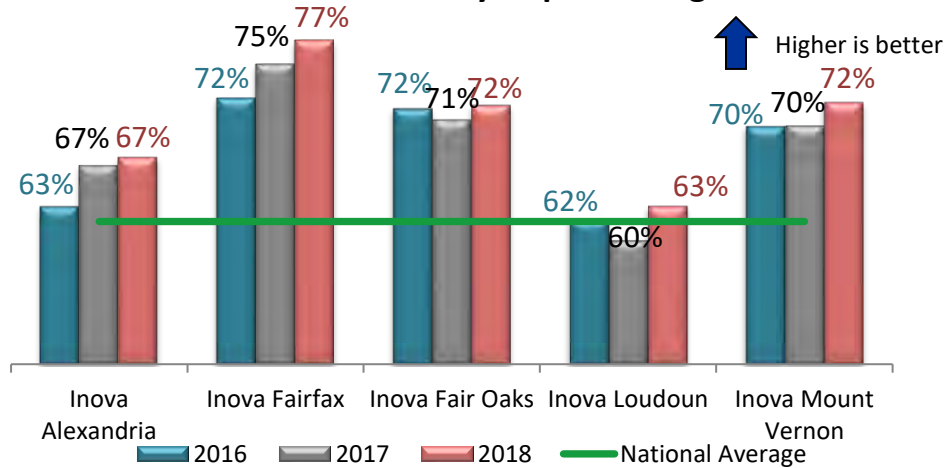
Chart 27: Patients who reported that staff "always" explained about medicines before giving it to them



Cleanliness and Quietness

In this category, patients were asked about the hospital environment, including: how often the patient's room was kept clean and how often the area of the patient's room was kept quiet at night.

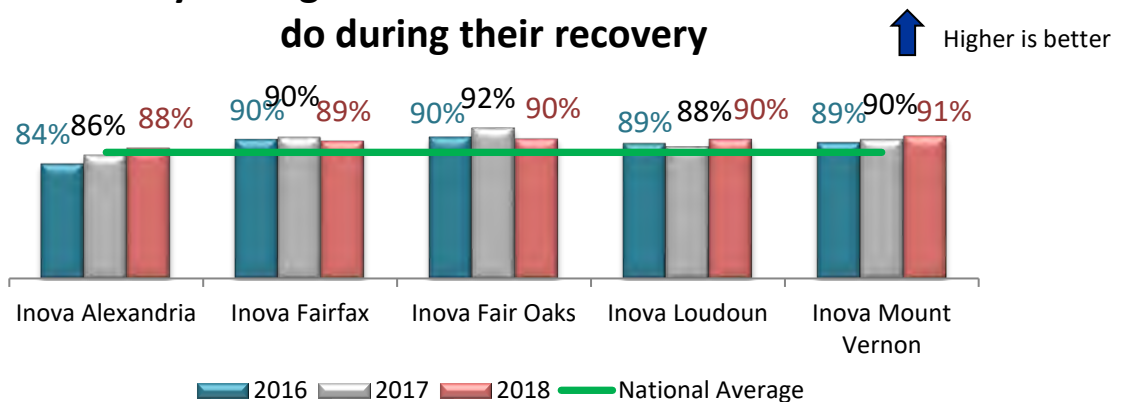
Chart 28: Patients who reported that their room and bathroom were "always" clean and that the area around their room was "always" quiet at night



Discharge Information

This category of the survey collects data about specific discharge needs, including: whether someone on their healthcare team asked if the patient had the help they needed when they left the hospital and whether they were given written information about symptoms or problems to look for after they left the hospital.

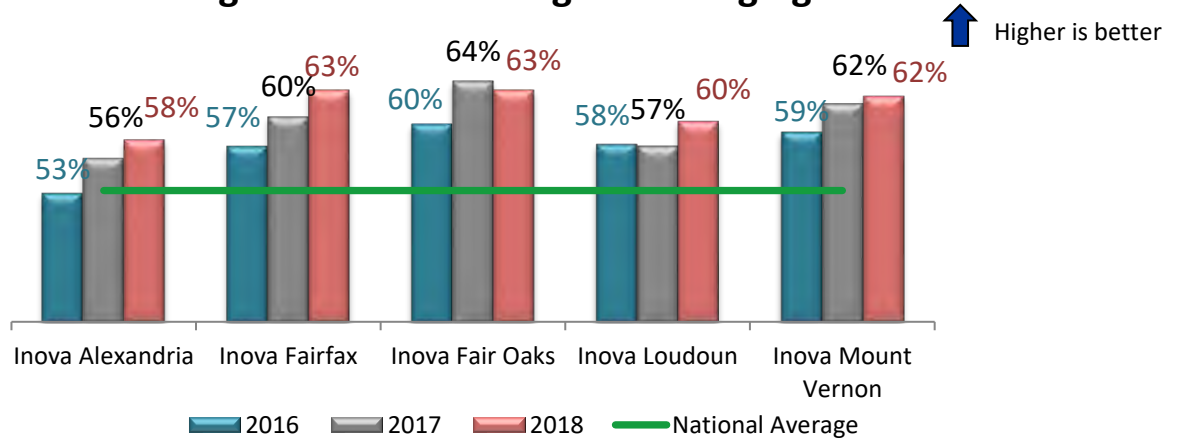
Chart 29: Patients who reported that YES, they were given information about what to do during their recovery



Care Transitions

This category asks patients to assess if the hospital prepared them to transition home from the hospital, including: whether staff took their preferences and those of their family or caregiver into account in deciding what my health care needs would be when they left, whether they had a good understanding of the things they were responsible for in managing their health and whether they clearly understood the purpose for taking each of their medications when they left.

Chart 30: Patients who reported that staff "always" took preferences for health care needs and "always" had a good understanding of managing health

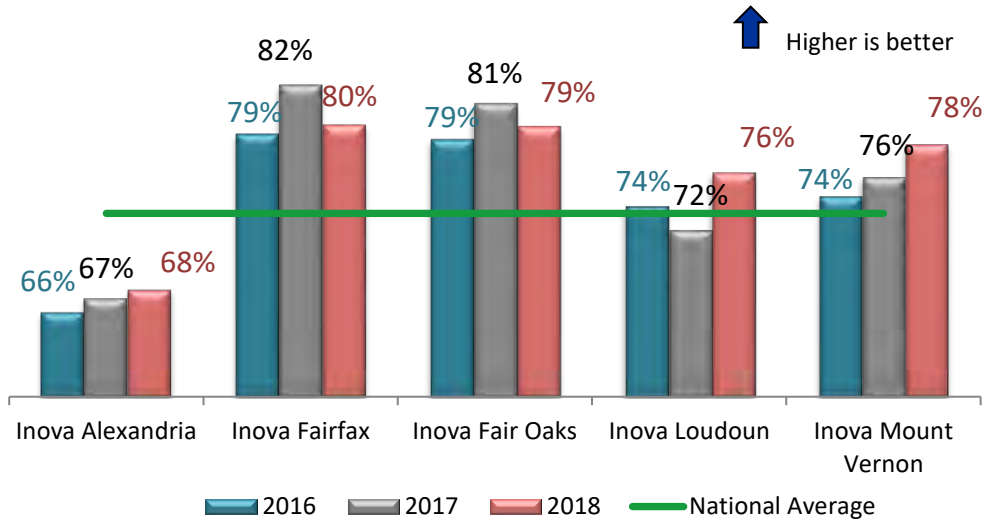


Overall Rating

This HCAHPS question asks patients to rate the hospital overall on a scale from 0 (worst possible hospital) to 10 (best possible hospital). Chart 31 depicts what percentage of respondents selected the highest scores (9 or 10) in response to this question.



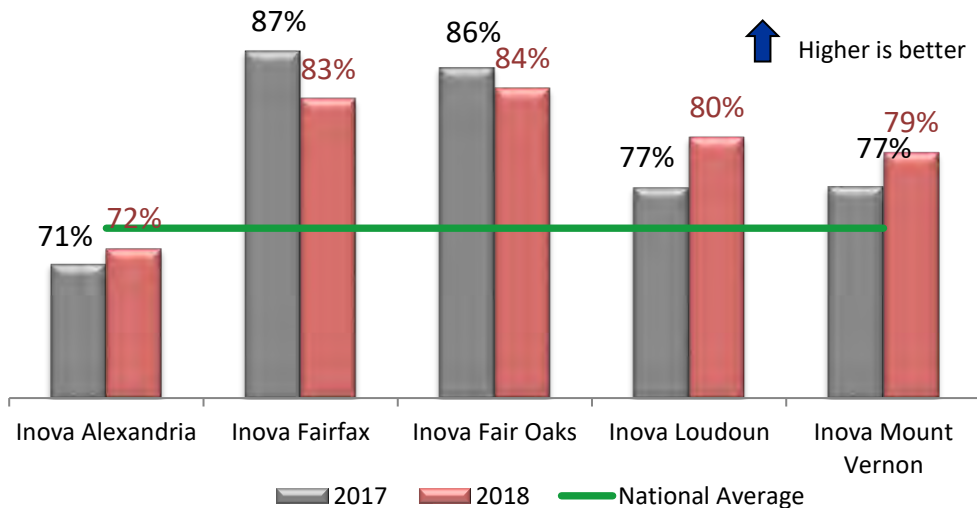
Chart 31: Patients who gave their hospital a rating of 9 or 10 on a scale from 0 (lowest) to 10 (highest)



Likelihood to Recommend

This HCAHPS question asks patients about their likelihood to recommend the hospital. Chart 32 depicts the percentage of respondents that selected the highest score (Definitely yes) in response to this question. This measure was a key focus in the 2018 Inova Strategic Plan and continues to be a key focus in the 2019 Strategic Plan.

Chart 32: Patients who would recommend the hospital with a rating of Definitely Yes



Inova's Improvement Focus for Patient Experience

At an aggregate level, Inova experienced an average 7% performance improvement across all HCAHPS domains in CY 2018 versus the previous year. Notable performance was experienced at IFMC and IFOH with each facility's CY 2018 Likelihood to recommend score at 87th percentile and 89th percentile, respectively. Factors that contributed to the improvement across all facilities include:

Leadership Focus

- Weekly patient experience meetings with front-line Leaders (clinical and non-clinical) to facilitate cross-boundary collaboration
- Staff engagement
- Improved accountability processes

Physician Engagement:

- Hospitalist-based physicians actively participate in operations/strategy meetings
- Geographically assigned medical directors and hospitalists
- Partnership between physician leaders and clinical directors
- Physician accountability at the Medical Executive Level

Standard Work / Behaviors:

- Rounding Tool Technologies
- Coaching Development & coaching for behaviors

The focus and initiatives that resulted in improvement will be continued in CY 2019.

Section 3: Quality in Action/Iams Awards

Franklin P. Iams – the guiding force behind the formation and growth of Inova Health System – was a far-sighted leader with a laser-like focus on quality and innovation. Brilliant and charismatic, he inspired Inova’s commitment to continuous quality improvement, pioneering techniques and world-leading advances in clinical care. The Iams Memorial Quality Leadership Awards are named in his honor. Every year, Inova recognizes inspiring innovators whose new ideas and new approaches reflect Frank Iams’ ideals and vision. Winners must demonstrate measurable results that significantly improve clinical quality, service or patient safety. Congratulations to our 2018 Iams Award recipients!

Hit the Road Jack (and don’t come back)

Awardee: Inova System

Reducing avoidable readmissions is one of the biggest challenges hospitals face. At Inova, reducing readmissions not only improves patient outcomes but also protects reimbursement – money better spent on technology, research and education. With 30-day readmission rates for Medicare joint replacement patients higher than expected, Inova formed a systemwide team to find out why. Root causes were identified and innovative strategies implemented to address them, including:

- New ED processes to reduce inappropriate readmission to the inpatient setting
- Greater involvement of hospitalists, primary care providers and nurses to manage comorbid conditions
- Increased coordination with home health and skilled nursing facilities post discharge
- Improved discharge education to proactively engage patients and families in post-operative care.

These measures reduced system wide readmission of joint replacement patients below the Premier top quartile, resulting in a cost savings of \$250,000-\$500,000 per year. To maintain the gains, all hospitals now give patients specific guidelines to better manage issues post discharge. They also implemented upstream tracking measures, strengthened the role of family coaches and investigated technology to monitor patient progress through the continuum of care. [Watch a video summary of Hit the Road Jack](#)

The Heart Recovery Team

Awardee: Inova Heart and Vascular Institute (Department)

Cardiogenic shock (CS) occurs if the heart suddenly cannot pump enough blood to the body. It is commonly caused by a severe heart attack. Despite medical advances, management remains highly variable and more than half of all patients do not survive. Inova Heart and Vascular Institute (IHVI) convened a team to find opportunities for improvement. Data revealed four major factors for poor outcomes: fractured care, variations in care, late detection and impaired access to care. To improve care coordination, IHVI created a multidisciplinary Shock Team that provides timely evaluation of every patient. A CS algorithm is in place to facilitate early identification and standardize treatment. To improve access, a one-call system activates the Shock Team. Within a year, 30-day CS survival rose from 47 percent to 57.9 percent. Within two

years, it increased to 72.8 percent. Standardized care, team commitment, and close collaboration with the ED, EMS and other hospitals are keys to improved outcomes. In the future, IHVI will improve early recognition and care coordination, join a multicenter registry of CS patients, and further amend internal and external processes to improve patient survival. [Watch a video summary of The Heart Recovery Team](#)

Sustaining Reduction of Hospital-Acquired Infections in the MSICU

Awardee: Inova Alexandria Hospital (Sustainability)

With HAIs on the rise among patients in the Medical Surgical Intensive Care Unit (MSICU), Inova Alexandria Hospital needed answers. A multidisciplinary team comprised of nursing administration, infection prevention, quality leadership and the MSICU examined root causes and developed a multipronged approach. Tactics include senior leader safety rounds, decreased use of catheter and central lines, preventive care coaching and mentoring, infection prevention education for staff, an annual kinesthetic skills fair, increased focus on hand hygiene, better patient advocacy and changes in bedside care. Together, these strategies produced a 14 percent reduction in CLABSI in 2017 and zero infections in 2018. The drop in CAUTI rates was even higher, with zero incidents in 2017 and just one in 2018. Other gains include improved teamwork, better communication among clinicians and a greater focus on evidence-based practice to guide patient care protocols. [Watch a video summary of Sustaining Reduction of HAIs](#)

Building Foundations of Success

Merit Citation: Inova Children's Hospital

Ensuring a smooth transition to practice is a key consideration for new nurses. When the Pediatric Hematology/Oncology and Orthopedic Trauma Unit at Inova Children's Hospital hired 16 new graduate or new-to-specialty nurses in 15 months, nursing leaders recognized the need for a standardized approach to care. They developed a targeted education program to teach new nurses about these specialized patient populations. Goals were two-fold: to provide new nurses with skills and knowledge to ensure consistent delivery of safe, high-quality care, and to provide professional growth opportunities for experienced RNs as they develop and teach program content. Outcomes are overwhelmingly positive. Pre- and post-assessment data reveal a notable increase in perceived knowledge. The program has helped ignite passion and inspire confidence among the unit's new nurses. As a result, turnover rates have declined sharply, falling from 31 percent in 2017 to just 8 percent in 2018. Looking ahead, the hospital hopes to expand the education program beyond first-year hires by offering focused learning sessions on clinical trials and Children's Oncology Group protocols, and continue to identify opportunities to engage and retain staff.

Follow the Yellow Brick Road to Reduce Falls

Awardee: Inova Fair Oaks Hospital (Hospital)

Falls are a common and devastating complication of hospital care, especially among elderly patients. With upwards of 700,000 patient falls in U.S. hospitals annually, preventing them is a

top priority for healthcare providers. At Inova Fair Oaks Hospital, a close look at the data revealed that total falls and falls with injury remained essentially stagnant. Members of the Falls Team rolled up their sleeves and went to work. After targeting high-risk areas, the team identified barriers and worked to remove them. These included poor communication among clinicians, inconsistent fall prevention education and lack of data transparency. Through education, standardization and multidisciplinary collaboration, the hospital raised fall-risk awareness and prevention. Changes included safer transport practices, yellow gowns to identify fall risk patients, weekly fall huddles, monthly falls updates for all clinical areas, and a falls newsletter to share data and lessons learned. Within a year, the needle began to move. Total falls decreased by 16 percent and falls with injury were cut in half, down 52 percent. With continuous monitoring and vigilance, the hospital is on target for another 15 percent reduction this year. [Watch a video summary of Follow the Yellow Brick Road to Reduce Falls](#)

Reducing Readmissions: Meeting Unique Needs for Unique Patients

Merit Citation: Inova Loudoun Hospital

Like many other hospitals, Inova Loudoun Hospital (ILH) has struggled to reduce 30-day Medicare readmissions. To combat the problem, the ILH Readmission Reduction Steering Committee was created, with members from every discipline across the hospital. The team conducts a daily huddle to discuss each Medicare patient admitted and identify unique needs, provide targeted inpatient education and create a personalized discharge plan. During the hospital stay, the team ensures each patient receives appropriate services based on diagnosis. Upon discharge, the team works with the Post-Acute Care Collaborative of home health, durable medical equipment and skilled nursing facility partners to coordinate post-hospital care. If a patient is readmitted, the team conducts an apparent cause analysis to identify opportunities for improvement. These simple but powerful interventions have reduced ILH's Medicare readmissions by 30.8 percent in just one year. Through the team's efforts, 46 potential readmissions were prevented, saving the hospital more than \$710,000 annually. The ultimate goal is to transition this program to all patients, and bring community physicians and specialists into the Post-Acute Care Collaborative.

L.I.T.E It Up- Lowering Infections with Team Engagement

Awardee: Inova Fairfax Medical Campus (Hospital)

Surgical site infections (SSI) are among the most common preventable complications after surgery. According to the CDC, SSIs occur in two to four percent of patients undergoing inpatient surgical procedures. In 2017, clinicians at Inova Fairfax Medical Campus (IFMC) noted an alarming increase in SSIs among C-section patients. A multidisciplinary team of physicians, nursing leaders, nursing educators, direct-care nurses, infection preventionists and others was formed. The goal: reduce SSIs by at least 30 percent in 2018. The team found that the vast majority of SSIs occurred in patients with chorioamnionitis – an inflammation of the fetal membranes due to a bacterial infection. It developed a comprehensive, multi-faceted campaign to address knowledge gaps, with particular emphasis on SSI reduction techniques; antibiotic selection, administration and documentation; and recognition and treatment of

chorioamnionitis. Within a year of implementation, results far surpassed the original goal. C-section SSIs at IFMC dropped 70 percent in 2018. To further improve outcomes, the hospital plans to increase patient education about SSI prevention, with early and consistent follow-up after discharge. [Watch a video of LITE It Up Lowering Infections with Team Engagement](#)

Conclusion

Thank you for your interest in Inova's quality work and accomplishments. We welcome your questions, comments, and suggestions about this report. To contact the Quality Matters team, please email us through the web link at www.inova.org/contactus.