

Dear Neighbor,

We are proud to report this year's results across a variety of quality and safety metrics at Inova Fairfax Medical Campus. For us, healthcare is more than an industry – it is our mission. By sharing quality data directly with the community we serve, Inova Fairfax Medical Campus demonstrates our commitment to transparency, accountability, and world-class patient care.

Some highlights of this year's quality report: Infection levels are down, and patient mortality rates remain low. We have cut the number of serious reportable safety events in half between 2012 and 2014, and patient safety indicators are significantly lower (i.e., better) than national averages.

Patient experience scores have risen, and the hospital maintained excellent performance across the core measures spectrum. This means that patients are receiving the complete process of care based on evidence-based standards of care outlined by the Centers for Medicare and Medicaid Services and the Joint Commission.

Teams across Inova Fairfax Medical Campus use performance improvement methodologies such as Lean to analyze the myriad actions, processes, and systems that contribute to patient care and implement improvements. Some examples of successful improvements can be found in section 6 of this report.

This report also offers a glimpse into the wide-reaching changes to healthcare across the United States. As healthcare quality assessment continues to shift toward outcome measurement, Inova Fairfax Medical Campus report will continue to evolve to reflect that shift by providing the most relevant data in key categories. We invite your questions and comments.

Sincerely,



Patrick Christiansen, PhD
CEO, Inova Fairfax Medical Campus
EVP, Inova Health System

2014 Inova Fairfax Medical Campus Quality Report

Overview

Inova Fairfax Medical Campus is comprised of Inova Fairfax Hospital and Inova Children's Hospital. Inova Fairfax Hospital is a top-rated tertiary care facility and level 1 trauma center with 45,197 admissions, 138,991 emergency department visits, and 8,543 births in 2014. Inova Fairfax Hospital cares for the region's most severe and complex cases. Inova Children's Hospital's 186-bed facility provides comprehensive care focused on the unique health needs of infants, children, and adolescents.

This report is the second annual quality report published by Inova Fairfax Medical Campus. It contains data on Inova Fairfax Hospital and Inova Children's Hospital's 2014 performance in several key quality-related categories and compares the results to widely-accepted measures of healthcare quality, safety, and patient experience.

In 2014, Inova Fairfax Medical Campus was reviewed by the Joint Commission, which renewed the hospital's three-year accreditation. The hospital's behavioral health program was accredited separately, highlighting the quality behavioral health care available at our hospital. Joint Commission accreditation signifies a certain level of consistency in the hospital's quality and safety; however, we want to share a fuller picture of what quality means at Inova Fairfax Medical Campus.

We have expanded this report in recognition of a series of important changes to the nation's healthcare landscape. The Centers for Medicare and Medicaid Services (CMS) is phasing in new guidelines that are weighted more heavily toward outcomes. These changes have begun to shift the focus of healthcare quality assessment from process-focused measures to outcome-focused measures. It is no longer enough to deliver a complete and consistent process of care using standards of evidence-based medicine. Rather, the growing attention to patient outcomes underscores what is truly important – whether or not a patient got better as a result of the hospital's care. This keeps the hospital's data collection efforts congruent with its patient care efforts.

To contextualize 2014's performance, data from 2012 and 2013 is provided when available, and national benchmarks or baselines are presented as a point of reference as well. Whenever possible, Inova benchmarks its data against the performance of a national group of more than 700 hospitals that belong to the Premier healthcare alliance. Following each section's data summaries are details about where Inova Fairfax Medical Campus is focusing its improvement efforts moving forward.

The first section of this year's report covers outcome indicators – categories that directly measure how well patients fared after receiving care at Inova Fairfax Medical Campus. It

includes information about hospital-acquired infection rates, patient safety indicators, and patient mortality (death) rates. Serious reportable events (SRE) are presented in section 2.

In section 3, Inova presents this year's "perfect care" data. "Perfect care" is a metric Inova designed to track how often patients are given 100 percent of the process of care applicable to their medical condition. In this year's report, we have expanded the scope of our core measures and perfect care reporting. As in 2013, this year's report includes care for heart attacks, heart failure, pneumonia, stroke, and surgery, as well as blood clot prevention and treatment. We have also continued to share the data for children's asthma care, the only core measure set exclusively focused on pediatrics.

Section 4 is a new segment that provides detailed data on 30-day hospital readmissions. Readmission to the hospital within 30 days of being discharged for the same condition, which can indicate that the condition is not being treated or managed effectively, is correlated with poor patient outcomes.

Patient experience is an important metric that considers patients' perception of their hospital stays. Like many other hospitals across the nation, Inova Fairfax Medical Campus uses the standardized Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). Results of this year's HCAHPS surveys are presented in section 5.

The report's final section brings the data to life by highlighting programs and initiatives that made a difference in patient outcomes over the last year.

A note on the charts contained in this report: Our hospital's performance data is presented as a series of charts. Before the first chart in each section, a double-headed arrow indicates whether higher or lower numbers indicate strong (better) performance for a given data set. Where applicable, national benchmarks are represented on the chart as a point of reference.

Section 1: Outcome Indicators

Healthcare-associated infections

Infections that a person contracts while receiving medical care for another condition are known as healthcare-associated infections, or HAIs. Hospitals should do everything possible to prevent infection, and low HAI numbers are an indication that a given hospital is doing its part to eliminate the spread of infection.

Because HAIs are a significant cause of patient harm and patient death nationwide, and because most HAIs are preventable, CMS is increasing the weight it gives a hospital's HAI rate in determining a hospital's quality. Infection rates are a key patient outcome indicator.

HAIs are reported using a standardized infection ratio (SIR), which is a calculation that compares the actual number of infections in a hospital to an expected number that is based on national benchmarks and adjusted based on factors about the hospital and the patient. The SIR national benchmarks equal one, and lower SIRs represent better-than-expected infection rates. A score of zero – meaning no infections – is best.

Charts 1 through 4 below show three years of SIR data for Inova Fairfax Medical Campus as well as the confidence interval for each SIR. A score's confidence interval that is *less than* one denotes that the hospital had fewer infections than comparable hospitals. If the confidence interval *includes* one, the hospital's infections score was no different than hospitals of similar type and size.

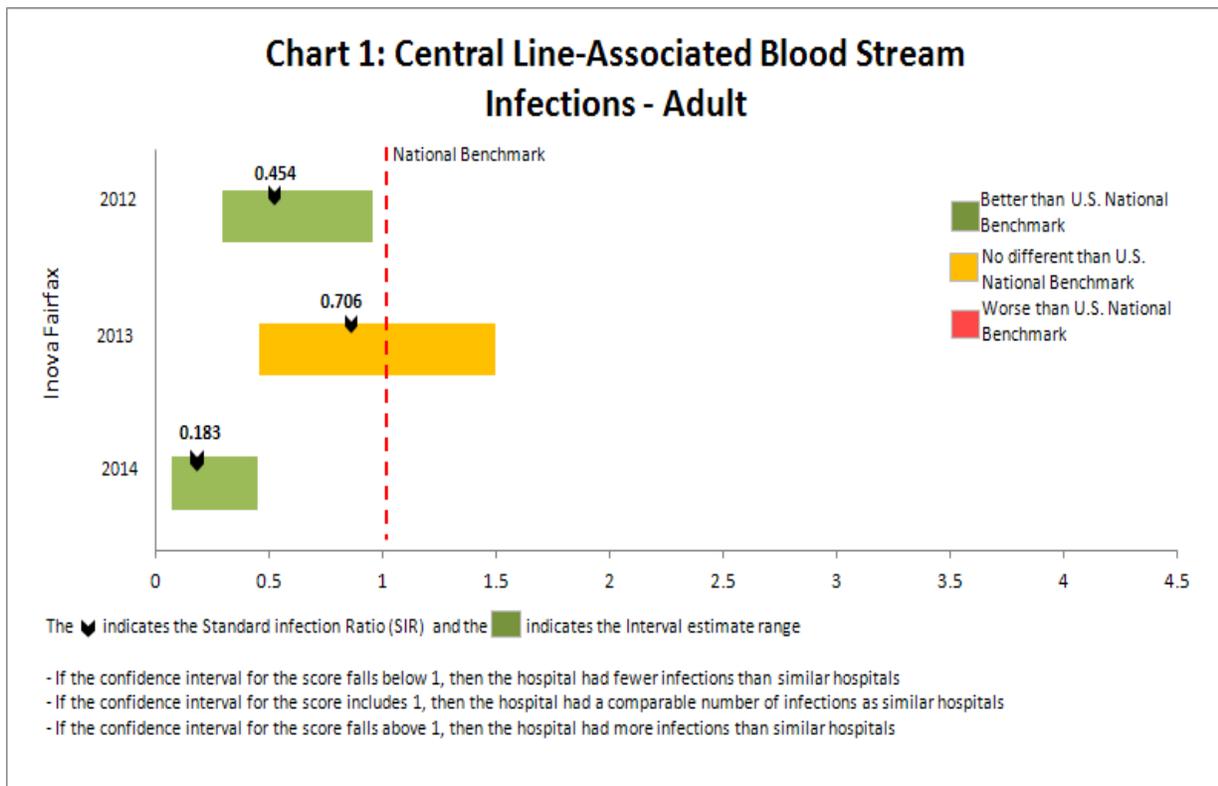
HAI data is divided into four charts that report adult and pediatric data separately for two of the most common and costly HAIs, central line-associated blood stream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs).

A central line is a tube that is inserted into a large vein of a patient's neck or chest to deliver medications. A urinary catheter is a tube inserted into a patient's urinary bladder that is left in place to collect urine.

When not put in correctly or kept clean, or left in for long periods of time, central lines and urinary catheters can become an easy way for germs to enter the body and cause CLABSIs or CAUTIs. CLABSIs and 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.

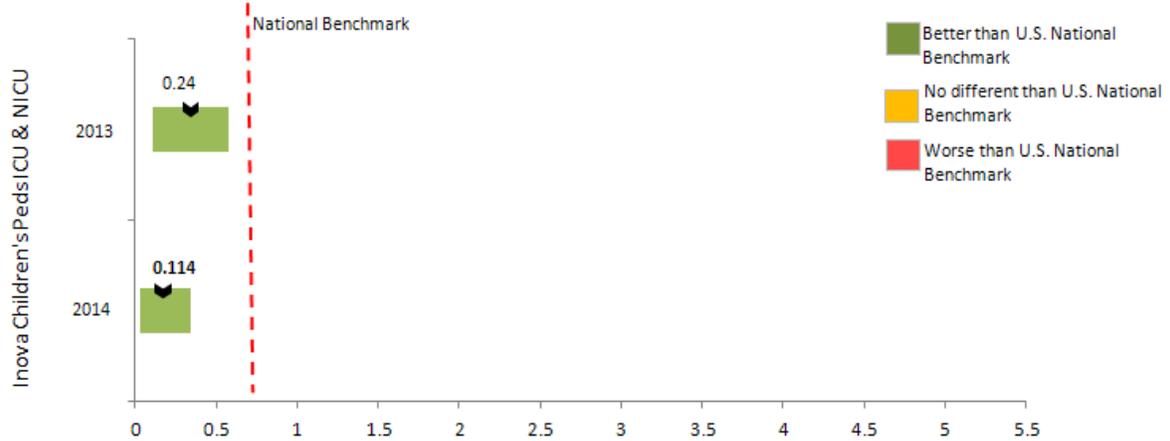


Please note: lower rates are better for healthcare-associated infections.



In 2014, Inova Fairfax Hospital had lower-than-expected infection levels that represented performance that was better than the national benchmark. The hospital's SIR was well below 1 and significantly lower (i.e., better) than in 2013 (see Chart 1).

Chart 2: Central Line-Associated Blood Stream Infections - Pediatrics

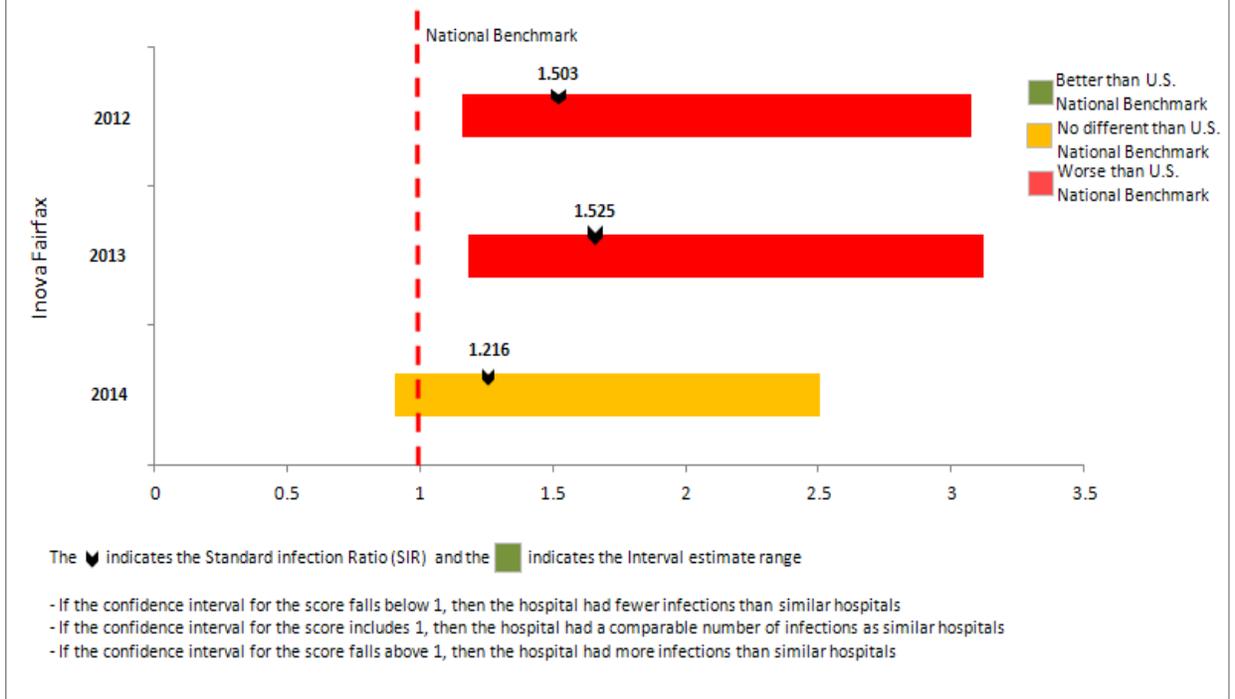


The ▼ indicates the Standard infection Ratio (SIR) and the ■ indicates the Interval estimate range

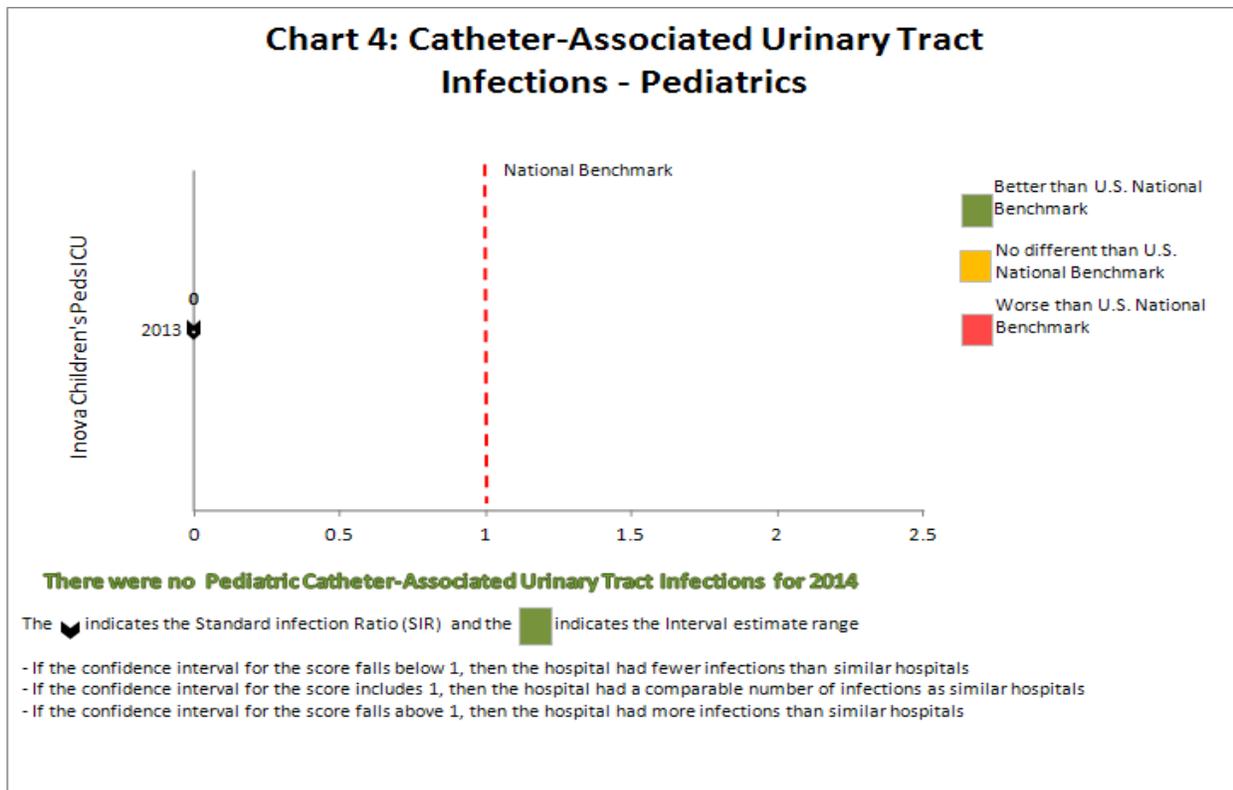
- If the confidence interval for the score falls below 1, then the hospital had fewer infections than similar hospitals
- If the confidence interval for the score includes 1, then the hospital had a comparable number of infections as similar hospitals
- If the confidence interval for the score falls above 1, then the hospital had more infections than similar hospitals

In 2014, Inova Children’s Hospital outperformed the national benchmark once again and improved its performance relative to 2013 (see Chart 2). Please note that Inova Children’s Hospital scores include both its neonatal intensive care unit (NICU) and its pediatric ICU (PICU).

Chart 3: Catheter-Associated Urinary Tract Infections - Adults



In CAUTI prevention, Inova Fairfax Hospital made significant improvements in 2014. As Chart 3 shows, the hospital's rate was not statistically different than the national average in 2014.



Inova Children’s Hospital continued its record of exemplary pediatric CAUTI prevention, achieving a perfect record of zero infections again in 2014 (see Chart 4).

Inova improvement focus for healthcare-associated infections:

Preventing hospital infections requires constant adjustment and improvement. Unfortunately, there is no single factor that prevents infections. Many potentially contributing factors must be taken into account to eliminate infections.

Inova Fairfax Medical Campus performs a root cause analysis or an apparent cause analysis for every infection, even if there has not been an infection in many days, to determine what caused the infection and make adjustments as needed to eliminate future infections and ensure patient safety.

Using Lean analysis techniques, unit teams identify the problem, determine the cause(s), develop solutions, and design a sustainability plan to maintain the improvements long term. All of the information is included in a document (called an A3) to guide the unit’s progress. Each unit goes through this detailed analysis so that Inova Fairfax Medical Campus is taking an active role in combating infection.

We regularly review each piece of the process to assess how we can improve the process framework so that best practices are “hardwired” as much as possible. The hospital’s infection prevention team also continuously monitors for compliance.

Patient safety indicators

Developed by the Agency for Healthcare Research and Quality (AHRQ),¹ patient safety indicators (PSI) track a hospital’s incidence of potentially preventable hospital complications and adverse events following surgeries, procedures, and childbirth. Examples include post-operative sepsis, central venous catheter-related bloodstream infection, and obstetric trauma.

Using PSI data, hospitals can identify potential adverse events that might need further study, decrease the incidence of adverse events and in-hospital complications, and recognize and avoid potential patient harm or patient safety events.

In 2014, CMS introduced a new methodology for calculating PSI data. This framework, called the PSI-90 Composite, combines eight AHRQ PSIs. CMS uses this data to assess hospitals as part of its value-based purchasing and hospital-acquired conditions (HAC) reduction initiatives.

The PSI-90 Composite is calculated using the weighted average of the observed-to-expected ratios for the following component indicators:²

- **PSI #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.
- **PSI #6 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.
- **PSI #7 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 a hospital’s CLABSI rate per AHRQ specifications. AHRQ’s definition differs from the surveillance

¹ AHRQ is a federal agency dedicated to improving healthcare quality, safety, efficiency, and effectiveness. For more information, visit ahrq.gov.

² Full information on each of these patient safety indicators is available at www.qualitymeasures.ahrq.gov.

definition developed by the Centers for Disease Control and Prevention (CDC) that is used in the healthcare-associated infections section above.

- PSI #8 Postoperative Hip Fracture Rate – Patients can be susceptible to fractures after surgery. However, with proper care most fractures can be avoided. PSI #8 measures how many surgical patients break a hip after surgery.
- PSI #12 Postoperative 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. Both are serious complications that can largely be avoided through proper preventative measures.
- PSI #13 Postoperative Sepsis Rate – Sepsis occurs when the body responds to an infection in the blood stream by releasing a flood of toxins into the blood. Sepsis is a life-threatening complication that also contributes to long hospital stays. PSI #13 measures how often patients get these serious bloodstream infections.
- PSI #14 Postoperative Wound Dehiscence Rate – This PSI measures how often patients' surgical wounds in the abdominal or pelvic area re-open after surgery. Good post-surgical care should prevent wound dehiscence.
- PSI #15 Accidental Puncture or Laceration Rate – This PSI measures how often patients are harmed by an accidental puncture or cut (laceration) during surgeries or procedures.

In addition to the PSI-90 Composite, Inova Fairfax Medical Campus also tracks three additional PSIs that are specifically related to obstetrics. They are:

- PSI #17 – Birth Trauma Injury to Neonate – This category covers a wide range of physical injuries to a newborn that could occur during delivery, but which should be minimized with proper obstetrical care.
- PSI #18 – OB Trauma Vaginal Delivery with Instrument – While PSI #17 measures the incidence of adverse events that affect newborns, this PSI measures how often women sustain level 3 or 4 injuries during deliveries in which the provider uses an instrument such as forceps or vacuum suction.
- PSI #19 – OB Trauma Vaginal Deliver without Instrument – This PSI is similar to PSI #18 in that it measures the rate of patients who sustain level 3 or 4 injuries during delivery. This PSI, however, focuses on vaginal deliveries in which the provider did not use an instrument.

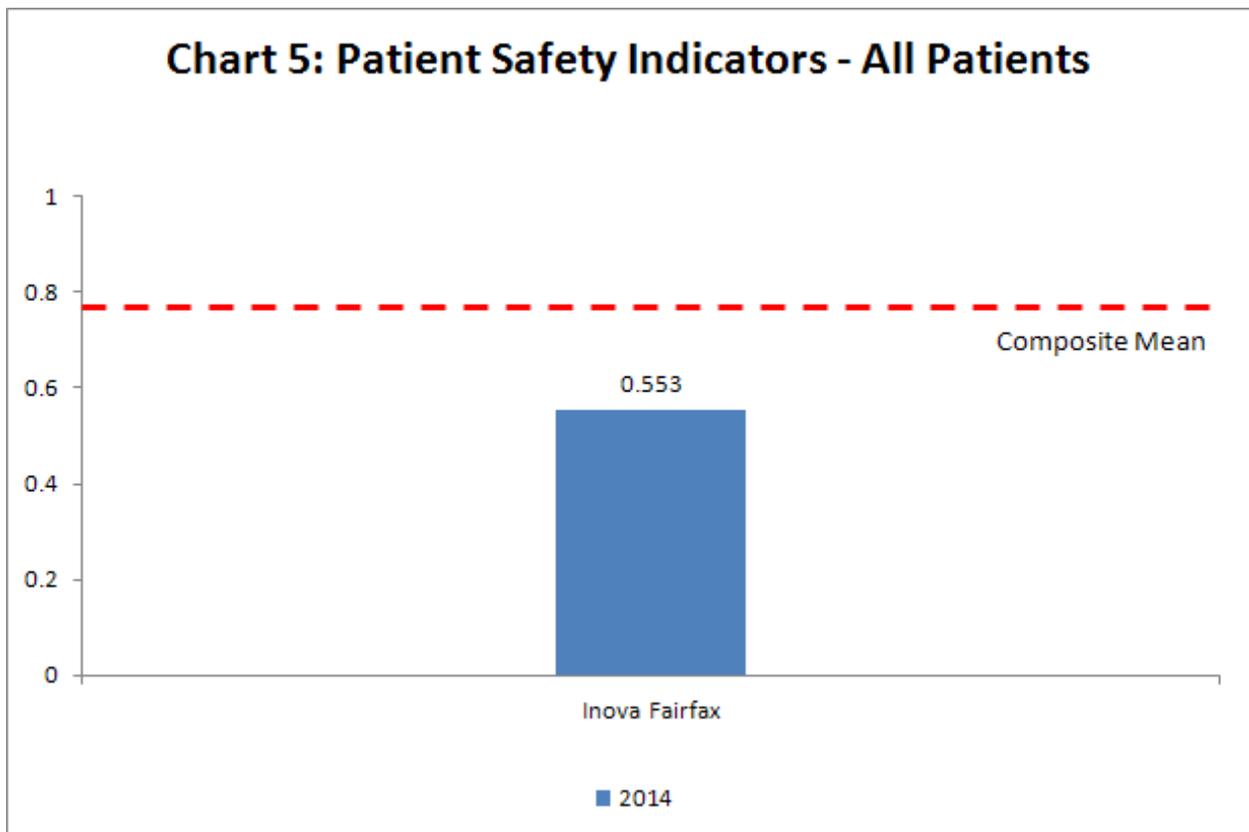
The PSI-90 is a function of three factors: hospital performance in the eight PSIs, NQF weighting of each PSI, and a smoothing effect for smaller hospitals. Two of the PSIs are heavily weighted (PSI-12 DVT/PE & PSI-15 Accidental Puncture/Laceration).

Because of the changes to PSI reporting that resulted from the shift to the PSI-90 composite, Inova has changed the format of its PSI charts. Chart 5 shows Inova Fairfax Medical Campus's performance on the PSI-90 Composite for 2014.

The composite mean, which is calculated using PSI-90 data from the Premier healthcare alliance,³ is presented for reference. As Chart 5 shows, Inova Fairfax Medical Campus performed significantly better than the composite mean, with a PSI-90 Composite score of .553.



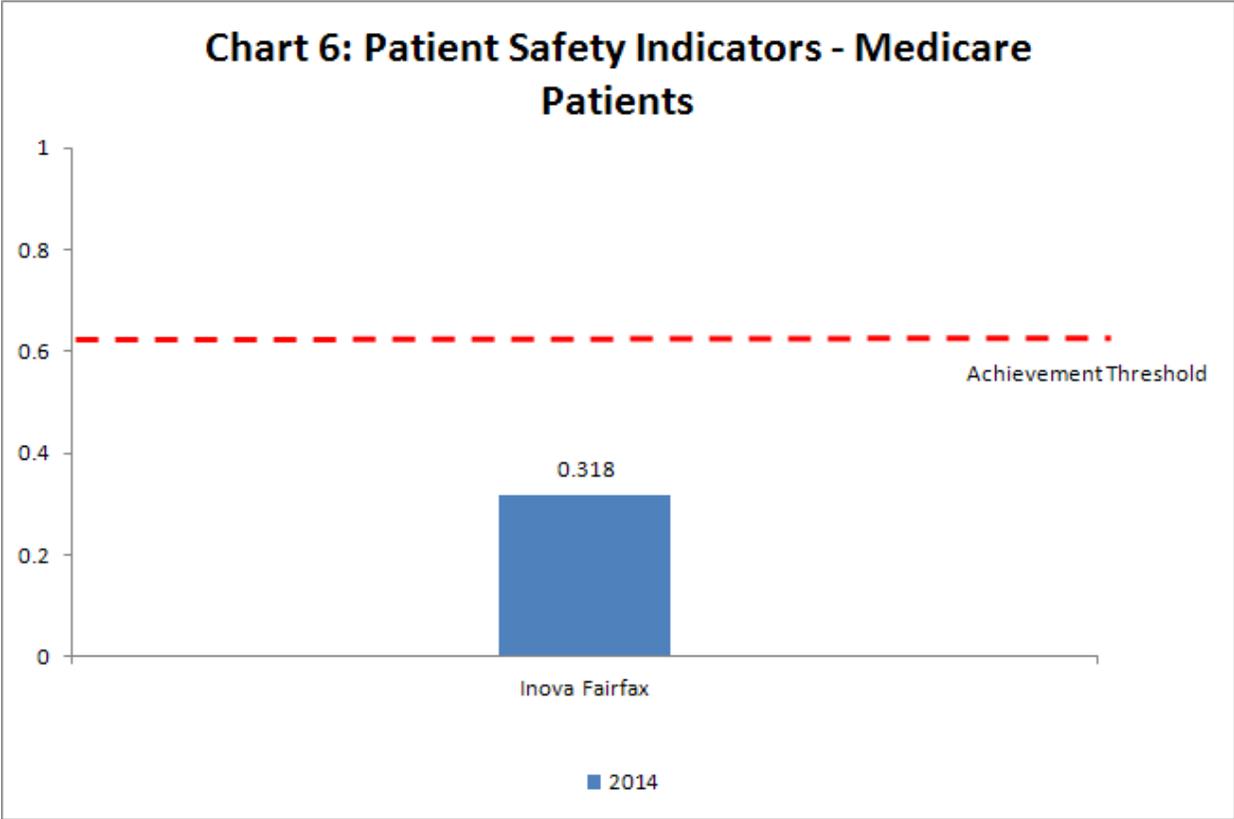
Please note: lower numbers are better for patient safety indicators.



³ For more information about the Premier healthcare alliance, go to <https://www.premierinc.com>.

Chart 6 shows Inova Fairfax Hospital’s 2014 PSI-90 data for Medicare-eligible patients, with the CMS achievement threshold included for reference. The achievement threshold represents the median (50th percentile) performance during the value-based purchasing baseline period for a given fiscal year.

Inova Fairfax Hospital performed much better than the CMS benchmark in 2014, with a PSI-90 Composite score of .318.



Inova improvement focus for patient safety indicators

Like other hospitals in the Inova system, Inova Fairfax Medical Campus has a hardwired process in which potential PSI cases are flagged before final coding. These cases are then sent to the hospital’s quality department, and quality consultants work with physicians to analyze each case, determine whether it represents a documentation opportunity or a clinical care concern, and address it accordingly.

Inova Fairfax Medical Campus targets each PSI specifically to conduct a root cause analysis and identify what factors contribute to PSIs in each category. Here are some examples of PSI-related improvements at Inova Fairfax Medical Campus in 2014.

For PSI #3 (pressure ulcers), nursing staff brought wound care nurses in to consult every time a wound was identified on a patient. Working together, the nursing staff and wound care specialists would implement a specialized treatment plan depending on the nature and location of the wound. The hospital's PSI #3 rate remains very low.

For PSI #6 (iatrogenic pneumothorax), the quality team analyzed the data and determined that most of these PSIs occurred in the cardiovascular service area as a result of blinded catheterization procedures. To reduce the incidence of this PSI, physicians were trained using Sono Site, a portable, point of care ultrasound that helps physicians see the catheter more effectively. As a result, the hospital's PSI #6 rate decreased.

To reduce the hospital's PSI #12 (postoperative pulmonary embolism [PE] or deep vein thrombosis [DVT]) rate, the hospital's radiology department began running a report in EpicCare and sending it to the quality department for review. Each case is scrutinized to find out whether the patient is receiving prophylactic treatment, what the method of prophylaxis is, and whether the patient is ambulating. With the full picture in place, physicians and quality staff are able to intervene right away to resolve a potential safety concern.

Quality and clinical leaders reviewed all previous cases of PSI #15 (accidental puncture or laceration). By working with the medical coding department, Inova Fairfax Medical Campus was able to correct documentation issues causing an inflated number of PSIs. To reduce the rate further, hospital leaders examined clinical care practices and educated physicians, providing a constant reminder of the importance of avoiding accidental cuts or punctures.

To improve rates for PSI #18 and #19 (OB trauma vaginal delivery with instrument, without instrument), the hospital conducted "Safe Passage" training for all OB/GYN physicians to identify technique issues and educate physicians on the latest evidence-based best practices.

Inova Fairfax Medical Campus has a weekly meeting involving physicians, quality, and coding. During each week's meeting, each PSI, hospital-acquired condition (HAC), and patient death is reviewed. Reliable data helps us as we continue to focus on improving patient care and patient safety.

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. 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.

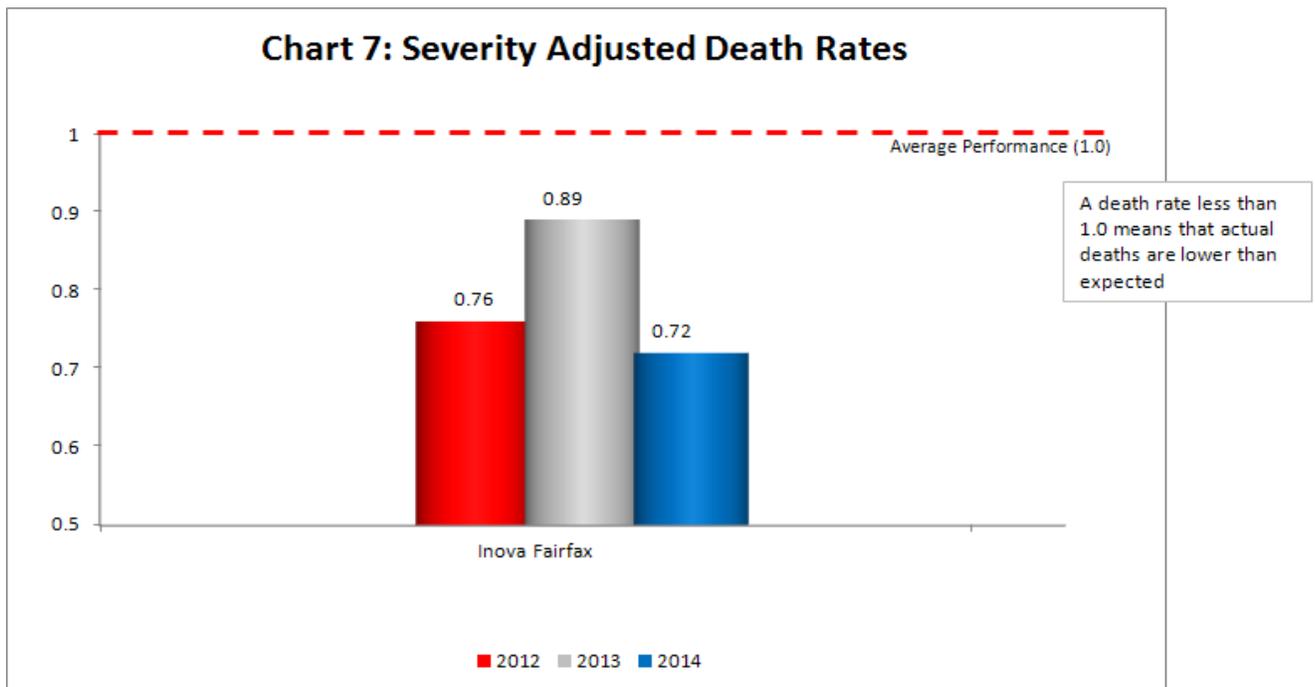
Death rates provide information about important aspects of hospital care that can affect patients' outcomes – such as prevention of complications and early recognition and response to a change in a patient's condition. Thus, data about a hospital's death rate can be an important indicator of that hospital's overall quality.

Inova hospitals benchmark 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 mortality rate and the expected mortality rate. A score of less than 1.0 means that there were fewer deaths than expected based on patients' medical condition and risk profile. A score greater than 1.0 means that there were more deaths than expected based on the same risk parameters.

As Chart 7 shows, Inova Fairfax Medical Campus has had lower-than-expected patient death rates for the past three years. In addition, 2014's patient death rate was the lowest it has been for three years.



Please note: lower scores are better for patient death rates.



Inova improvement focus for patient death rates

EpicCare's custom-built mortality tool flags cases of patient death as soon as they are coded. The cases then go to the hospital's quality department, and the quality director and consultants work with physicians to analyze and look for opportunities for improvement.

Inova Fairfax Medical Campus has a weekly meeting involving physicians, quality, and coding. During each week's meeting, each PSI, hospital-acquired condition (HAC), and patient death is reviewed. Each death is reviewed by physician within the relevant service line (cardiology or oncology, for example), which helps to identify appropriate documentation issues as well as clinical care practices.

Like the other hospitals in the Inova system, Inova Fairfax Medical Campus uses EpicCare to document each patient's underlying conditions and care. This helps us to accurately capture any patient risk factors and address those that might help to reduce their risk of dying.

Section 2: Serious Reportable Events

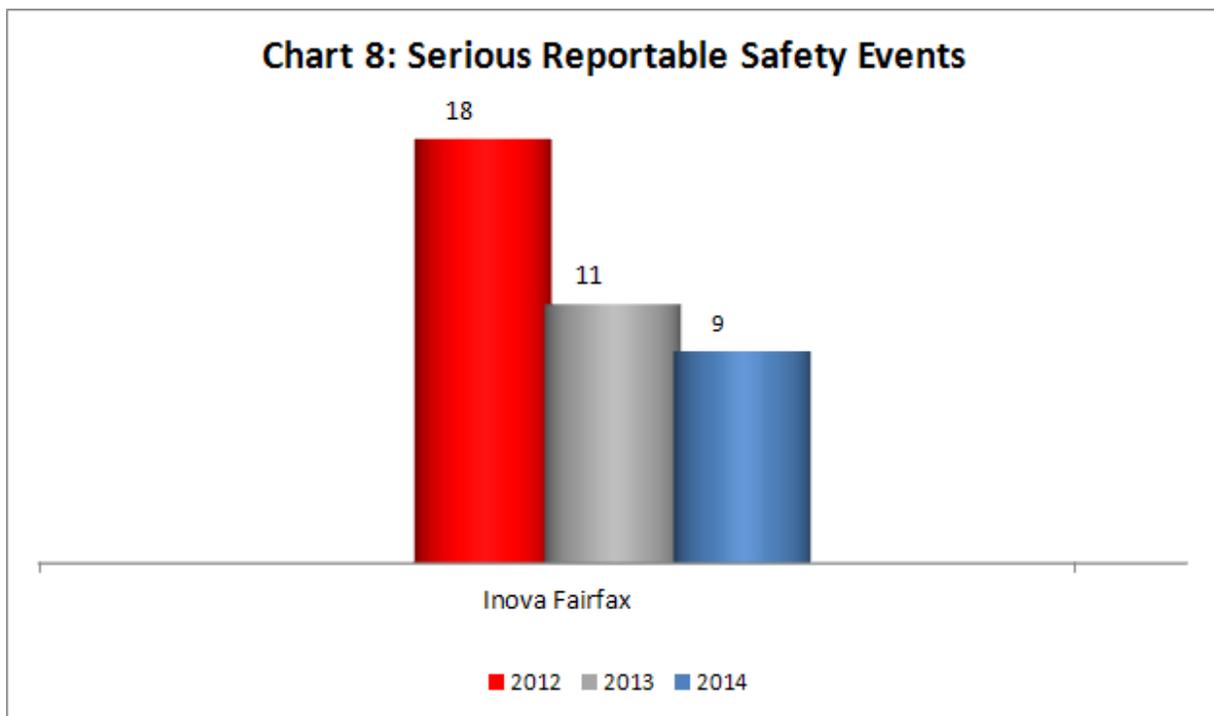
Serious reportable safety events

A serious reportable safety event (SRE)⁴ 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 institutional protocols.

As Chart 8 depicts, Inova Fairfax Medical Campus has continued its impressive trend of reducing SREs, cutting the total number in half between 2012 (18) and 2014 (9).⁵



Please note: lower numbers are better for serious reportable safety events.



⁴ The serious reportable 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.

⁵ As the largest Inova hospital and the only tertiary care center, Inova Fairfax Hospital typically has a higher overall number of SREs due to the volume and complexity of cases.

Inova improvement focus for serious reportable events

Inova Fairfax Medical Campus has a layered structure in place to reinforce the hospital's culture of accountability and support patient safety. In 2014, the hospital streamlined its safety event reporting practices, which now include a daily safety check-in, a bi-weekly safety review meeting, and a redesigned safety event workflow. See page 51, for details on this Inova Fairfax Medical Campus success story.

In 2014, Inova shifted to a new event reporting system across the system that had a positive impact on reporting. After collecting feedback from staff, who found the old system cumbersome, the Inova task force evaluated options on the market and chose a new vendor. While the previous event reporting system took 15 minutes to enter details about an event, the new system averages less than three minutes. The new system – called Safety Always – has increased event reporting.

Section 3: Core Measures “Perfect Care” Performance

This section presents Inova Fairfax Medical Campus’s performance over the past three years in delivering “perfect care.” To understand “perfect care,” we must first understand core measures.

Core measures have been developed by CMS and The Joint Commission to assess a hospital’s quality by tracking how consistently it delivers the recommended treatment for some of the most common, highest cost conditions. Core measures are the criteria, composed of a certain set of actions, or process of care, that widely accepted principles of evidence-based medicine have shown to be effective in treating a patient with a given diagnosis. CMS and The Joint Commission are responsible for ensuring that core measures are up-to-date and represent evidence-based medical and surgical best practices. CMS evaluates a hospital’s performance based on each individual measure.⁶ Core measures represent the standard of care that every patient should expect to receive.

In contrast, “perfect care” is an internal yardstick developed by Inova that asks whether each patient received **all** of the appropriate care for their condition. Because “perfect care” is an all-or-nothing measure, it represents a higher bar. In other words, if the hospital does not complete **every** component correctly, that patient does not count toward “perfect care” totals. Note: if a patient is assessed for a core measure component but does not receive it because it was medically inappropriate for that individual, that core measure component is not counted as a “perfect care” failure.

As an example, assuming all of the heart attack indicators were appropriate for a particular patient, “perfect care” means that this patient received percutaneous coronary intervention (PCI) within 90 minutes **and** was prescribed aspirin at discharge **and** was prescribed a statin at discharge. This patient received 100 percent of the recommended process of care for heart attack – “perfect care.”

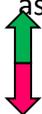
⁶ Appendix I summarizes each Inova hospital’s performance on the individual core measures, with 2012 and 2013 data included, where applicable, for reference,

Overall “perfect care” performance

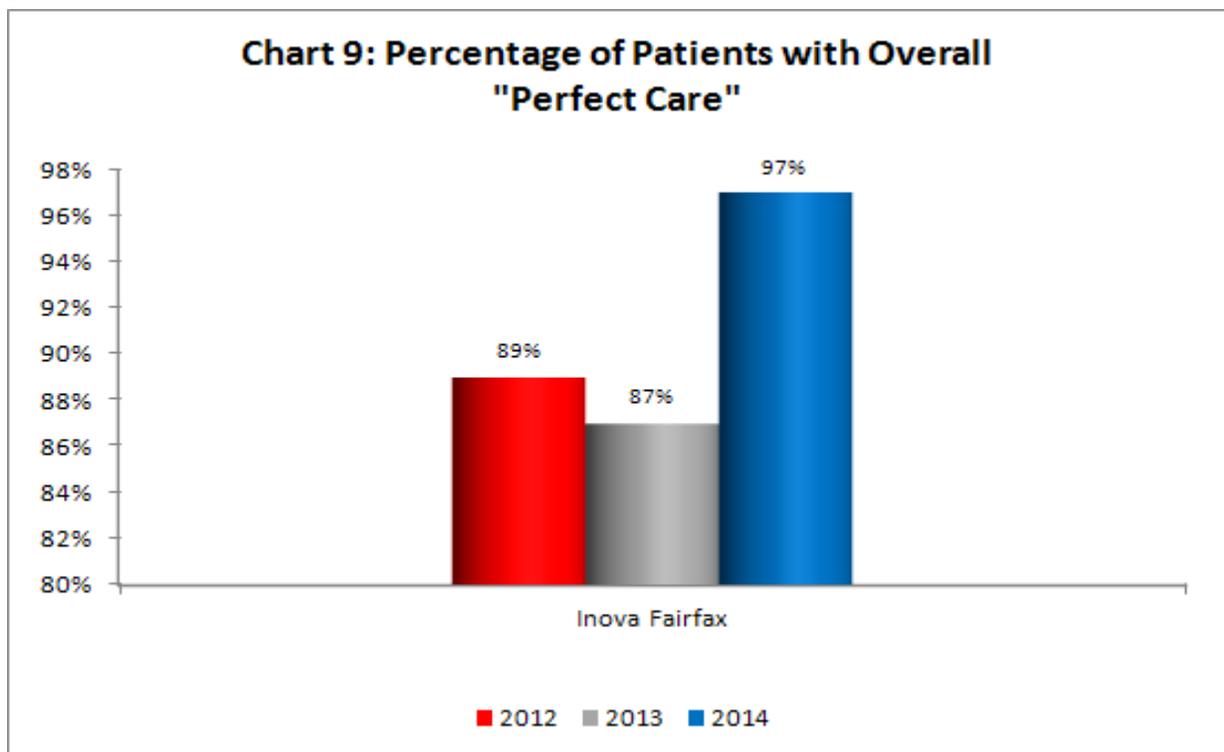
Overall “perfect care” scores for Inova Fairfax Medical Campus jumped from 87 percent in 2013 to 97 percent in 2014 (see Chart 9).

As detailed in the hospital’s 2013 quality report, Inova Fairfax Hospital was the first to implement the EpicCare electronic health record (EHR) system. The implementation process helped to reveal software build issues that affected core measures documentation in 2012 and 2013. These issues were resolved in 2013, however, and 2014 data more accurately reflects patient care at Inova Fairfax Medical Campus.

Charts 10 to 15 also show the percentage of patients who received “perfect care” for each of six core measure sets: heart attack, heart failure, pneumonia, surgical care, stroke, and children’s asthma care.⁷



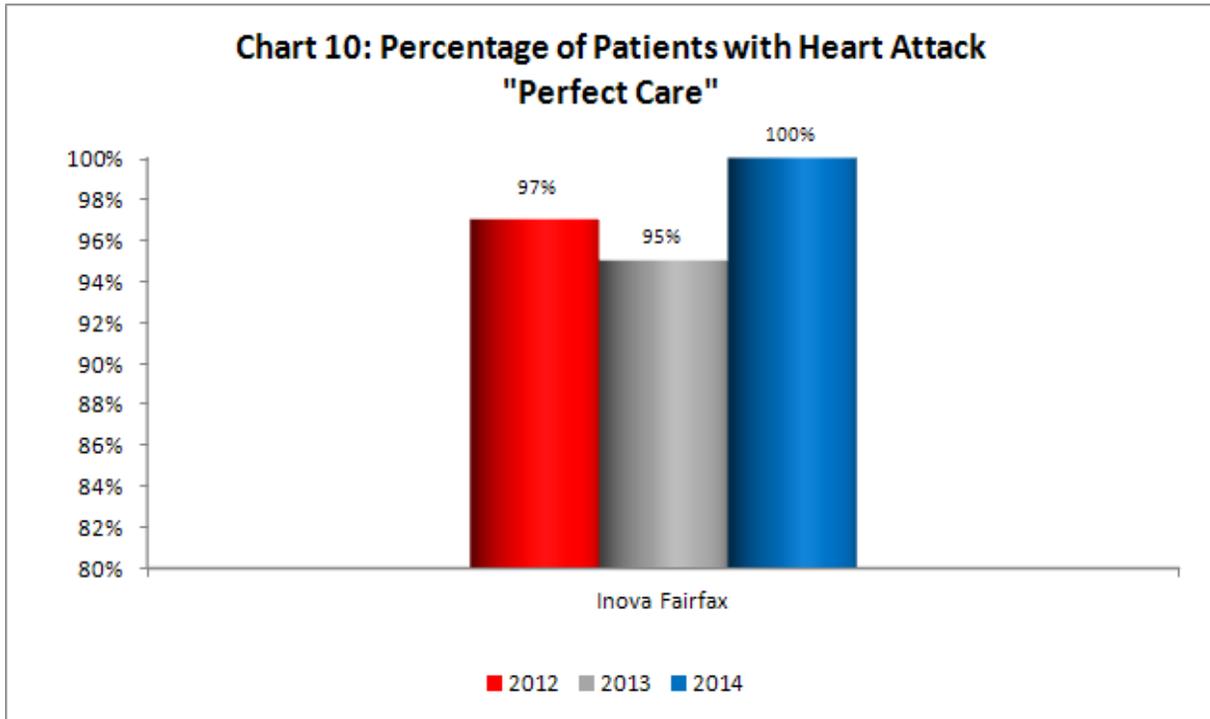
Please note: higher percentages are better for “perfect care.”



⁷ Three core measures – blood clot prevention and treatment, vaccine preventive care, and perinatal care – do not have perfect care data. Blood clot prevention and treatment is a measure that covers three different patient populations with both positive and negative measures, so it is not conducive to calculating “perfect care.” Vaccine preventive care and perinatal care are comprised of a single measure in 2014. Because “perfect care” calculations require more than one core measure component, “perfect care” is not applicable.

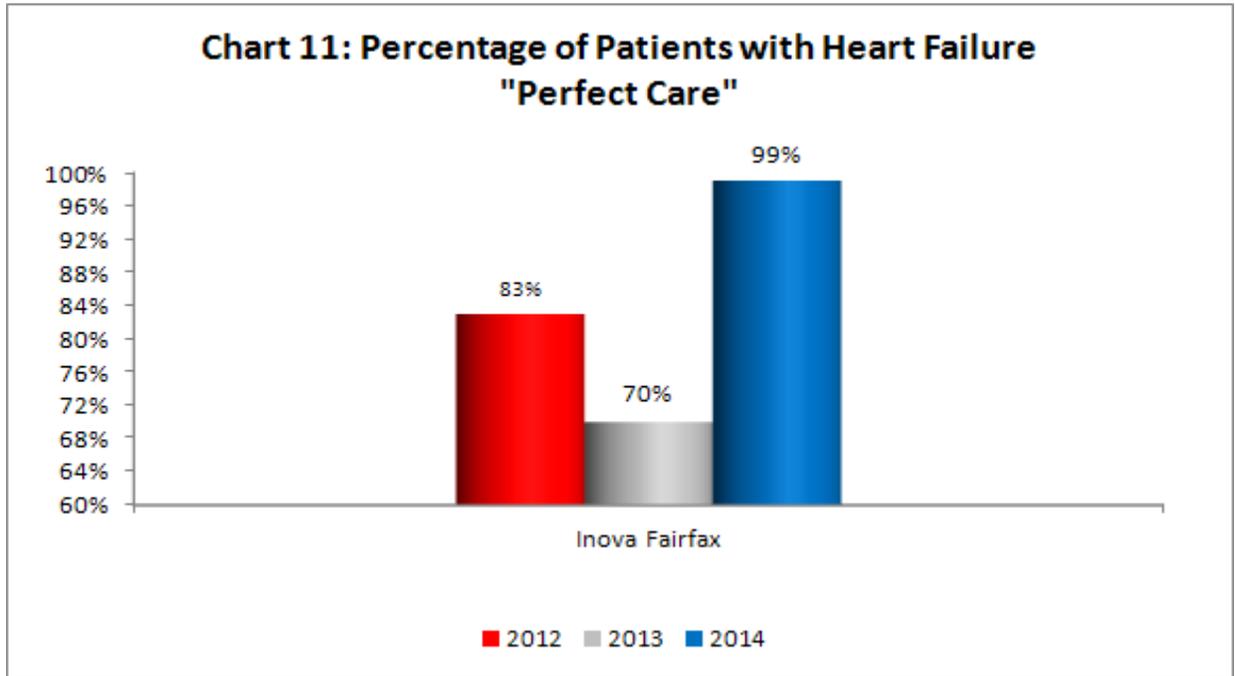
“Perfect care” for heart attack care

Inova Fairfax Hospital achieved a perfect “perfect care” rate in 2014(see Chart 10). This means that Inova Fairfax Hospital delivered all applicable core measure components for each and every heart attack patient.



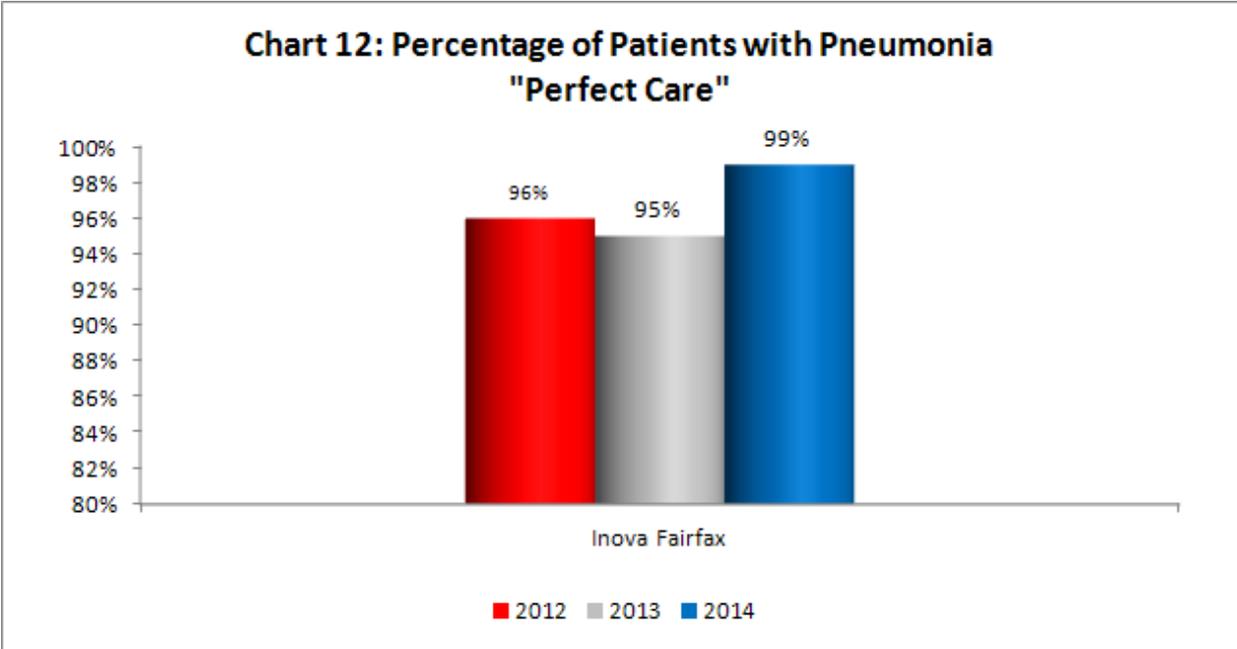
“Perfect care” for heart failure care

As Chart 11 shows, nearly all patients received “perfect care” for heart failure at Inova Fairfax Hospital in 2014. The hospital’s score was 99 percent, showing a rebound from the documentation issues related to EpicCare implementation that artificially lowered the hospital’s scores in 2012 and 2013.



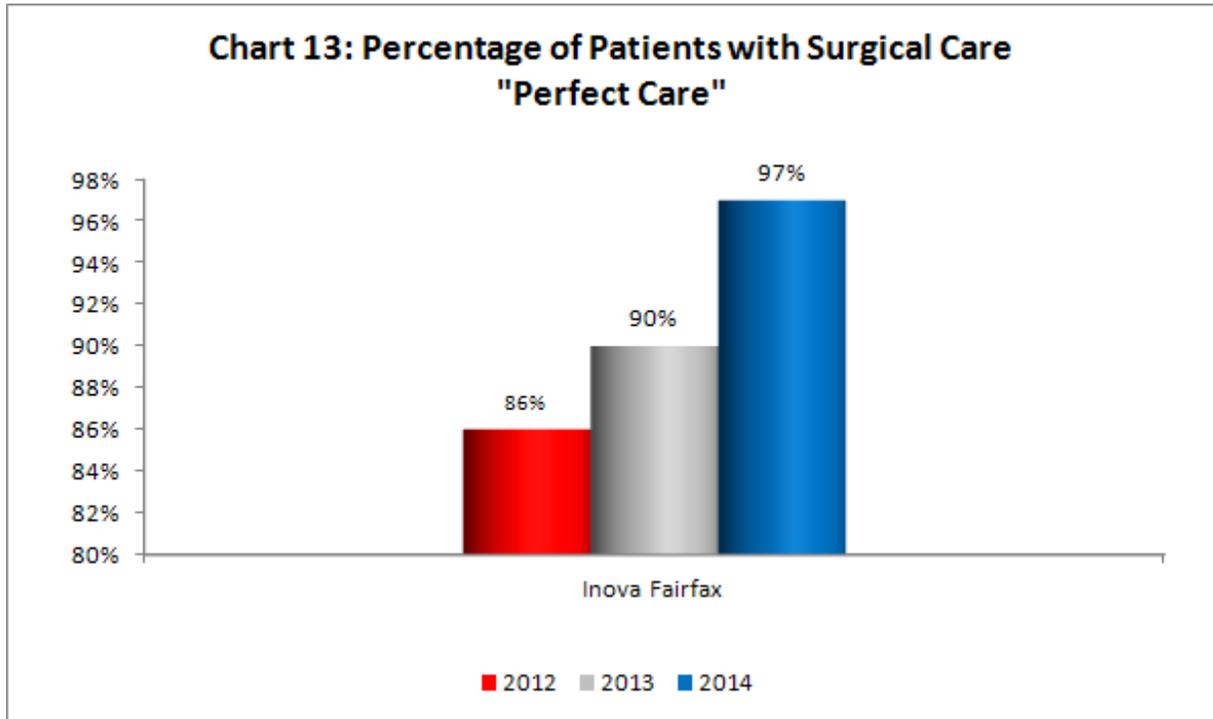
“Perfect care” for pneumonia care

Inova Fairfax Hospital delivered “perfect care” to 99 percent of pneumonia patients in 2014 (see Chart 12). This score represents a three-year high.



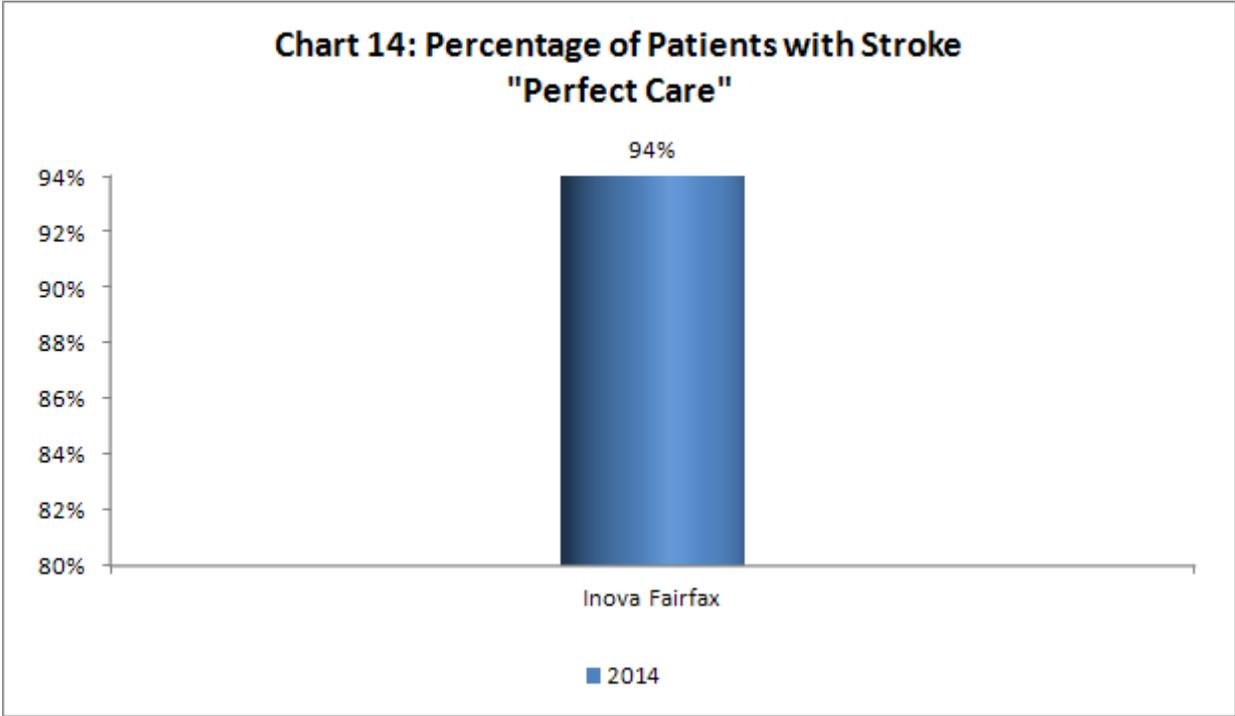
“Perfect care” for surgical care

As Chart 13 depicts, Inova Fairfax Hospital provided “perfect care” to 97 percent of surgical patients in 2014. With all EpicCare-related documentation issues resolved, Inova Fairfax Hospital’s 2014 score rebounded from its 2012 and 2013 levels.



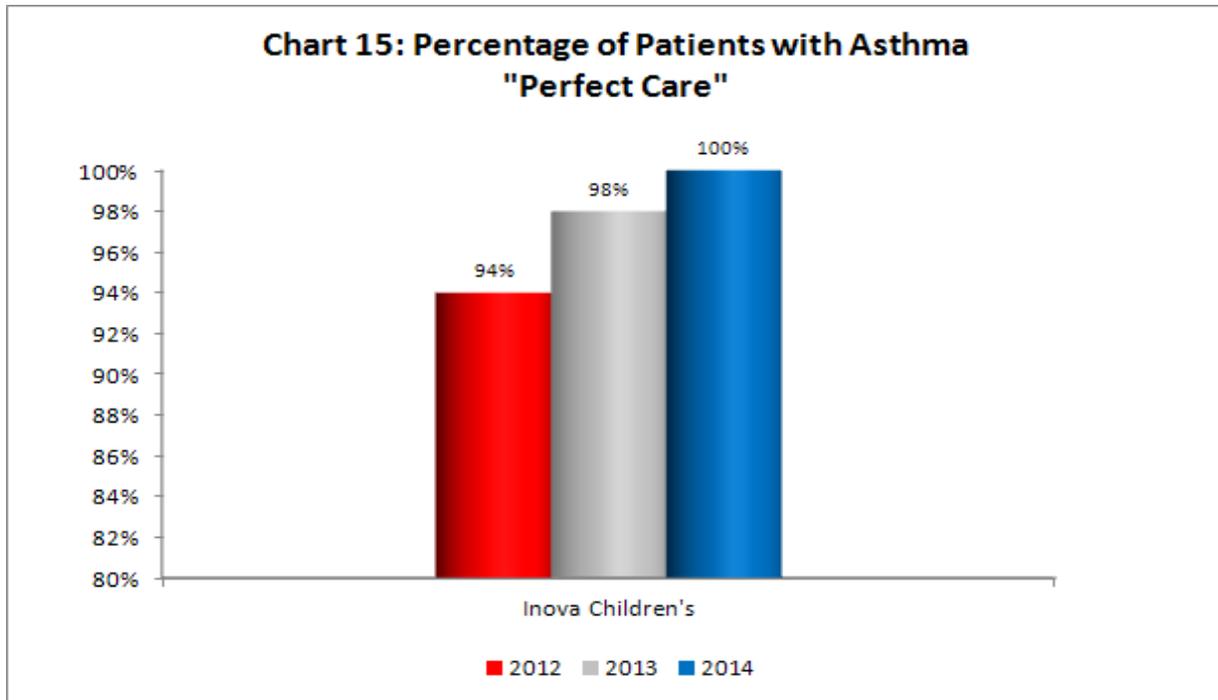
“Perfect care” for stroke care

Although stroke core measures data were reported beginning in 2014, Inova Fairfax Hospital has a history of strong stroke care. In 2014, 94 percent of patients received “perfect care” (see Chart 14). This figure will serve as a benchmark for future reports.



“Perfect care” for children’s asthma care

Inova Children’s Hospital continued to increase its “perfect care” percentage for children’s asthma care, reaching 100 percent in 2014 (see Chart 15).



Inova improvement focus for core measures

Although CMS is shifting its focus away from process-based measures through mechanisms such as value-based purchasing, Inova Fairfax Medical Campus remains committed to maintaining its high standards for core measures compliance and excellent “perfect care.”

The goal at Inova Fairfax Medical Campus is to ensure that every patient is tracked by a competent process, so that the entire process of care for a given condition is provided to each patient and documented appropriately. EpicCare has been a significant benefit in this regard.

Inova Fairfax Hospital led the way in implementing EpicCare EHR in 2012 and 2013. The system allows healthcare providers to track the process of care smoothly throughout the patient’s hospital experience. Ensuring that each patient receives the complete process of care – “perfect care” – sets the patient on a course for positive outcomes and prevents poor outcomes, including readmission.

As an ongoing process, hospital leaders continue to emphasize education for physicians and nursing staff about the latest core measures guidelines and process of care for each condition. Because new physicians and nurses are always joining Inova, and because CMS and the Joint Commission continue to make changes to core measure categories, Inova covers core measures as part of new employee orientation and conducts ongoing education as well.

Section 4: Hospital Readmissions

30-day readmission rates

A hospital's readmission rate is the rate at which discharged patients are readmitted to the hospital. The CMS benchmark is the 30-day readmission rate, which measures how many patients experience unplanned readmissions to any hospital within 30 days of discharge from a previous hospital stay. Patients are counted as readmissions whether or not they are admitted to the same hospital from which they were discharged.

The logic behind using a hospital's 30-day readmission rate as a quality indicator is that if a patient received high quality care while in the hospital, including an effective transition to outpatient follow-up care, that patient will be more likely to have a good outcome and avoid readmission.

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. For example, a heart failure patient who is discharged from the hospital and breaks a leg in an automobile accident two weeks later would be counted even if the trauma admission is unrelated to the previous admission for heart failure.

CMS uses a risk-adjusted methodology for calculating a hospital's 30-day readmission rate. The risk-adjusted rate takes into account additional factors that may make a given patient's readmission more likely, including age, medical history, and the patient's other diseases and medical conditions. 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), adjusted for patient risk profiles. A score of 1.0 indicates that there is no difference between the hospital's actual 30-day readmission rate and the expected rate. A score of less than 1.0 means that there were fewer readmissions than expected based on patients' medical conditions and risk profile.

A score greater than 1.0 means that there were more readmissions than expected based on the same risk parameters.

Inova Fairfax Medical Campus benchmarks its performance using Premier healthcare alliance data. For Charts 16 to 21, the green dotted line indicates the performance of the top 25 percent (top quartile) of Premier hospitals. The black dotted line indicates the rate achieved by the top 10 percent (top decile).

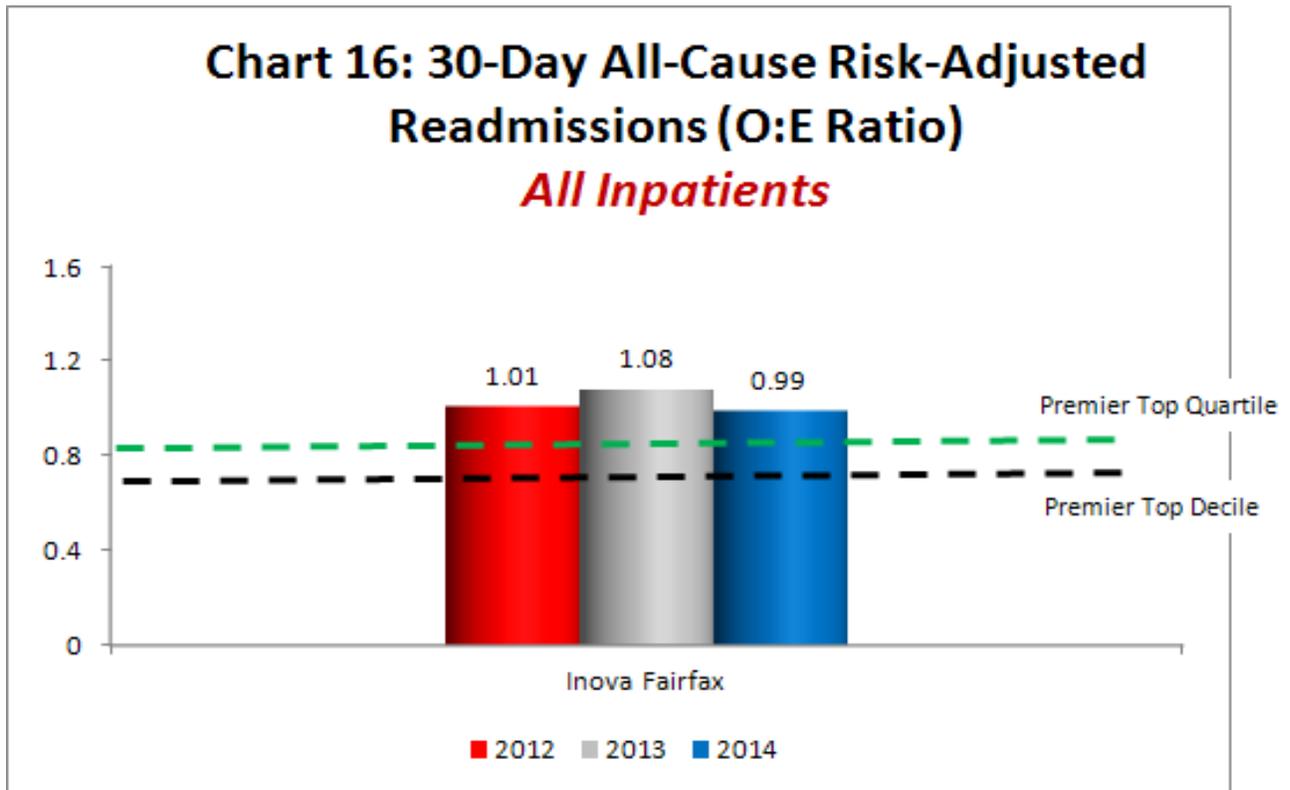
Charts 16 to 21 show Inova Fairfax Hospital's 30-day readmissions performance for 2012 to 2014. This data will be used as a baseline for future reports.



Please note: lower scores are better for 30-day readmission rates.

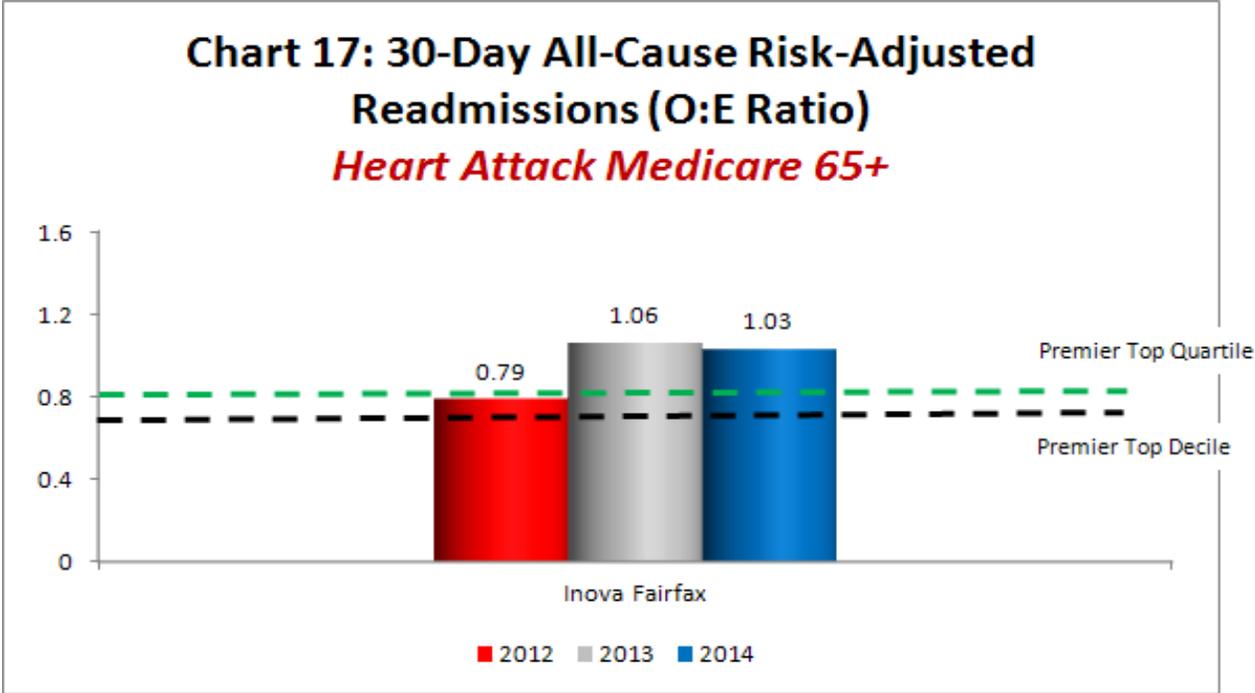
30-day risk-adjusted readmission rates: all inpatients, all causes

In 2014, Inova Fairfax Hospital's 30-day readmission observed-to-expected ratio for all inpatients was 0.99, indicating that the actual readmission rate was slightly better (i.e., lower) than the expected rate (see Chart 16).



Heart attack readmissions

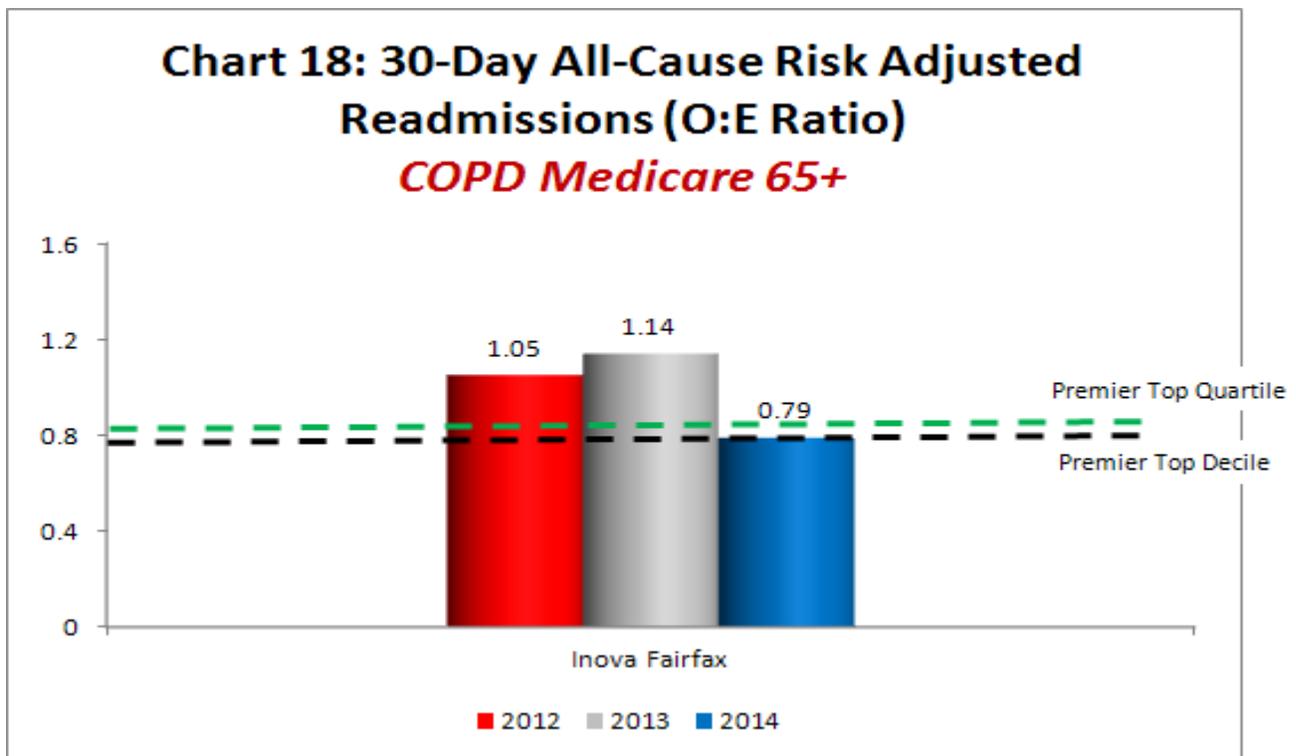
Chart 17 shows 30-day readmissions for Medicare-eligible patients age 65 or older who were hospitalized for heart attack. Inova Fairfax Hospital improved its rate between 2013 and 2014, with the observed-to-expected ratio dropping to 1.03.



Chronic obstructive pulmonary disease readmissions

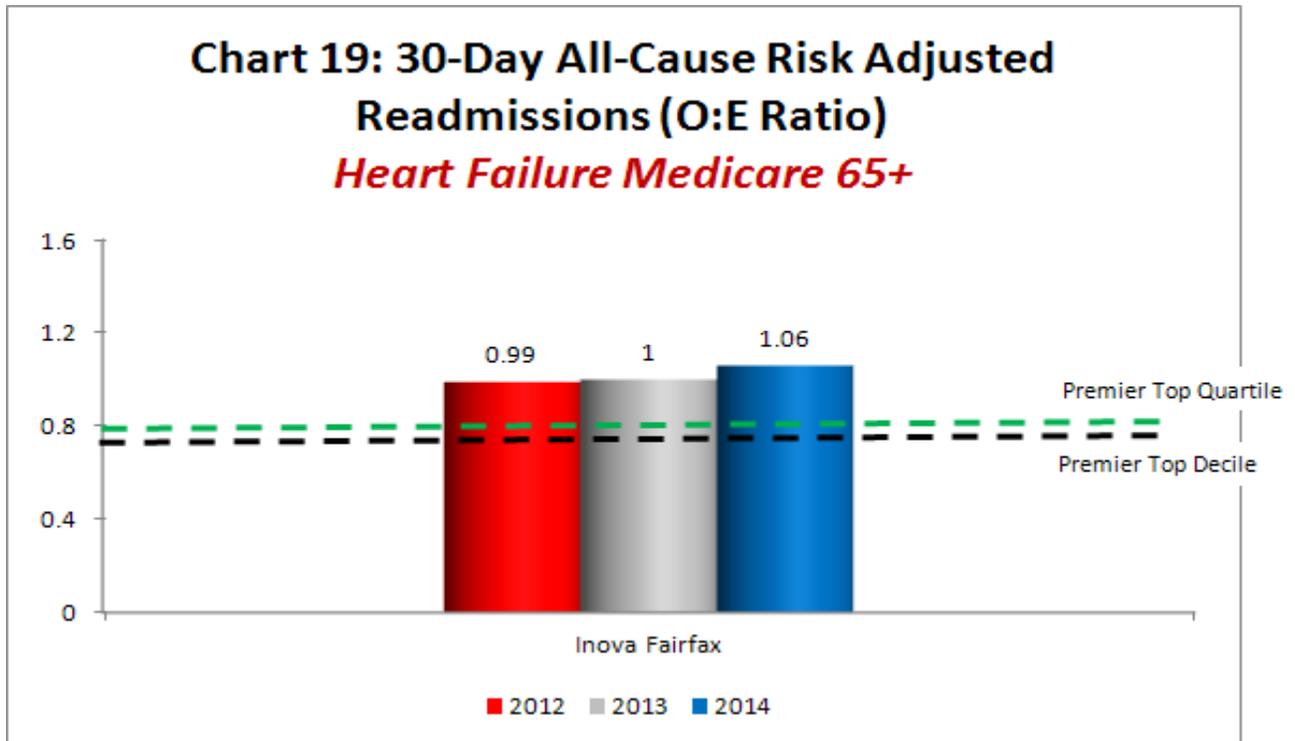
Chronic Obstructive Pulmonary Disease, or COPD, is a term used for a group of lung diseases that make it difficult to breathe, among them emphysema and chronic bronchitis. Chart 18 shows three years of 30-day readmission data for Medicare-eligible individuals age 65 or older who were admitted with COPD.

Inova Fairfax Hospital's 2014 ratio of 0.79 represents significantly better (i.e., lower) performance than the corresponding expected rate (see Chart 18). The hospital's 2014 rate placed it in the top 10 percent of Premier hospitals nationwide.



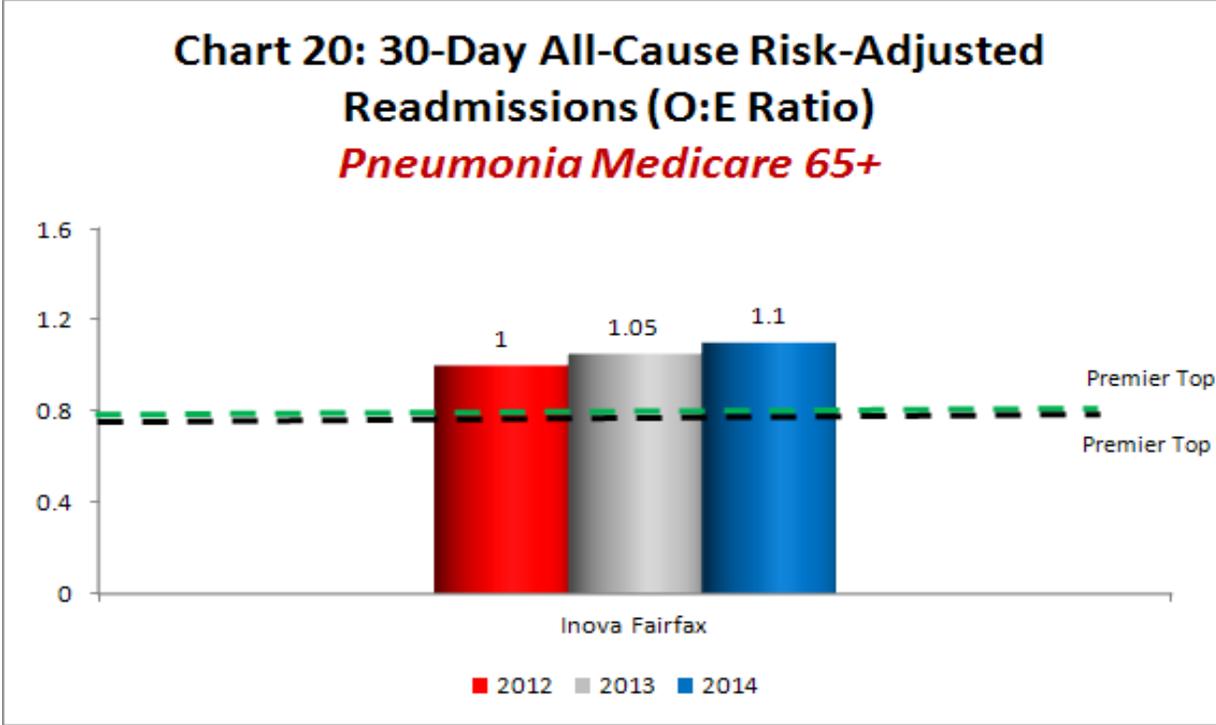
Heart failure readmissions

Chart 19 summarizes three years of readmission rates for Medicare-eligible heart failure patients at Inova Fairfax Hospital. In 2014, Inova Fairfax Hospital's readmission rate was 1.06, slightly higher than expected.



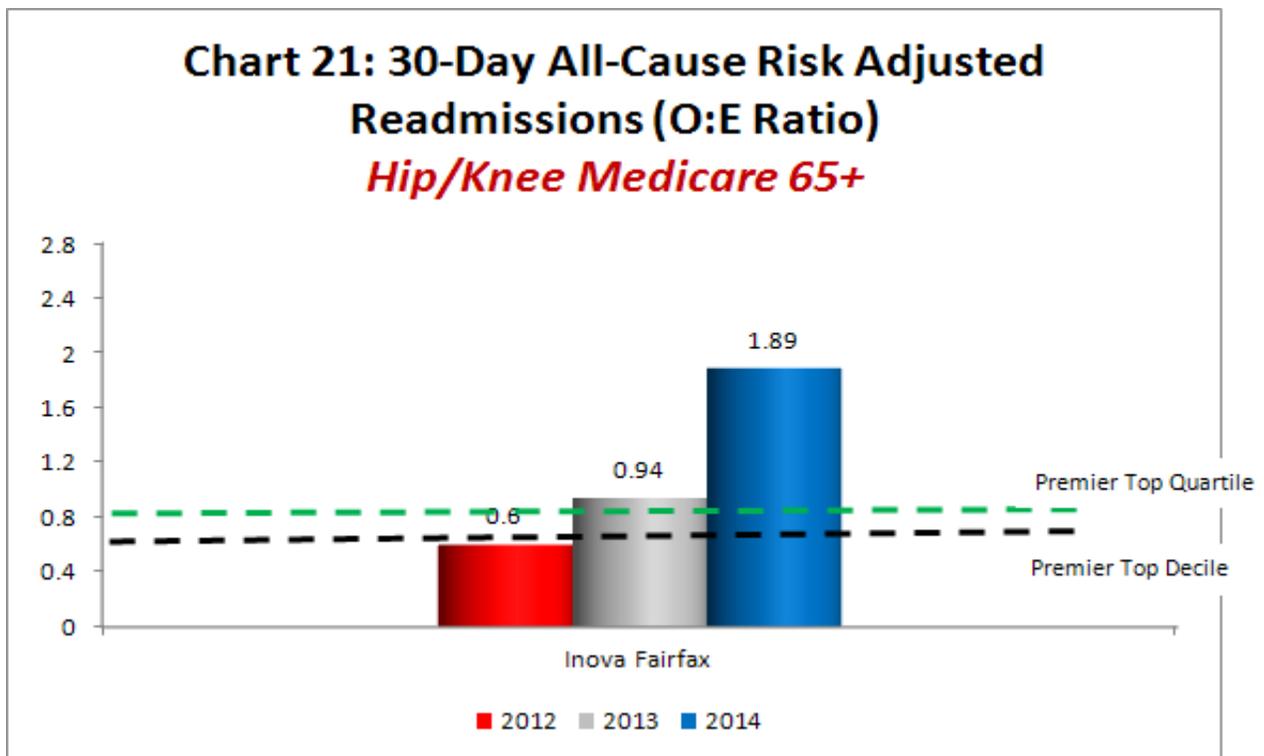
Pneumonia readmissions

The readmission rate for Medicare-eligible pneumonia patients is depicted on Chart 20. In 2014, Inova Fairfax Hospital had an observed-to-expected ration of 1.10.



Hip and knee joint replacement readmissions

Chart 21 shows Inova Fairfax Hospital's readmission rates over the last three years for Medicare-eligible joint replacement (hip and knee) patients. In 2014, Inova Fairfax Hospital's ratio was 1.89, which represents higher than expected readmissions. To put the data in context, this number represents 11 total readmissions in 2014.



Inova improvement focus -- readmissions

Across the system, Inova implemented several strategies in 2014 to reduce readmissions, particularly in high-cost, high-volume conditions such as those summarized in this section. Inova Fairfax Medical Campus participated in these system-wide initiatives.

First, Inova implemented daily, real-time reports on Medicare admissions and readmissions to help us identify patients at risk of readmission and prevent future readmissions. Because these reports identified patients who qualified as potential readmissions right away, we were able to focus on improving discharge planning for those patients.

In partnership with Inova readmissions teams, EpicCare built a predictive readmissions tool that gave each patient a score that represented how likely they were to be readmitted. For patients with a score at or above 10, we arranged for a home health visit after discharge.

Since 2011, Inova Transitional Services has provided a free, 30-day telephonic case management service. Discharged patients receive weekly calls, the first of which happens within 24 to 48 hours after discharge. The case managers perform medication reconciliation, making sure the hospital has a correct and complete list of the medications the patient is taking at home and checking it against the list of medications the patient was taking in the hospital. They also ensure patients have timely follow-up appointments, and educate patients about warning signs, empowering them to have a successful recovery.

In case patients cannot get in to see their primary care physicians in a timely manner, or if a patient does not have a medical home, Inova provides discharge clinics that offer primary care and follow up, bridging the gap between hospital and home.

Inova took steps to standardize the management of heart failure and COPD by reviewing clinical practice guidelines and completing evidence-based hospital order sets for each condition. These order sets guide Inova healthcare professionals across the continuum of care – outpatient, emergency department, inpatient, and home health – through the clinical pathway for the specific diagnosis.

Inova has also integrated palliative care into the screening process to help patients along their journey through treatment. We have engaged teams across the continuum of care, including nursing, case management, physicians, home services, and skilled nursing facilities. We continue to monitor all units for compliance with every implemented intervention.

Section 5: Patient Experience

The Healthcare Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is used to track patients' satisfaction with their experience while in the hospital. It is a mandatory inpatient patient satisfaction survey developed by CMS and has been used since 2007. Data collected from these surveys is part of what is measured for value-based purchasing, as well as publically reported nationally.

Using a standardized patient satisfaction survey like HCAHPS allows Inova Fairfax Medical Campus to compare its results directly with other hospitals that use it around the country. It also gives a voice to our patients and represents the experience they have in our hospital.

To collect this data, thousands of surveys are sent out annually to recently discharged patients and over 1,000 responses were collected to be officially reported.

When reviewing HCAHPS survey data, 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 doctors “usually” communicated well, that answer would count as a negative score.

Nursing communication

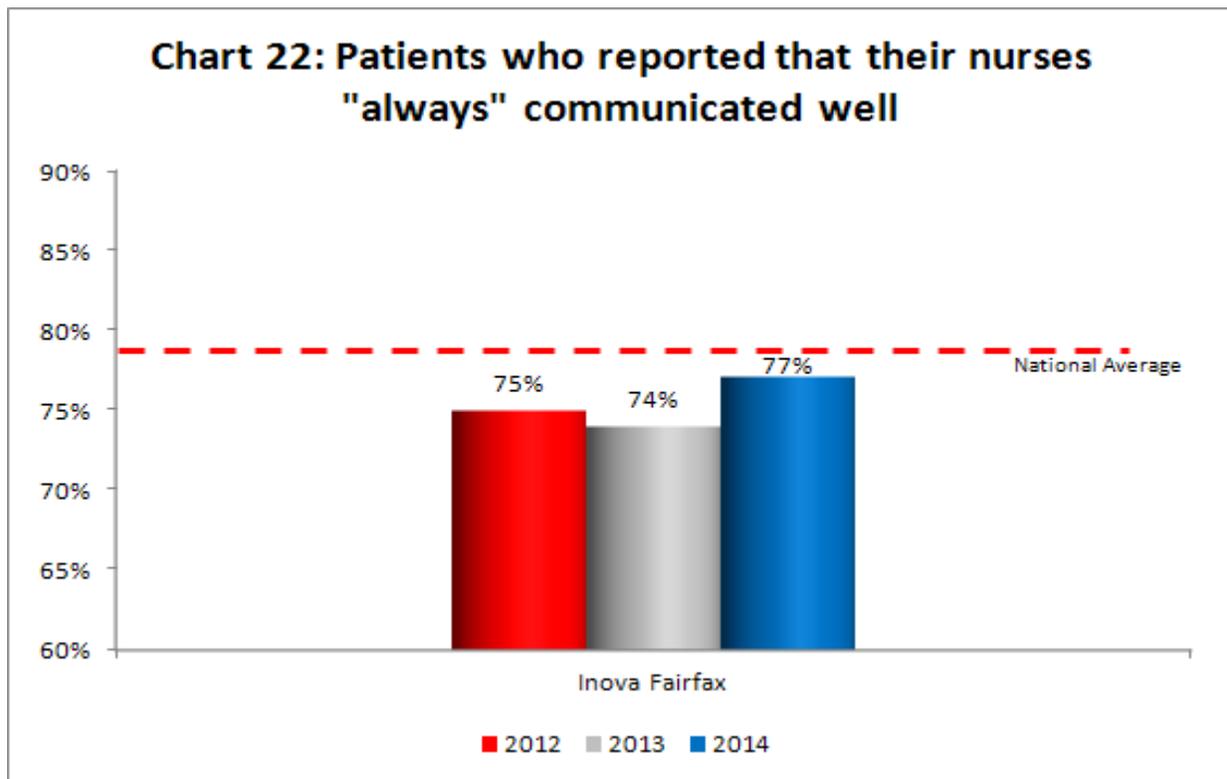
The HCAHPS survey has three questions covering patients' opinions of how well a hospital's nurses communicated, including:

- 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 22 shows Inova Fairfax Hospital's nursing communication performance for the past three years, with the CMS national average indicated by a dotted line. Inova Fairfax Hospital's 2014 rate, 77 percent, represents a three-year high for the hospital



Please note: higher numbers are better for patient experience.

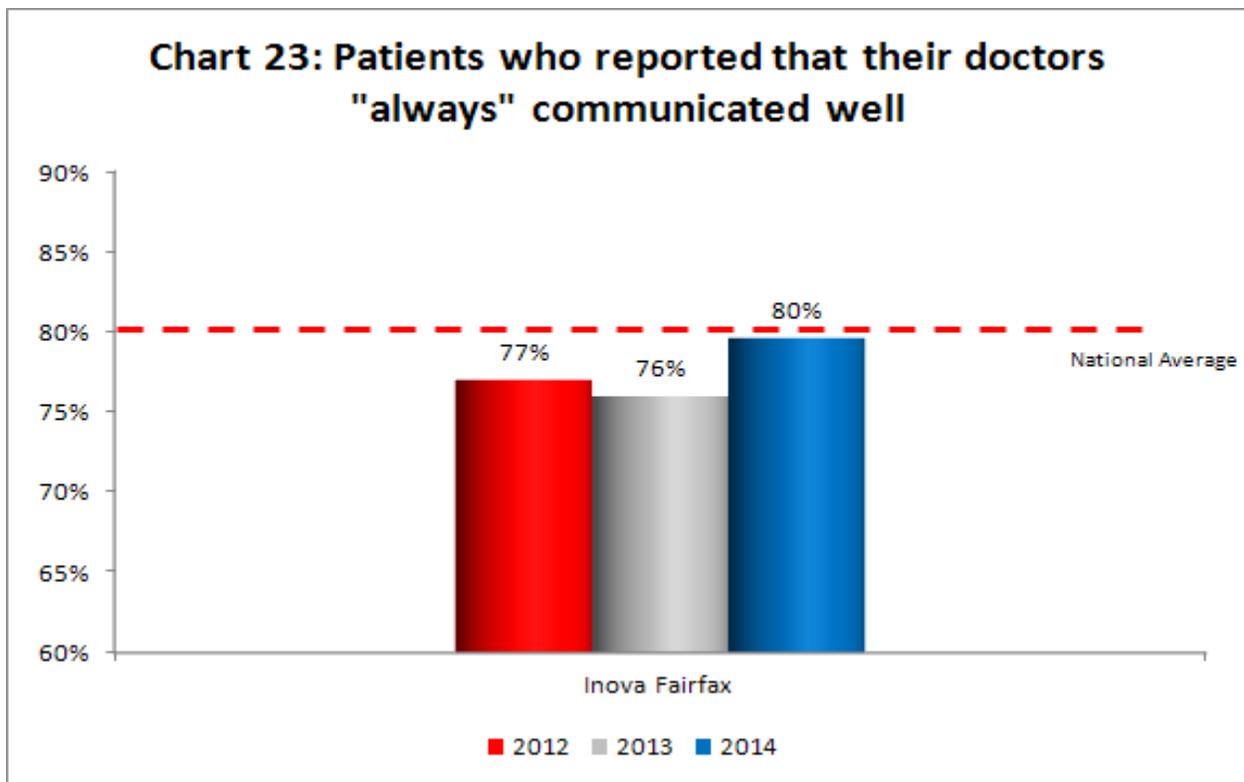


Doctor communication

In the doctor communication category, patients were asked to rate the hospital on three categories, 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 23 provides three years of data for each Inova Fairfax Hospital's doctor communication, with the CMS national average included for reference. 2014's score of 80 percent is a three-year high for Inova Fairfax Hospital.

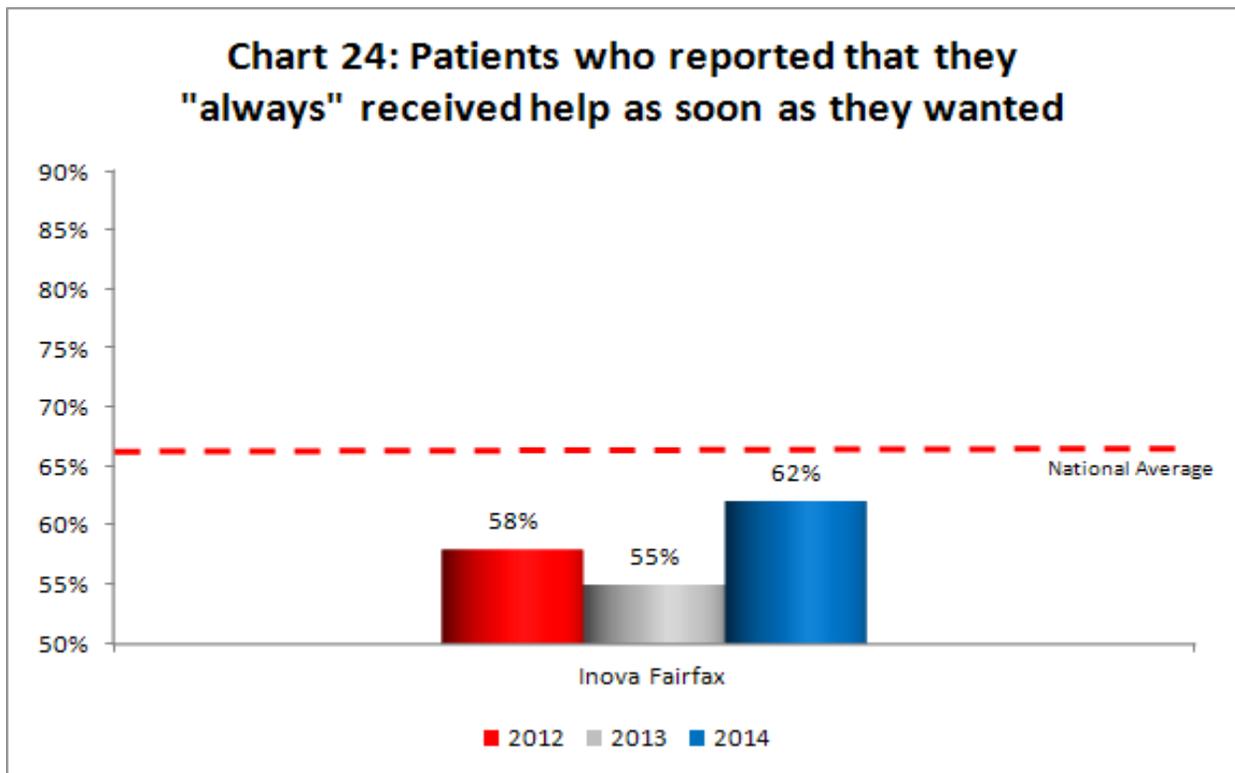


Responsiveness of staff

The HCAHPS survey collects data on two aspects of staff responsiveness, measuring patients' opinion of whether:

- their call bell was always answered quickly and
- they always received help right away when they needed to use the bathroom.

Chart 24 summarizes Inova Fairfax Hospital's performance in this category over the last three years with the CMS national average included for reference. The hospital's rate jumped from 55 percent in 2013 to 62 percent in 2014.

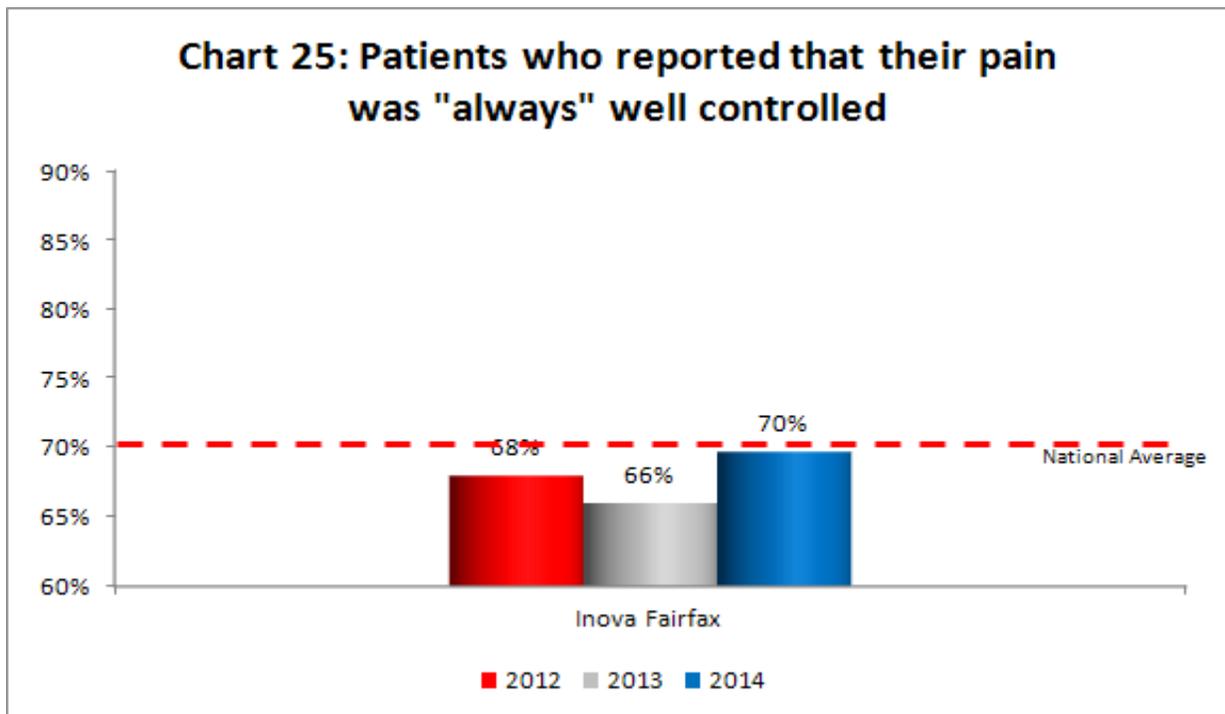


Pain management

In this HCAHPS category, patients were asked to rate their hospital's effectiveness in managing their pain during their stay, including:

- how often their pain was well controlled and
- how often the hospital staff did everything they could to help relieve pain.

Chart 25 depicts Inova Fairfax Hospital's performance over the past three years and compares it to the CMS national average. In 2014, Inova Fairfax Hospital outperformed its previous scores, with 70 percent of patients reporting the most positive survey answer.

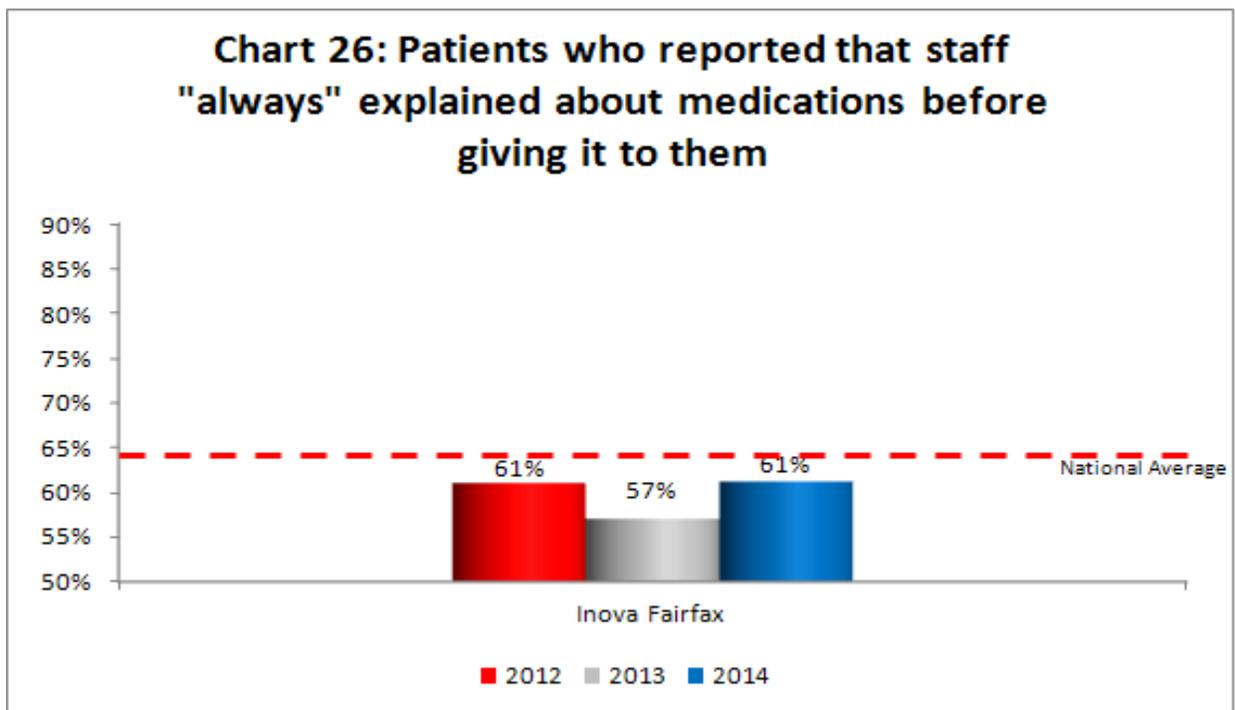


Communication about medications

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 26 shows Inova Fairfax Hospital's performance over the last three years in this category and includes the CMS national average as a point of reference. In 2014, Inova Fairfax Hospital improved its performance over 2013 levels for a total of 61 percent of patients choosing the most positive answer.

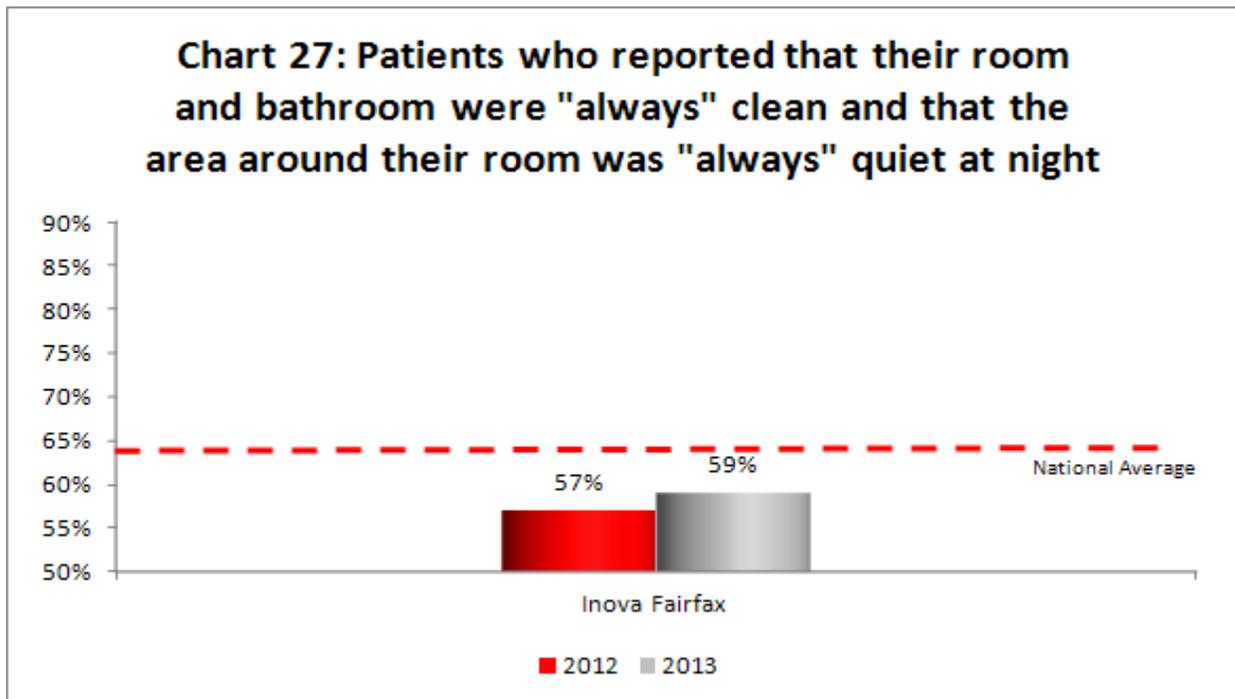


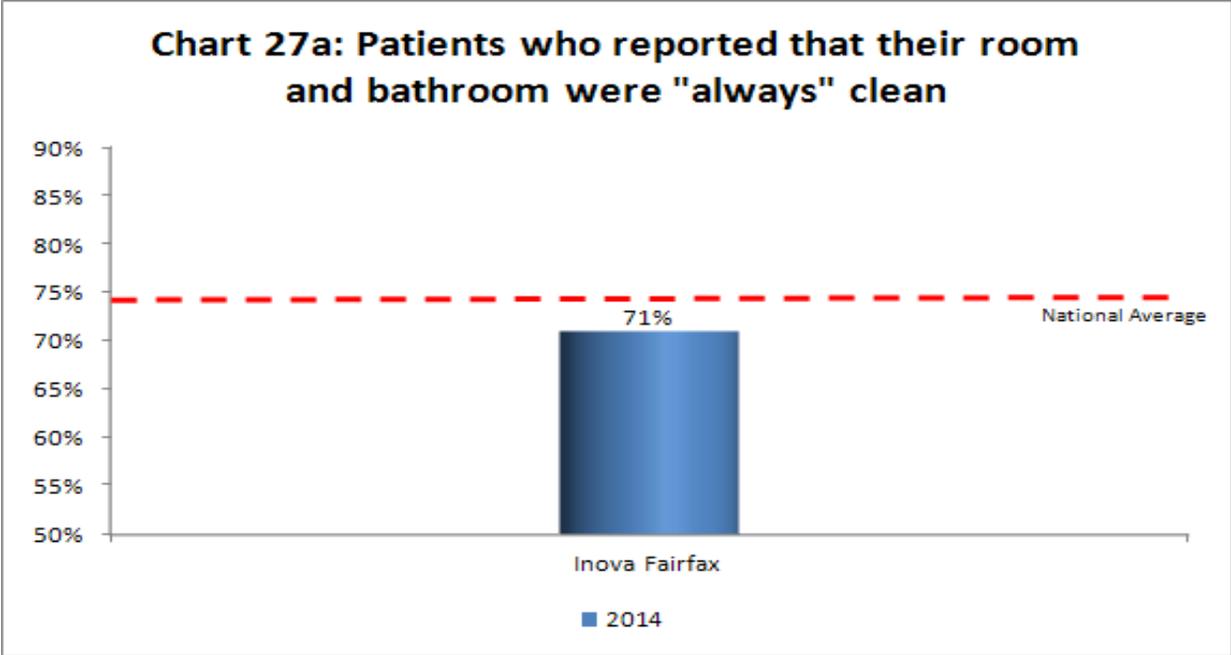
Hospital environment

This category assesses patients' perception of their hospital's environment, including:

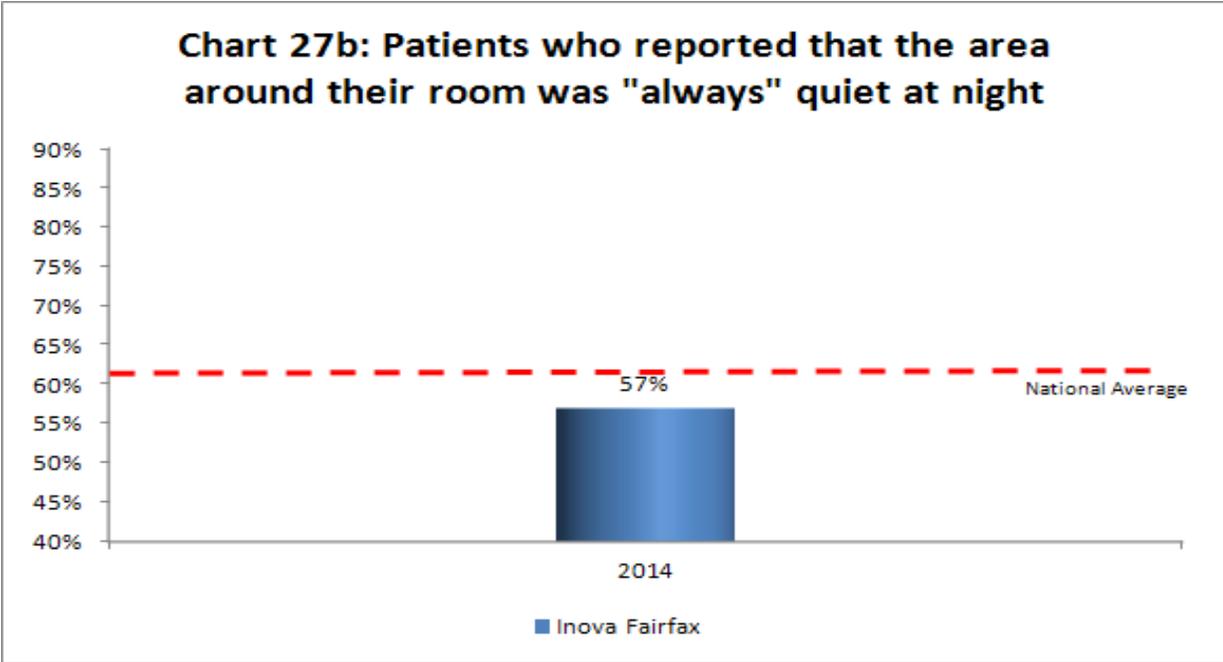
- how often their room and bathroom were kept clean and
- how often the area around their room was kept quiet at night.

Chart 27 summarizes Inova Fairfax Hospital's performance in this HCAHPS category for 2012 and 2013, with the CMS benchmark included for reference. 2014 data is included in Charts 27a and 27b.





Note on Chart 27a: in 2014, CMS revised this survey category and calculated national averages for each question separately. Chart 27a shows Inova Fairfax Hospital's performance with 2014's national average included for reference.



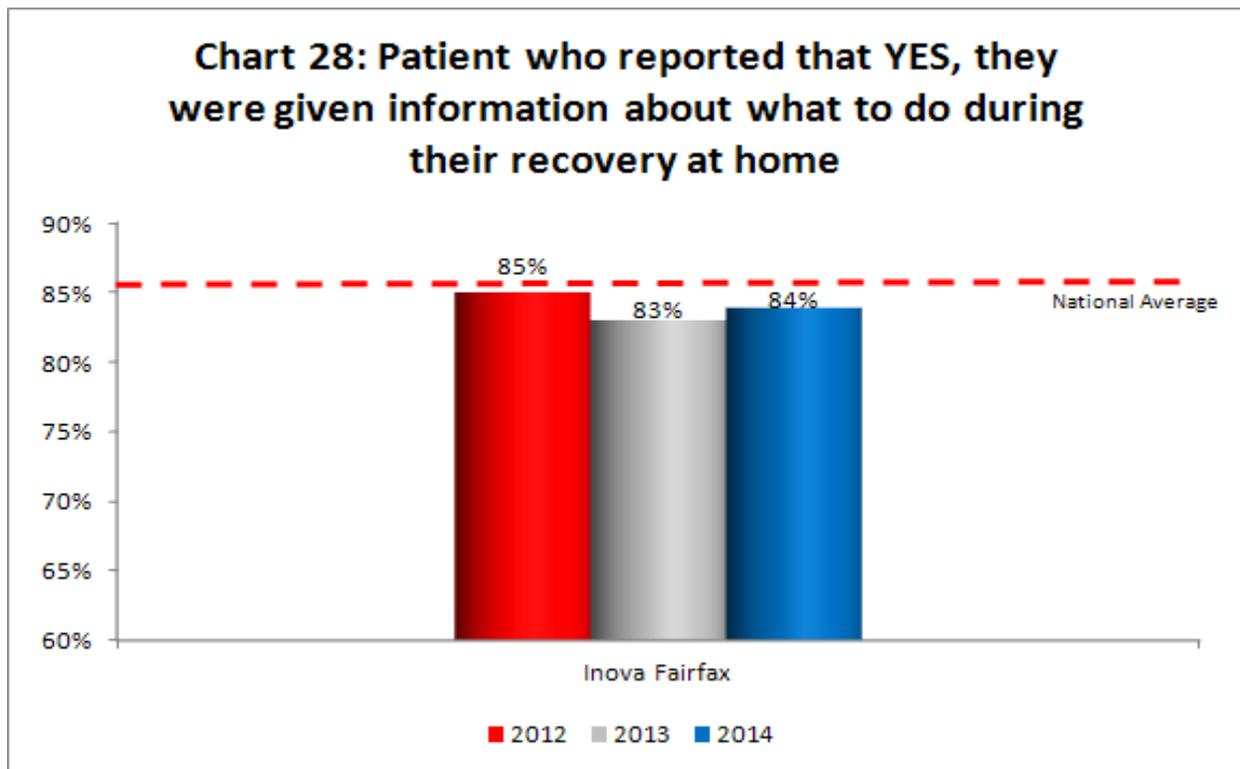
Note on Chart 27b: in 2014, CMS revised this survey category and calculated national averages for each question separately. Chart 27b shows Inova Fairfax Hospital's performance in this category benchmarked against the 2014 national average.

Discharge instructions

The discharge instructions portion of the survey collects data about whether patients felt they were appropriately prepared for discharge. In contrast to the previous categories, patients are asked to answer “yes” or “no” as to:

- whether someone on their healthcare team asked whether they 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 28 provides data on Inova Fairfax Hospital’s performance over the past three years, benchmarked against the CMS national average. The hospital improved its performance slightly over 2013’s level, with 84 percent of patients choosing “yes.”

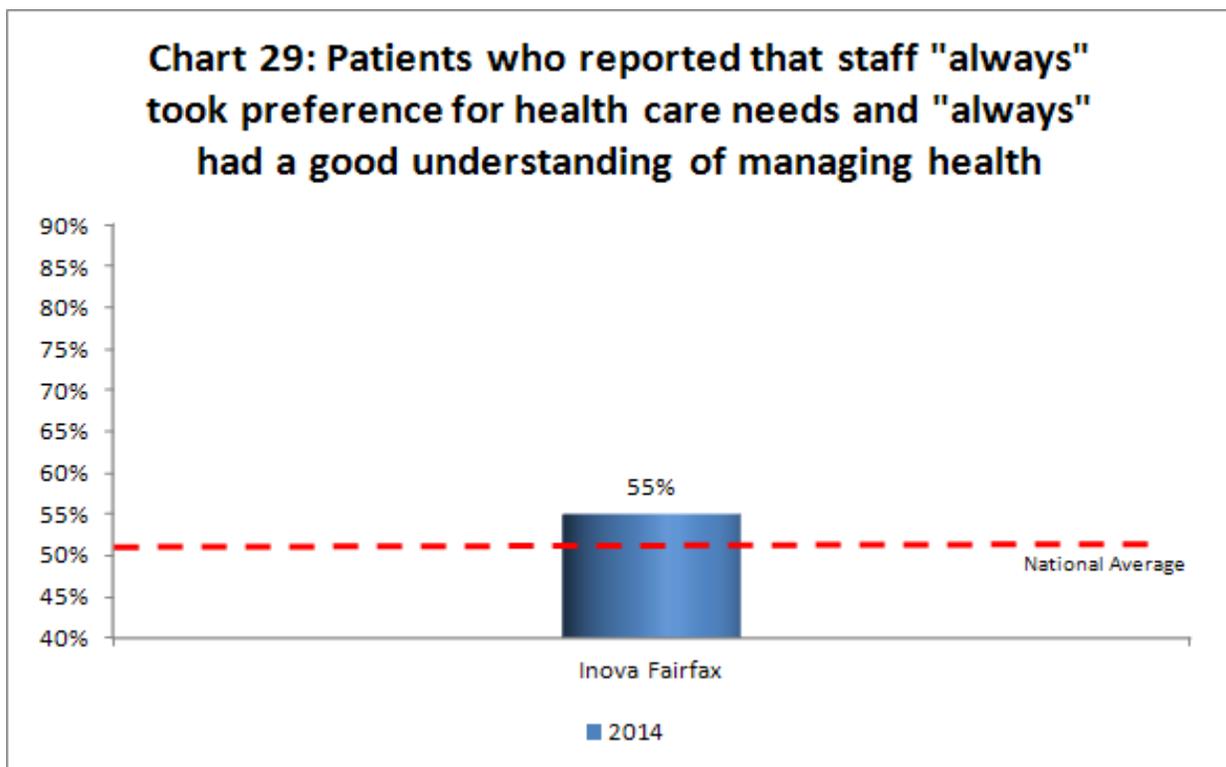


Care transitions

This category, which was new in 2014, asks patients to rate how well 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.

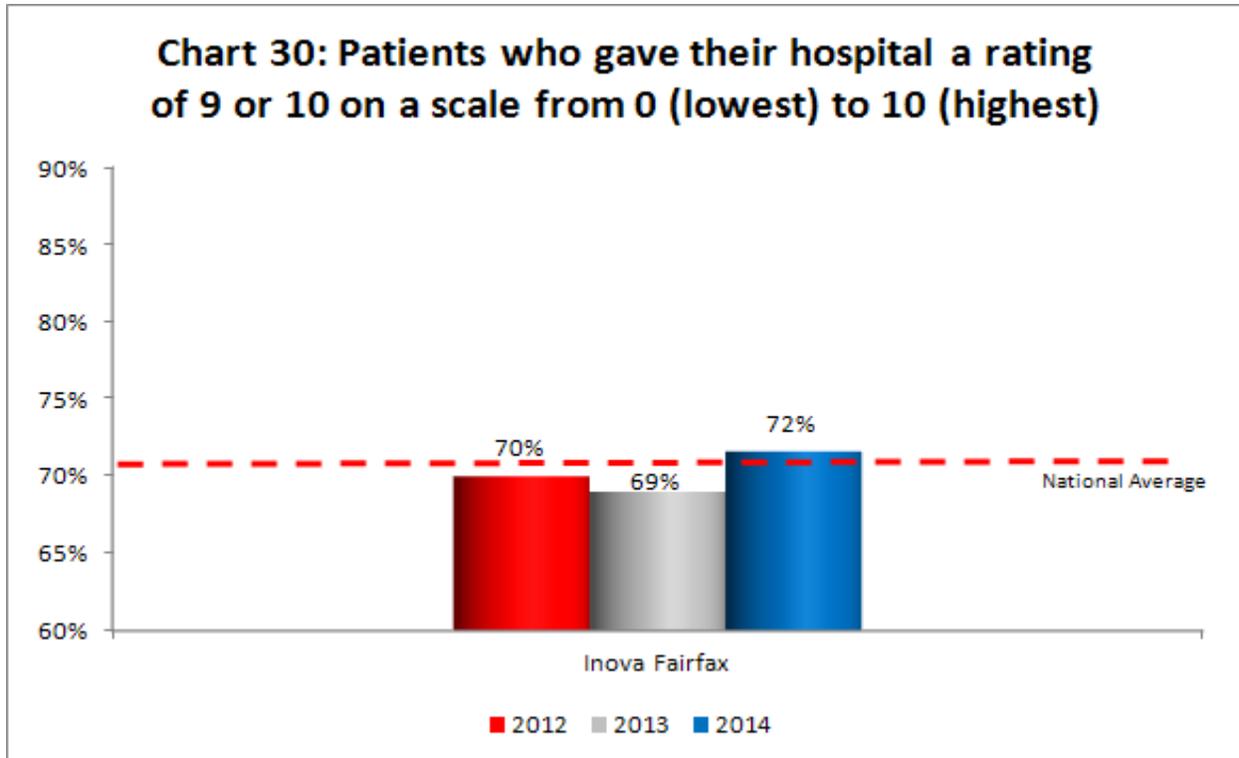
Since this survey category was new in 2014, only one year of data is available. The data provided on Chart 29 will serve as a baseline for future reports. Inova Fairfax Hospital's 2014 rate (55 percent) was better than the national average.



Overall rating

This HCAHPS category asks patients to rate the hospital overall on a scale from 0 (worst possible hospital) to 10 (best possible hospital). Chart 30 depicts what percentage of respondents selected the highest scores (9 or 10) in response to this question.

Inova Fairfax Hospital's scores were better than the national average in 2014. For 72 percent of patients, Inova Fairfax Hospital was at or near the "best possible hospital" rank.



Inova improvement focus for HCAHPS

Inova Fairfax Medical Campus' patient experience team facilitates the execution of patient experience initiatives through direct engagement with leadership, front-line staff, and support services. This team provides coaching around the Inova Care Delivery Model, reinforces service essential skills, leads initiatives to engage teams, and supports rewards and recognition programs.

While improvement in HCAHPS scores is a way of measuring patient experience, the key to building a true culture of service is through the engagement of teams, accountability of every individual, and consistency in all areas of the hospital. Some key efforts driving this service culture are centered around training and coaching. In our service simulation labs, scenarios are played out with clinical staff to address common patient experiences. Each unit or department has a designated patient experience champion who helps lead service efforts with their team, and physician leadership champions support our physicians' commitment to patient experience.

Inova is committed to creating excellent patient experiences through consistent, compassionate care. We pledge to anticipate needs and provide personalized care with humility and openness. We take our Inova promise to heart: "We seek every opportunity to meet the unique needs of each person we are privileged to serve – every time, every touch." Through engagement and support at every level of the organization, we have developed a strategic plan that articulates how we will refine, and in some cases re-engineer, our culture and operational processes in order to honor that promise.

Section 6: Quality Improvement in Action

Healthcare is dynamic, and best practices for patient care and patient safety are always evolving. How does Inova Fairfax Medical Campus ensure quality? Through our commitment to continuous improvement throughout the hospital. Below are a few examples of programs and initiatives in 2014 that continued to raise the bar for quality at Inova Fairfax Medical Campus.

Ambulation Explosion

Iams award winner: Inova System⁸

Inova Joint Replacement Center, with locations at all five Inova hospitals, performs over 2,100 joint replacement surgeries each year. After joint replacement surgery, one of the best things a patient can do to ensure a good outcome is to get up and move around as soon as possible.

Moving around after surgery (called “ambulation”) is associated with a variety of positive outcomes including shorter hospital stays and discharge home from the hospital rather than going to a rehabilitation facility instead. Ambulation on the day of surgery has also been shown to help patients avoid complications after surgery, particularly blood clots. Patients also gain confidence in their new joints right away, which contributes to a chain reaction of positive steps toward a full recovery. Studies show that patients who got up on the day of surgery were five times more likely to be able to walk 150 feet two days later.

Inova wanted to improve the percentage of patients who ambulate soon after surgery. A multidisciplinary team from across Inova’s five hospitals studied the problem, set specific goals, and implemented changes.

After reviewing current research, best practices, and current benchmarks, the joint replacement patient care outcomes team chose two measurable goals:

- 1) 85 percent of patients will ambulate up on the same day they have surgery, and
- 2) 85 percent of patients will walk at least 150 feet two days after surgery.

But establishing the goal was only half of the battle: the team also had to identify the factors that were keeping some patients from getting up on the same day of surgery. A few issues stood out, among them not having late enough hours for physical therapy staff to work with patients who finished surgery later in the day. Because of the risk of falls, nursing staff were less comfortable getting patients to ambulate later in the evening, without physical therapy staff support.

⁸ The Iams awards are named for Franklin P. Iams, who was instrumental in founding Inova and who championed excellence in performance and service. The awards recognize programs across Inova that significantly improved the quality of care.

To address these issues, Inova hospitals re-tooled physical therapy scheduling to accommodate later hours and high-volume times. Medical/surgical units conducted ongoing training with nurses and staff on orthopedic mobility and how to assist patients safely. The focus on ambulation expanded beyond the surgical floor as well. If there was a delay in getting the patient to the hospital floor from the post-surgical recovery area, for example, patients were encouraged to start walking in recovery. Orthopedic surgeons and anesthesiologists also worked to prepare patients for quicker ambulation, calibrating patients' epidural anesthesia so that the numbness would wear off more quickly after surgery and using urinary catheters less often.

The results speak for themselves: as of the fourth quarter of 2014, 94 percent of patients were ambulating on the day of their surgeries, and 86 percent were walking 150 feet or more two days after surgery.

Inova drew on its strengths for this initiative by working collaboratively across all five hospitals, sharing best practices, and learning from what other units are doing. As a result, Inova Joint Replacement Center patients are getting out of bed – and, ultimately, back to their lives – faster.

Countdown to zero CLABSIs

iams award winner: Inova Fairfax Medical Campus

Hospital-acquired infections are a serious quality concern among hospitals nationwide. Whether patients have been hospitalized for a critical illness, injury, or surgical procedure, contracting an infection from a hospital's medical care itself is something everyone seeks to avoid.

Inova focuses on reducing infections in many different ways. One successful example is an initiative at Inova Fairfax Medical Campus (IFMC) that took aim at central line-associated blood stream infections (CLABSIs).

CLABSIs are blood stream infections resulting from a central venous catheter, better known as a central line. A thin, tube is inserted under the skin into a patient's vein and left in place, where it provides access to the patient's bloodstream for medication or fluids.

IFMC leaders assembled a CLABSI prevention team to focus on reducing CLABSIs. After studying data on past CLABSI infections, the team saw that infections tended to occur eight days following insertion of a central line, indicating that maintenance, rather than the initial insertion, was contributing to the infection rate.

The team looked at all aspects of practice surrounding central lines, from insertion and maintenance techniques to equipment. After nursing staff advised the team that the sterile

dressing over the line was not staying in place well enough, the team researched new product options and switched to a sterile dressing with much better adhesion and better material. This change alone had a positive impact.

The team didn't stop there, however: using current best practices, they established a single protocol for dressing changes for central lines. CLABSI reduction champions were appointed in each unit who learned the updated methods, demonstrated their proficiency, and then trained the rest of the unit's staff. Using this method, every person responsible for maintaining a patient's central line was coached in the proper procedure and had to demonstrate competency.

Other aspects of the central line protocol were also changed. Physicians agreed to suture the lines in place to minimize the weight of the line, thereby allowing the dressing to remain intact. Each shift's charge nurse conducted rounds each day, examining each patient's central line to verify that the patient's dressing and line were free of blood.

By examining all aspects of the central line process, the CLABSI prevention team focused on specific changes that had a dramatic impact. IFMC critical care units have cut CLABSI rates by 80 percent from 2013 levels.⁹ The team is looking to sustain these gains over the long term by making sure each new staff member receives the same coaching and competency review as all current staff.

Early Progressive Mobility in the ICU: Improving the Patient Experience ***iams award winner: Inova Fairfax Medical Center***

Taking care of critically ill patients in the intensive care unit (ICU) requires a careful balance between treating their illnesses and supporting the patients as they work to recover their health. The outdated image of a unit full of sleeping, bed-ridden patients is being overturned as recent research reveals that mobility is a key facet in a good patient outcome.

Patients who get out of bed and move around are more likely to have shorter hospital stays, less time on a breathing machine (ventilator), and less sedation. Early progressive mobility is also associated with a lower risk of complications such as delirium, depression and loss of muscle tone.

The medical/surgical ICU (MSICU) at Inova Fairfax Medical Center (IFMC) had been taking significant steps toward improving early mobility and wanted to sustain and build on those gains. A multidisciplinary critical care team composed of intensivist physicians, RNs, physical

⁹ This improvement is reflected in IFMC's HAI performance. See Chart 1 on page 4 of this report.

therapists, respiratory therapists, pharmacy, and clinical technicians conducted a 360-degree analysis to examine every factor that contributed to mobility.

Progressive mobility is a seven-point scale, ranging from passive range of motion positioning to walking down the hall. The team analyzed patient data to determine which steps took the longest and worked to determine the root causes of any delays.

The MSICU changed its culture to focus on “mobility every day.” Each morning, the charge nurse communicates with the intensivist, then with physical therapy, to make sure each patient is moving along the mobility progression. Nurses were identified as leaders at the bedside and empowered to drive the mobility process themselves rather than waiting for physicians to sign off on each step. The team established a physical therapist on the unit as a “mobility champion,” which proved to be a crucial step for maintaining the mobility-focused culture.

To solidify these cultural improvements, the team standardized documentation and communication checklists so that every team member’s role was well defined. The team worked with the EHR developers to make it easier for physicians to see how each patient’s mobility was progressing using EpicCare. Even room design was evaluated and optimized to support the unit’s focus on mobility.

The program’s measurable results included more patients advancing higher on the seven-point mobility scale using the early progressive mobility guidelines (from an ICU-wide average score of 2.4 in June, 2014 to an ICU-wide average of 2.7 in August, 2014). The unit also saw secondary benefits, including a reduction in length of time patients were on a ventilator, from an average of 4.96 days in 2010 to 4.05 days in 2014, and a reduction in the percentage of patients on Versed, a longer-acting sedative, from 24 percent to 5 percent.

By focusing on how many different parts work together to affect mobility, the MSICU team is taking steps to improve patient outcomes.

Ebola preparedness procedures

In 2014, Inova Fairfax Medical Campus put wide ranging processes in place to combat the threat of the Ebola virus and prepare to care for Ebola patients. The hospital convened an Ebola task force that used failure mode effect analysis (FMEA) to review the process and determine where things could go wrong. By thinking about the entire process and looking for failure points, the team was able to find solutions to potential problems before any Ebola patient came through the doors.

The hospital’s Ebola response begins at the registration desk, where every person was asked screening questions about their recent travel history and whether they had had a fever in the

last few days. Anyone answering “yes” to both questions was immediately triaged, and hospital personnel began to follow the protocols for suspected Ebola patients.

Hospital personnel also practiced donning and doffing the required protective equipment and tested how long hospital staff can safely care for patients while wearing the gear before needing a break. Allowing for the time needed to put on protective gear properly and scheduling breaks to reduce fatigue helped to eliminate possible points of failure in the hospital’s containment system.

Although the hospital did not treat any confirmed Ebola patients in 2014, these preparations will be useful to combat any future outbreaks of Ebola or similar diseases.

Streamlining Safety Event Practices

In 2014, Inova Fairfax Medical Campus quality and safety teams led the development of a new safety workflow that focused on improving reporting and accountability by growing the hospital’s culture of reliability. Here is an overview of three important parts to the hospital’s current safety initiatives: the daily safety check-in, bi-weekly safety review meetings, and the redesigned safety event workflow.

Daily Safety Check-in (DSCI): Senior leadership and representatives from each department meet every morning to briefly discuss Great Catches and safety events/concerns that have occurred since the last DSCI and review the anticipated needs for the next 24 hours. The DSCI’s goal is to create an environment of open communication to mitigate risks and system failures that could potentially lead to events of patient and employee harm.

Inova believes that safety events and Great Catches (i.e., near misses) are usually the result of latent conditions, system and/or process failures rather than misconduct or lack of skill. We emphasize a just culture to ensure a fair and just response by removing blame while maintaining appropriate individual and organization level accountability. Only by creating a culture of safety and finding and fixing the weakness in the system can we prevent events of patient and employee harm.

Safety Review Meeting (SRM): During this bi-weekly meeting, completed analyses of safety events and Great Catches are shared with operational leadership to ensure true root causes and appropriate corrective actions are identified to prevent a similar event from recurring. The team shares lessons learned from each event’s analysis so other leaders can consider making adjustments within their own areas to prevent similar safety events.

SRM is also an opportunity to share “safety stories.” Front line staff members attend SRM to share their Great Catch or a safety event in which they were involved. SRM is non-punitive and

provides an opportunity to build trust among leadership and staff through truth and transparency. All opinions are welcome, and the staff is encouraged to speak up and voice concerns for the sake of patient safety.

Safety Event Workflow: Reporting Great Catches, precursor safety events, and serious safety events are critical to a high reliability culture. Creating a user-friendly process to report safety events is one component of this process. Another part is streamlining the workflow and creating a notification process by which leadership is notified of high harm safety events in real time. The real time element is essential to ensure teams deploy adequate resources right away to respond and identify remedial corrective actions, and ultimately prevent further harm.

Inova patient safety leaders have specific definitions for Great Catches, precursors and serious safety events and follow a process to prioritize analysis of reported safety events. A multidisciplinary team trained in high reliability cause analysis methodologies meets weekly to review, classify, and prioritize analysis of significant events. A given event could be resolved at the department level, or the team could conduct an apparent cause analysis (ACA) or root cause analysis (RCA). Next, the team identifies corrective actions and assigns process owners. RCA teams function under the direction of an executive sponsor, a senior level leader who provides guidance and credibility to the process and removes barriers as applicable.

Sharing lessons learned from the analysis of Great Catches and safety events is one strategy within a high reliability culture. A summary of completed analyses is shared monthly with staff, both clinical and non-clinical, to review and consider how the lessons learned relate to the work they do each day. This strategy re-emphasizes transparency and patient safety as our top priority.

Conclusion

Although Inova Fairfax Medical Campus is consistently ranked among the nation's best hospitals, we are committed to continuous improvement. This report is one way we chart our progress and stay focused on providing world-class healthcare to every patient.

This report has provided data summarizing Inova Fairfax Medical Campus' performance in several important healthcare quality indicators, including outcome indicators, serious reportable events, core measures, readmissions, and patient experience. Once again, the report has expanded on the data reported in 2013's report to give a fuller picture of how well the hospital is performing relative to the nation's best hospitals.

We welcome your questions, comments, and suggestions about this report. To contact the quality team at Inova Fairfax Medical Campus, please email us through the web link at www.inova.org/contactus.

Appendix I: Inova Fairfax Medical Campus Core Measures Data

Section 3's "perfect care" scores are based on core measure data. This appendix defines each core measure and provides year-end summary data for Inova Fairfax Medical Campus. To give the data a broader context, this section also includes performance data for 2012 and 2013, where applicable.

Heart attack care

The heart attack core measure is composed of three sets of data, tracking the percentage of patients who:

- are given **aspirin on discharge**, to prevent blood clots,
- receive **percutaneous coronary intervention (PCI)** to remove the blockages that cause heart attack within 90 minutes of arrival (also known as "door-to-balloon" time), and
- are prescribed a **statin at discharge** to lower cholesterol.

Inova Fairfax Hospital's performance for the past three years (2012-2014) is shown relative to the CMS national average in Charts 31 through 33 (below).



Please note: higher numbers are better for core measures.

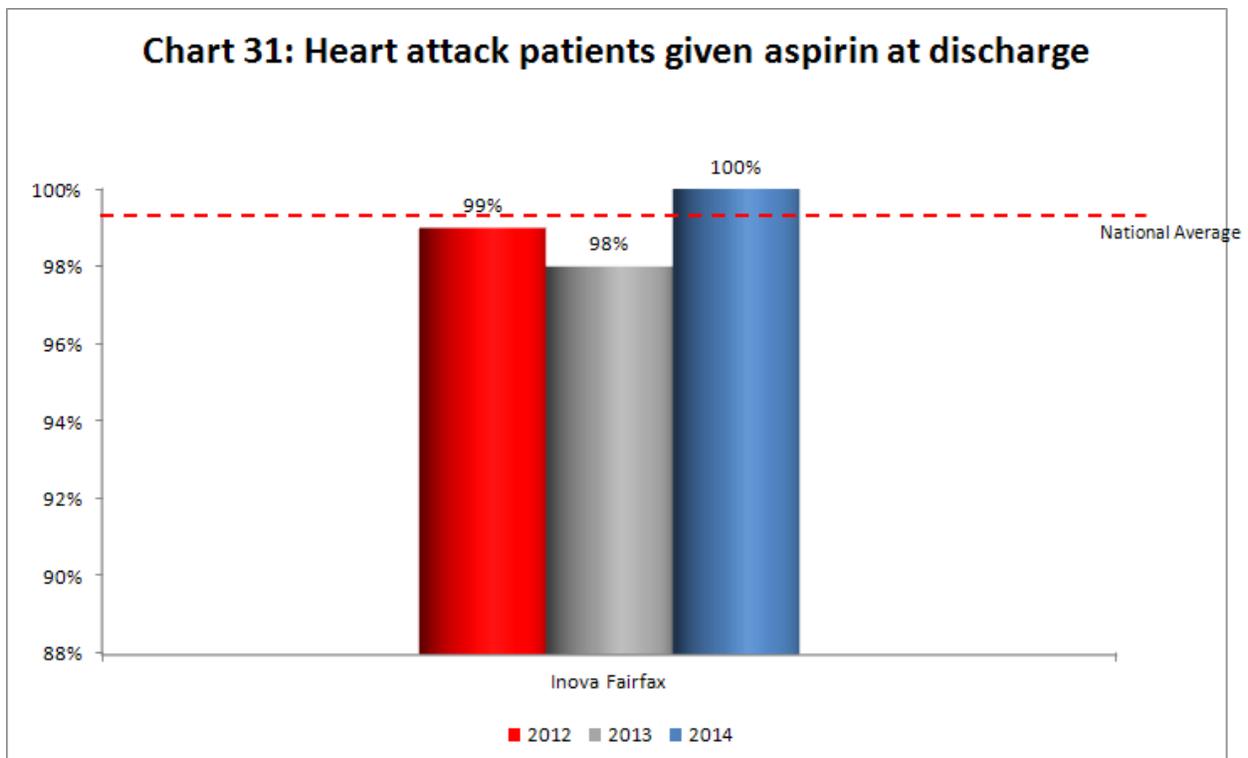


Chart 32: Heart attack patients given PCI within 90 minutes of arrival

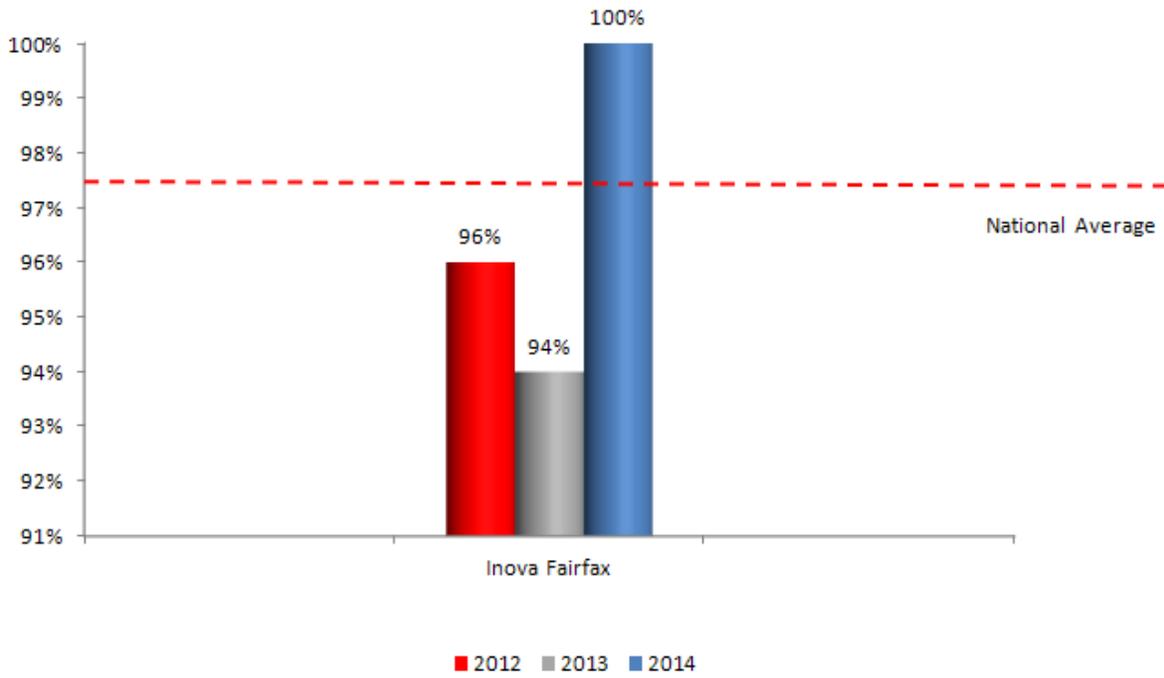
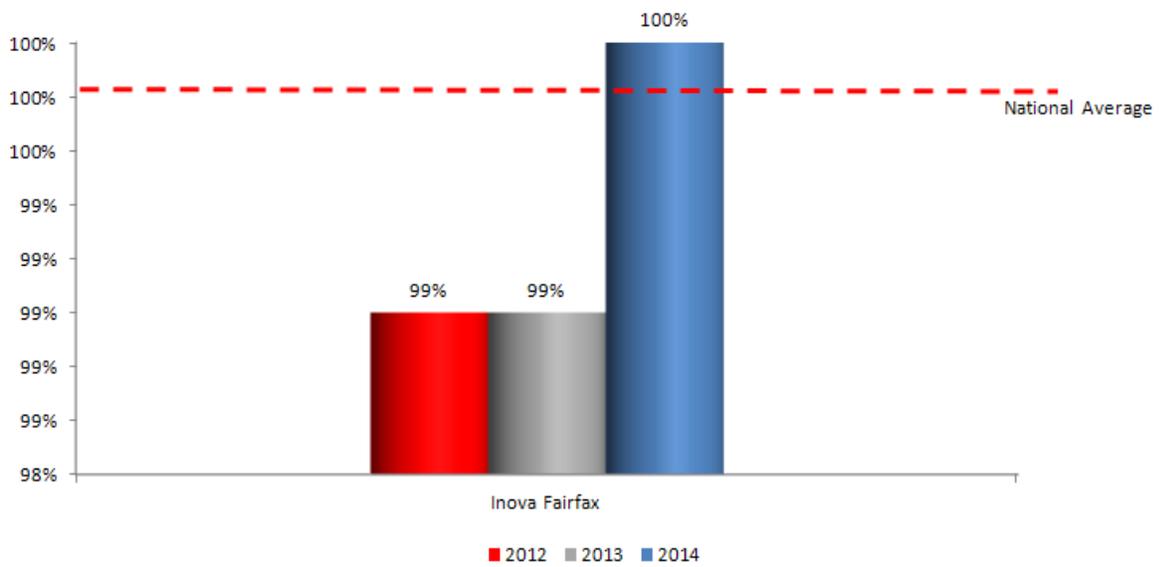


Chart 33: Heart attack patients given a prescription for a statin at discharge



Heart failure care

The heart failure core measure for 2014 has two components that measure the percentage of patients who:

- receive an evaluation of how well their heart's left chamber is pumping (**assessment for left ventricular systolic dysfunction, or LVSD**) and
- are given an **ACE inhibitor or ARB**, medications that treat heart attack, heart failure, or decreased heart function.

Charts 34 and 35 show Inova Fairfax Hospital's percentages for heart failure care over the past three years, with the CMS national average represented as a dotted line for reference.

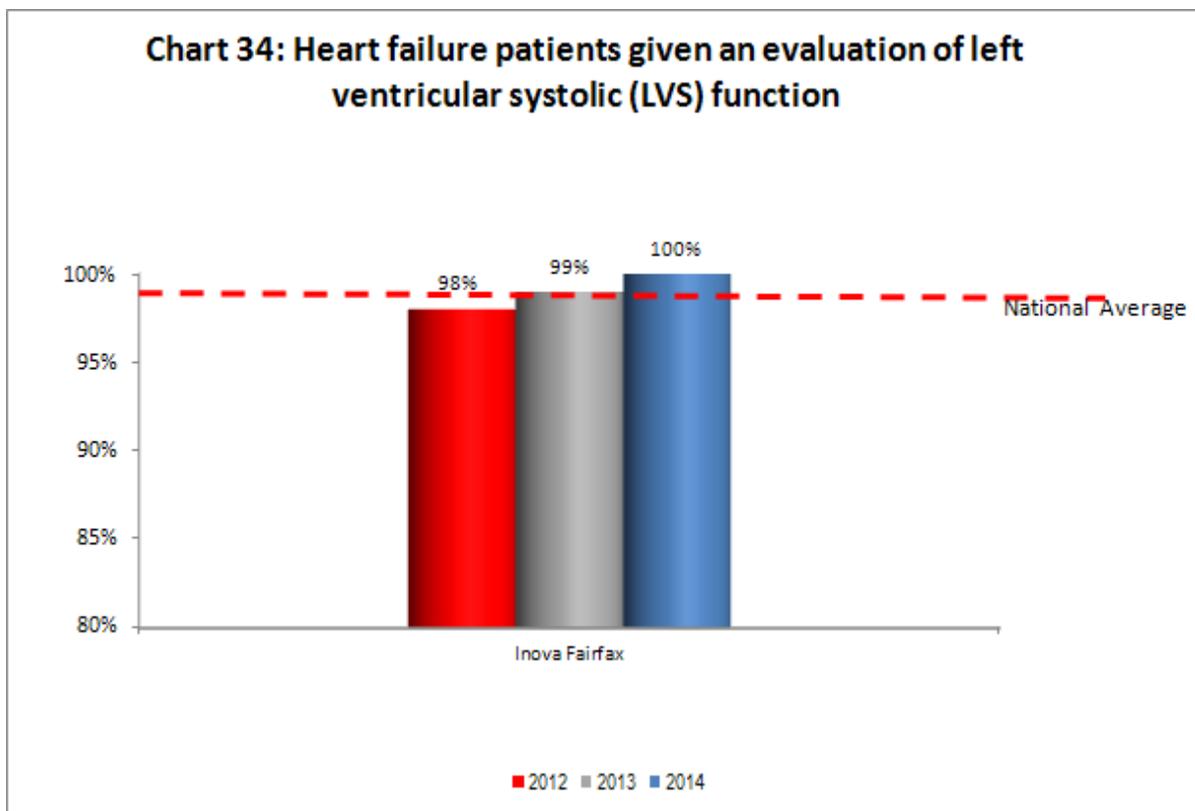
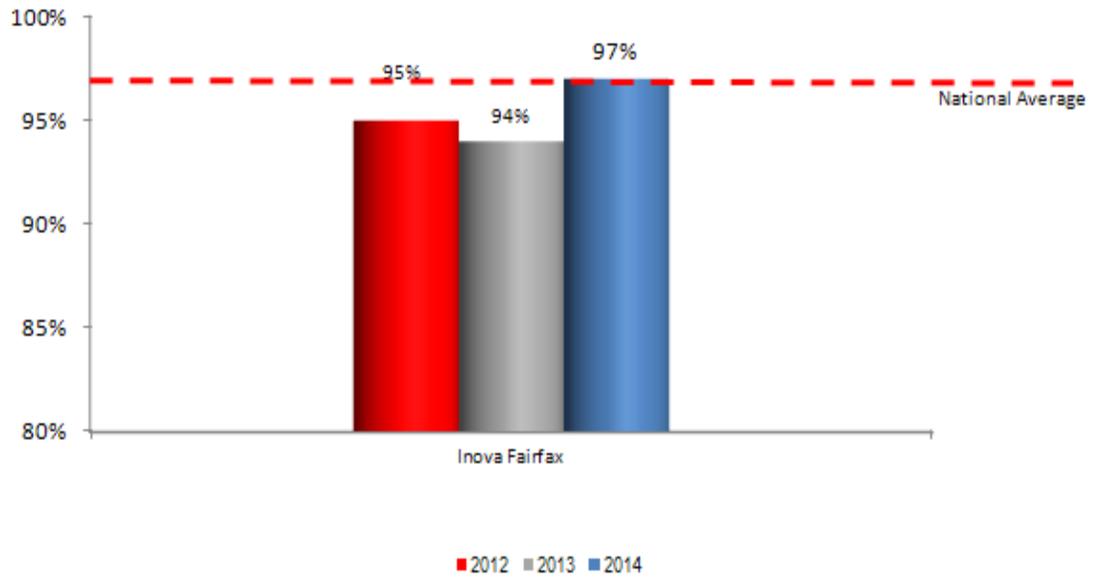


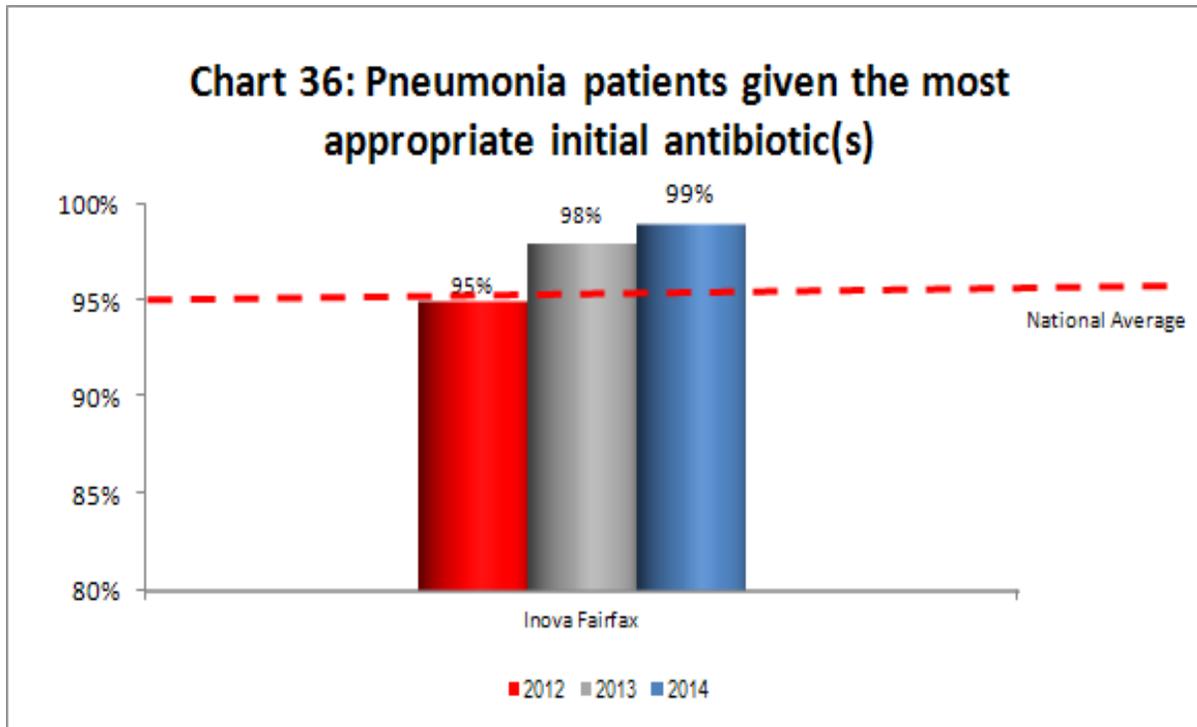
Chart 35: Heart failure patients given an ACE inhibitor or ARB for left ventricular systolic dysfunction (LVSD)



Pneumonia care

The pneumonia core measure tracks the percentage of patients who are given the **most appropriate antibiotics** for the patient's specific infection.

Three years of Inova Fairfax Hospital's data for the pneumonia core measure are shown in Chart 36 (below). The dotted line across the chart represents the CMS national average.

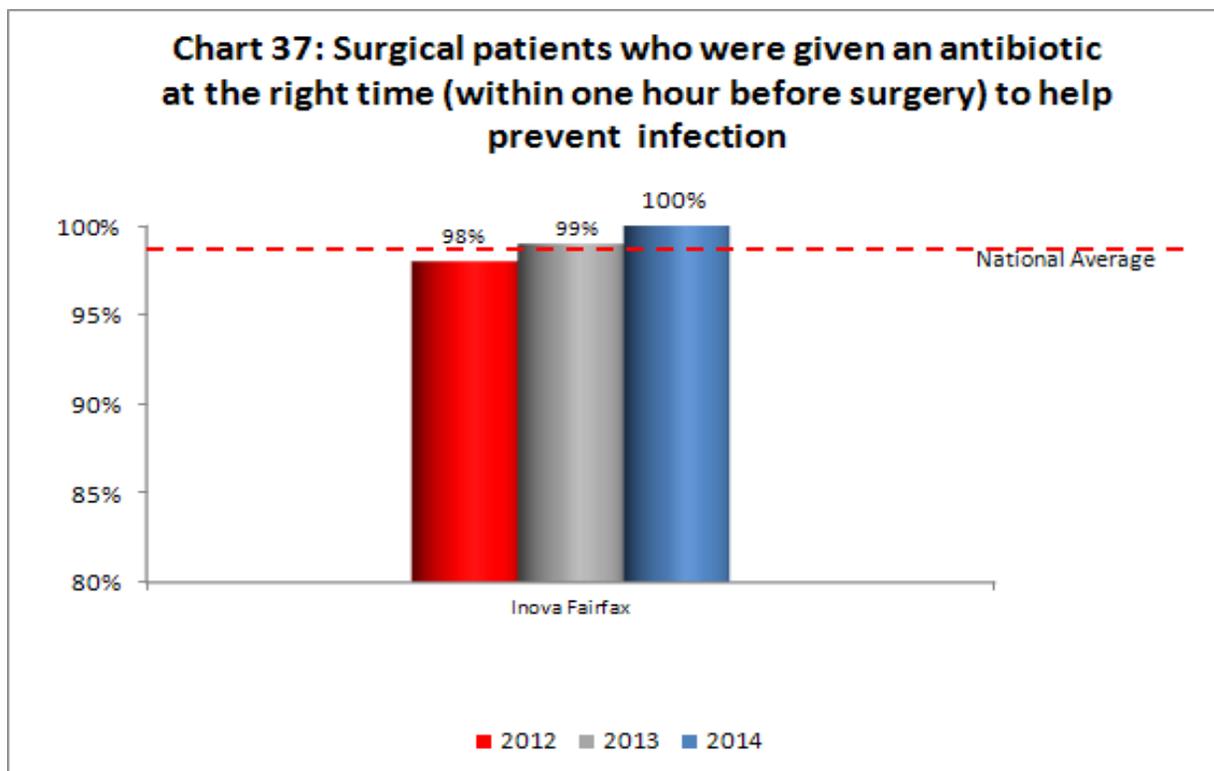


Surgical care

There are six¹⁰ components to the surgical care core measure, focusing on how a hospital takes the appropriate steps to prevent complications, such as infections and blood clots, in surgical patients. It tracks the percentage of surgical patients:

- who were **given an antibiotic at the right time** (within one hour before surgery) to help prevent infection,
- who were given the **right kind of antibiotic** to help prevent infection,
- whose preventive **antibiotics were stopped at the right time** (within 24 hours after surgery),
- who **got treatment to prevent blood clots at the right time** (within 24 hours before or after their surgery) after certain types of surgery,
- whose **urinary catheters were removed** within two days after surgery to reduce the risk of infection,
- who, if they were taking heart drugs called beta blockers before coming to the hospital, were **kept on the beta blockers** during the period just before and after their cardiac surgeries.

Three years of data for each of the surgical care core measure components is depicted in Charts 37 through 42 against the CMS national average (dotted line).



¹⁰ Two previously reported surgical care measures were retired by CMS in 2014: body temperature management during surgery and blood glucose management after surgery. Future reports will not show this data.

Chart 38: Surgical patients who were given the right kind of antibiotic to help prevent infection

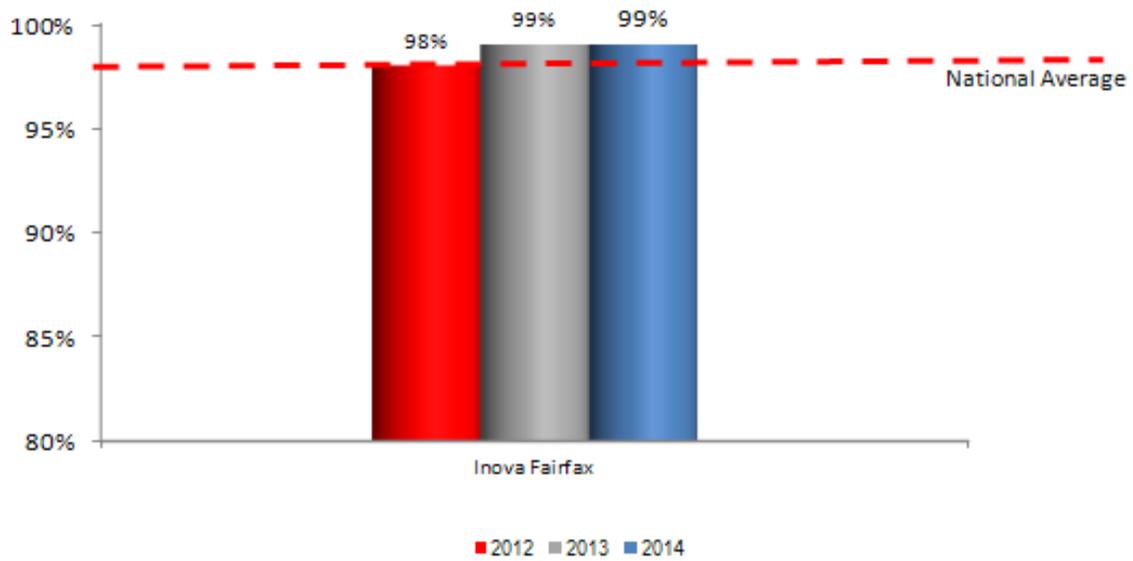


Chart 39: Surgery patients whose preventive antibiotics were stopped at the right time (within 24 hours after surgery)

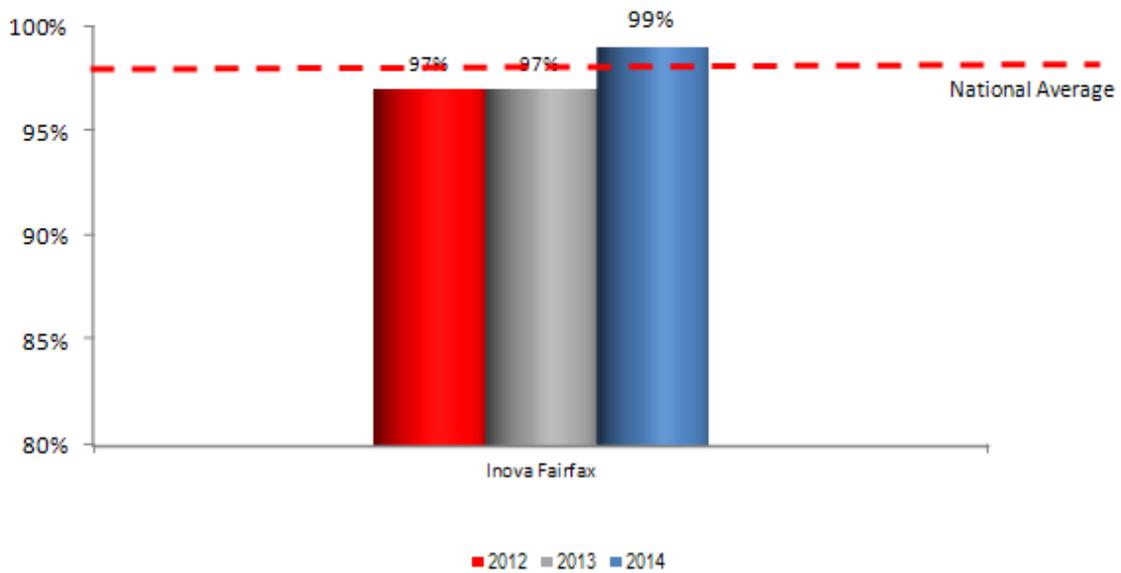


Chart 40: Patients who got treatment at the right time (within 24 hours before or after their surgery) to help prevent blood clots after certain types of surgery

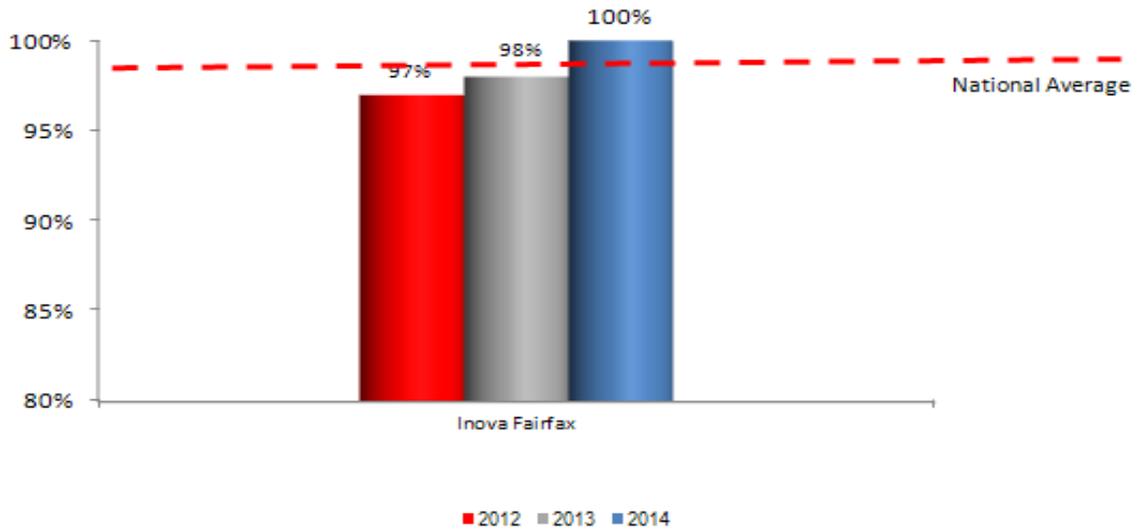


Chart 41: Surgery patients whose urinary catheters were removed on the first or second day after surgery

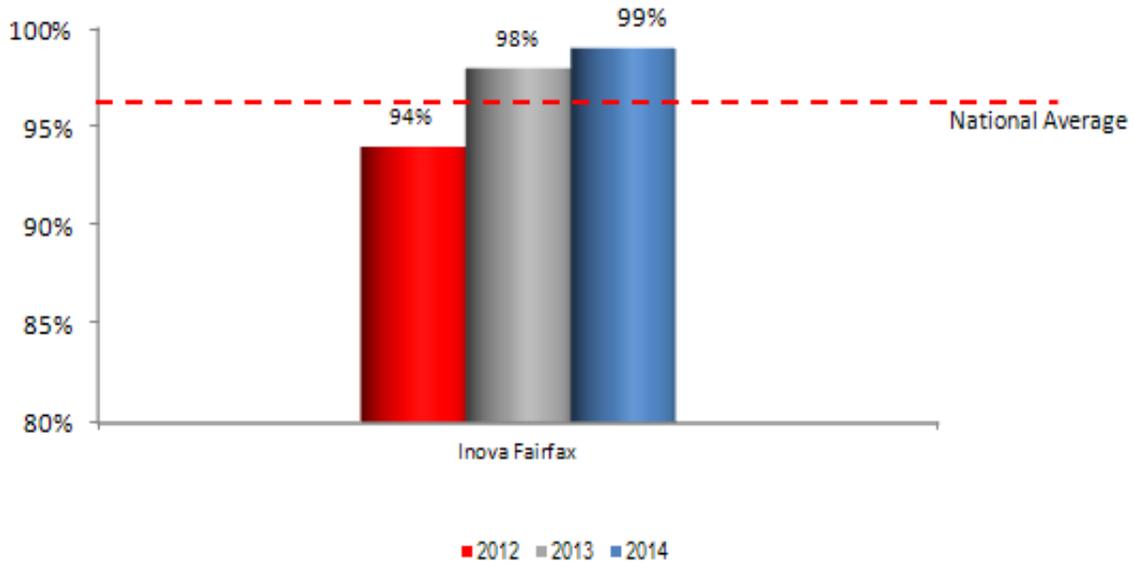
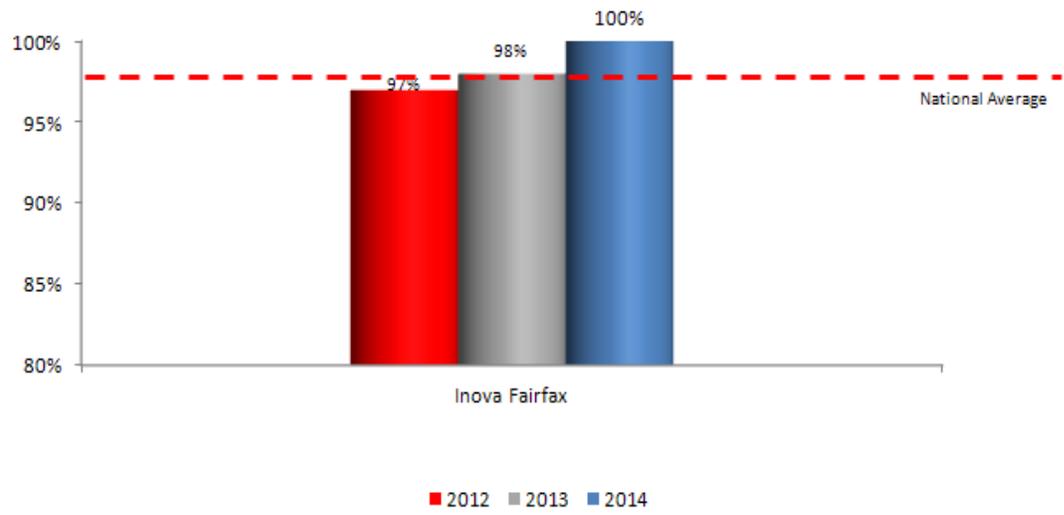


Chart 42: Surgery patients who were taking heart drugs called beta blockers before coming to the hospital, who were kept on the beta blocker before and after their surgery



Blood clot prevention and treatment

The blood clot prevention and treatment core measure has six components. The first two sets of data track steps taken to prevent blood clots in admitted patients and measure the percentage of patients who:

- receive treatment to prevent blood clots on the day of or day after **hospital admission or surgery** and
- receive treatment to prevent blood clots on the day of or day after **admission to the intensive care unit (ICU)**.

The other four components focus on proper treatment of patients who have developed blood clots. Three of them measure the percentage of:

- patients who develop blood clots and are subsequently given the proper treatment, which includes administering two **overlapping anticoagulant medications** (commonly known as “blood thinners”);
- patients with blood clots who were treated with an intravenous blood thinner, then were **checked to determine if the blood thinner was putting the patient at an increased risk of bleeding**; and
- patients with blood clots who were discharged on a blood thinner medicine and **received written instructions** about that medicine.

The final component of the blood clot prevention and treatment core measure is a negative measure, where lower scores represent better performance. It measures the percentage of:

- patients who developed a blood clot while in the hospital and who **did not get treatment** that could have prevented it.

Charts 43 through 48 show Inova Fairfax Hospital’s performance for 2013 and 2014. Because this global reporting requirement was first publicly reported in 2013, data is not available for 2012 or previous years. The CMS national average, represented by the dotted line, is included for reference.

Chart 43: Patients who got treatment to prevent blood clots on the day of or day after hospital admission or surgery

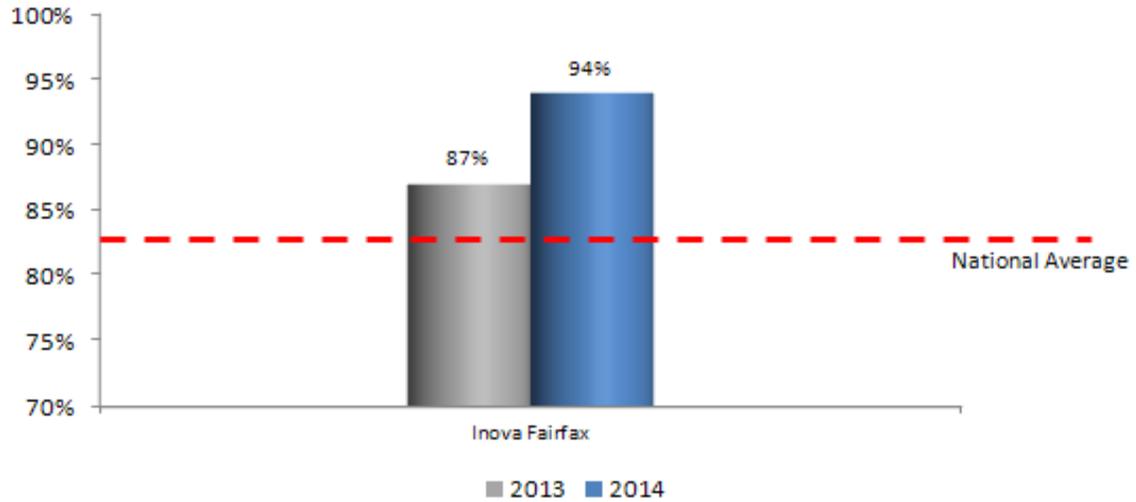


Chart 44: Patients who got treatment to prevent blood clots on the day of or after being admitted to the intensive care unit (ICU)

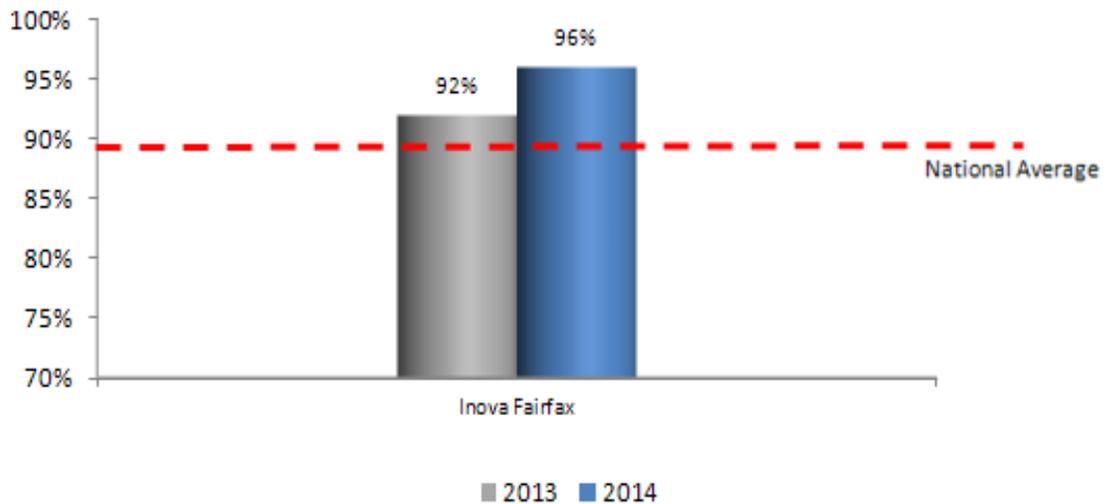


Chart 45: Patients with blood clots who got the recommended treatment, which includes using two blood thinners medicines at the same time

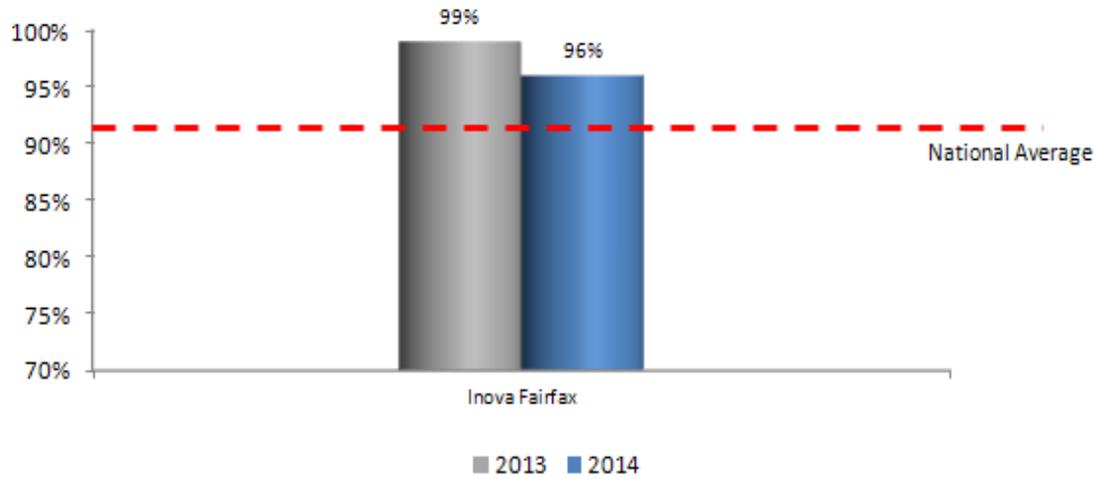


Chart 46: Patients with blood clots who were treated with an intravenous blood thinner, and then were checked to determine if the blood thinner was putting the patient at an increased risk of bleeding

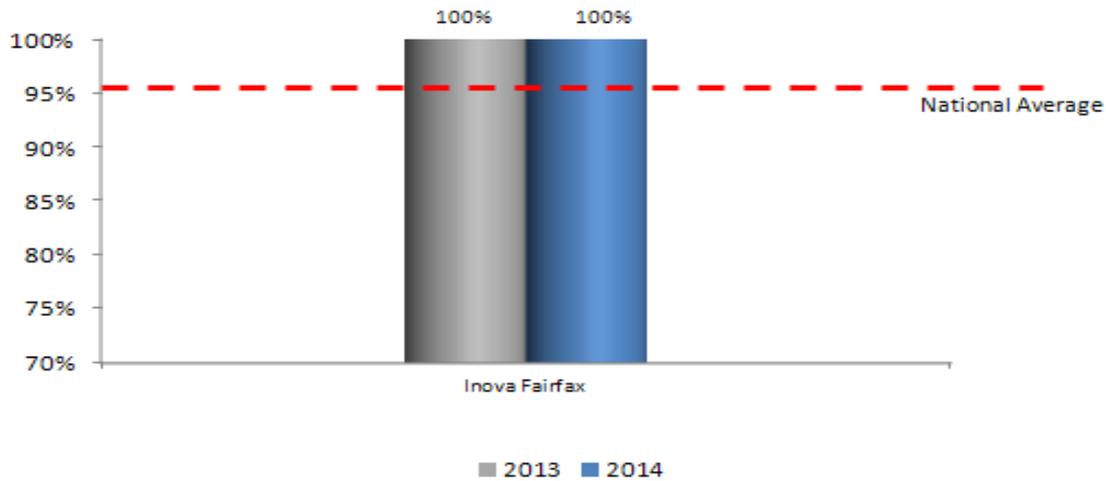
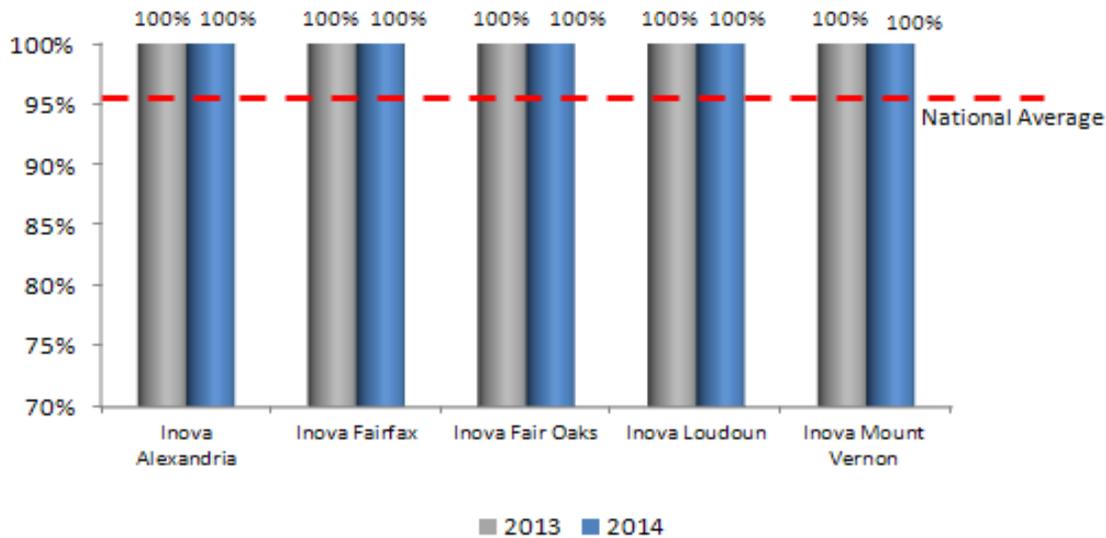
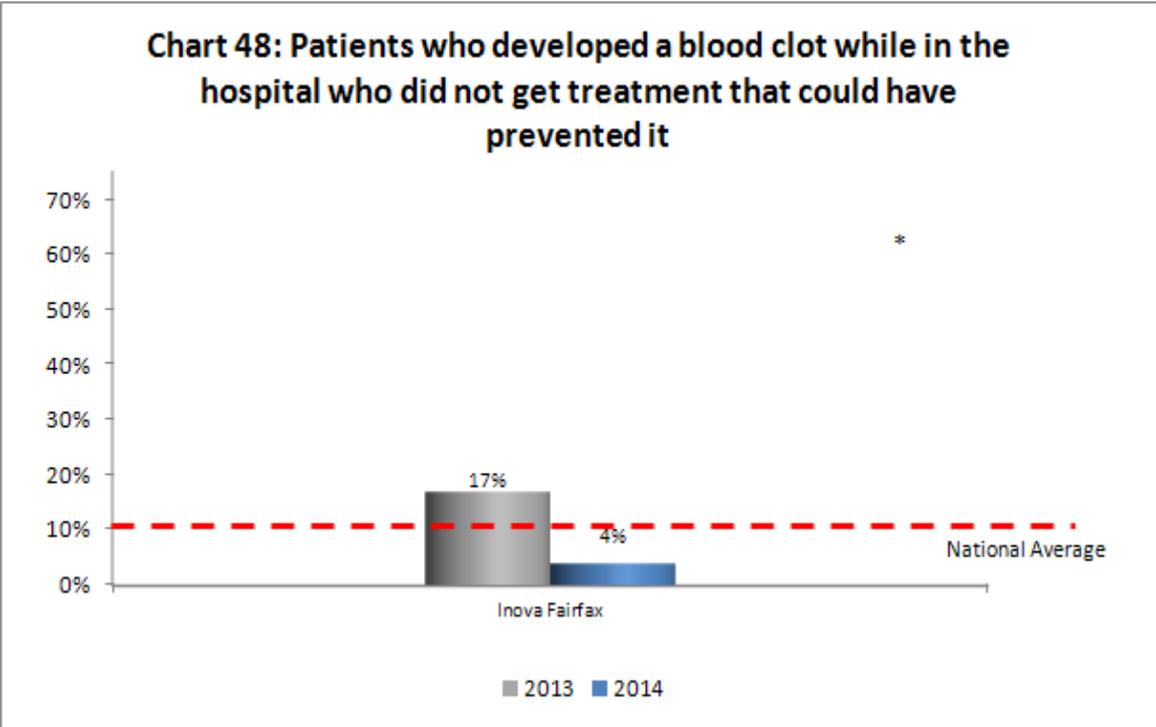
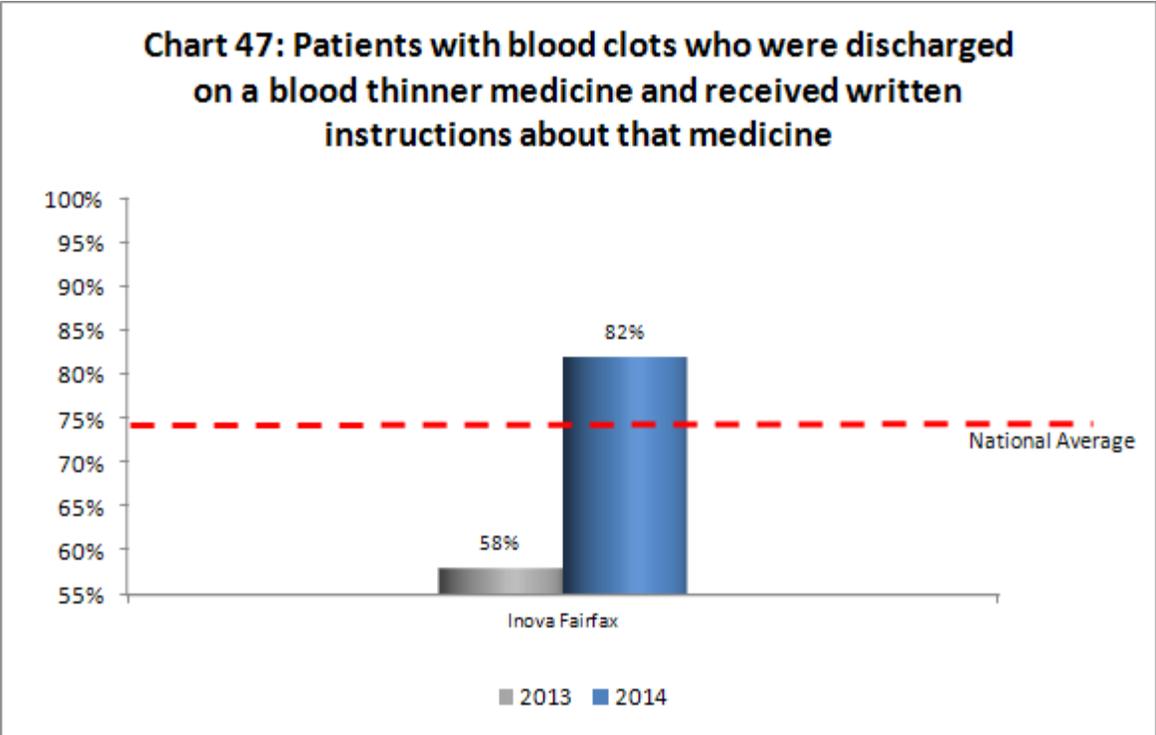


Chart 46: Patients with blood clots who were treated with an intravenous blood thinner, and then were checked to determine if the blood thinner was putting the patient at an increased risk of bleeding





Note on Chart 48: Please note that unlike other core measure categories, lower scores are better for this component.

Children's asthma care

To assess the quality of children's asthma care, Inova collects data in three areas:

- the percentage of children who received **reliever medication** while hospitalized for asthma,
- the percentage of children who received **systemic corticosteroid medication** (oral and IV medication that reduces inflammation and controls symptoms) while hospitalized for asthma, and
- the percentage of children and their caregivers who received a **home management plan of care document** while hospitalized for asthma.

Charts 49 through 51 show Inova Children's Hospital's data for this core measure as compared to the national average.

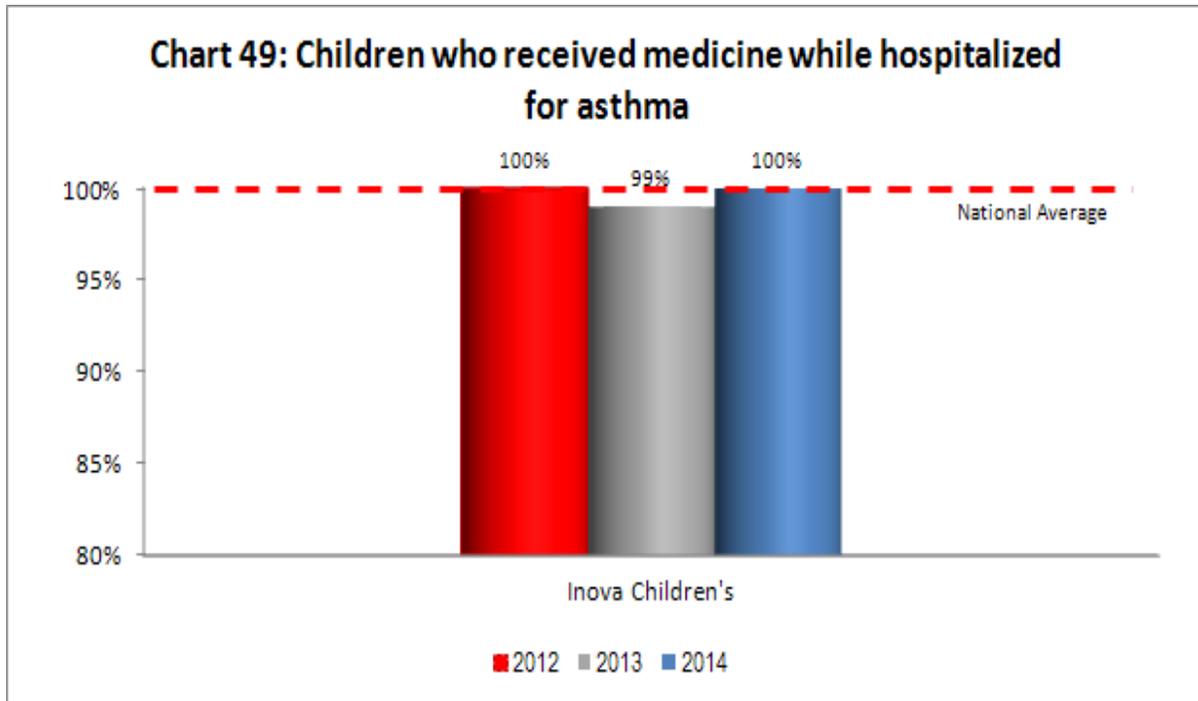


Chart 50: Children who received systemic corticosteroid medicines (oral and IV medicines that reduce inflammation and controls symptoms) while hospitalized for asthma

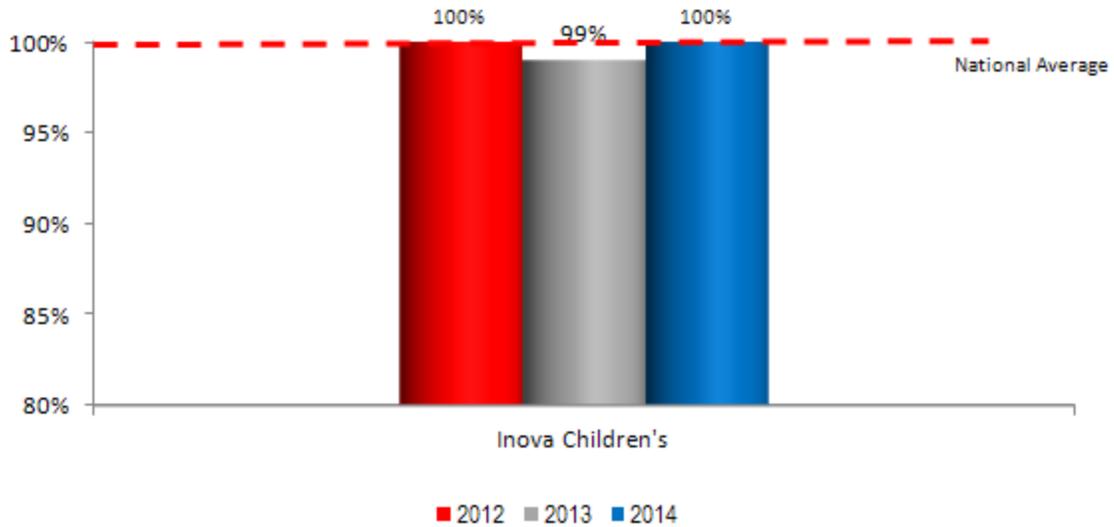
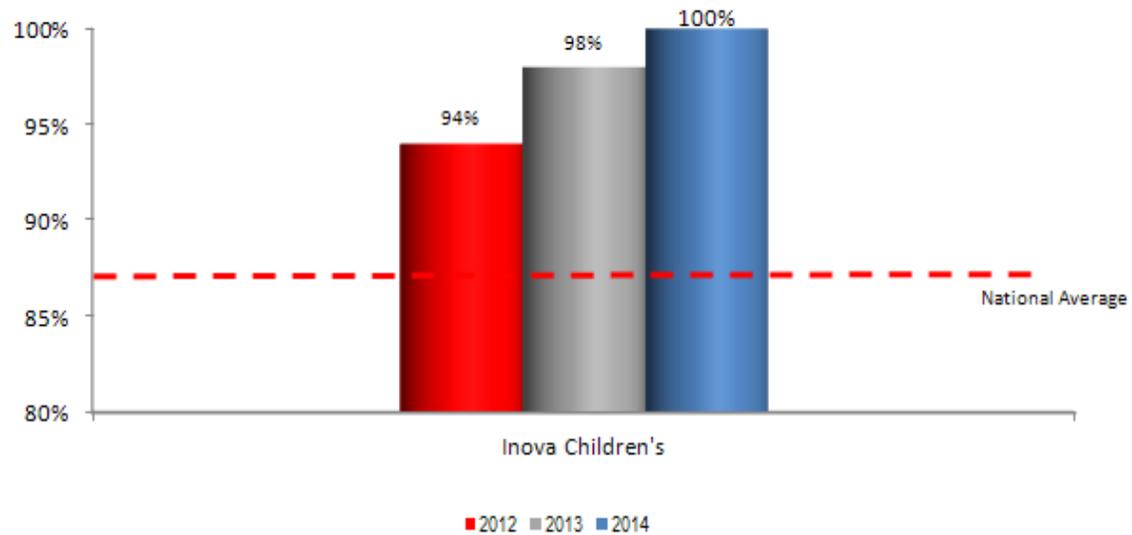


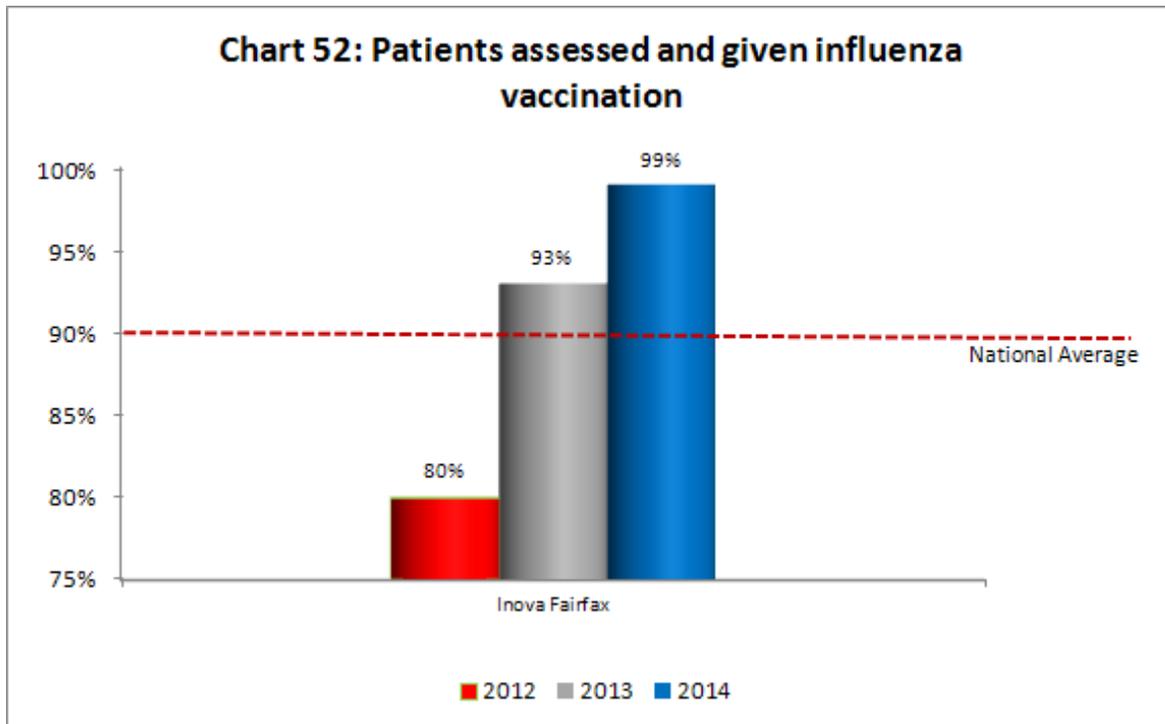
Chart 51: Children and their caregivers who received a home management plan of care document while hospitalized for asthma



Vaccine preventive care

The vaccine preventive care core measure tracks the percentage of all hospitalized patients who receive important vaccinations. We collect data on the percentage of all hospitalized patients who have been assessed and given **influenza vaccination**, which can help prevent influenza in the future.

Inova Fairfax Hospital data for vaccine preventive care are shown in Chart 52. The red dotted line represents the CMS national average and is included for reference purposes.



Stroke care

For the first time this year, Inova has added stroke care core measures data to this report. The CMS core measure set for stroke has eight elements that measure the percentage of stroke patients who:

- received treatment to keep blood clots from forming in the body within two days of arriving at the hospital,
- received a prescription before discharge for medicine known to prevent blood clot-related complications,
- had a type of irregular heartbeat and were given a prescription for a “blood thinner” at discharge,
- got medicine to break up a blood clot less than three hours after symptoms started,
- received medicine to prevent complications caused by blood clots within two days of arriving at the hospital,
- had high cholesterol upon arriving and received a prescription for cholesterol-lowering medication at discharge,
- who received written information about stroke care and prevention, or whose caregiver received the same information, and
- who were evaluated for rehabilitation services.

Charts 53 through 60 present Inova Fairfax Hospital’s stroke care core measures performance over the past three years.

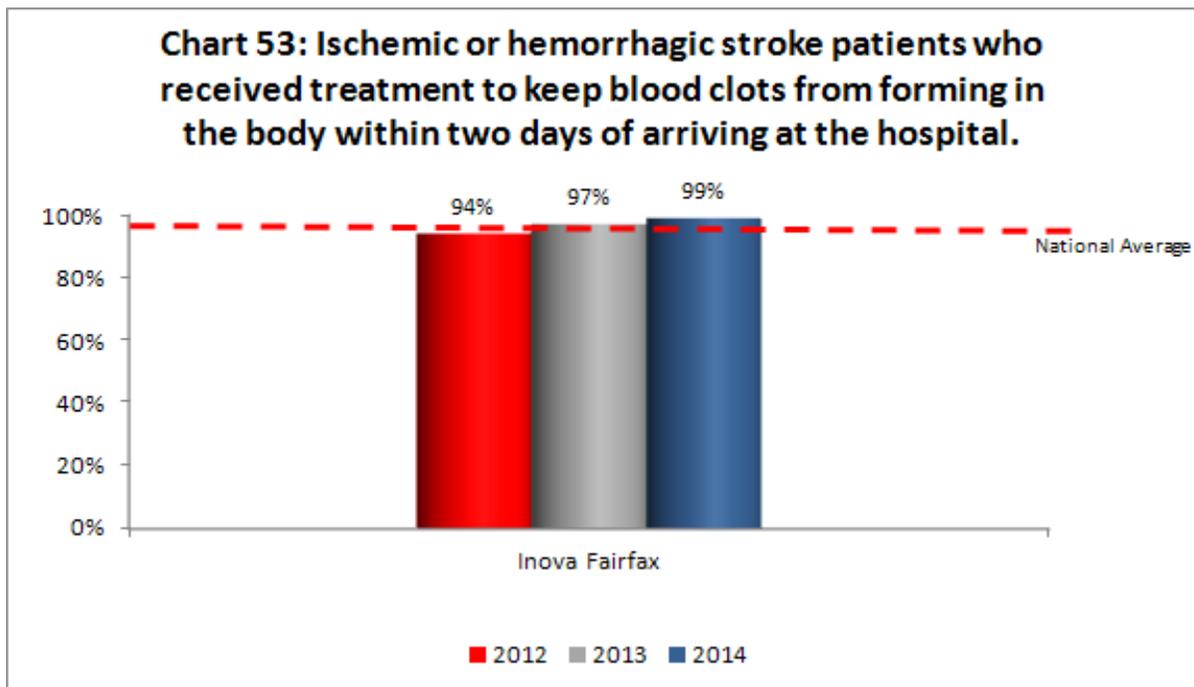


Chart 54: Ischemic patients who received a prescription for medicine known to prevent complications caused by blood clots before discharge.

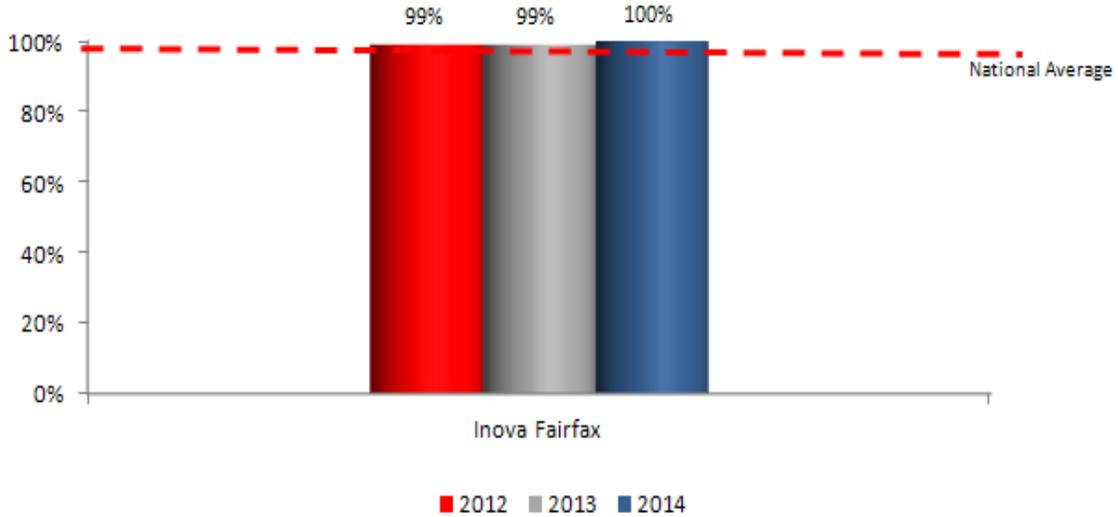


Chart 55: Ischemic stroke patients with a type of irregular heartbeat who were given a prescription for a blood thinner at discharge.

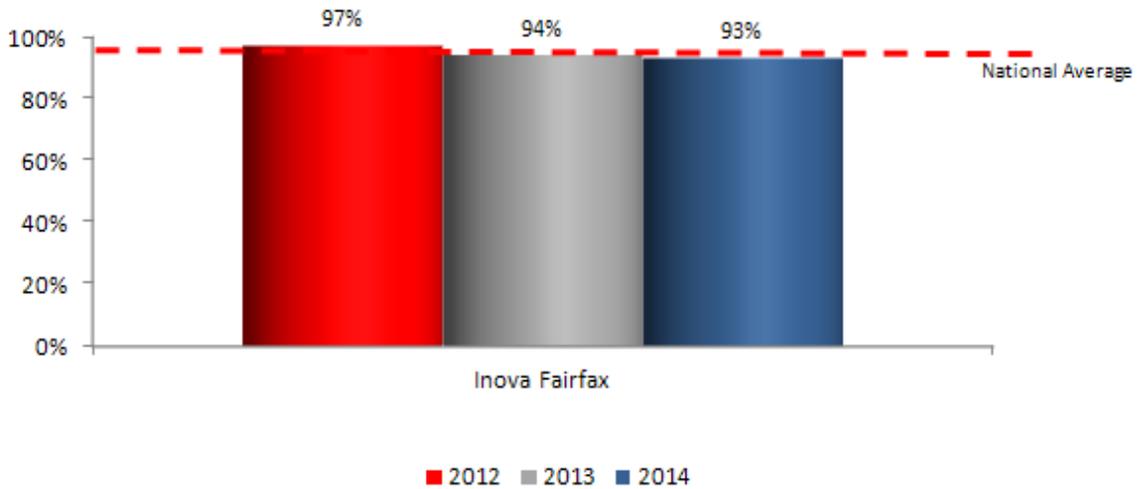


Chart 56: Ischemic stroke patients who got medicine to break up a blood clot within three hours after symptoms started.

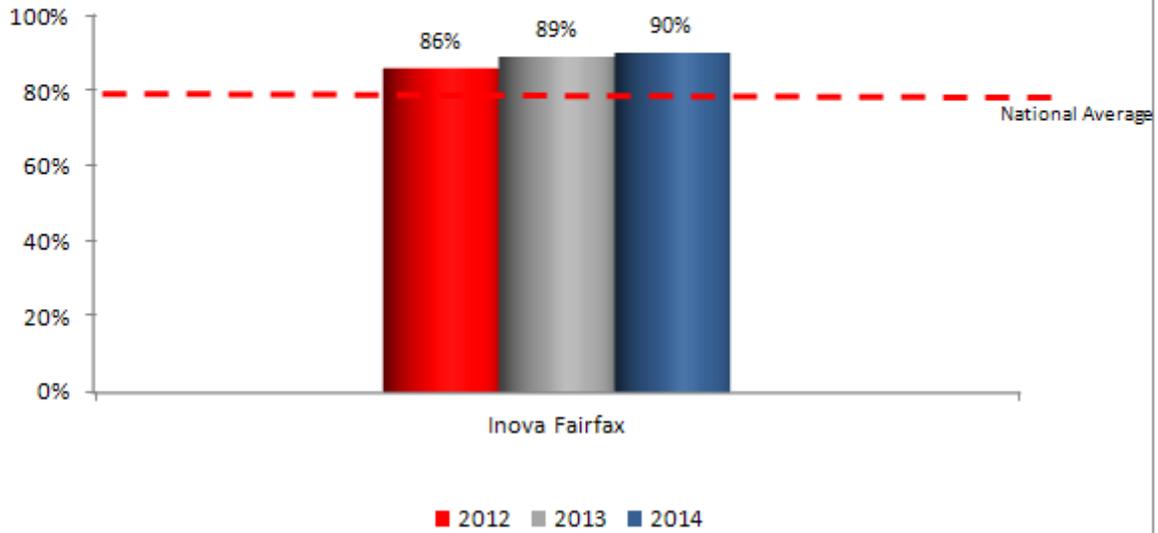


Chart 57: Ischemic stroke patients who received medicine known to prevent complications caused by blood clots within two days of arriving at the hospital.

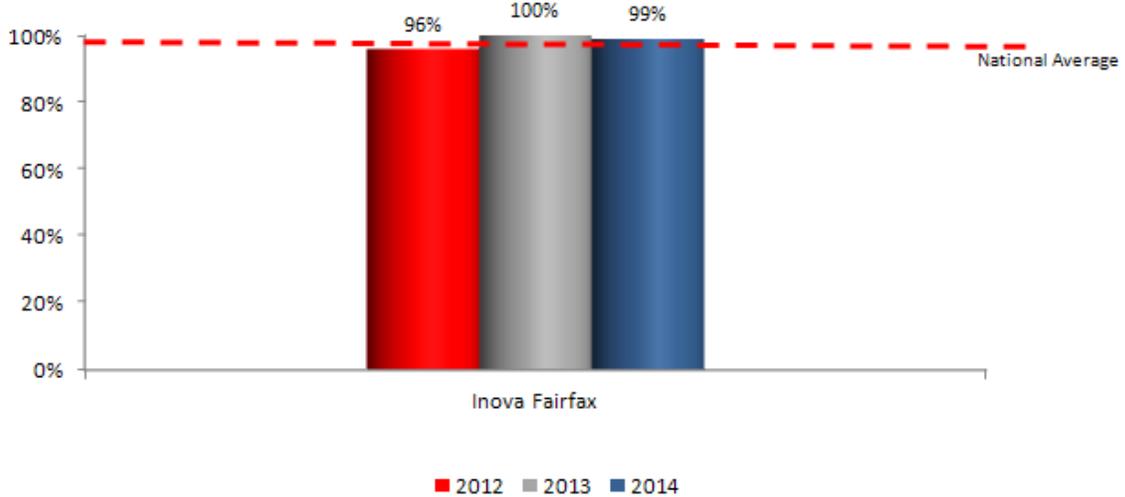


Chart 58: Ischemic stroke patients needing medicine to lower cholesterol, who were given a prescription for this medicine before discharge.

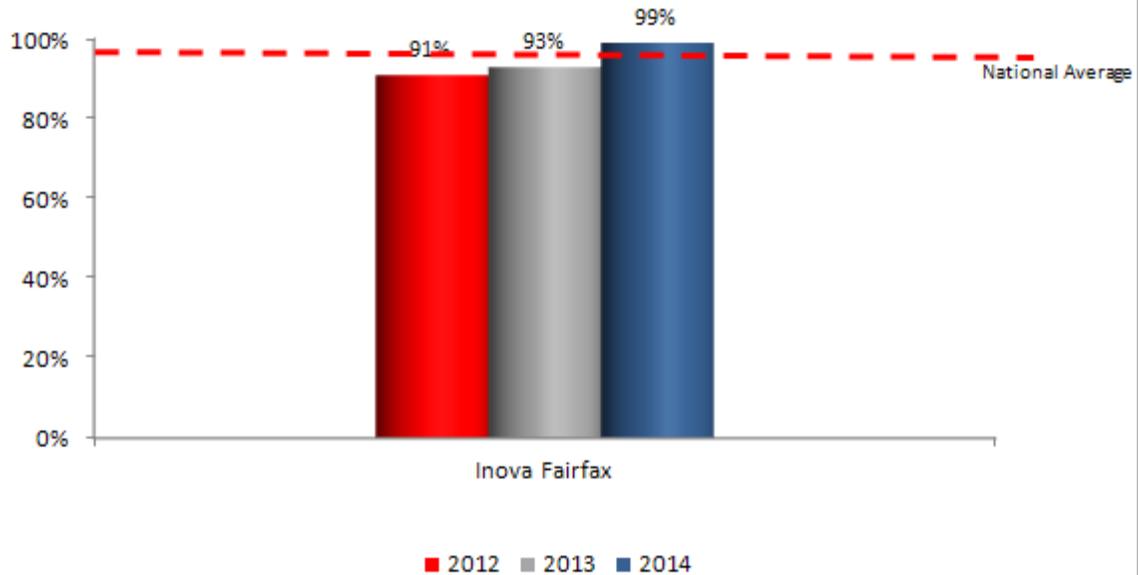


Chart 59: Ischemic or hemorrhagic stroke patients or caregivers who received written educational materials about stroke care and prevention during the hospital stay.

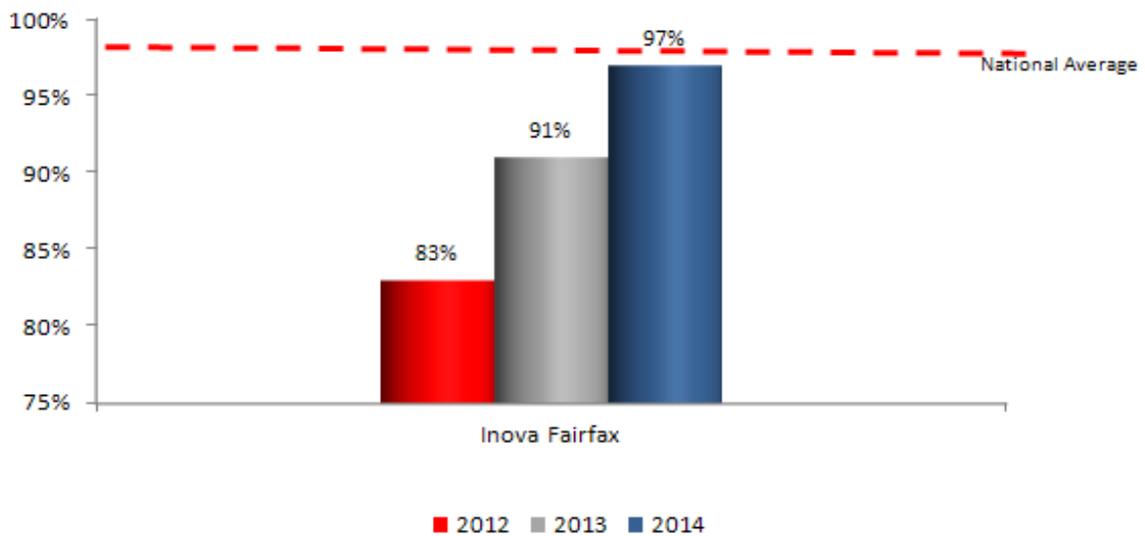
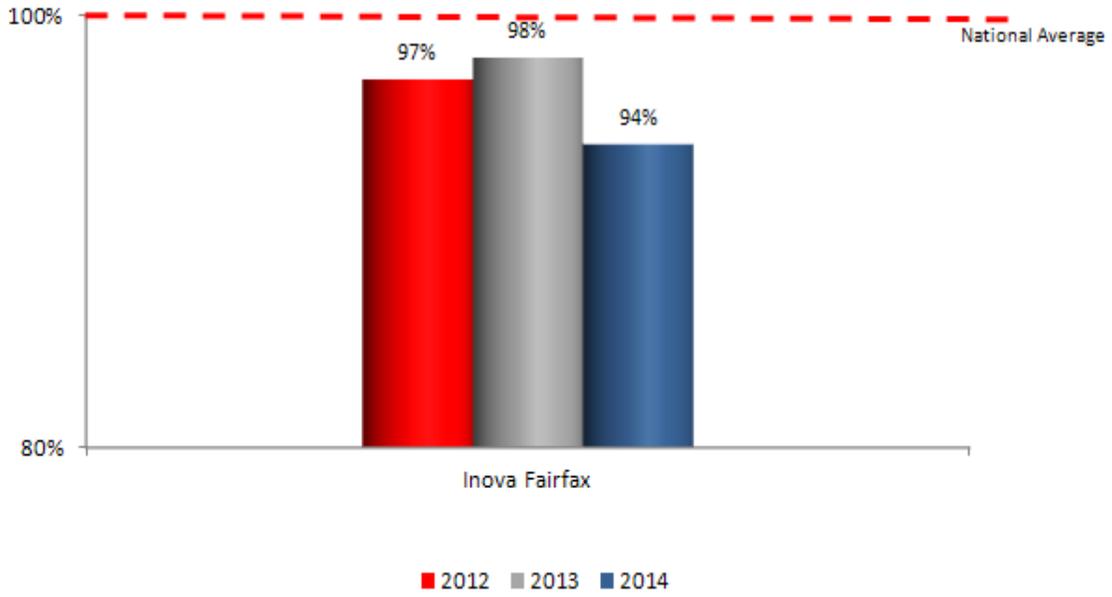


Chart 60: Ischemic or hemorrhagic stroke patients who were evaluated for rehabilitation services



Perinatal care

In 2014, perinatal care became a required core measure set for hospitals with at least 1,100 births per year. The Joint Commission began by requiring hospitals to report one measure, which tracks the percentage of newborns whose deliveries were scheduled one to three weeks early when a scheduled delivery was not medically necessary.

Chart 61 shows Inova Fairfax Hospital's 2014 data for this core measure. Please note: because this is a negative measure, **lower** percentages indicate better performance.

