

Inova Health System IDN Selects Specialty ED EMR for HIS Interoperability and Meaningful Use



Inova Health System, an integrated delivery network (IDN) based in Falls Church, VA, is Northern Virginia's leading not-for-profit healthcare provider, serving more than one million people each year. The IDN consists of five hospitals and four freestanding ED's with over 1,700 total hospital beds. It employs more than 3,400 physicians and 16,000 total personnel at its various facilities, and treats more than 434,000 patients a year.

In 1956, a group of Fairfax County citizens formed the Fairfax Hospital Association to build and operate a hospital in the county. Fairfax Hospital opened its doors in 1961. To meet the needs of Northern Virginia's rapidly growing population, two more hospitals later joined the Fairfax Hospital Association: Mount Vernon Hospital, which opened in 1976 in the historic Mount Vernon community, and Fair Oaks Hospital, which opened in 1987 to serve the developing communities of western Fairfax and eastern Loudoun counties. In that same year, to reflect its increasing size and scope,

Quick Profile

Inova Health System

Institution profile:

Five hospitals and four freestanding emergency departments (ED) comprise this integrated delivery network (IDN), with 1,700 total beds, 3,400 physicians and over 434,000 visits annually.

Key ED business/clinical drivers:

- Move from a paper-based ED system to an automated ED system
- Create a system of clinician-defined clinical rules and reminders
- Improve communication from the ED to internal departments within the same facility, as well as between the ED and other hospitals within the network
- Support efficient operations and complete important documentation for regulatory, reimbursement and compliance requirements

Interoperability:

Picis ED PulseCheck™ interoperates with GE Centricity in seven EDs, McKesson Horizon Clinical in two EDs, GE PACS/Powerscribe in Radiology and Cerner in the laboratory.

Results:

- On track to achieve "meaningful use" requirements for ARRA HITECH compliance and on track to qualify for stimulus incentive payments starting in 2011
- Inova Fair Oaks Hospital ED length of stay (LOS) reduced from 210 to 130 minutes
- ED left without being seen (LWBS) rate at Inova Fair Oaks was reduced from 2 percent in 2006 to 0.4 percent in 2010
- Provided on-line ED wait times for nine EDs – helping streamline patient throughput



► the Fairfax Hospital Association was renamed Inova Health System.

Over the years, Inova Health System has added 22 additional facilities to its network, and has become the largest healthcare system in Northern Virginia, offering a wide array of services including nursing homes, mental health services, wellness classes, emergency care, acute care, rehabilitation, long-term care and home care. Inova Fairfax Hospital is Northern Virginia's only Level I trauma center, providing rapid response to more than 3,500 trauma patients annually from Fairfax and surrounding counties and states. Inova Loudoun Hospital has the only dedicated pediatric ED in Loudoun County.

Need for efficient and accurate documentation

In early 2007, Inova made the decision to automate the record-keeping process for each emergency department in its nine-ED IDN. At that time, paper-based patient records were filled out manually.

Once the patients were discharged, the paper records would be stored, and typically were not available if a patient returned to the ED, even within a matter of days. This problem was compounded by the fact that Northern Virginia patients frequently traveled from one Inova facility to another for different types of care. Often the patients' primary care physicians were in one hospital and their cardiologists were in another. As a result, patients could show up in another ED for care and it was nearly impossible to know what had been done on previous visits. Automation of Inova's EDs was clearly needed.

Due to the high volume of patients passing through the nine EDs, the need for fast decision-making support, as well as increasingly complicated levels of documentation required for reimbursement, installing an ED module component of the hospital information system was not viable. A system specific to the needs of the emergency department that supplemented Inova's HIS (Hospital Information System) was the way to go.

A large ED steering committee was formed that included department chairmen, physicians, nursing directors and information technology leadership. In a highly collaborative effort, various ED EMR systems were evaluated, and based on all the criteria established by the steering committee, the choice was narrowed down to one system – Picis ED PulseCheck™.

In November, 2007, the ED at Inova Fair Oaks Hospital, a 182-bed acute care community hospital, installed Picis ED PulseCheck, the only high-performance ED EMR system, in its ED to do electronic documentation. Over the next 18 months, ED PulseCheck was installed in the other eight EDs within the IDN.

Bi-directional interoperability and access to patient records

Interoperability with the HIS in the nine EDs was a crucial factor in the selection of ED PulseCheck. Inova has GE Centricity Enterprise as its core enterprise system in seven of its EDs. The two remaining EDs have McKesson Horizon Clinical HIS. ED PulseCheck was the only ED system able to provide true bi-directional interoperability to both GE and McKesson.

Bi-directional communication was also necessary with other departmental systems. Numerous interfaces were required in order to support the optimal workflow, and ED PulseCheck was the only ED system able to meet this need.

"There is a huge advantage of moving to an ED system, particularly one like ED PulseCheck that is well integrated across multiple sites and multiple systems," says Dr. Raj Chand, MD, Emergency Physician, Inova Health System.

"Now our patients can be in any one of our nine locations and we have access to their records and know what happened during their previous visits. It provides us a greater context within which to administer current care. It also reduces unnecessary testing, for example in the case of a person who has had a CAT scan at one hospital and he or she is now at another hospital with the exact same symptoms. That patient doesn't really need another dose of radiation and potential inherent risks two days later!"

High quality and large amount of data

"One of the fundamental differences since going live with ED PulseCheck was the amount and quality of data that we suddenly received," says Doug Smith, Chairman, Department of Emergency Medicine at Inova Fair Oaks Hospital. "Within the first month we could tell on a daily basis how we were doing, what our length of stays were, what our times to doctor were, what our patient disposition times were, how long it took a nurse to get the patients out of the department, and what the turnaround times on test results were. All of that valuable data became available to us right away."

Inova immediately began using this data to give providers feedback on their patients' length of stays (LOS), and to measure how processes were working. Disruption through implementation of ED PulseCheck was minimal. Most of the ED providers were quickly back to baseline activity in eight to ten weeks.

Once baseline data was captured, it was used to create what was felt to be the appropriate baselines for LOS, door-to-triage times, triage-to-bed times, and bed-to-doctor times. Using these time metrics, process improvements were implemented.

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▶ “We used those metrics to give people feedback so that we could bring those times down,” Smith explains. “We’ve seen tremendous efficiency gains.”

At Inova Fair Oaks, the Left Without Being Seen (LWBS) rate was reduced from 2 percent in 2006 to 0.4 percent in 2010.

Helping improve patient care

For Inova, implementing a specialized ED system helped clinicians to improve patient care. ED PulseCheck offers a unique, integrated risk management solution that facilitates enhanced decision support. It helps Inova caregivers promote safer care delivery, and helps decrease the risk of litigation by reminding them to document important items that ensure proper care, particularly for their high-risk patients. Examples include reminders for re-evaluation and vital sign range checks – especially when discharging a patient with abnormal vital signs – and reminders for open orders when discharging or admitting patients.

“There is definitely a sense when you look at ED PulseCheck versus other EMRs that the people who designed PulseCheck had a clinical background, and understood the needs of clinicians.”

Inova physicians can place orders directly through ED PulseCheck, avoiding potential errors in order transcription, helping eliminate redundancy and improving productivity. In addition, they can customize orders for the most commonly used medications, either individually or as a practice.

ED PulseCheck also reviews documented patient allergies and current medications against medication orders and prescriptions, and notifies Inova staff when conflicts are found. This allows physicians to revise or override the conflict, and document the change.

Additional drivers to automate with ED PulseCheck

Technology is constantly changing, and updates must be made as quickly as possible. ED PulseCheck is a web-native application, so changes to the system are made on a server, not on end-user workstations. Additionally, changes need only be made once, and downtime is practically eliminated.



- ▶ ED PulseCheck is also accessible wherever Inova users are located – at home, in an ICU or CT area – and ED leadership can log into any one of Inova’s EDs and see an up-to-date snapshot of what is happening across all nine EDs or with a single patient.

“There is definitely a sense when you look at ED PulseCheck versus other EMRs, that the people who designed PulseCheck had a clinical background, and understood the needs of clinicians.” Dr. Chand states.

Meeting ARRA Meaningful Use regulation

In 2009, the Health Information Technology for Economic and Clinical Health Act (HITECH) authorized incentive payments through Medicare and Medicaid to clinicians and hospitals that use Computerized Physician Order Entry (CPOE) privately and securely to achieve specified improvements in care

delivery. With the inclusion of the ED as an eligible place of service in the July 2010 final rule for Meaningful Use criteria, medication orders written electronically in the ED now qualify toward the CPOE requirements.

This ruling on Meaningful Use was good news for Inova, which was already 100% electronic with its ED orders using ED PulseCheck.

The Picis difference

“The ED is the front door to the hospital; more than half of our patients come in this way. Every patient experience shapes the view of the health system to a huge degree,” says Dr. Chand. “Making that visit as efficient and as safe as possible is really a huge goal at Inova, and one that is assisted by a strong specialty EMR like Picis ED PulseCheck.” ■

About Picis

Picis, an Ingenix company, is a global provider of innovative solutions that enable rapid and sustained delivery of clinical documentation, financial and operational results in the emergency departments, surgical suites and intensive care units of more than 2,200 hospitals in 19 countries. For more information about Picis, visit www.picis.com.

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