

Lawrence General Hospital Realizes Nearly \$7 Million in Net Benefits



Using ED PulseCheck® and Optum™ LYNX ED Charging Application

Based in Lawrence, Mass., the Emergency Center (EC), at Lawrence General Hospital (LGH), is one of the busiest in the state, averaging more than 73,000 patient visits per year. The EC was the first in Massachusetts to earn a Level III Trauma Center designation. LGH has 1,800 employees, 189 licensed beds and its annual census numbers average 12,000 inpatients, 1,800 births, and 200,000 outpatient visits.

Challenges

Prior to 2005, the EC, at LGH, was facing numerous challenges due to manual and paper-based processes. Paper charts were used to capture patient information, which often resulted in illegibility issues, lost charts and difficulties in accessing and retrieving information. Patient tracking was, also, done manually by using a white board and the information it contained was often out of date.

Inefficient processes were, also, affecting patient length of stay (LOS) times in the EC, with LGH having a 259 minute average LOS, which was above the 247 minute national average and the 244 minute Massachusetts average. Wait times and other factors, also, contributed to 5 percent of patients leaving the EC without being seen. This metric, known as left without being seen (LWOBS), is an important indicator of performance and patient care quality that influences hospital ratings.

Manual and paper-based processes were, also, having a financial impact. Dictation and transcription were costing LGH about \$500,000 per year. Lost charges were resulting

Highlights

- \$4.48 million earned during the past five years due to improved revenue capture capabilities
- 80 percent reduction in 'left without being seen' (LWOBS) rates
- Eliminated transcription costs, saving \$500,000 per year
- Patient length of stay in ED was reduced by 15 percent

when nurses failed to manually document start and stop times, in patient charts for intravenous (IV) infusions, which is a requirement to earn reimbursement. Finally, the paper-based charts made reporting and performance analysis difficult, which hindered efforts to identify areas needing clinical or efficiency improvements.

To overcome these issues, LGH began searching for an electronic medical record (EMR) solution, specifically designed for emergency care environments, to help automate manual processes and improve documentation.

Solutions

After a thorough evaluation of vendors, LGH selected two solutions: ED PulseCheck® and Optum™ LYNX ED Charging Application. ED PulseCheck was implemented, in 2005, and Optum LYNX ED Charging Application was added, in 2011. "Five vendors were considered and we had numerous demonstrations and site visits. The key criteria for making our decision: the commitment and demonstrated performance in minimizing downtime, a high level of engagement by the vendor's senior management, being well on their way to CPOE and stable software. ED PulseCheck and Optum LYNX Charging Application were the solutions of choice," said Neil Meehan, DO, CMO, CMIO, at LGH.

ED PulseCheck and Optum's integrated ED solutions promote consistent and compliant documentation and charging for procedures. The Optum LYNX Charging Application prompts nurses to document all of the care provided to patients, including details about infusion and injection procedures. Evaluation and management (E/M) levels are automatically calculated using patient acuity mix and resource use to comply with Outpatient Prospective Payment System (OPPS) guidelines.

ED PulseCheck is an ED-focused EMR with capabilities that remind nurses to complete their documentation and auto-populate infusion duration values based on the start and stop times entered into the ED Charging Application. Clinicians placing medication orders, through ED PulseCheck, are prompted to distinguish between medication delivery type (e.g., injection versus infusion, etc.) to improve documentation, charge capture and reimbursement.

"Compared to the paper charting process, the ED PulseCheck ED EMR makes clinical documentation and retrieving patient data immensely easier. We can quickly pull up a variety of reports. It enhances the quality of care and makes a physician more productive. It's a major step forward, like moving from a pay phone to a cell phone, in terms of efficiency and availability," said George Kondylis, MD, Emergency Medicine Chief, Emergency Care, at Lawrence General Hospital.

Having all patient information available, within the EMR, has contributed to improvements in efficiency, patient care and safety. "The ED PulseCheck Electronic Medical Record enables us to scan EKGs, allergy information, transfer authorizations, referrals, admission reports, Section 12 forms, plus other pertinent information into the patient record, immediately becoming available to physicians, nurses and medical records. The immediacy of this information significantly contributes to patient care and safety," said Stacy Whalen, ED secretary and technician, at LGH.

The design of the EMR has, also, helped LGH avoid lost charges. "Pulling up the chart electronically makes relevant information easier to capture with more accuracy. There are dropdown menus with common supplies that are used for a particular diagnosis, and those that are used can be checked. This captures proper charges that can easily be missed in a busy EC environment," said Betty Ann Henderson, RN, materials management and technician training at LGH.

The patient tracking board, within the solution, and its automated updates, has improved how patient flow is managed. "The tracking board with ED PulseCheck really is a step

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forward in gaining oversight of the department. The charge nurse can monitor what’s critical, what’s not and what patient has been waiting too long to see a doctor. It enables the distribution of high-acuity patients more evenly among nurses — efficiently matching resources to patients with the greatest need,” said Maureen Hamel, RN, Director of Clinical Informatics, at LGH.

Analysis of the data, within the EMR, has driven operational improvements, as well. “The analysis of data suggested ideas to reduce length of stay, which impacts LWOBs — two key EC metrics. The result was our Rapid Medical Evaluation triage, which has produced significant improvements,” said Theresa Pazdral, MD, FACEP, Associate Chief of Emergency Medicine, at Lawrence General Hospital.

The Rapid Medical Evaluation triage places a physician in a triage role, from 3 p.m. to 11 p.m., hours where the department sees half of its daily volume. Patients with minor complaints are treated by the physician, in the triage area. As a result, 20 to 30 patients per day can be sent home without having gone beyond the triage area, which improves LOS times and reduces bed occupancy.

Results

By providing quicker access to patient information, ED PulseCheck and the Optum LYNX ED Charging Application have helped LGH realize numerous benefits that improve operational efficiency and the patient experience:

Efficiency and Productivity Measures	Improvement	Pre-PulseCheck Measure	Post-PulseCheck Measure
Emergency department length of stay	15%	259 minutes	219 minutes
Retrieving patient records	98%	40 minutes	1 minute
Left without being seen	80%	5%	1%
Completing shift reports	83%	30 minutes	5 minutes
Completing high-acuity documentation	80%	7.5 minutes	1.5 minutes
Ordering lab tests	99%	5 minutes	5 seconds
Trauma documentation	80%	10 minutes	2 minutes
Sending patient information to primary care physicians	67%	3 days	1 day
Responding to physician requests	98%	120 minutes	2 minutes

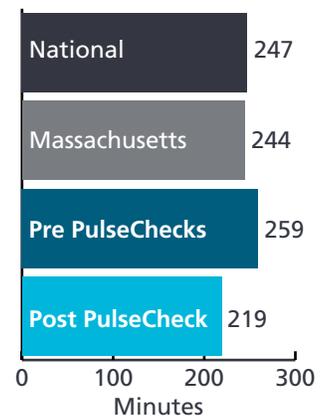
“When a previous patient returned to the EC, it formerly took 20 minutes to an hour to request and obtain the patient’s record. Now it is almost immediately available at our fingertips. Once patients are in the EC, the tracking board communicates up to date information,” said Kim Downer, RN, BSN, MM, Director of Emergency Services, at LGH.

Using the ED PulseCheck solution has, also, increased the time nurses can spend with patients.

“The time savings enabled by the EMR easily allows nurses to spend an additional hour per shift with patients. The ability to document more quickly and completely, along with not having to track down patients’ paper charts, really frees us up for our most important task — personally caring for the patient,” said Jane Campagna, RN, Lawrence General Hospital.

Other features increasing efficiency are the streamlined lab ordering process and the automated updating of the tracking board. “It used to take five minutes to order a lab test and now it can be done in five seconds. When completed, they are automatically added to the tracking board and entered into the patient records,” said Shaleigh Russo, RN, Lawrence General Hospital.

Average EC Length of Stay: Lawrence General vs. Benchmarks



Reporting capabilities, within the EMR, helps LGH automatically track clinical trends. "The PulseCheck EMR enables disease tracking and we can isolate along various parameters. For example, we can analyze flu cases within the last month and what parts of our population are being affected. This type of disease trending would be virtually impossible with the paper charts. There is almost nothing we can't do with the data in the EMR system," Downer said.

From a financial perspective, the use of ED PulseCheck and the LYNX ED Charging Application have contributed to LGH's bottom line in numerous ways. "These solutions have enabled increased efficiency by reducing transcription costs, improving coder productivity and reducing costs associated with creating and maintaining paper medical records. Revenue capture is more accurate, insuring proper reimbursement for services performed," said Dave D'eraimo, Director Financial Planning, at LGH.

"One of the biggest areas where ED PulseCheck affected revenues was IV infusions and injections. Prior to the EMR, if a nurse had not entered a stop time for the infusion or injection — which can easily happen in the fast-paced EC world — there would be no reimbursement. ED PulseCheck automatically captures and calculates the proper CPT codes, as well as, requires a stop time before documentation is completed," said Linda Cardoza, RN, Manager Emergency Services, LGH.

A summary of financial benefits of using ED PulseCheck and the LYNX ED Charging Application:

- Improved revenue capture capabilities earned LGH an additional \$248,000, in 2008, and more than \$1 million per year since that time, totaling more than \$4.48 million during the past five years
- Eliminating transcription costs, by having clinicians enter their documentation directly into the EMR, enables LGH to save \$500,000 per year
- Reducing LWOB rates contributes to ongoing incremental earnings of \$290,000 per year, since approximately 15 percent of all patients seen in the EC are admitted to LGH
- Using the EMR to improve revenue charge capture (combined with charge capture education efforts), as well as, decreasing LWOB, which increases hospital admissions, yields a positive Net Present Value of \$6.2 million
- Productivity increases, facilitated by the EMR, are projected to yield a positive Net Present Value of \$3.8 million

These factors add up to a Net Present Value of nearly \$7 million and a ROI of greater than 100% for the project.

LGH attributes part of its successes to the high-level of support it has received. "Since implementation, the EMR has run with virtually no downtime. We get updates twice a year and have had wonderful support. Their spontaneity to jump in and fix issues is refreshing," said Paul Allain, IS/ED system analyst/administrator at LGH.

