



Name of Organization

Lehigh Valley Health Network

Healthcare Organization Type

Healthcare network

Products

Risk
Feedback

Key Challenges

- Keep patients safe and improve patient care
- Reduce harmful medication errors and increase identification of near misses
- Increase software use to support overall objectives

Key Benefits

- 'Just in time' response to events and near misses
- Electronic reporting software decreases medication error rate
- Data drives individual and organizational changes

Client Website

www.lvhn.org



CLIENT CASE STUDY

Lehigh Valley Health Network

Online measurement tools decrease medication error rates & near misses and improve patient safety

The Challenge

The overriding and ongoing challenge at Lehigh Valley Health Network (LVHN) is to keep patients safe. But how can a healthcare organization make sure that the actions it takes are right? And how can they determine if those actions actually produce the desired outcomes? Answers to these questions require valid data reporting, tracking and measurement tools.

LVHN's objective was to reduce harmful medication errors and increase the identification of near misses. The organization chose Risk from RL Solutions as its electronic reporting system, to complement its CAPOE and barcoding software.





Organizational Snapshot

Lehigh Valley Health Network is in Allentown and Bethlehem, Pennsylvania. It's comprised of three non-profit hospitals and home healthcare, hospice, pharmacy & health management services. Advanced regional resources at these non-profit hospitals include the region's only Level I trauma center with Level II pediatric trauma accreditation, a regional burn center and a certified stroke center, as well as kidney and pancreas transplant, perinatal/neonatal, cardiac, cancer care and neurology & complex neurosurgery capabilities. LVHN hospitals are designated national Magnet hospitals for excellence in nursing.

Lehigh Valley Hospital is one of Pennsylvania's largest teaching hospitals and is a major teaching campus of Penn State's College of Medicine. Lehigh Valley Health Network is a leader in using automation and technology to support the hospital's mission and was named among the "100 Most Wired" and "25 Most Wireless" hospitals by Hospitals and Health Networks, a publication of the American Hospital Association. The award measures the use of information technology to address safety and quality, customer service, business processes, workforce and public health and safety.

Background

In 2007, there were 1.1 million medication orders at LVHN. Hospital pharmacies dispense approximately 8 million doses per year, which translates into each nurse at LVHN giving approximately 2300 doses per year. In LVHN's focus to reduce the incidences of medication errors, the organization reviewed how it

used CAPOE, the barcode verification of medications and smart pumps' practices. LVHN concluded that it needed to use these tools more as the current rate represented limited influence on harmful medication errors over a 3-year period.

Taskforces lead to process improvements

Given the apparent connection between the lack of significant decrease in harmful medication errors and the use of CAPOE, barcoding and smart pumps, LVHN incorporated the Plan, Act, Study, Do model of Continuing Quality Improvement and created 3 different task forces.

CAPOE Taskforce: This taskforce's objectives were to increase physician engagement and simplify CAPOE from an IT perspective. LVHN's CEO and CMO supported this taskforce's work with clear mandates. Furthermore, the Medical Executive Committee supported CAPOE use by rewarding performers and penalizing non-users.

Barcode Taskforce: This taskforce identified the need for a next-day compliance tool. This tool allowed LVHN to investigate causes for non-compliance immediately, discover the root cause of the problem and solve the issue. Use of this tool resulted in dramatic increase in utilization to a 92% compliance rate.

Smart Pumps Taskforce: This taskforce determined that previous efforts educating staff on the effective use of smart pumps and the use of stickers had failed. Resolution of this issue came in the form of translating the protocol into 'smart' pump language to promote effective usage.

Lessons Learned

Together, the data from CAPOE, barcoding, smart pumps and online reporting of medication errors & near misses provides meaningful & timely information to validate the strategies employed by LVHN in addressing its overriding concerns. According to Kromis, "We found that without data to back up our assumptions, changes were difficult to implement." As a change initiative, LVHN was able to sustain the required organizational change by providing data to support the implementation and increased use of these tools.

As is typical in acute care settings, LVHN addressed the obstacle of barcoding taking time away from patient care. The data supported and reinforced the positive outcomes from appropriate use and its connection to improved patient care.

"We were limited by our paper-based reporting system. Risk provides real-time data and promotes the opportunity for just-in-time responses to incidents."

Leroy Kromis, Pharm. D, Medication Safety Officer
Lehigh Valley Health Network

Before implementing Risk, the constraints of a paper-based system limited LVHN in capturing and reporting on medication errors. It was typical for the pharmacy department to find out about errors 2-3 weeks after they occurred, which made meaningful investigation and problem solving much more challenging.

RL6 provides real-time data promoting the opportunity for just-in-time response and investigation. The robust reporting capabilities in Risk enable timely distribution and communication to all relevant staff with drill-down capabilities for further empirical data. This is in stark contrast to LVHN's experiences with the paperbased system.

In his reflection on the success of these initiatives, Kromis says the following:

"Commit to acting upon results that do not reach your goals. It can be easy to think that if the data doesn't match expectations, you should just ignore it. If your data doesn't support your projected expectations, implement another cycle of your quality improvement process to help you reach your goals."

What's next?

Building on these successes, LVHN will continue to be vigilant creating a system that reduces the chance of an error occurring. This includes capturing and analyzing data, reporting and sharing information with staff to complete the feedback loop. The future includes working on a Medication Safety Dashboard, which will pull trends from RL6 and other systems. This tool will combine operations data with patient outcomes information to show hospital leaders a report card on the status of medication safety.

RL Solutions designs innovative healthcare software for patient feedback, incident reporting & risk management, infection surveillance and claims management. At RL Solutions nurturing long-lasting relationships with our clients is what we do best. We have over 600 clients, including healthcare networks, hospitals, long-term care facilities and more. RL Solutions is a global company with offices in Canada, the United States, Australia & the UK.

Want to know more?



**Please contact RL Solutions
for more information**

Phone: 1 888 737 7444

Email: sales@rl-solutions.com

Web: www.rl-solutions.com