



CASE STUDY

— REAL-TIME DATA —

INCREASES PATIENT SAFETY

CLIENT: *LEHIGH VALLEY HEALTH NETWORK*



software for
safer healthcare

ONLINE MEASUREMENT
TOOLS DECREASE

**MEDICATION
ERRORS**

– and –

**NEAR
MISSES**

CLIENT

Lehigh Valley Health Network

WEBSITE

www.lvhn.org

PRODUCTS

RL6:Risk, RL6:Feedback

KEY CHALLENGES

- Keep patients safe and improve patient care
- Reduce harmful medication errors and increase
- 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

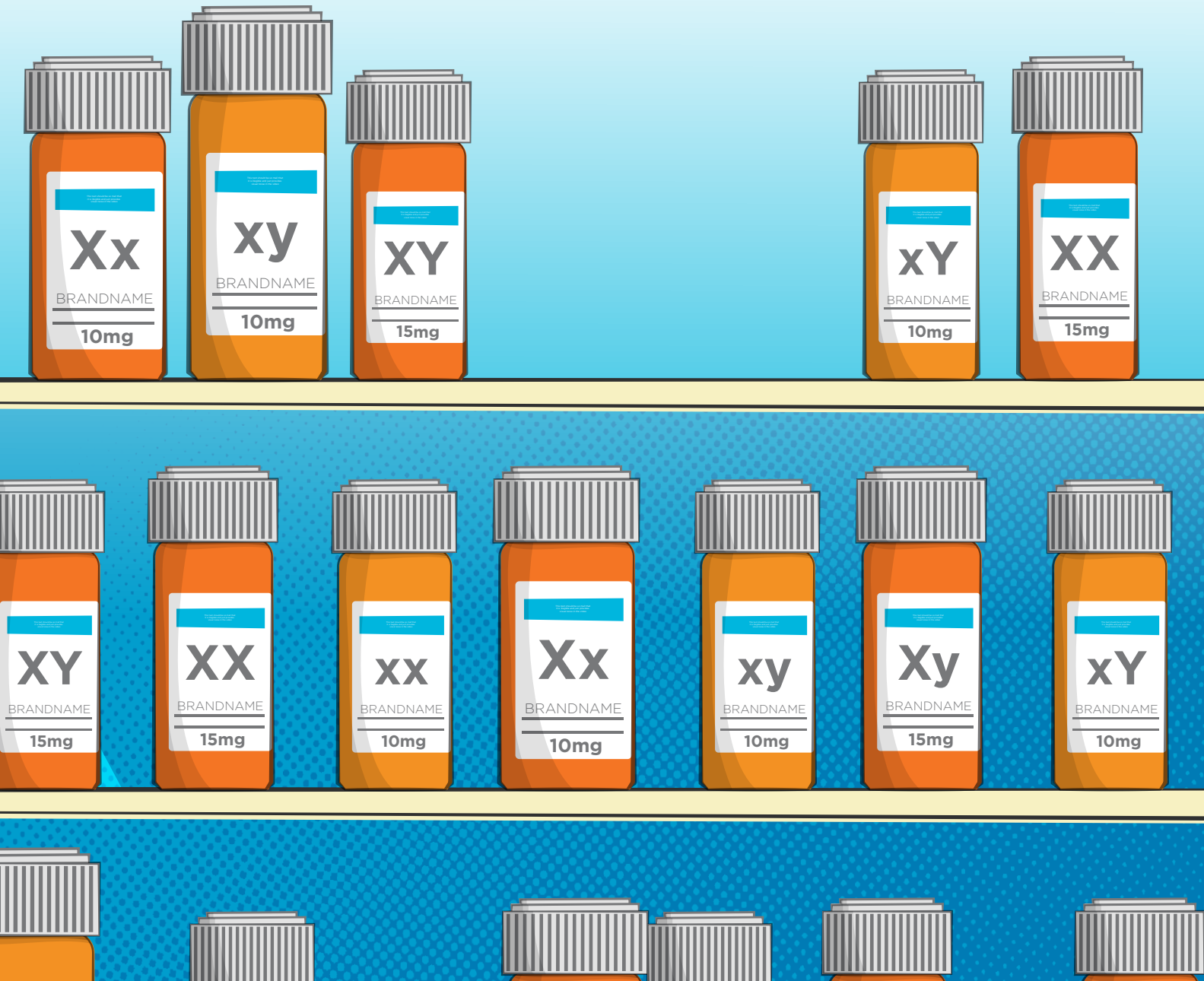
ORGANIZATIONAL SNAPSHOT

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. 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 CHALLENGE

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.



“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

THE RESULTS

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. 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.



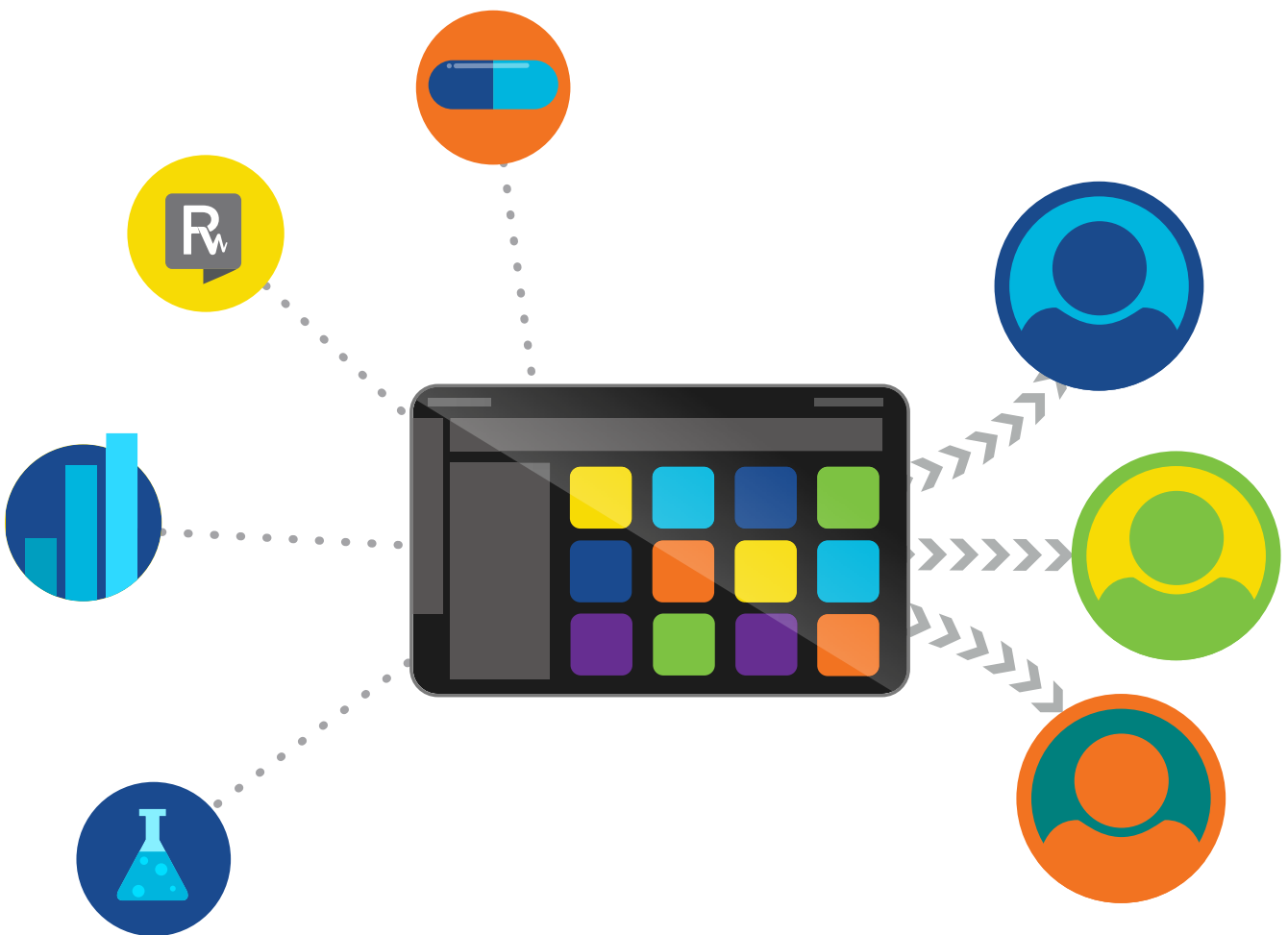
Smart Pumps Taskforce

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.

The collective data gathered 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. LVHN's paper-based system prior to RL6:Risk led to a 2-3 week delay before errors were discovered, which made meaningful investigation very challenging. RL6:Risk's real-time data enables real-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.

NEXT STEPS

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.



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