

Are You Connected? Get Ready to Reduce Alarms, Avoid Alarm Fatigue and Improve Patient Safety

Cathy Sullivan, MSN, RN, FNP, CCRN, Associate Director Sourcing
 Mount Sinai Beth Israel, New York, NY
 Presented at AACN NTI 2015

Objective

Wireless integration of smart pumps enhance our ability to keenly monitor and improve patient safety, but can also cause alarm fatigue. Our objective was to improve medication safety and reduce alarm fatigue across our 4 hospital system through real-time monitoring, reporting software and analytic services.

Methodology

In late 2011, we began our roll-out of B. Braun Outlook® 400ES wireless smart pumps with DoseTrac® real-time monitoring, reporting and analytic services. In 2012, B. Braun provided our first DoseTrac Analysis with recommendations to reduce alerts and improve practice at Beth Israel Hospital. The next year we expanded the analytic program to include St. Luke's and Roosevelt Hospitals, and by 2014 we completed our roll-out with Brooklyn Hospital.

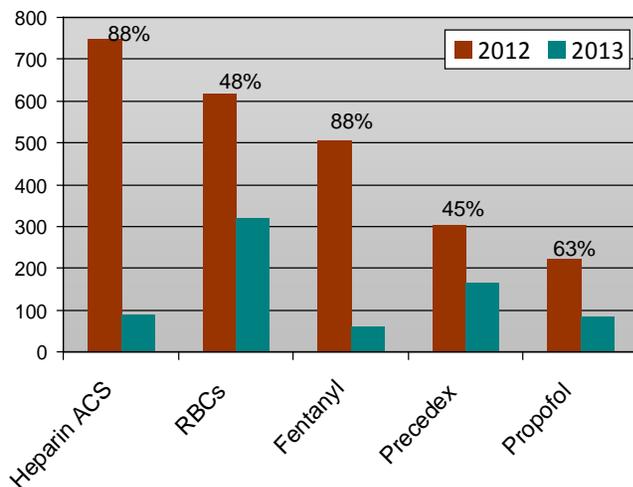
We created a single, uniform drug library for all 4 hospitals and made any changes across the system on an annual basis. Nursing, pharmacy and administration received weekly DoseTrac reports and we conducted quarterly reviews with our vendor.

Interventions

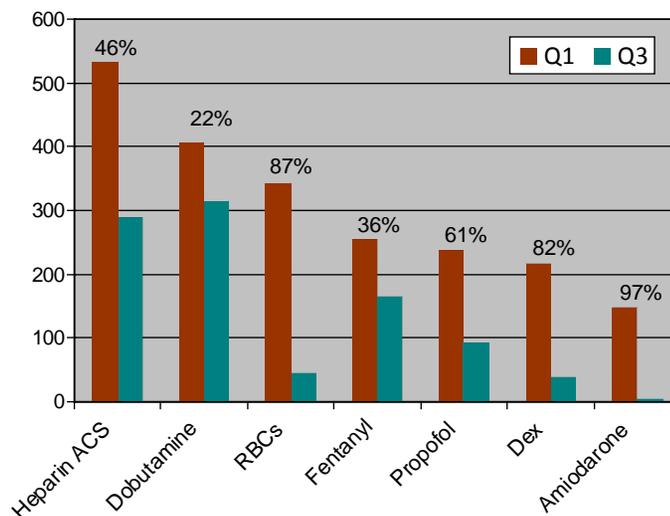
Our reporting and analytics not only revealed dosing trends, but also showed the programming sequence surrounding alerts to explain why these trends were occurring - including practice issues that needed to be addressed. Interventions included drug library limit changes, education on best practices and sharing "good catches" with staff.

Results

**2013 Beth Israel Hospital
45 – 88% Alert Reduction**



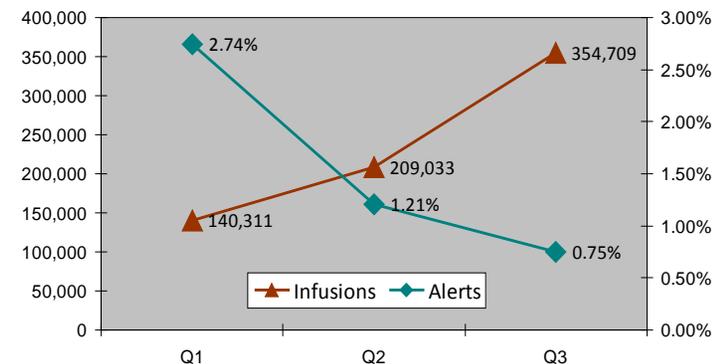
**2014 Beth Israel, St. Luke's, Roosevelt Hospitals
22 – 97% Alert Reduction**



Sustainable Impact

Across our system, we experienced sustained improvements in our infusion safety outcomes. Our overall alerts (overrides, corrections and aborts) continued to decrease, even as our total infusions increased. Total alerts decreased from 3884 (2.74% of infusions) to only 2660 (0.75% of infusions) by Q3 2014.

2014 Continual Decrease in Alerts



We also experienced a very low incidence of programming error. By the end of 2014, we had only 169 corrections across 354,709 infusions - an error rate of only 0.05%.

Conclusion

We significantly reduced our smart pump alerts and avoided alarm fatigue with real time monitoring, reporting and analytic services. We continue to proactively monitor our alerts, maintain 100% drug library compliance in our ICUs and experience low incidence of medication errors.

Contact: csulliva@chpnet.org.