CASE STUDY:
Children's Hospital – Boston

A High-Volume, Acute Care Pediatric Hospital Pharmacy Accelerates Throughput and Increases Patient Safety

Baxa

OVERVIEW

Children's Hospital Boston (CHB), the primary pediatric teaching hospital of Harvard Medical School, records 25,000 inpatient admissions each year. If you ask Al Patterson, PharmD, Director of Pharmacy at CHB, he will tell you that patient safety and appropriate medication turnaround are top priorities for the pharmacy and critical elements in the treatment of pediatric patients. "The criticality of precision in the compounding and administration of drug therapy in the treatment of pediatric patients is simply not found in the adult world," says Patterson.

CHALLENGE

Despite state-of-the-art processes and highly competent staff, Patterson knew that some challenges needed to be addressed when it came to medication turnaround in the 392-bed (and growing) pediatric healthcare facility – one of the largest in the nation. Pharmacists and technicians at CHB sometimes struggled to deliver doses fast enough for their acutely ill patients. Their Q2H intermittent IV fill workflow included a 30-minute lag time between dose preparation and pharmacist check. In addition to the sheer number of doses being prepared, weight-based dosing and dilutions greatly increase the IV workload at CHB.

DISCOVERY

Early in 2009, Patterson decided to learn more about Baxa Corporation's DoseEdge™ Pharmacy Workflow Manager after discovering that the system could offer significant benefits for CHB. As a long-time Baxa customer, Patterson included his local Baxa Territory Account Manager in his search for knowledge and an eventual solution.

"We are an evolving pharmacy with a staff that works daily to meet a high demand for our pediatric patient population," said Patterson. "Our rigorous schedules and round-the-clock production cycles created the ideal landscape for an automated system that would simplify the compounding process while providing an added level of medication safety."

SOLUTION

Patterson reviewed the benefits of DoseEdge Pharmacy Workflow Manager and shared his analysis with the staff. Medication barcode safety, formulary-driven automated recipe calculations, electronic manufacturing records (including digital images) and intranet-based pharmacist verification together would achieve a safer and faster medication therapy delivery cycle.

While such benefits would have a great impact on the pharmacy, Patterson recognized that the most important beneficiaries of the system would be CHB's pediatric patients. In addition, he recognized the importance of being able to inspect doses from anywhere on the hospital intranet.

IMPLEMENTATION

"At first we limited DoseEdge System training to pharmacy leads and supervisors. Once these pharmacy staffers were confident 'uber-users,' our facility-wide pharmacy rollout began, though at a very deliberate pace. Given our concern for our pediatric patients' safety, we did a great deal of checking until we became comfortable with the system's capabilities," said Peter Lutz, PharmD, Associate Director of Pharmacy at CHB.

In fact, Lutz kept his uber-users staffed 24/7 during the first week of implementation, to ensure that everything ran smoothly and there were no interruptions to critical patient care.
"With the status board feature of DoseEdge, it was convenient to check in at any time to see how the staff was responding to incoming orders. I even have the option to log-in remotely from home," added Lutz.

RESULTS

Before the DoseEdge implementation, a 30-minute period typically elapsed between dose preparation and the pharmacists' review and approval. Now, the pharmacy benefits from a continuous production cycle where the technician digitally photographs each dose as it is being prepared, assisted by barcode scanning and automated calculations. The pharmacist then can view the images onscreen immediately and approve it, from anywhere on the hospital intranet. As a result, pharmacy workflow is streamlined and the nursing staff can administer medication to patients earlier than before DoseEdge. With images stored digitally for verification, the automated "paper trail" significantly reduces the need for manual recordkeeping and further speeds pharmacy operations.

Not surprisingly, the pharmacy staff has responded enthusiastically to the improved workflow as well as the integration of product bar codes into their checking activities.
"Use of the DoseEdge system has become second nature – so much so that we are now phasing out the traditional use of calculators in the IV room," noted Lutz. "Most importantly, we have leaped forward in the primary driver for new technology and process improvement: patient safety. Even if none of the workflow advantages were as impressive as they are, DoseEdge would have made sense because of how much we value safety in the treatment of our pediatric patients."