

# BlueBin Bound

*Hospitals embrace lean supply system as part of 'continuous improvement' process*

By LYNNE JETER

Expensive technology not needed. Barcodes are the key. Get rid of the warehouse. And take doctors and nurses out of the inventory control process.

In 2009, Charles Hodge gave that advice on ways to streamline hospital supply inventory, when he served as chief procurement officer and vice president of supply chain management at Seattle Children's Hospital, a major pediatric referral center in Seattle, Wash.

At the time, Hodge was in the midst of a four-year journey to implement BlueBin, a smarter inventory process involving barcodes, simple bins and basic wire racks at key traffic areas and points of care. He had developed BlueBin after working in the automotive industry for 15 years, and transferring its lean manufacturing processes to the healthcare industry's supply management realm.

Hodge's just-in-time inventory system eliminated the hospital's need for its \$5 million, 40,000-square-foot warehouse and millions in inventory. In its first year, the \$200,000 system achieved a \$2.5 million return, said Hodge.

Particularly because the supply management process was new to the hospital industry, executive sponsorship was critical for BlueBin to succeed, said Hodge.

"There's no substitute for executives who are firmly committed to continuous process improvements," he said. "Make sure you secure their strong support and communicate your results early and often to keep the momentum in place."

## Supply Chain Process Redefined

Hodge, the primary architect of BlueBin, may perhaps seem to be an unlikely source of such an innovative, low startup cost supply management system. His career began in 1993, after earning a business administration degree from California State University. An MBA from the same university in 2001 helped him traverse growing roles of responsibility in capital equipment, electronic chemicals, and automotive manufacturing sectors. Before joining Seattle Children's Hospital and Research Institute, he served as regional director in charge of supply chain management operations for Sutter Health's peninsula coastal region, and a member of the health system's corporate strategic sourcing group.

"I took the lessons learned from kanban systems and applied them to elements of patient flow and care delivery," said Hodge. "After I implemented the BlueBin system at Seattle Children's Hospital, other hospitals started calling me, asking how we did it, and the timing seemed right to start my own consulting firm."

With the BlueBin system in five hospitals across the nation, from brand new to nearly 160 years old, Hodge said consulting groups are keen to learn more about



Charles Hodge from BlueBin touring healthcare/hospital representatives during the GEMBA Walk at Nemours.

the kanban conversion from the automotive to the healthcare industry.

"For example, Joan Wellman & Associates, the consulting firm for Nemours Children's Hospital in Orlando, brought us together," he said. "When hospital leaders start to think about hospitals more like a manufacturing environment, the supply chain bubbles up as a problem because traditional management systems (like the par cart and automation methods) haven't been changed in decades, and they just don't work very well. They only work because clinicians and technicians are heavily involved in managing their own supply chains.

"Our program says no to that. Get those folks back to the patients, the bed-sides, and the families. Let the supply chain do it all, and more efficiently. No inventory. No stat calls. No urgencies. No 'hey, where is this?' No off-contract purchases. It saves a lot of money, space and time, and gives that time back to the patient."

## One Hospital's Lean Journey

When Nemours began its lean healthcare cultural transformation journey in 2008, the executive team huddled to define very specific and focused strategic goals, while also aligning all associates in the organization around those goals.

"We've achieved great results but still had variation in those results, and we wanted to find something that would really help us catapult our work in a constant quest for perfection in everything we do – the highest quality, no safety errors, a 100 percent engaged workforce. Clearly, we're focused around quality and patient care and safety, engaged people, and stewardship," said Mariane Stefano, vice president of service and operational excellence for Nemours, whose healthcare career began "as a nurse, rummaging through supply closets."

As part of this quest, hospital leaders began seeking a more efficient and effec-

tive management system for medical supplies, the second largest expense for most health systems, accounting for up to 20 percent of hospital costs. They were encouraged to learn about Seattle Children's Hospital recapturing an estimated 48,000 hours for patient care instead of scavenger hunts for needed supplies. The executive team embarked on a study trip to Auto-

liv, a manufacturer of air bags and other components for the automotive industry, followed by a "totally fascinating" tour of the Toyota plant in Kentucky to see how lean tools and principles impacted the end product, said Stefano.

The team's next stop: Seattle Children's Hospital, now a 400-bed pediat-

(CONTINUED ON PAGE 20)

## BlueBin Bound, *continued from page 17*

ric hospital that's been on a lean journey since the late 1990s.

"We saw firsthand how these tools that were being used in the automotive manufacturing industry could easily be applied to a healthcare environment," said Stefano. "We knew the tools and principals of a lean environment could really help in terms of problem solving, removing waste and inefficiencies from our system, and making sure that everything stays focused on the customer."

When the team returned to the east coast and gathered around the Nemours table, "we knew this is exactly what we needed as part of our organizational transformation journey. We were sold on it once we saw how it worked."

Nemours implemented BlueBin three months before the children's hospital opened last October, a timeline that

proved challenging and in hindsight was "way too fast," said Stefano, primarily because of changes in the vendor and supplier distribution flow.

"It was a very fast process and we had bumps in the road," she explained. "We had to change our main supplier to make sure we had suppliers that would work in this type of Demand Flow system and would be willing to deliver supplies daily rather than weekly, and in the quantity we needed instead of bulk. If we need 10 Band-Aids for a supply unit, that's now what we get."

The investment of upfront manpower implementing the system "will be recouped 10 times over," said Stefano. "One, you're no longer holding inventory so that cost decreases; two, the most powerful point of the BlueBin system is that it takes the clinical staff totally out of the

supply management work.

### **Demand-Flow Supply Replenishment Model**

In early June, healthcare leaders from around the country – Stanford's Lucile Packard Children's Hospital, Oregon Health & Science University, UCLA Health, the University of Michigan Health System, and Vancouver Coastal Health – converged at Nemours in Orlando to see BlueBin in action.

- A dedicated supply technician uses barcode scanning to initiate the automated supply management process.

- Supply areas are stocked with two bins for a particular supply.

- The front bin holds a specified level of supplies.

- When the last item of the front bin is used, nurses place it in a designated hold-

ing area, triggering a replenishment order.

- Then, nurses pull the second bin to the front.

- Before the second bin is emptied, the first bin's supplies will have already been reordered, restocked and replaced in the supply area.

BlueBin has also been implemented at Mercy Hospital and Medical Center, Chicago's first hospital, and Presbyterian Hospital in Albuquerque, NM.

"Before we implemented BlueBin, our store rooms were being overused and we weren't centralizing the purchase of supplies," said Rick Cerceo, executive vice president and COO of Mercy, a 410-bed acute care facility – Chicago's first hospital – that transitioned to BlueBin in mid-2011. "Our staff was running out of supplies, which delayed procedures and patient care. This forced nurses to start ordering their own supplies and supply rooms began bulging at the seams because they were so afraid of running out. Now I can say these problems are completely gone; the process has been amazing."

When Martin Health South implemented BlueBin, the rollout schedule began last summer in various ICU areas and concluded in February.

"Before, things were just wherever there was a spot for it," said Linda Landers, a patient care technician in the surgical intensive care unit (SICU) at Martin Health South in Stuart. "Now there's a flow to it."

Nemours' Alfred I. duPont Hospital for Children in Wilmington, Del., is the sixth location deploying BlueBin technology.