The RFID Revolution

A discussion of how supply chain optimization is changing health care's bottom line.

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The health care supply chain is complex, with many moving parts and multiple obstacles to efficiency. Reductions in reimbursement rates are creating an acute need for providers to reduce their overall costs, and this cost pressure is also being translated to medical device manufacturers. The complex nature of product stocking requires intensive staffing maintenance, and multiple, oftentimes siloed, systems lead to process duplications, a lack of data sharing, and often inadequate or nonexistent analytics. As a result, waste in the medical device and implantables supply chain amounts to an estimated $5 billion in annual losses.[1] At face value, these obstacles seem insurmountable, and the waste appears to be irretrievable. However, a disruptive, technology-based solution is bringing big changes to the health care supply chain as radio frequency identification (RFID) technology enables automated stocking, accurate usage capture, health care ecosystem compatibility, and robust data analytics.

SO WHAT CAN THIS MEAN FOR HEALTH CARE?

A truly networked, end-to-end supply chain solution provides invaluable data assets that deliver insight into many aspects of health care. Usage patterns emerge. Outcomes are linked to products and practices. Waste becomes visible, measured, and reduced. Working capital is reallocated. True product costs are reduced. Even health care industry staffing—from manufacturers' sales teams to caregivers on a hospital floor—is reorganized to reflect insights culled from the supply chain.

The retail industry has been utilizing analytics in the supply chain for quite some time and to great effect. From the point of manufacture, to the distributor, to the store, to the point of sale, items are tracked, and information freely flows both up and down the supply chain.

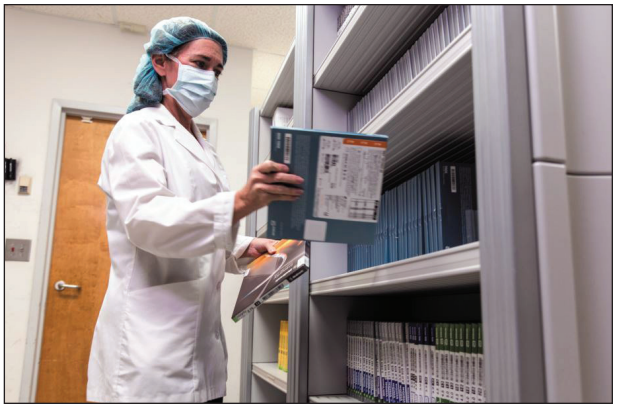
In retail, the benefits of this approach are already clear. Item-level data from manufacture to the point of sale are captured, providing valuable analytic data, which can help reduce stock-outs and lost sales, while at the same time decreasing unnecessary inventory and promoting predictive point-of-sale–based forecasting. In short, retailers and manufacturers have broad visibility throughout the supply chain, and can use historical and predictive data to anticipate the products they need while seamlessly aligning those needs with their current inventory.

The health care supply chain lies in stark contrast with the efficiencies of retailers. More often than not, data are either not captured or not shared, so visibility remains siloed within each separate piece of the supply chain. Furthermore, historical approaches to supply chain management are no longer sustainable, as the current consignment distribution model forces high loss rates to be built into product costs. Data sharing and end-to-end visibility are critically important to recovering this waste and creating a more strategic and efficient supply chain. If we can track a $7 razor from raw materials to a medicine cabinet, imagine the efficiencies that can be gained when we can do the same with high-cost medical devices like pacemakers.

WHEN WILL THE RFID REVOLUTION HIT HEALTH CARE?

The early stages of this disruption—the creation of end-to-end supply chain networks—are already underway. It is easy to underestimate the importance of this development, because on the surface, the supply chain looks much the same. RFID isn't new, nor is inventory control. Even the roles of the players—hospitals, doctors, manufacturers and distributors—are the same. So, what's different?

Reflecting on more than a decade in this business, efficiency gains have been incremental. The next era will be different. The change on the horizon is much greater than what's easily imaginable today. There's an estimated $5 billion in waste in the medical device and implantables supply chain, and stakeholders will go to great lengths to capitalize on this opportunity to reduce costs.



Cardinal Health Smart Cabinets eliminate manual counting and provide real-time visibility.

Manufacturers and health care providers alike have mutually aligned motivations for adopting RFID technologies throughout their supply chains, as their pain points often overlap. Both groups have to reconcile problems with product expiration, product loss, overstocking, and product shortages.

Unfortunately, today the health care supply chain isn't a common-platform network. Rather, it is still heavily fragmented and siloed. Hospitals use RFID, often excelling in its application within their own internal applications like inventory management or patient and capital asset tracking. Similarly, suppliers and manufacturers have excellent management systems that suit their internal needs. But lack of integration between suppliers and purchasers leads to platform incompatibilities, which limit supply chain communication and wastes some of the most important and beneficial applications of an RFID-based tracking platform.

WHAT'S THE ANSWER?

What is needed is an end-to-end networked supply chain: an environment in which all stakeholders—producers, purchasers, and distributors—swim in the same pool of information. End-to-end networked supply chains improve efficiency and coordination for all participants. Hospitals benefit from efficiency improvements, reductions in waste, proactive supply management, enhanced charge capturing, and improvements in patient safety, and clinical satisfaction. Manufacturers share in these benefits, with reduced and optimized inventory and end-to-end inventory visibility, allowing for real-time consignment allocation within the integrated delivery networks (IDNs) and the region.

The health care supply chain is taking notice, and change has begun. For example, Cardinal Health is now working with hospitals and manufacturers to create end-to-end supply chain visibility for high-value products. These items—pacemakers, artificial knees and hips—can cost $200 to $20,000 per box. Ordering and inventory control are done ad hoc, leading to waste that is harmful to everyone's bottom line.

Some of health care's biggest players have already adopted RFID technology into their supply chains, recognizing the enormous value and benefits of end-to-end visibility. RFID technology is one of the most effective ways of ensuring that the communication and data capture required for this visibility is precise, accurate and efficient.

Fueled by the growth of RFID technology, precision inventory management solutions promise dramatically improved efficiency and cost savings, which cascade across entire health care systems. Advances in data capture and analytics have enabled the growth of networked supply chains, which span from the manufacturer line to patient-side point of use.

The use of RFID technology is now linking producers, purchasers, and distributors end-to-end across the entire supply chain. This allows manufacturers to see real-time inventory and consumption data, prompting earlier demand signals and all but eliminating product expiration challenges. Utilizing RFID technology, hospitals are better equipped to manage their high-cost products without burdening clinical staff with tedious supply chain responsibilities. The RFID revolution is increasing efficiency, improving the patient experience, and changing the bottom line for the health care supply chain. ■

1. PNC Healthcare. GHX quantitative research study. August 2011.