



Technology innovations enabling advanced consignment inventory models for specialty drugs

A conversation with Cardinal Health and Terso Solutions

Specialty drugs require advanced storage protocols and are oftentimes needed at a moment's notice. In many instances, specialty drugs are ordered as emergency deliveries, which carries additional patient costs and quality risks. As spending on specialty drugs continues to grow and more are released into the market — specialty drug spending is expected to reach \$419 billion in 2025, up from \$301 billion in 2021, according to recent data — pharmacy leaders must account for these trends when developing their financial and operational strategies.¹

The consignment inventory model, an ultramodern and flexible approach to managing specialty medications, ensures these important medications are available when they're needed most. Moreover, it can lead to effective drug cost control and decreased waste due to expired medications. For hospital pharmacies and specialty pharmacies alike, consignment models also drive more efficient, automated workflows for already lean pharmacy staff.

Cardinal Health is a leader in specialty drug distribution and services, including new inventory approaches designed to help pharmacies find the right balance between predictable and flexible. Cardinal Health collaborates with Terso Solutions, the leader in sophisticated technology, including RFID-enabled inventory systems designed for healthcare providers. Cardinal Health and Terso Solutions recently convened to share their perspectives on how a technology-enabled consignment model can be a game changer for a pharmacy's specialty drug inventories.

The conversation included:

- **Diana Castillo**, Cardinal Health National Consignment Executive
- **James Roof**, Cardinal Health Director of Strategic Distribution Services
- **Jason Rosemurgy**, Terso Solutions Senior Vice President of Corporate Accounts





What are some common myths or misunderstandings about specialty drug inventory models that many pharmacy leaders have?

Diana Castillo: Technology continues to innovate specialty drug inventory management, and often, pharmacy leaders may be unaware of these advances. For example, specialty consignment inventory models are elevating best practices. The technology embedded within RFID-enabled cabinets developed by Terso Solutions — a key element of the Cardinal Health™ Consignment Program — enables automatic reordering of the medications approaching their expiration dates at no cost. This functionality automates aspects of inventory management to ensure these critical drugs are available when they are needed, thus also freeing up pharmacy staff to focus on patient care. In addition, the technology enables a bill-upon-use model that reduces specialty drug inventory carrying costs — a huge benefit for today's pharmacy leaders to help manage these high-cost medications.

James Roof: Recent advances also provide regulatory compliance benefits for pharmacies, such as supporting split billing for participants of the 340B Federal Drug Pricing Program. Cardinal Health's Consignment Program simplifies billing for 340B-approved medications and assists pharmacies with compliance concerns as a result of regulatory changes. These newer features support quality and compliance for pharmacies and enable reinvestment of capital back into their operations.



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How can a specialty consignment model benefit a pharmacy's operations?

James Roof: Pharmacies today are faced with doing more with less. Leveraging technology to bridge the gap caused by labor shortages and maintain complete visibility into costly specialty drug inventories is essential. In addition to already lean pharmacy teams, specialty drug volumes continue to increase, and due to their high cost, this is putting additional pressure on pharmacies. In the hospital pharmacy setting, specialty drug expenses are projected to increase by 3-4% this year.²

Diana Castillo: Exactly! Technology is a proven and accessible way to offset labor shortages.

Consider these advancements:



With RxID™ Technology from Cardinal Health, pharmacists are able to track and manage their inventory from anywhere, resulting in greater visibility and more control.



Pharmacy leaders are able to easily transfer specialty medications from one hospital site to another, which is increasingly important with the expanding number of sites of care that the pharmacy serves. It also enables the pharmacy to share those related expenses efficiently across sites if desired. This capability allows hospital pharmacies to access a specific medication from anywhere in their network in a timely fashion and safeguards uninterrupted patient care — all while reducing the administrative burden of already lean teams.



Improved inventory visibility is another key driver of workflow efficiencies. For example, for one community specialty pharmacy in Hawaii, having consistent access to therapies was critically important given their remote location. The long-term planning capabilities made possible through our technology-enabled Consignment Program give them that visibility and the reassurance that their patients would have access to needed therapies.

James Roof: That last feature is so important, particularly for any pharmacy in a remote location, yet to some degree, it also applies to every pharmacy leader we speak with. It is a growing concern: according to recent data, 49% of Americans have experienced challenges accessing specialty medications.³

Jason Rosemurgy: Those are important points, Diana and James. Real-time visibility for pharmacies will continue to be paramount, as delayed or inaccurate information can result in overstocking, incorrect product mix and inefficient use of pharmacists' time. I recently heard of a pharmacy experiencing a \$30 million write-off due to its inability to determine and verify whether medications had been stored within the drug's specific temperature threshold requirements. Complete visibility into specialty inventory made possible through a consignment program, including RFID technology, is vital to mitigating issues like this one.



Can you explain the basics of RFID technology for our readers? For those who aren't familiar, how does it work and how does a pharmacist interact with the technology?

Jason Rosemurgy: At Terso Solutions, our goal is to offer technology solutions that automate manual processes and integrate into a pharmacy's existing workflows. Every time a drug is added or taken out of one of our RFID-enabled refrigerators, the integrated RFID scanning technology performs a complete cycle count and within milliseconds, transmits the inventory data to the RxID platform, making all critical product information available to key pharmacy staff.

As a result, pharmacies with RFID technology-enabled consignment inventory can access this information from anywhere and, if necessary, transfer medications across their network. Ultimately, the technology is designed to provide a more automated approach to specialty drug inventory management and free up time for pharmacists to ensure the best patient care.





How do you see the use of RFID technology to help manage medications continuing to evolve going forward? What's on the horizon?

Jason Rosemurgy: We predict supply chains will continue to be top-of-mind for healthcare executives, especially in the wake of the pandemic and following the official implementation deadline of the Drug Supply Chain Security Act (DSCSA) later this year. As a result, pharmacy leaders will have even more opportunities to elevate their role within their hospitals, and we also know from our experience with Cardinal Health that inventory management technology will undoubtedly play a role in facilitating this forward progress.

Industry partnerships will also remain essential to advancements in technology and automation in healthcare. It's a privilege to work with Cardinal Health and co-create solutions that meet the distinct needs of their pharmacy customers. It's important these cross-industry collaborations remain possible; it's through these relationships that meaningful innovations will continue to flourish.

James Roof: I couldn't agree more, Jason. Partnerships in bringing new solutions to the practice of pharmacy are critical to the future of healthcare delivery. Pharmacies are already stretched thin. They need partners who are anticipating and solving for tomorrow's problems so they have viable solutions for their future needs.

Finally, I expect RFID technology to continue playing a key role in the industry's collective efforts towards building a closed-loop supply chain with the ability to track and trace products from a manufacturer all the way to a patient. This will make for a more secure process for pharmacies and patients and will pave the way for even further supply chain advancements in the future.

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What are the critical questions a pharmacy leader should ask when considering a consignment program?

Diana Castillo: Given pharmacy labor challenges, the first consideration is how a specialty consignment model can support *current* workflows. This drives immediate benefits to the pharmacy. Flexibility is always at the foundation of the Cardinal Health™ Consignment Program, so it drives those critical productivity and efficiency benefits for pharmacy leaders.

James Roof: Pharmacy leaders should also ask how consignment with RFID technology can help navigate the complex and rapidly changing regulatory requirements, including the DSCSA and 340B Drug Pricing Program. Technology-enabled specialty consignment models should simplify and streamline compliance for pharmacy leaders.

Most of all, pharmacy leaders should consider the cost efficiencies of a consignment model. The Cardinal Health™ Consignment Program empowers pharmacies to prepare for unpredictable demand without incurring carrying costs, a feature that is especially important when administering expensive specialty medications. This benefit yields direct advantages for the balance sheet and grants pharmacies the ability to reallocate capital for other clinical and operational needs.





About Cardinal Health

Cardinal Health Specialty Pharmaceutical Distribution works with pharmacies to identify their unique challenges, generate insights, and provide the products, technologies and knowledge they need to perform at their best. We simplify the delivery of specialty products by leveraging our scale as one of the largest specialty healthcare supply chains in the United States, long-standing relationships with leading group purchasing organizations and decades of experience delivering specialty products.

About Terso Solutions

Terso Solutions, Inc. is the leading provider of automated inventory management solutions for tracking high-value medical and scientific products in healthcare and life science. Terso is backed by 18 years of RFID product development and implementation experience, with a product line that includes RAIN RFID cabinets, refrigerators, freezers (-86°C to -5°C), read points, mobile solutions, and rooms. Terso has deployed over 3,500 RAIN RFID-enabled devices worldwide and provides inventory automation at over 1,000 U.S. healthcare facilities. Headquartered in Madison, WI, with additional offices in Walldorf, Germany and Tokyo, Japan, Terso Solutions, Inc. is a wholly-owned subsidiary of the Promega Corporation.

For more information about the Cardinal Health™ Consignment Program, visit **cardinalhealth.com/consignment**

To learn more about Terso Solution's RFID technology, please visit **tersosolutions.com/uhf-rfid-and-our-process/**

References: 1. Outlook for health system-based specialty pharmacy in 2022 and beyond. *Pharmacy Times*. <https://www.pharmacytimes.com/view/outlook-for-health-system-based-specialty-pharmacy-in-2022-and-beyond>. Published January 20, 2022. Accessed February 16, 2024. 2. Which Drugs Are Driving Next Year's 3.42% Increase in Hospital Pharmacy Spend? *MedCity News*. <https://medcitynews.com/2023/08/pharmacy-hospital-healthcare-costs/>. Published August 6, 2023. Accessed February 14, 2024. 3. 49% of Americans Experienced Challenges Getting Specialty Medications. *Managed Healthcare Executive*. <https://www.managedhealthcareexecutive.com/view/49-americans-challenges-specialty-medications>. Published August 27, 2021. Accessed February 12, 2024.

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