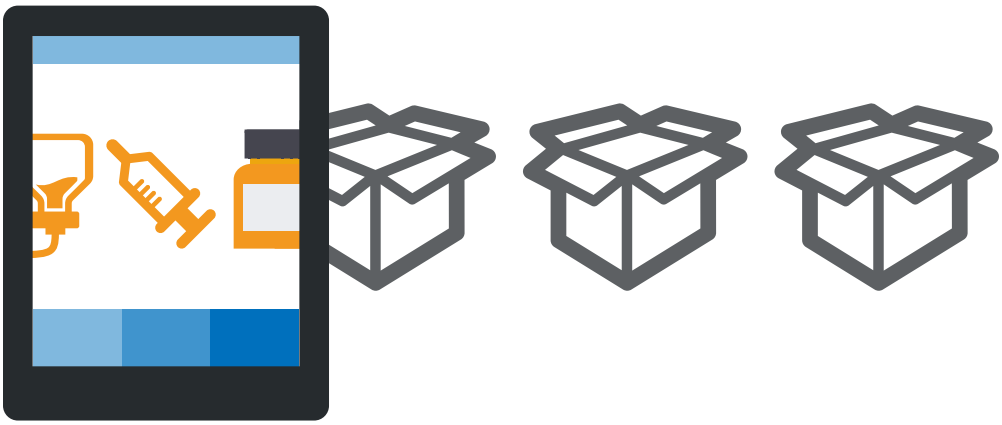

WHITE PAPER

Healthcare Supply Chain **Imperatives**

The healthcare industry is rapidly transforming through consolidation from relatively small provider organizations into large provider systems which rival the size and supply chain complexity of large enterprises in industries such as retailing or manufacturing. Yet healthcare providers are relative late comers to supply chain best practices and systems found in other distribution-intensive industries.

Health systems, hospitals and clinics are primary consumers of healthcare products, as a result, it's crucial that the supply chain monitors the inventory and product needs of these providers so that the right supplies are always available at the right time to serve patients without running up excess costs. Thus monitoring and anticipating inventory needs at the point of use (POU) is an important part of the distribution challenge.

While some providers have adopted supply chain methods including the establishment of distribution centers (DCs). Not all goods used at the clinician's level flow through these DCs, in many cases, distributors to the healthcare industry also service the needs of individual hospitals or clinics for certain goods. These distributors increasingly need to do more than compete on delivered cost—they need to make end-to-end supply chain processes easier and more cost-effective for their clients.

Two overarching trends are undeniable in healthcare: 1) consolidation, and 2) tighter margin pressures fueled by changes in health insurance regulations. In 2015, hospital merger and acquisition activity in the U.S. market was up by 3 percent, reaching 102 transactions, compared with 99 transactions in 2014. An average of 2.6 hospitals was involved in each transaction, compared with an average of 1.8 in 2014.[1] Across all healthcare services, including hospitals, physician groups, laboratories, rehabilitation and other services, merger & acquisition deal volume rose 22 percent in 2015.[1] According to a report from Deloitte, healthcare industry consolidation will likely accelerate, indicating that in 10 more years, only 50 percent of current health systems will remain.[2] These are important factors that affect the supply chain in the healthcare distribution industry.

1. CONSOLIDATION

2. HEALTH INSURANCE REGULATIONS

Meanwhile, changes in healthcare regulations and insurance trends are exerting tighter margin pressures on the industry. According to a report from the Health Industry Distributors Association (HIDA) compiled with the assistance of McKinsey & Company, 70 percent of providers interviewed expect margin decreases of 10 percent to 20 percent. Factors influencing evolving reimbursement and margin trends include implications of the Affordable Care Act, as well as changes from commercial insurers.[3]

As a result of these megatrends, healthcare providers and distributors who service them must aim for new levels of cost efficiency, while maintaining quality outcomes for patients. This makes network-centric supply chain practices an important opportunity for competitive advantage as providers look for ways to offset the margin pressures facing the industry. While providers can't risk stock outs that harm patient outcomes, they can focus on areas like right sizing inventories and minimizing waste from expired products. To achieve this goal will require a different, more collaborative approach to inventory visibility and demand management in which distributors will help the supply chain function to become an efficient network to drive out unnecessary costs and waste while protecting quality of service.

[1] "2015 Health Care Services M&A Market See Growth in Deal Volume and Volume of Transactions," Irwin Levin Associates, press release, April 11, 2016. *http://www.levinassociates.com/1604prhar22*

[2] "The Great Consolidation," Deloitte analysis of health care trends, published in 2014. *http://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/great-consolidation-health-systems.html*

[3] "Healthcare Supply Chain 2015: Strategic Insights for the Distribution Channel," HIDA white paper. *http://www.hida.org/App_Themes/Member/docs/Press%20Releases/HIDA_Thought-Leaders_White-Paper.pdf*

There are large cost savings available through better management of products which carry expiry dates, but that often go to waste when over purchased and poorly tracked in the field. For just one category of high impact supplies—implantable medical devices—manual processes and lack of visibility to demand and consumption contribute to more than $5 billion in wasted implantable devices in the U.S. market alone.[4] Another area with large savings potential is standardization of products. In fact, one major health system realized savings of $24 million by embracing standardization.[5]

The trends in the healthcare industry spell opportunity for distributors capable of helping providers establish highly efficient supply chains. Those distributors, who can collaborate with providers and help them attain better visibility at POU locations, they can also help minimize waste, added cost from expired or redundant inventory that puts them in a favorable position to win and keep customers.

Providers realize action is needed to improve supply chain effectiveness, especially with the new margin pressures at play. In fact, according to a survey commissioned by Cardinal Health, reimbursement is the biggest problem facing health systems today, followed closely by the increasingly high cost of supplies.[6] However, only one-third of hospital decision makers surveyed rated management of their overall supply chain as "very effective."

Clearly, there is desire and need in healthcare to focus on the improvement of supply chains. But what sorts of capabilities are needed, and whose responsibility should it be to provide these capabilities? These system requirements and characteristics are the subject of this white paper.

[4] "The Current State of the Implantable Device Supply Chain," GHX report, 2012.
https://www.ghx.com/media/1095/the-current-state-of-the-implantable-device-supply-chain-102012.pdf

[5] "Healthcare Supply Chain Best Practice Series: Intermountain Saves $24 Million by Embracing Standardization." Gartner report, June 2016.
https://www.gartner.com/doc/3346518/healthcare-supply-chain-best-practice

[6] "Survey Shows Hospital Decision Makers Identify Supply Chain Effectiveness Among Top Priorities," Cardinal Health press release, Dec. 14, 2015.
http://cardinalhealth.mediaroom.com/2015-12-14-Survey-Shows-Hospital-Decision-Makers-Identify-Supply-Chain-Effectiveness-Among-Top-Priorities

Provider needs

At a high level, distributors serving the healthcare industry need better systems for both planning and execution. While distributors typically have some type of warehousing or inventory control solution for their own operation, there is also the need to control inventory levels wherever goods sit in the supply chain, which in health systems, extends to the many inventory rooms, supply bins and other POU locations found in hospital and clinical settings.

When certain goods flow directly to clinicians from manufacturers or distributors without going through a DC, it's likely these POU sites need the management and tracking of consumption and the ability to communicate relevant information to demand management. Individual sites—unlike DCs—may not have supply chain professionals dedicated to inventory control, and procurement activities. In short, this direct supply channel into POU locations begs for added-value and expertise from distributors.

"Distributors who can step in and make life easier for providers who need to directly procure supplies should bring an added–value above simply delivering ordered goods to the site on time," notes Robert Colosino, VP of marketing with TECSYS, a provider of supply chain management solutions to health systems and distributors.

"Clinician organizations feel it is the supply chain's responsibility to understand them and their needs, rather than asking them to be supply chain experts," says Colosino. "So at a high level, the challenge to distributors is how to make supply chain management easier and more effective for the clinician organization, so that they don't have to become experts."

The type of products that often flow to hospitals or clinics directly from distributors or manufacturers are the higher variability products that might include medical device kits or special instruments used in surgeries and other clinical settings. Such goods tend to have a shorter lifespan than many of the supplies that flow to providers through their own distribution center. Volume might be lower, but these goods carry a high impact in terms of cost and patient outcomes. Additionally, because this procurement is not managed by DC personnel, it's likely that the provider site needs more assistance when it comes to tracking consumption, managing inventory levels, and gauging demand needs.

"In essence, distributors to healthcare providers need to take responsibility for the right inventory being on hand at a competitive cost, taking the burden of that work off the shoulders of clinicians who may not be supply chain experts, and don't really want to be. In the consumer world, when someone goes into department or an electronics store, they expect the goods they want to be there without having to personally ensure the products they want were ordered, or have to understand the supply chain function," says Colosino. "Now similarly in healthcare, providers are demanding their supply chain partners to take ownership over understanding their supply chain needs."

Evolving system requirements

Historically, it's been enough for distributors to have execution and planning systems to handle their internal processes. WMS solutions allow a warehouse to control physical inventory, receive and putaway goods, replenish pick areas, and pick, pack, and fulfill orders. Some solutions do these tasks better than others, and have more capabilities when it comes to healthcare unique needs such as serial-number tracking, but essentially, traditional WMS is an "inside the four walls" type of a solution. So what is important is that not only the traceability but also the healthcare expertise that help manage the supply chain effectively.

The healthcare supply chain, however, is complex and bifurcated. Many goods are managed through distribution centers, while other goods flow directly from distributors to hospitals. Moreover, the inventory control challenge is spread across potentially hundreds of storage locations in a hospital system, labs, clinics and other locations, with material consumption handled by clinicians rather than supply chain associates accustomed to distribution processes. As a result, traditional WMS solutions are of little use in tracking and managing goods at POU locations. Yet at this end point of the supply chain—the point closest to patients—where problems in the form of high cost from excess or expired products often arise.

These characteristics make it necessary for healthcare supply chains to evolve the systems they use. To make consumption tracking easier in clinician environments, some solution providers now offer smart bins and smart panel/shelf systems that use radio frequency identification (RFID) technology and RFID-tagged inventory such as a Kanban system, to automatically sense and track when goods are removed from a storage location. Technology suppliers who can offer such smart systems that integrate with inventory and SKU information in their order fulfillment systems now have a way of making point of consumption tracking easy. "Point of consumption solutions need to be very unobtrusive," explains Colosino. "They should not require the clinician to do their work much differently than they normally would to attend to a patient or the normal workflow in caring for patients."

Adding complexity to the inventory control are mandatory regulations such as the U.S. Drug Supply Chain Security Act (DSCSA). This law requires the exchange of information at the individual package level about where a pharmaceutical drug has changed ownership in the supply chain. The first implementation phase for DSCSA was at the lot/batch level, but further phases will address serialization of products, and eventually, will require electronic traceability at the serialized item level. Similarly, the U.S. Federal Drug Administration is phasing in a rule that governs identification of medical devices, known at the Unique Device Identification (UDI) rule. For supply chain partners, these regulations make it necessary for WMS and other inventory visibility solutions to at least have lot-level traceability today, with a roadmap for supporting serialized item tracing requirements as they are finalized and put into force.

Another evolving area of need in healthcare is an up-to-date demand planning solution. Distributors may have forecasting tools that they use to analyze what was sold to provider customers, but these tools typically lack the collaborative capabilities needed to gain demand insights from sales teams or provider contacts. These insights are crucial given the rate of change with medical, pharmaceutical and health care products. For example, disposable medical products are rapidly growing in use, including a greater than 5 percent growth in the use of disposable drug delivery products through 2018.[7]

To properly forecast, it's important for a distributor serving healthcare customers, to take a collaborative approach that minimizes the burden placed on consumers. For many distributors, this means involving the sales team to gain insights that can be added to historical demand trends, according to Marie Fournier, TECSYS Director of Distribution Product Marketing. These sales teams are often on-site at hospitals and clinics offering support on new medical devices, equipment, or instruments, and have insight on which new products clinicians plan to start using.

Demand planning software should have a way of incorporating both qualitative insights that might come from sales people or providers, and balancing the implications of these insights with quantitative trends from sales history to arrive at better forecasts. "If you are collaborating together with all the participants as part of demand planning, then you can really drive costs out of the supply chain by avoiding excess inventory," Fournier says.

In keeping with making supply chain management easy for clinicians, however, it's important to send forecast numbers in an easily-digestible format. So, rather than a spreadsheet or report with many raw numbers, graphs or charts generated by analytical tools can help someone quickly weigh-in on forecast numbers.

It's also important to focus collaboration and forecast analysis on the highest impact or highest cost products, rather than products with stable sales history and predictable replenishment cycles. Planning tools for the healthcare industry should also handle replenishment planning. For distributors the ability to help providers right size inventories, optimize replenishment, and easily track consumption—are all part of a demand planning function that brings added value to the customer.

[7] Disposable Medical Supplies study, Freedonia Group, 2014. .
http://www.freedoniagroup.com/industry-study/3111/disposable-medical-supplies.htm

Summary of needs

The ideal approach to having the systems necessary for both planning and execution for extended healthcare supply chains is to have an integrated platform that spans core execution functions such as warehousing, distribution and demand planning as well as analytics and reporting tied to internal systems. By taking a platform approach, integration issues and overhead can be minimized, because the whole supply chain will behave as one engine and visibility will be end-to-end.

The true foundation for any supply chain transformation project is leadership, and this is more so in the healthcare industry. So to fully realize the benefits of a technology platform, the culture of the organization may need to change. Departments within an organizing, such as sales, customer service and supply chain groups, need to work together to ensure that the goals of providers and patients will be met. Distributors have to reach out to providers to help them manage inventory, optimize reorder points, and help them standardize products to save costs. consider these foundational elements:

LEADERSHIP TEAM

Your organization should have a leadership team to help focus on supply chain goals and for collaborating with partners and customers to drive out costs and protect level of service.

SUPPLY CHAIN PLATFORM DESIGNED FOR THE HEALTHCARE INDUSTRY

Your organization needs a supply chain platform designed for the healthcare industry. Backed by the deep expertise and successful track record of the software supplier.

PRODUCT STANDARDIZATION

Inventory costs can be reduced through product standardization. Often times, duplicate products are held in different POU or storage locations when the same SKU from the same manufacturer can fulfill the need just as well.

A supply chain platform with applications for healthcare distributors' Key components would include:

DEMAND PLANNING

Demand planning to address both quantitative and qualitative factors, has collaborative tools, and allows planners to pay special attention to high impact products.

REPLENISHMENT/PROCUREMENT PLANNING

While some provider systems employ procurement planning to optimize replenishment cycles, distributors can also make use of these tools to help provider that need assistance in deciding when to replenish SKUs.

SUPPLY CHAIN EXECUTION SUITE

(Warehousing, order fulfillment, transportation management) to automate the logistics processes to become more efficient and cost effective as well as compliant with regulatory requirements.

POINT OF CONSUMPTION TRACKING TECHNOLOGY

This can be accomplished with minimal additional labor by using RFID-enabled smart bins and storage units dispersed at the point of use of clinician facilities.

ANALYTICS AND BUSINESS INTELLIGENCE TOOLS

Common BI tools that are pre-integrated with the data model for core supply chain execution applications that can help a healthcare distributor in managing performance to achieve their supply chain and business objectives.

A "catch" with the comprehensive system capabilities noted above need to be backed up by best practices and healthcare industry expertise on the part of platform solution vendors.

With industry groups such as HIDA pointing out the need for better interoperability between systems used in healthcare supply chains, and more data sharing between supply chain participants, a common platform with a common data model will serve as a clean foundation for these interoperability initiatives.

Time for action

As HIDA's "Healthcare Supply Chain 2015," white paper explains, a focus on "end-to-end" supply chain cost reduction is needed. This involves an approach to systems and processes that are collaborative in nature; that do not "end" once an order is shipped to a provider site on time. As the paper states in one of its take away recommendations: "Partner with customers to jointly assess waste in the supply chain from manufacturer all the way to patient (e.g., logistics, inventory management, data management, formulary development, customer demand management)."[8]

Other sources also point to industry interest in improving supply chain management systems. According to Cardinal Health's 2015 survey of hospital decision makers, 85 percent of respondents said their health systems are currently working to identify or implement new ways to reduce supply chain waste.

Ultimately, distributors need to ask themselves, are my systems ready to help my provider customers attain added levels of supply chain efficiency through approaches such as collaborative planning, or use of smart inventory tracking? If the answer is no, it's time to get going on improvements, given that hospitals will be insisting on further efficiencies, and judging distributors on how effective they are making supply chain processes more cost effective, easier, and protective of patient outcomes.

[8] "Survey Shows Hospital Decision Makers Identify Supply Chain Effectiveness Among Top Priorities," Cardinal Health press release, Dec. 14, 2015. *http://cardinalhealth.mediaroom.com/2015-12-14-Survey-Shows-Hospital-Decision-Makers-Identify-Supply-Chain-Effectiveness-Among-Top-Priorities*

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Your Supply Chain Matters.™

www.tecsys.com
info@tecsys.com
Phone: 514-866-0001
Toll Free: 1-800-922-8649