



Raising ROI

Smarter Inventory Management Drives Revenue
for Medical Device Companies

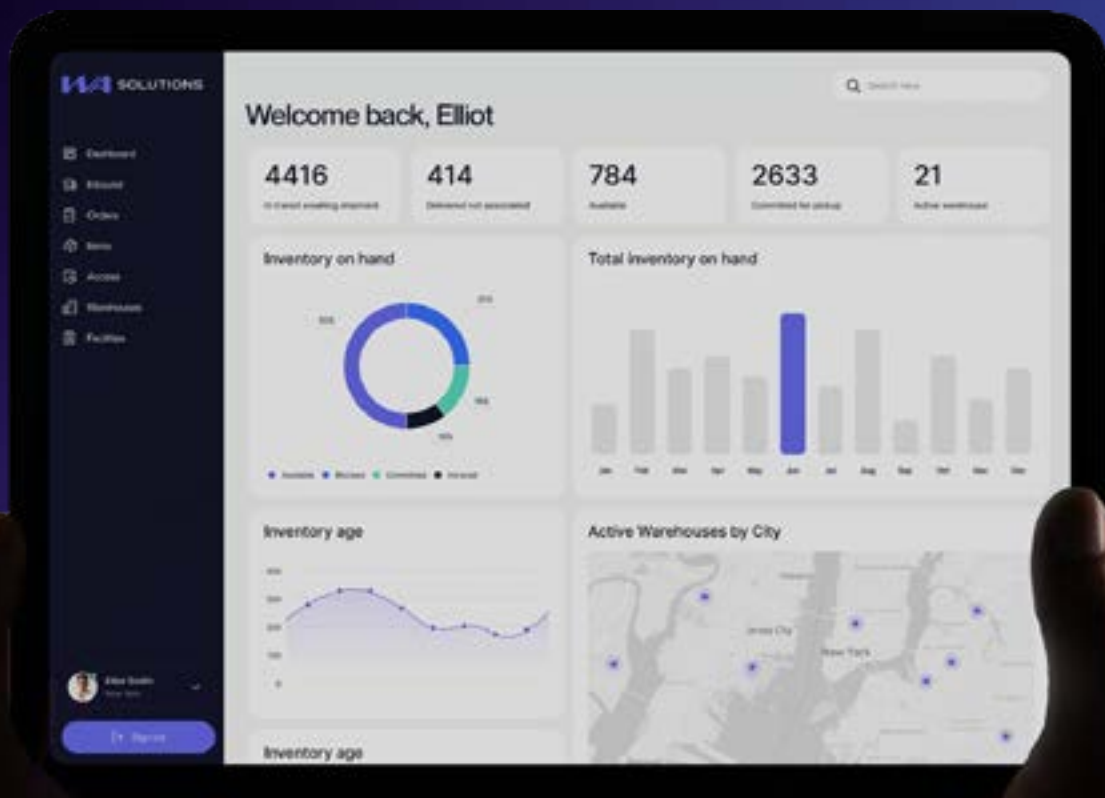


Table of Contents

Today's Trajectory Toward Digital Solutions	2
Reducing Medical Device Overstock to Improve Revenue	2
↳ Overstock Consequences	3
↳ How Inventory Management Systems Reduce Overstock	4
↳ Benefits of Reducing Overstock	5
↳ Case Study: Cutting 63% of Overstock for a Medical Device Distributor via Accurate Forecasting	5
↳ Case Study: Reducing DOH for a Medical Device Company	5
Minimizing Understock to Improve Customer Satisfaction	5
↳ Consequences of Understock	6
↳ How IMS Help Medical Device Companies Avoid Understock	6
↳ Case Study: Overcoming Frequent Backorders for a MedTech Company	7
Easing Sales Representatives' Inventory Management Workload	7
↳ Consignment Inventory Management Process	8
↳ IMS Gives Sales Representatives Their Roles Back	9
Building Resilience for Withstanding Recalls	10
↳ Case Study: Recalling Surgical Instrumentation Cutting Guides	10
How the Story Ends: Smarter Inventory Management for Massive Savings	10
Collaborating with WA Solutions for Medical Device Inventory Management	11
Resources	12

Today's Trajectory Toward Digital Solutions

In 2024, six trusts, or organization units, in the United Kingdom's National Health Service (NHS) underwent a radical transformation. Instead of monitoring inventory manually, each trust implemented a digital inventory management system (IMS) to track stock. The end goal? Reducing costs, improving accuracy, and streamlining operations, ultimately for better patient care.¹

The NHS is not alone in implementing digital solutions for physical challenges. The growing demand for inventory management software in the medical device industry also reflects the benefits of these tools. Research and Markets estimates global demand for medical inventory management software will rise by a compound annual growth rate of 5.3% between 2023 and 2028, from \$23.15 billion to \$30.01 billion.²

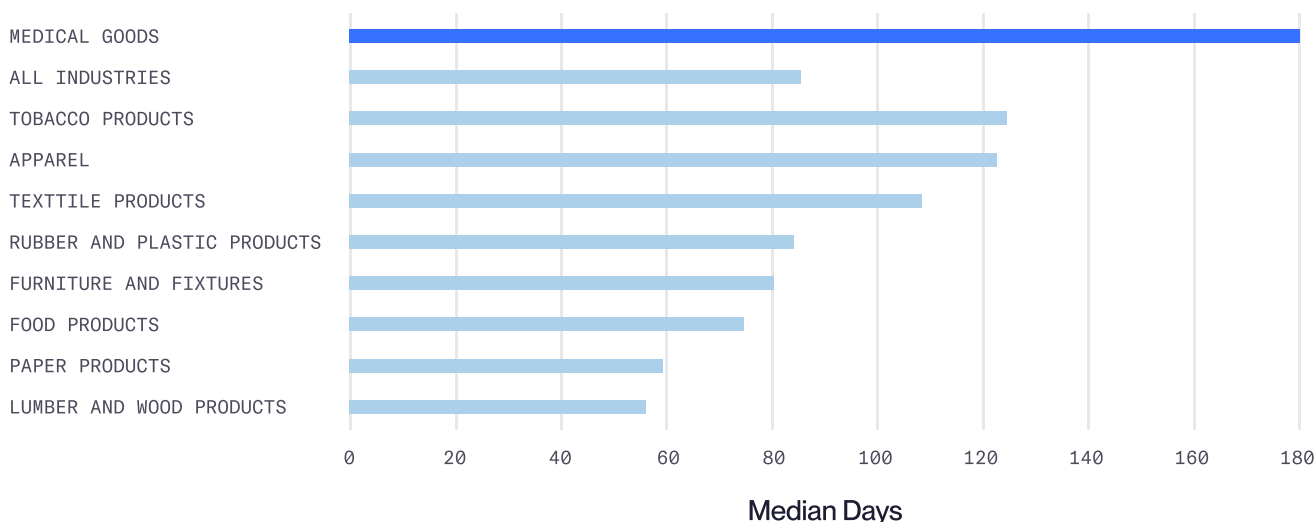
Investing in technology-driven inventory management systems benefits medical device companies in tangible ways, from reducing overstock costs to improving customer service, maximizing staff time, and mitigating the effects of product recalls and supply chain disruptions.

Reducing Medical Device Overstock to Improve Revenue

Overstock—holding more inventory than necessary—is a problem for many medical device companies. According to data from McKinsey & Company, MedTech companies carry, on average, over a year's worth of inventory. Other industries, such as consumer packaged goods and electronics, carry less than six months' inventory.³

Days-on-hand (DOH), how many days a device is held before a sale, is another way to measure the balance between inventory availability and demand. According to statistics compiled by Ready Ratios, medical goods had an average inventory turnover rate of 161 days. This is twice the industry average of 85 days (Figure 1).⁴

■ FIGURE 1. DAYS-ON-HAND: MEDICAL GOODS COMPARED WITH MANUFACTURING INDUSTRIES (DATA FROM READY RATIOS)



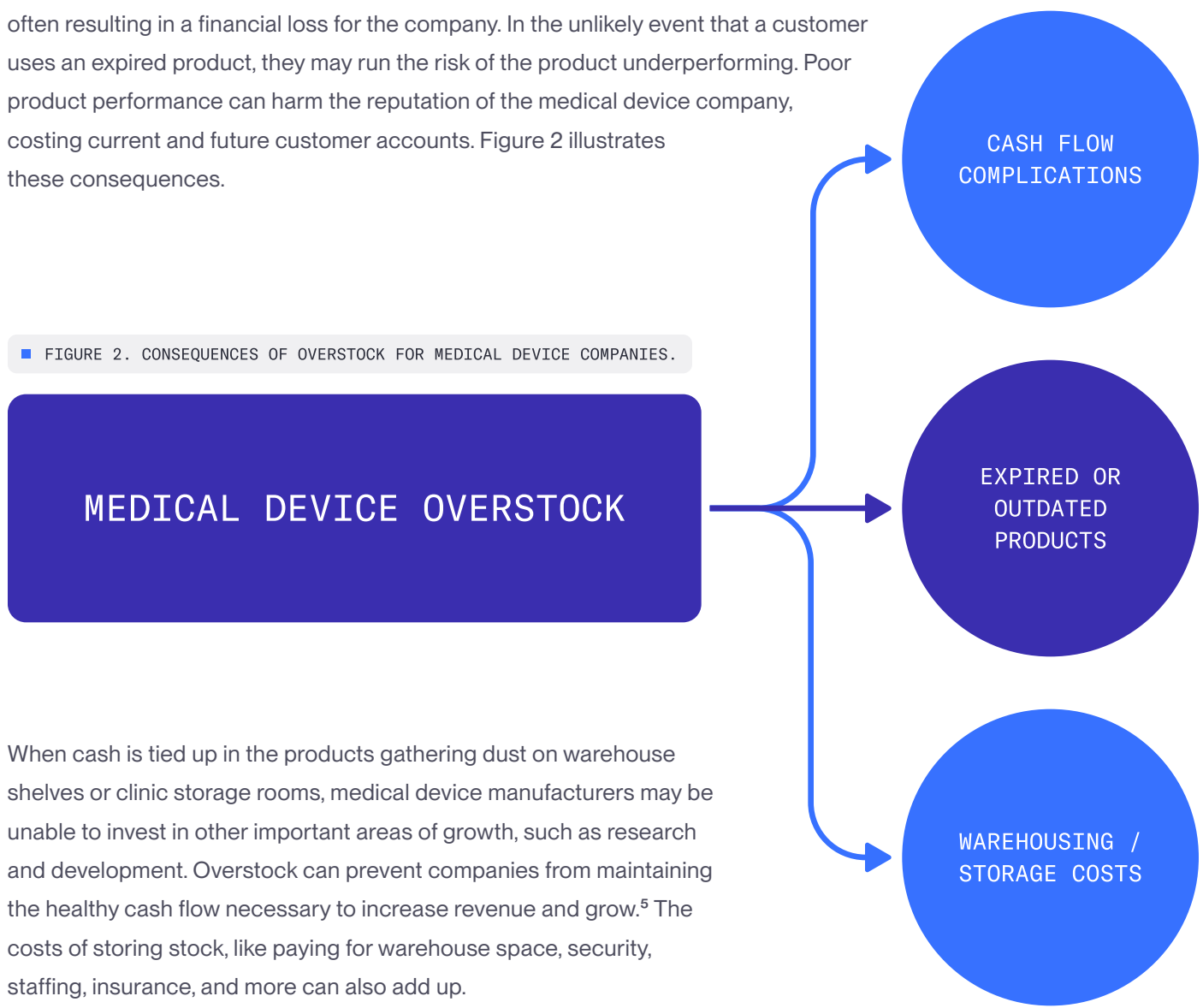
DOH is difficult to cite for medical devices, as the industry includes such a wide variety of products. Disposable syringes, for example, are likely held for less time than a spinal implant. However, the fact that the average DOH for medical products is still over the industry average DOH is meaningful.

The reasons for keeping so much stock on hand are complex. Having enough inventory to meet unanticipated surges in demand is better than running out, especially with high-value products like orthopedic and cosmetic implants. And demand in the medical device industry can be hard to predict. Many medical device companies offer consignment options to hospitals and clinics, where products are held until used. Multiple locations, and often multiple inventory management methods, complicate keeping track of products.

Overstock Consequences

Overstock can contribute to products becoming obsolete or expiring before use, often resulting in a financial loss for the company. In the unlikely event that a customer uses an expired product, they may run the risk of the product underperforming. Poor product performance can harm the reputation of the medical device company, costing current and future customer accounts. Figure 2 illustrates these consequences.

■ FIGURE 2. CONSEQUENCES OF OVERSTOCK FOR MEDICAL DEVICE COMPANIES.



When cash is tied up in the products gathering dust on warehouse shelves or clinic storage rooms, medical device manufacturers may be unable to invest in other important areas of growth, such as research and development. Overstock can prevent companies from maintaining the healthy cash flow necessary to increase revenue and grow.⁵ The costs of storing stock, like paying for warehouse space, security, staffing, insurance, and more can also add up.

How Inventory Management Systems Reduce Overstock

An inventory management system (IMS) generally describes an organization's method for tracking inventory. Technology-driven IMS platforms integrate hardware like Bluetooth and radio-frequency identification (RFID) tracking into inventory management software. This provides real-time product visibility throughout the supply chain, from purchasing to storage, sales, shipping, and consumption. For medical device companies, IMS provides control and mitigates risks through:

- Accurate product estimates
- Device tracking in case of a recall
- Single system for placing orders, managing stock, and making returns

Overstock is essentially a mismatch between product availability and customer demand. IMS can reduce overstock by addressing these two factors (Figure 3). The systems provide visibility by helping medical device manufacturers monitor which products are available and where each product is at all times, whether in warehousing, consignment, or transport.

IMS reporting and analytics provide needed insights into customer demand. Employees can use historical data from a tech-driven IMS platform to track trends and refine ordering and production. Understanding customer demand helps companies reduce the amount of stock they hold without compromising service and product availability.

■ FIGURE 3. HOW TECH-DRIVEN IMS REDUCE OVERSTOCK.



Ongoing, accurate inventory counts are key to anticipating demand. For example, if healthcare professionals at a cosmetic surgery clinic regularly forget to document breast implant use, the medical device company supplying the implants may predict declining demand and adjust product distribution accordingly. If products were instead equipped with Bluetooth tags and tracked through an IMS, the company would know exactly how many implants were used and make accurate demand predictions.

“Reliable demand forecasting starts with quality data. At the end of the day, your assumptions and planning are only as good as the accuracy of the data you have in front of you.”

— STEVEN CIEMCIOCH, PRESIDENT OF WAREHOUSE ANYWHERE

Benefits of Reducing Overstock

Reducing overstock has many financial benefits for medical device companies. Companies can cut the costs of storing excess inventory and lower the chances of products expiring or becoming obsolete. Importantly, a balanced inventory frees cash flow so that companies can invest in expanding their business through research and development initiatives, sales campaigns, and more.

Case Study: Cutting 63% of Overstock for a Medical Device Distributor via Accurate Forecasting

Researchers noticed that a medical device distributor often ordered the same number of products each month despite fluctuations in demand. The one exception to this practice was at the end of the year when the distributor ordered extra inventory in anticipation of a surge in government requests. Unfortunately, the rise in inventory resulted in overstock and product expiry.⁶

After testing several inventory management strategies, researchers found that regularly counting inventory through a fixed-time period model could help the company match orders to customer demand. Researchers calculated that more accurate forecasting could save 63% of the total overstock, resulting in \$717,133 (2021 dollars) of savings.⁵

IMS solutions offer the visibility medical device manufacturers and distributors need to accurately track trends in demand. Understanding customer demand helps companies manage stock accordingly, decreasing expiry and costly overstock.⁴

Case Study: Reducing DOH for a Medical Device Company

A medical device company struggled with excessive stock, high DOH, and obsolete products. The lack of control and oversight of its inventory affected its bottom line. A consulting agency analyzed the company's management process and identified several issues: disparate data sources limited inventory visibility, central data management was weak, and the initiatives to improve inventory management were unclear and siloed instead of spread across the company.

Consolidating the data into a robust, central platform could solve this problem. From this platform, the company could create forecasting models and manage inventory across departments. Overall, the agency found over \$1 billion in short- and long-term inventory reduction opportunities.

This example highlights the cost-saving potential of moving to a single, powerful data management platform. A tech-driven IMS like WA Solutions' system holds all inventory data on a single platform, enabling easy access to data for business insights.

Minimizing Understock to Improve Customer Satisfaction

Another dilemma medical device manufacturers face is understock—holding insufficient inventory to meet customer demand. Similarly to overstock, a major cause of understock is unpredictable market demands. Anticipating rising requests for specialty products is difficult, especially as doctors and surgeons often switch brand preferences, and the number of procedures completed each month can vary drastically.

In some circumstances, understock results from events outside medical device companies' control. Manufacturing delays from material unavailability, production facility closures, or supply chain disruptions can cause understock. Supply chain disruptions are increasingly common due to geopolitical and economic instability, labor disputes, and extreme weather events. For example, within the last five years in the United States, extreme weather, including wildfires and floods, has reduced and delayed shipments.⁸

Consequences of Understock

When inventory understock evolves into a medical device shortage, patients may become affected. This is especially critical when lifesaving products, such as ventilators and newborn breathing tubes, are unavailable. Patient safety is on the line when medical devices are completely unavailable. Although medical device shortages may be unavoidable, the medical community can improve its response by increasing awareness ahead of time and planning for contingencies.⁹

For medical device companies that sell implants, orthopedic devices, and other customizable products, stock must be available when procedures happen. If a product is understocked, a busy healthcare provider will turn to a competitor's product. This can lead to lost revenue and missed opportunities for recommendations from the provider.

How IMS Help Medical Device Companies Avoid Understock

In the case of understock, medical device companies can rely on a tech-driven IMS for redundancies. Many medical device companies that provide consignment products use a hub-and-spoke model, with a central warehouse that stores most products and sites with on-hand inventory (Figure 4). If stock is unavailable at one location, employees can quickly locate a backup using the IMS system.

■ FIGURE 4. STORING MEDICAL PRODUCTS IN MULTIPLE LOCATIONS HELPS PREVENT UNDERSTOCK.



Real-time visibility of product availability can counter understock situations and, in some cases, help companies avoid understock altogether. Accurate product traceability can also help the industry address product shortages. It is one of the pieces of a larger puzzle in preventing shortages from supply chain disruptions. In their recent book, *Building Resilience into the Nation's Medical Product Supply Chain*, the National Academies Press outlines this issue:

“Many of the measures needed to address the medical product shortage problem in the United States will require a dramatic increase in transparency at every step of the supply chain, particularly regarding sourcing, quality, volume, and capacity information. Insight into future demand could be improved through better management of internal operations such as sales and operations planning and demand forecasting.”⁶

— NATIONAL ACADEMIES PRESS, *BUILDING RESILIENCE INTO THE NATION'S MEDICAL PRODUCT SUPPLY CHAIN*

Medical device manufacturers and distributors can help mitigate device shortages by keeping precise inventory counts and using accurate, complete data for demand forecasting.

Case Study: Overcoming Frequent Backorders for a MedTech Company

When demand and supply misalign, backorders can occur. A MedTech company was dealing with frequent backorders, which frustrated customers and put their company at risk of not meeting agreements. A consulting agency found the problem was multifaceted but came down to a lack of transparency in inventory management. The agency created a demand response tool by tracking daily sales and inventory levels. Implementing the tool led to an almost 20% improvement in service levels and a 50% reduction in inventory.¹⁰

IMS can help medical device companies manage backorders by providing transparency into supply and demand. The systems track sales and inventory in near real-time, allowing companies to spot misalignment quickly and prevent or correct backorder situations.

Easing Sales Representatives' Inventory Management Workload

Many medical device sales representatives are trained in what makes their product unique and how to close sales, but not in inventory management. Still, they spend much of their workday tracking down products. WA Solutions studied how sales representatives from a medical technology company, which we'll call Company X, spent their working time. They found that sales representatives spent 30–40% of their time on inventory management tasks instead of traditional sales tasks.

“It impacts a company’s sales teams’ downtime,” says Ciemcioch, “Sales representatives are the face of their company and own the relationship with the clients. Although they are responsible for driving revenue and converting more accounts, they often spend a huge amount of time becoming inventory specialists.”

— NATIONAL ACADEMIES PRESS, BUILDING RESILIENCE INTO THE NATION’S MEDICAL PRODUCT SUPPLY CHAIN

Consignment Inventory Management Process

When sales representatives spend too much time managing inventory, the company is at a disadvantage. Medical device manufacturers lose the time that the sales representatives could be growing clientele. Inefficient inventory management also puts the billing cycle at risk. The consignment inventory management process is very complex—sales representatives must keep a running tally of what is available and billable alongside generating and monitoring the point-of-sale (POS) for used products (Figure 5).

■ FIGURE 5. MEDICAL DEVICE SALES REPRESENTATIVES MUST BALANCE INVENTORY MANAGEMENT TASKS.



Adding this process to the sales representative's workload slows the cash conversion cycle. If inventory accuracy is off, it can also lead to misbilling. This is when medical device companies do not replenish stock because they believe customers have not paid for used products. Whether in a clinic, hospital, or private practice, customers may turn to a competitor's products when their preferred products are unavailable. It's a miscommunication event that can lead to lost profits.

IMS Gives Sales Representatives Their Roles Back

Implementing an IMS with reliable, real-time tracking capabilities, like Bluetooth, relieves sales representatives of the burden of inventory management, freeing them to satisfy current accounts and pursue new ones. With real-time tracking in a single platform, sales representatives do not have to perform inventory counts, chase down products, or be deeply involved in inventory audits and stockout prevention (Table 1).

■ TABLE 1. HOW IMS IMPLEMENTATION POSITIVELY IMPACTS PEOPLE, PROCESSES, AND TECHNOLOGY.

	Before IMS Implementation	After IMS Implementation
People	Sales representatives spend 30-40% of their time on inventory management activities	Sales representatives spend minimal time on inventory management activities
	Call healthcare professionals to confirm product delivery, usage, or both delivery and usage	Track product movement clearly
Process	Conduct physical in-person cycle counts every quarter	Capture inventory counts in seconds when in-person or near real-time when leveraging a fixed gateway*
	Manually resolve cycle count discrepancies	Products are tagged with unique identifiers to track counts and resolve discrepancies automatically
Technology	Limited technology support for inventory management and minimum level of stock (MLS) activities	RFID tagging and reader technology scan inventory
		A single, integrative platform enables clear, up-to-date inventory visibility

*Gateway refers to the point where inventory enters an inventory management system. For systems that use hardware, this is where the product's barcode is scanned into the software.

Building Resilience for Withstanding Recalls

In 1982, Johnson & Johnson spent over \$100 million (\$260 million in 2025) recalling Tylenol bottles in stores and re-establishing their brand. This expensive example illustrates how much recalls can affect profits. In addition to the costs of removing products from shelves and rebuilding a reputation, recalls can also divert attention from research and development. Harvard researchers found that a recall can delay innovation by six months. Also, when competitors accelerate their product development in response to a similar product recall, they can gain an additional \$10 million in revenue.¹¹

Recalls cannot be avoided. For example, Johnson & Johnson could not have predicted that someone would add poison to their product. However, medical device manufacturers can put systems in place to help them respond to recalls and mitigate some of the consequences.

Companies can react quickly to recalls through systems that can track recalled products accurately. This is especially important in the case of consignment inventory, where products are spread throughout warehouses and medical facilities. With an IMS, companies can quickly locate recalled products and alert customers and patients. This reduces the danger of a customer using a product recalled due to issues with safety or function.

Case Study: Recalling Surgical Instrumentation Cutting Guides

During standard post-market surveillance of product complaints, the U.S. Food and Drug Administration (FDA) found potential problems with surgical instrumentation guides for knee replacement. The FDA found that the guides, created by medical device company Stryker, may not have been manufactured according to the right parameters and could affect how well a knee replacement functions.¹²

Stryker voluntarily recalled the product and recommended that patients contact surgeons with any concerns about their knee replacement. Using its inventory management system, the company could keep track of all of the recalled products ever sold, totaling 7,868 units distributed across the United States. Stryker sent recall information to each customer so they could take the appropriate action.¹³ Product traceability allowed Stryker to respond quickly to the FDA recall notice and prevent further damage.

How the Story Ends: Smarter Inventory Management for Massive Savings

What happened with the NHS trusts that the UK used as guinea pigs for testing an IMS system? Early results show more efficient and effective systems with average savings of:¹

- £700,417 (\$907,887) in write-offs
- £224,000 (\$290,351) in overstock with the potential for £2,182,575 (\$2,829,075) more
- 366.5 hours in efficiency

The challenges the NHS trusts faced are not unfamiliar to medical device companies - overstock, shortages, inaccurate reporting, and staff feeling burdened by inventory management duties outside their daily tasks. Like the NHS, medical device companies can improve inventory management to increase productivity, maintain a healthy balance of stock, and increase profits.

Implementing an IMS solution in the medical industry is no longer a question of whether or not to make the leap. Now, it's become a question of when to start.

Collaborating with WA Solutions for Medical Device Inventory Management

WA Solutions provides technological solutions to supply chain challenges. Our proprietary inventory management software, [WA360](#), is built off our company's history of streamlining trunk stock inventory management, case management, sourcing, shipment tracking, consignment management, and more.

WA360 combines software and hardware components for a comprehensive inventory management solution that helps our customers take control of their supply chain (Figure 6).

■ FIGURE 6. HOW WA360 HELPS MEDICAL DEVICE COMPANIES TAKE CONTROL OF INVENTORY MANAGEMENT.



Interested in learning more about WA360 or WA Solutions?

[Connect with an expert today.](#)

We're ready to talk through solutions to your unique inventory management needs.



References

1. Transforming NHS Inventory Management—A Blueprint for Success.” United Kingdom National Health Service Supply Chain, 21 Jan. 2025, <https://www.supplychain.nhs.uk/news-article/transforming-nhs-inventory-management-a-blueprint-for-success/>. Accessed 12 Mar. 2025.
2. Research and Markets. “Global Medical Inventory Management Software Market Report 2023-2028 – Rising Demand for Inventory Tracking Solutions from the Healthcare Industry Pushing the Market to Value \$30+ Billion by 2028.” Globe Newswire, 10 Jan. 2024, <https://www.globenewswire.com/news-release/2024/01/10/2807209/28124/en/Global-Medical-Inventory-Management-Software-Market-Report-2023-2028-Rising-Demand-for-Inventory-Tracking-Solutions-from-the-Healthcare-Industry-Pushing-the-Market-to-Value-30-Bill.html>. Accessed 12 Mar. 2025.
3. Dey, Arnav, Behnam, Mohammad, Sood, Priyank, and Siddarth Chinnareddy. “How MedTech Companies Can Create Value Via Inventory Optimization.” McKinsey & Company, 24 Jan. 2025, <https://www.mckinsey.com/industries/life-sciences/our-insights/how-medtech-companies-can-create-value-via-inventory-optimization>. Accessed 21 Feb. 2025.
4. “Inventory Turnover (Days)—Breakdown By Industry.” Ready Ratios, <https://www.readyratios.com/sec/ratio/inventory-turnover/>. Accessed 21 Feb. 2025.
5. Bradley, Stephen, D., and Meagan Robinson. “Inventory Optimization for MedTech.” Deloitte, 2024, <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-inventory-optimization-medtech-lshc.pdf>. Accessed 25 Feb. 2025.
6. Ajani, Andan and Adirizal Nizar. “Inventory Management and Cost Efficiency: A Case Study in Medical Devices Distributor.” International Journal of Research in Business and Social Science, 2021, vol. 10, no. 2, pp. 217-227.
7. National Academies of Sciences, Engineering, and Medicine; Board on Health Sciences Policy; Committee on Security of America’s Medical Product Supply Chain. “4 Causes and Consequences of Medical Product Supply Chain Failures.” Building Resilience into the Nation’s Medical Product Supply Chains. Edited by C Shore, L Brown, and WJ Hopp. National Academies Press (US), 2022.
8. Unglesbee, Ben. “Extreme Weather is 2024’s Top Supply Chain Risk: Everstream.” Supply Chain Dive, 11 Jan. 2024, <https://www.supplychaindive.com/news/extreme-weather--top-supply-chain-risk-2024-everstream-climate-change-food-shortages/704232/>. Accessed 6 Mar. 2025.
9. Tarver, Michelle. “Medical Device Supply Chain Vulnerabilities and the Public Health Impact They Have on Our Most Vulnerable Patients.” U.S. Food and Drug Administration, 16 Jan. 2025, <https://www.fda.gov/medical-devices/medical-devices-news-and-events/medical-device-supply-chain-vulnerabilities-and-public-health-impact-they-have-our-most-vulnerable>. Accessed 27 Feb. 2025.

References

10. "Higher Service Levels, Lower Inventory." Operational Velocity, <https://operationalvelocity.com/case-studies/higher-service-level-lower-inventory/>. Accessed 7 Mar. 2025.
11. Kost, Danielle. "The Hidden Cost of a Product Recall." Harvard Business School, 27 Feb. 2019, <https://www.library.hbs.edu/working-knowledge/the-hidden-cost-of-a-product-recall>. Accessed 6 Mar. 2025.
12. "FDA Classifies Voluntary ShapeMatch® Cutting Guides Recall as Class I Recall." Stryker, 10 Apr. 2013, <https://investors.stryker.com/press-releases/news-details/2013/FDA-Classifies-Voluntary-ShapeMatch-Cutting-Guides-Recall-as-Class-I-Recall/>. Accessed 11 Mar. 2025.
13. U.S. Food and Drug Administration. "Class 1 Device Recall ShapeMatch Cutting Guides." U.S. Department of Health & Human Services, 12 Apr. 2013, <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfRes/res.cfm?id=115791&utm>. Accessed 11 Mar. 2025.