WHITE PAPER

Why Is Healthcare Data So Difficult to Manage?

While healthcare isn't considered a "Big Data" industry when compared to businesses such as climate modeling, social media and genomic analytics, many would argue that the complexity of healthcare supply chain data, its lack of standardization and its constant churn presents an insurmountable task to most provider organizations.

Here we will explore the unique factors that make healthcare data difficult to manage, how these dynamics impact the accuracy and completeness of the item master, and the challenges that healthcare organizations face as they attempt to use item master data in their supply chain, clinical and financial operations.

Data Churn

The volume of healthcare data and its rate of change are overwhelming. Product data changes on a daily basis as suppliers introduce new products to the marketplace, discontinue old products, and conduct mergers and acquisitions under which product lines assume new parent companies, descriptions and part numbers. This is a particular challenge in the world of physician preference items (PPI) and implantable devices, where fierce competition spurs suppliers to constantly evolve their technology and introduce new designs. Pricing data is also in constant flux as a provider's contracts with suppliers and GPOs are activated, expire, renew and are renegotiated.

Consider the following:

- On average, changes are made each year to one-third of the 30 million plus medical-surgical products on the market in the U.S. (10 million changes each year)
- Each GPO is estimated to make as many as 30,000 changes to contract data each month
- Larger GPOs make more than one million changes to contract data each year

Lack of Data and Process Standardization

Discrepancies and errors in product data, including part numbers, descriptions and units of measure (UOM), are rampant throughout the healthcare supply chain. It's estimated that 40 percent of a provider's item master data is inaccurate, and that error rate jumps up to 80 percent when one factors in pricing discrepancies. Lack of data standardization and undefined processes around who is authorized to change item master data are two key drivers behind this high error rate.

Piecing Together the Puzzle

Today, most healthcare organizations rely on multiple third parties to provide data on products and pricing, including their suppliers, distributors and GPOs. Because there is no standardization of product data across the healthcare supply chain, each party identifies products in its own way. The provider is left to sort through the discrepant data, where they attempt to "match up" which product goes with which contract and at what price.

Even if a provider were to "clean up" its item master and connect all the pieces, there's virtually no way for a provider to manually keep up with the constant data churn within the industry. As a result, most providers' item masters contain extremely high volumes of inaccurate, discrepant and erroneous data. Even when contracts are being automated there are issues with the ability to cross reference manufacturer catalog numbers to distributor or other vendor catalog numbers for the same item, and pricing challenges continue because manufacturers and distributors often aren't current on contract prices. And if an item price does not show distributor mark-up, the item master price may not match.

THE PROMISE – AND POTENTIAL PROBLEMS – OF PRODUCT DATA STANDARDIZATION

The U.S. Food and Drug Administration's (FDA) Unique Device Identification (UDI) rule is driving product data standardization throughout the healthcare supply chain. It requires manufacturers of most Class I, II and III medical devices to assign unique identifiers to their products and apply the UDIs in both human and machine readable formats to their products at all packaging levels. Under the rule, manufacturers must also submit data on their products to the FDA's publicly accessible Global UDI Database (GUDID). The goal is to standardize identification of medical devices through distribution and use to improve adverse event reporting and better manage device recalls.

In addition, the Office of the National Coordinator (ONC) for Health IT and the Centers for Medicare & Medicaid Services (CMS) have issued final rules requiring UDIs be included in patients' electronic health records (EHRs).

While these regulations have prompted healthcare providers and suppliers to begin using UDIs within their systems and processes, the conversion to global data standards has not been a flip of a switch process. It requires trading partners to overcome an established infrastructure where organizations have long used discrepant data within disjointed business systems that are, in most cases, unable to "talk with one another."

Forward thinking healthcare organizations are now overcoming this challenge by using a solution that leverages their item master, PO history and contract data to feed into their EHRs product information that is most valuable for clinical, financial and operational performance, including UDIs and Healthcare Common Procedure Coding System (HCPCS) codes. Having a single source of accurate, complete and up-to-date data flowing through business and clinical systems can help drive data standardization both within healthcare organizations and out through their transactions with business partners.

The Shadow Supply Chain

While many provider organizations make attempts to "clean up" their item master data, the greater challenge lies in maintaining its integrity over time. When a provider has no protocols around who is authorized to purchase items and/or change or add item master data within its organization, it is nearly impossible for it to effectively manage its data and prevent the introduction of errors. Even if a healthcare organization puts processes and protocols in place to ensure that its supply chain team is taking every precaution to maintain item master data integrity, most must contend with the outside influence of what has been called the "shadow supply chain" — clinicians purchasing non-file items outside of the item master and often not on contract. And bad data drives bad purchasing decisions.

When item master data is missing and/or inaccurate, with non-standard descriptions, price variations and products not linked to contracts, clinicians often have trouble finding the products they need, driving more non-file spend. In many organizations, clinicians search for products within the item master but are unable to find them because they are using search terms that don't match up with product descriptions or the descriptions within the item master are vague or incomplete. This often drives clinicians to place "freeform" purchases, plugging into requisitions random item descriptions and prices pulled from the Internet, a phone call with a supplier or from a previous purchase of the same product. As a result of these purchases, healthcare organizations lose not only control over and visibility into what has been purchased but also significant dollars due to off-contract purchases and overpayments.

Third Party Interactions

While distributors and GPOs play key roles in the healthcare supply chain, they can muddy the waters when it comes to a provider's master data management strategy. When purchasing through a distributor, a healthcare provider does not have clear visibility into which supplier's products it is purchasing. A distributor's reports typically provide a high level view of products purchased through distribution, including purchases by device category, but it doesn't provide the granular level of detail required for in-depth spend and outcomes analysis.

A provider can request spend by supplier data from its distributor, including the manufacturer part numbers, but matching these purchases up to the data in its item master is no simple task, particularly when the provider and distributor are using different product identifiers and descriptions.

Distributors too must manage the constant churn of product and price data, so the data they offer providers is unlikely to align with what the provider has in its item file. This failure to reconcile and integrate the data often leaves providers with a major hole in their purchase histories. It's like reading a book that's missing 30 percent of its pages; there's no way to get the whole story. Providers are left making assumptions about their purchases through distribution, which in many cases are incorrect.

Similar challenges are faced when analyzing contract spend. Those with data integrity issues must often rely on their GPOs to provide them with spend data, including spend by individual manufacturer. As with distributors, GPOs are functioning with their own identifiers and systems because of limited standardization or synchronization in healthcare. As a result, providers face an uphill battle matching up the data in their GPO reports to their purchase histories. With various pieces of their supply spend puzzle in different systems and formats, manual integration and normalization is a time and labor-intensive task most provider organizations cannot afford to undertake.

Lack of Resources and Technology Limitations

Even the most well-staffed and technologically equipped organizations face an uphill battle managing this ever-shifting data, manipulated and owned by multiple parties with no standardization or integration. And in today's economic climate, in which healthcare providers are forced to do more with less, most do not have the internal resources necessary to manually clean up their item masters, let alone maintain them moving forward.

Like everywhere in the hospital, materials management professionals are performing multiple jobs. When tasked with sending out hundreds — if not thousands — of purchase orders (POs) to suppliers, most buyers do not have the time to ensure every product description is accurate or comprehensive, which only leads to further issues on the back end when the supplier cannot process the PO or the invoice data doesn't match. If the materials management team within an organization finds the time to update their item master with new products and pricing, correct inaccurate data and delete erroneous information, it's unlikely the individuals assigned to this task have the data management or information technology background required to perform the analysis and integration it entails. Even if someone with the appropriate knowledge and expertise was assigned to this task, the effort would likely break the bounds of a 40-hour work week.

Technology limitations present another challenge to healthcare providers as they attempt to take control of their item master data. While most materials management information systems (MMIS) enable an organization to effectively generate POs and document supply receipt, many do not have the capabilities to provide comprehensive purchasing activity reports.

Most organizations know their item masters contain irrelevant products, such as those they no longer purchase or have been discontinued. But often they are unable to leverage their MMIS to compile a comprehensive and accurate purchase history to evaluate their items and pare down the list. As a result, they are left to manage tremendous volumes of data that are irrelevant to their organization.

The item master has been described as the center of a healthcare organization's universe because its content drives not only supply chain processes but a broad range of clinical and financial functions as well. But ensuring the accuracy and completeness of the item master using manual processes is impossible given the sheer volume of data, constant change, lack of standardization and multiple stakeholders involved in data generation and use.

To address these challenges, organizations are implementing holistic master data management strategies featuring synchronization, integration and automation to clean up their item masters and maintain their integrity over time. In doing so, they have discovered how good item data can drive better financial and operational performance.

You can read these stories in the GHX white paper entitled **Good Data Can Drive Financial and Operational Performance**.

About GHX

Global Healthcare Exchange, LLC (GHX) is a healthcare business and data automation company, empowering healthcare organizations to enable better patient care and maximize industry savings using its world-class cloud-based supply chain technology platform. GHX brings together healthcare providers, manufacturers and distributors in North America, and Europe, who rely on proven healthcare-focused technology and comprehensive data to automate business processes and make more informed, timely and fact-based decisions. Solutions span procurement and accounts payable automation, contract and inventory management, vendor credentialing and management, business intelligence, payment management and other supply chain-related tools and services. For more information, visit **www.ghx.com** and **The Healthcare Hub**.