Why the Item Master Is the Center of Your Universe: Driving Operational and Financial Performance Through Data Integrity

A GHX White Paper for Healthcare Supply Chain Professionals
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Introduction

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. Accurate and updated product descriptions and pricing facilitate purchasing accuracy, contract compliance and revenue capture. A credible and functional item master also contributes to better patient care, from enabling accurate and timely orders so that clinicians have the right products when they need them, to documenting detailed product information that can be used to help facilitate recalls.

Errors in item master data have far-reaching impacts on the operational and financial performance of an organization, from overpayments resulting from contract price discrepancies to lost revenue from missed reimbursements. At a time when providers are striving to improve efficiency and reduce operating expenses, they can’t afford the implications of bad data. Healthcare reform will place even greater pressure on providers to improve their product data accuracy as they strive to understand the role that products play in delivering accountable patient care.

While the item master should be the single source of truth for product and pricing data, most provider organizations struggle with inaccurate, outdated and erroneous information. One key reason is the overwhelming volume of healthcare data and the rate of change. On average, changes are made each year to one-third of the 30 million plus medical-surgical products on the market in the United States (that’s 10 million changes each year). Furthermore, each group purchasing organization (GPO) is estimated to make as many as 30,000 changes to contract data each month. Even the most well-staffed and technologically equipped provider organizations face an insurmountable task managing this continuous data churn. Other contributing factors to bad item master data include technology limitations of MMIS and ERP systems, combined with issues related to integration of various disparate systems, discrepant data sources, non-standardized processes and lack of data management ownership.

“Provider organizations are often afraid to address this issue because it’s a huge undertaking and they fear it will be disruptive to their business,” said David Walsh, administrative director, Supply Chain, Saint Francis Hospital and Medical Center. “But taking control of your item master is one of the most important initiatives a hospital can undertake because it’s the super glue that holds everything together.”

A growing number of healthcare organizations are getting down to the root of these issues and implementing a master data management strategy aimed at not only cleaning up their item masters but also maintaining its integrity over time through data synchronization and automation. This paper will explore:

• The drivers of bad data in healthcare
• Ways in which good data can drive greater financial and operational performance

• A roadmap to a successful master data management strategy, featuring best practices from provider organizations that have derived significant benefits from this approach
• How credible item master data provides the foundation for further supply chain improvements
Why Is Data Management in Healthcare So Challenging?

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.

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

The Promise – and Potential Problems – of Product Data Standardization

While efforts are underway to standardize product identification within the healthcare industry, with suppliers beginning to enumerate their products with unique identifiers and share them with providers and other trading partners, momentum to standardize healthcare data has been slow to build on both sides of the supply chain. But with initiatives such as the FDA’s Unique Device Identification (UDI) system on the horizon, under which suppliers must assign unique identifiers to their devices and apply the UDIs to all levels of packaging down to the lowest unit of use, data standardization will soon become the new reality.

Unique device identification of healthcare products holds tremendous promise in helping healthcare providers standardize product descriptions within their item masters and synchronize this data with their suppliers, GPOs and distributors so all parties are identifying products in the same way. The challenge lies in the transition from the current state – where product standardization is virtually nonexistent – to the future state where all trading partners will use standard identifiers within their internal systems and in their business transactions with one another.

With thousands of healthcare trading partners currently using their own discrepant data within systems that are, in most cases, unable to “talk with one another,” the conversion to global data standards within the healthcare supply chain will not be a flip of a switch process. There will be vast periods of time – likely years – where different trading partners will be at different stages of the adoption process, with some capable of transacting with standardized data and others still using proprietary product identifiers in their business transactions.

In this interim period, healthcare providers will likely have to store and use multiple product identifiers within their systems, with manufacturer part numbers sitting side-by-side with the new standards. Linking the new identifiers to existing products within an item master will be a tremendous challenge for all, but it will likely be an insurmountable task for those providers with item masters that contain discrepant, erroneous or incomplete data.
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 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 will 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 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.

Providers face similar challenges when analyzing their 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
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.

Benefits of a Master Data Management Strategy

To overcome these issues, a growing number of healthcare organizations are implementing master data management strategies based on synchronization, integration and automation. By cleaning up their item masters and maintaining their integrity over time, provider facilities are turning previously “bad data” into business critical information that can drive greater financial and operational performance.

Centralize and Streamline Data and Processes

A holistic approach to master data management enables a healthcare organization to centralize its purchasing information in a single location – the item master. By synchronizing its item master with trading partners to cleanse its data and leveraging automation to keep it accurate and up-to-date, a healthcare organization can streamline processes and significantly reduce administrative tasks. Materials management staff members can spend less time manually entering and updating product data, correcting errors and resolving discrepancies, and more time on value-added activities for their organization.

Many organizations have turned to cloud-based virtual item masters fed by industry-derived product data to centralize and automate their supply chain data and processes. With a solution in place that manages the vast volume of industry data churn and provides only relevant product information, an organization can free up its resources from data updates, corrections and maintenance and reallocate them to more value-added activities, such as contract optimization and value analysis.

Before implementing a virtual item master, the supply chain team at Avera Health (a five hospital integrated delivery network) had to manually maintain product and pricing data within its five separate item master databases for its regional hospitals. Each time there was a change to a product used by multiple facilities, whether it be a change to the product description or contract price, the team had to manually update the data in each of the hospital’s item masters. With the tremendous rate of change within the industry, Avera Health was fighting a losing battle.

According to Ryan M. Schaefer, MBA, Avera Health’s manager of MMIS, Supply Chain, adopting a cloud-based solution for item master data management has enabled the healthcare system to standardize data across its five item masters for greater accuracy and process efficiency.

“We’ve probably made 250,000 changes within our five different item masters over the past year and the buyers would have had to make those changes manually while placing orders or after the fact when dealing with exceptions if we didn’t have this new global approach to data management,” said Schaefer. “Through automation, we receive suggestions of product or catalog number changes relevant to our organization, review the changes and then quickly approve those items and have them scripted back into our system so that all five item masters are updated efficiently and effectively. We are exploring the possibility of doing a similar process for pricing on our contracted items.”

The establishment of a single source of truth for purchasing data has far reaching implications in terms of data accuracy and process efficiency. By integrating the item master with other business systems, such as those used for clinical and financial functions, an organization can boost productivity across the board by minimizing manual data entry in clinical areas (e.g. operating room, Cath Lab), accounts payable (AP) and billing.

Take Control and Gain Visibility

With clean and accurate product and purchasing data housed in a single location, a healthcare organization has complete visibility into what it is purchasing, from which suppliers and at what prices. Tremendous benefits can be derived from immediate access to this information. An organization can rein in rogue, off-file/off-contract purchases and drive greater on-contract spend.

“In today’s healthcare market where the business decisions we make are critical and every penny counts we can’t be making decisions based on junk data,” said David Walsh, administrative director, Supply Chain, Saint Francis Hospital and Medical Center. “We’ve strengthened our organization’s data integrity by creating and maintaining our item master as our single source of truth that feeds everything else.”

Saint Francis Hospital and Medical Center has derived significant operational and financial benefits from its master data management strategy, which leverages a virtual item master for data cleansing, standardization and synchronization, as well as contract integration for pricing accuracy. The organization has also performed an internal systems integration so that its item master feeds data to its clinical and business systems, including its charge master.
Case in Point: Saint Francis Hospital and Medical Center

When David Walsh and his team at Saint Francis Hospital and Medical Center took a hard look at their item master data in July 2012, this is what they found:

- 77K+ items in the item master, 79% had not been purchased in previous 18 months
- 24% non-file spend ($33M)
- Could only match 18.9% of items to contracts
- Inaccurate pricing, 12% + overpayment
- Missing/inaccurate MFR info for 3K+ items
- Nonstandard descriptions: 3,885 unique first words
- 27% price variation: 4,223 items ordered with two or more prices
- Ongoing product and price changes, 30-40% annually

Saint Francis Hospital and Medical Center Today

By leveraging a virtual item master that provides data and process automation, integration and synchronization, Saint Francis Hospital and Medical Center has:

- Cut item master down from 88K to 18K items
- Decreased non-file spend by 87% (from $33M to $4.3M)
- Reduced number of non-file items purchased over 12 months by 68% (from 52,338 to 16,607 items)
- Decreased off-contract spend by 3.3% resulting in recognized GPO contracts activated
- First word NOUN reduction of 67% (from 2,759 to 909)

Gaining Value from UNSPSC

Assigning United Nations Standard Products and Services Codes® (UNSPSC®) to products within the item master makes the data even more powerful. Organizations that have taken the step to identify products using this industry standard can analyze their spend by product type, class or category and determine which vendors they are purchasing from within each category. With this knowledge in hand, an organization can standardize purchases and better align with contracts. Value analysis teams can also use this information to compare product performance and pricing across specific categories.

As part of NYC Health and Hospitals Corporation’s (HHC) master data management strategy, the organization’s director of Procurement Systems and Operations Franco Sagliocca, MBA, FACHE, and his team are leveraging UNSPSC codes to evaluate their purchases and standardize products for greater organization-wide savings.

“"The true value comes from making the jump from data to information,” said Sagliocca. “When you start to categorize items, you can get to that low hanging fruit, those less emotional products where you are less likely to encounter clinician resistance to change.”

The Supply Chain teams at HHC, Saint Francis Hospital and Medical Center and Aurora Health Care, Inc. (AHC) have tied their organizations general ledger account codes to product UNSPSC to facilitate more accurate financial analysis and budget planning. When a team member adds a new product to the item master, the MMIS system references a table and automatically assigns the item the appropriate general ledger code.

“"Tying our general ledger account codes to product UNSPSC has enabled us to clean up all of the account buckets for finance and budgeting,” said David Orlovsky, director of Supply Chain Data and Technology for AHC. “Prior to this there were 20-25 caregivers adding items and entering what they thought the general ledger code should be and it was never questioned. Through process standardization and automation we’ve removed that human factor and in doing so can now leverage accurate data for forecasting and planning.”

Drive Greater Savings and Revenues

Item master data accuracy and visibility into purchases enable a healthcare organization to secure savings and drive revenues in a number of ways. Having complete and accurate information on items that are tied back to GPO and supplier contracts helps ensure organizations are paying the correct price for products and reduce overpayments to derive hard dollar savings. Furthermore, the ability to view the percentage of supply spend by manufacturer enables an organization achieve even greater savings by redirecting spend to specific manufacturers so that it can achieve required spend or tier levels.

AHC is leveraging a solution that integrates its GPO contract data with its item master and provides continuous contract pricing updates so the organization is always using up-to-date pricing in its transactions and reporting. As a result, the organization has cut invoice discrepancies for contracted items by more than half over the course of six months, from just under $1.7 million in discrepant invoices in October 2012 to just under $700,000 in March 2013.

“We’ve seen a huge decrease in discrepant invoicing lines. It’s the lowest it’s been in years,” said Orlovsky. “Individuals throughout our health system have told me they’ve noticed the difference and that contract pricing is far more aligned than it was in the past.”

Leveraging HCPCS Codes for Accurate Reimbursements

Visibility into item master data can also facilitate more accurate reimbursements. Level II of the Healthcare Common Procedure Coding System (HCPCS) plays a key role in enabling an organization to be reimbursed appropriately for products used in procedures. But in many cases, products within the item master have not been assigned these codes, leaving an organization’s
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billing department with the challenge of determining the item types. If items are assigned the wrong HCPCS codes during the billing process, the organization might not receive adequate reimbursement for those items.

By assigning HCPCS codes to products within its item master, integrating its item master with its charge master and/or providing users with easy access to detailed product descriptions, an organization can drive greater accuracy in the billing process and in turn, ensure it is receiving adequate reimbursement from the Centers for Medicare & Medicaid Services and other payers.

Evaluate Product Performance
As healthcare organizations struggle to do more with less, they are turning a more critical eye toward their purchasing decisions. Value analysis teams play a central role in ensuring that organizations derive the greatest value from their product purchases – in terms of both price and patient outcomes. Having complete and accurate product data within the item master facilitates this effort.

“Sometimes you do the analysis and realize you’re paying more for an item but determine that it’s the right thing to do, perhaps for safety reasons,” said Sagliocca. “At the end of the day, you need to know what you’re buying, who you’re buying it from and at what price point so that you can make these comparisons.”

Sagliocca explains how a facility can take this information to the next level and leverage it for personnel hiring decisions as well.

“Let’s say a facility considers bringing on a new surgeon who will only use a specific manufacturer’s implants,” said Sagliocca. “With visibility into its item master, the facility can quickly determine if it currently has a contract for those requested items and then use this information to evaluate the expense of this new surgeon versus the anticipated revenue that he/she will generate. The facility can also compare the current standard product being used to what the surgeon prefers.”

Roadmap for a Successful Master Data Management Strategy
Many healthcare organizations would like to implement a master data management strategy to clean up their item masters, gain visibility into their purchase history and take control of future purchases but don’t know where to start. In this section, we provide a roadmap to a successful master data management strategy, featuring best practices from provider organizations that have derived significant benefits from this approach.

Performing a Reality Check
Most healthcare organizations know they have problems with their item masters that result in revenue leakage but are unable to pinpoint and address the specific issues. By taking the following steps, an organization can uncover its current challenges and set a path forward for improvements.

• Analyze Item Master Data Relevancy: Determine what percentage of the item master is irrelevant by comparing it with purchase history for the past 18 months. Items that have not been purchased during this time frame should be deactivated so that users are only accessing products relevant to the organization.

• Analyze Item Master Data Consistency: Pinpoint discrepancies in product descriptions and price. Non-standard descriptions and price variation contribute to off-contract purchases and overpayments.

• Analyze Item Master Data Completeness: Identify items that are missing information or contain inaccurate information, including manufacturer descriptions and contract pricing. Determine which non-file items should be added to the item master.

• Analyze Item Master Data Categorization: Ensure products in the item master are assigned the correct UNSPSC codes and identify where UNSPSC codes are missing.

Gaining Internal Acceptance for Change
Because the item master touches so many areas of an organization – and so many people and departments touch it – it’s crucial to gain buy-in from clinicians and non-clinicians that interact with this data source before making changes to the processes and data. Those organizations launching master data management strategies often find some individuals and groups within their organizations are receptive to change while others are not. In Sagliocca’s experience, much of it depends on the maturity of the organization’s supply chain.

“The supply chain team must get to the point where clinicians respect and trust what they are doing,” said Sagliocca. “You’ve got to keep the dialogue going and build clinician relationships. The OR is a particularly hard area to standardize products because of physician preference items. It helps if you have C-suite support to back your decisions. Nirvana is when the caregiver can blindly reach behind his/her back and grab the required product off the shelf.”

Walsh agrees that interaction and communication between supply chain and other departments within a healthcare organization is critical to successful supply chain improvements. He notes that supply chain team members must “have a seat at the table” when executive meetings take place in surgical services, information technology, central...
supply, central sterile and other functional areas the supply chain impacts.

“We’ve got to open their eyes to what we in supply chain do and the challenges we face,” said Walsh. “When making improvements, including changes to the item master, we in supply chain need to convince clinicians and others that we’re not doing these things for us but for them. By minimizing the time it takes for clinicians to source the right items at the right times, supply chain can have a direct impact on patient safety and quality of care.”

Overcoming Technology and Resource Limitations
Most healthcare organizations don’t have the necessary staff and technology resources to embark on a master data management strategy on their own – and even those that do typically recognize it is more efficient and often more cost-effective to engage with a third party that has comprehensive knowledge and experience in this area.

“When I joined St. Francis I quickly realized there was something very wrong with the item master and processes around it,” said Walsh. “After investigating the issues I realized the problem was bigger than I had initially thought and not something we could fix ourselves.”

Data Cleansing and Normalization
Once a healthcare facility or system has an item master that contains product data relevant to its organization, the next step is to put that data through a cleansing and enrichment process to correct inaccurate information and add missing information, such as manufacturer item numbers and units of measure (UOM).

The cleansing and normalizing process is tough but once it’s there it’s there,” said Sagliocca. “Sometimes you just have to take those Pac-Man bites, approach the item master one piece at a time and start to work through it. Depending on the size of your organization and your item master, your approach could be different.”

One way a healthcare organization can ensure it is populating its item master with only the most relevant and up-to-date information is to use a solution that sources this data from the manufacturers and GPOs themselves. Equally important is a solution that assigns UNSPSC codes and other industry standards to the data during the cleansing and enrichment process to facilitate product categorization for supply spend evaluation and drive accuracy in the reimbursement process.

“When doing an RFP or evaluating our pricing we used to have to go through our item master vendor by vendor to determine which products we were purchasing,” said Walsh. “Today we can just pull the categories using the UNSPSC. It’s so much easier and now that we’ve mapped the item master to the charge master, everything is aligned, standardized and streamlined throughout.”

Driving Standardization and Formulary
Standardizing product descriptions and attributes within an item master streamlines processes and improves purchasing accuracy by enabling users to quickly find the items they would like to purchase and reducing the chance they will make off-file, off-contract purchases. Gathering product data directly from its source – the manufacturers – enables an organization to populate its item master with accurate and up-to-date information.

Clinician Involvement is Critical
Many MMIS and ERP systems have a 30-character limit on product descriptions, which presents a significant challenge to organizations as they work to provide meaningful and searchable descriptions derived from manufacturer data. It’s critical the supply chain team keep clinicians in mind when developing these descriptions. Furthermore, an organization must take into consideration the product attributes clinicians need for each item. For example, a clinician will need to know whether an exam glove is latex-free or contains latex or if a bone screw is for a knee or a hip.

The importance of clinician involvement in the development of product descriptions was a hard lesson learned for the supply chain team at AHC.

“The first set of descriptions we developed was so abbreviated the clinical staff was in an uproar, with some clinicians were literally in tears because they couldn’t find what they were looking for within the item master,” said Orlovsky. “We had limited communication with clinical staff in the beginning but soon came to realize it’s a critical element when enacting change within the supply chain.”

Learning from this experience, Orlovsky and his team enlisted a wide variety of staff from across the healthcare system for input on the new descriptions. They pared down the number of abbreviations from 20,000 to 11,000 and incorporated more detailed descriptions based on clinical staff input.

“This has made a huge impact on our caregivers in terms of item master usability,” said Orlovsky. “If a clinician now tells us they can’t understand an abbreviation, we review the issue and tweak the product description when deemed necessary. Communication really is critical.”

A third party partner with direct ties to industry-supplied data
and experience in developing usable descriptions and attributes within the confines of today’s MMIS and ERP systems can help an organization overcome these issues. Furthermore, solutions exist that enable users to “punch out” from their item master into the cloud so they can access full product descriptions and other information to help guide educated purchasing decisions.

**Contract Compliance and Optimization**

While incorporating and maintaining accurate product data within one’s item master is a critical step in gaining visibility, driving purchasing accuracy and recapturing revenue, without contract integration an organization is missing out on a significant opportunity for savings. Integration with GPO and supplier contracts for accurate and up-to-date pricing is crucial to any master data management strategy. With visibility into contract spend, an organization can make educated purchasing decisions to boost contract compliance and optimize contract performance.

Using a virtual item master that receives automated feeds of new contract pricing data has enabled Avera Health to gain global visibility of its contracts across all five of its facilities. The organization is now performing more of its contracting at the IDN level so that it can secure the best pricing for products used in multiple regions.

“As we negotiate contracts at the IDN level, everybody is level set so we are getting the same price across our healthcare system versus different contracts and price points for the same product,” said Schaefer.

At HHC, which is a city-owned healthcare organization, all products must be purchased on-contract so contract compliance is critical, according to Sagliocca. If someone attempts to purchase an item that’s not on contract, they have to, in Sagliocca’s words, “jump through hoops” to buy the item. As a further safeguard, Sagliocca and his team generate reports that include both stock and non-stock purchases so they can maintain tight control over HHC’s supply spend.

**Distributor Cross-References**

With a large percentage of healthcare supply purchases made through distribution, organizations must have the ability to cross-reference distributor product data with manufacturer product data in order to gain visibility into their overall supply purchases. While an organization can attempt to match up products from its distributor’s catalog with its individual supplier catalogs, it’s likely to face an uphill battle because distributors too face challenges in managing data churn and their data doesn’t always align to manufacturers’ current catalog data. An alternative is for the healthcare organization to engage with a third party partner that can cross-reference the data on their behalf and provide the reconciled data for incorporation into the item master.

**Integration with Clinical and Business Systems**

An organization can make the most of its clean and accurate item master data by integrating its item master with clinical and business systems to feed other functions and processes. Facilitating the flow of clean and synchronized data minimizes the need for manual data entry – and the risk for human error.

At AHC, the supply chain team has embarked on a comprehensive integration effort where it is leveraging a virtual item master that continuously cleanses and conditions its product and pricing data and uses this data to feed multiple, integrated systems throughout the organization. AHC has linked its electronic medical record (EMR) system with its materials system so that its item master is feeding product data to procedural areas (OR, Cardiac Cath Labs, Interventional Radiology and GI), into the EMR and all the way through to the charge master. As patient bills are processed, these integrated systems deplete products from AHC’s inventory.

**Ongoing Maintenance and Management**

An organization can make the most of its clean and accurate item master data cleansing but with the rate of data churn within the healthcare industry its data will likely contain inaccuracies within days or even hours of the clean up. A successful master data management strategy must incorporate a plan and processes for ongoing data maintenance. An automated solution that pushes relevant product and pricing updates to an organization, rather than requiring the organization to seek out this information, enables it to manage data churn with minimal effort.

Sagliocca points out that while automation can free up staff resources from manual data entry and other administrative tasks, technology alone is not the answer. A healthcare organization needs a knowledgeable team of supply chain professionals to manage its item master processes, systems and data. In his experience, a typical healthcare organization needs between three and five people to manage its item master, with two people allocated to input, verification, training and documentation, one to manage the technology and systems, and another to serve as the team lead/supervisor.

“There’s savings to be had in automation but you can’t just put a system in place and expect it to manage itself,” said Sagliocca. “You need qualified staff to verify that what you’re putting into the item master is correct and to keep the data clean. It’s not about throwing the data into a repository and just waving a magic wand over it. Valuable data takes time – and talent - to build:”
Establishing Standardized Processes and Procedures

While technology can go a long way in helping an organization clean up its item master and maintain its accuracy overtime, the human factor is critical. Those organizations that have been most successful in transforming their item masters are those that have put standardized processes and procedures into place to guide purchasing decisions, limit off-contract purchases and protect item master data integrity.

The solution for Walsh and his team at St. Francis was to restrict access to their organization’s item master. Today, if someone wants to add a product to the item master, he/she must complete a standard request form that is evaluated by Walsh or a member of his team. If they determine that the product has not undergone the value analysis process, they go to the requester and instruct them on how to submit the product for review by the value analysis committee.

AHC has taken a similar approach. Before implementing a master data management strategy, there were between 20 and 25 caregivers manipulating data within the healthcare organization’s item master, according to Orlovsky. Today, only the four members of the organization’s Data Integrity Team are permitted to make changes within the item master. Orlovsky drew upon his experience in the manufacturing industry to establish structured teams, define solid roles and responsibilities and institute standard workflows.

“One of the greatest challenges was getting our arms around the entire process,” said Orlovsky. “It’s been a revamp from scratch to clean up everything. While it’s important to automate as much as you can, you must consider the human factors and ensure that supply chain staff and clinicians are aligned with your overall goals.”

Schaefer and his team at Avera Health are currently establishing policies and procedures to protect the integrity of the organization’s item master data. He notes there is “no silver bullet” and that each organization must figure out “the right way to do it” based on the state of its current processes and its plans for the future.

“It’s an overwhelming and daunting task to get a handle on 20 years of change within an item master. We are right in the middle of that right now. I don’t have all of the answers because I’m learning a lot as I work through the process.”

Reporting and Measurement

Item master data is meaningless unless an organization can leverage it to make better business decisions. To gain the most from a master data management strategy, an organization must put into place reporting and measurement capabilities that enable it to delve deep into its purchase history to derive meaningful and usable information.

Prior to implementing its master data management strategy, the team at Avera Health struggled to make sense of their purchasing data. With five separate item masters, Schaefer and his team had to run five separate data mining reports and then attempt to pool the data together. Implementing a virtual item master has provided the team a comprehensive view of the items they are purchasing.

“We can now easily roll up the data from our five facilities and then slice and dice it further than ever before for accurate, useful and meaningful reporting,” said Schaefer. “It really hits home when you can determine how you are sourcing that product, where you are sourcing it from and whether you are sourcing it at the correct price. That’s powerful information that can be used to impact the bottom line.”

Access to comprehensive reports derived from credible item master data has benefitted HHC as well, enabling the organization to improve its planning and budgeting efforts.

“Transparency to past purchases helps me better determine what I’ll need tomorrow and what the cost of change is,” said Sagliocca.

A Foundation for Further Improvements

Many healthcare organizations are finding that an accurate, synchronized and integrated item master serves as the foundation for further supply chain improvements.

Aurora Health Care: ERP Conversion

Aurora Health Care (AHC) currently has in place a “home-grown” MMIS system that has restricted the organization’s master data management strategy. Most notably, the system cannot support non-file purchases so staff must assign item numbers to every product, service and repair contained within a purchase order. As a result, AHC’s item master is enormous – well over 340,000 items – and the supply chain team adds nearly 400 brand new items to it each week.

By automating, integrating and standardizing item master data, systems and processes, AHC has set the stage for a possible conversion to a new ERP system that will provide the capabilities the organization needs to streamline its item master data. According to Orlovsky, while the health system has approximately 135,000 medical-surgical items within its current item master, the data is accurate and complete thanks to its master data management strategy.
“We know that we’ll be moving good clean data into our brand new system,” said Orlovsky.

**Avera Health: Item Master Consolidation**

Schaefer and his team at Avera Health are using its master data management strategy as a steppingstone to consolidating its five separate item masters. He notes that it is part of a broader, organization-wide strategy to consolidate the healthcare system’s operations and finances.

“Like most healthcare organizations, we must gain the efficiencies of operating as a true IDN if we are to survive as an organization going forward,” said Schaefer. “We are currently determining the best way to roll our separate item masters into one and the pre-work that we’ve done in terms of item master cleansing and standardization will make that transition much easier.”

**Saint Francis Hospital and Medical Center: Just in Time Inventory**

In an effort to reduce inventory levels, and associated costs, Saint Francis Hospital and Medical Center is moving to a Just in Time Inventory (JIT) model. According to Walsh, the organization will use its transformed item master to feed its new inventory system, leveraging its data integrity to achieve better inventory management.

“If your item master is built solid, it can become the foundation for countless improvements,” said Walsh. “Because we have confidence in our data, we can take it one step further to gain efficiencies and cut costs throughout our organization.”

**HHC: Supporting Further Change**

Supply chain transparency at HHC has increased exponentially based on efforts to better utilize technology. However giving its size, change management has not necessarily kept in step with the technology. To support expediting change, the HHC supply chain team has worked to utilize invoiced line data by vendor to build out the item master. At a minimum this will help provide data, which in turn can be used for directional reporting to further data cleansing, standardization and improved contracting.