According to most studies\(^1\), supply costs account for more than one-third of the average operating budget for healthcare providers, and are one of their largest expense categories (second only to labor). With skyrocketing costs and diminishing reimbursement, many providers have come to view their supply chain as a drain to be managed with targeted cost-reduction initiatives. However, supply chain management is about much more than finding the cheapest products and/or supplier.

Nearly 80 percent of hospital CEOs and CFOs recognize that supply chain management impacts key healthcare provider concerns including profitability, patient safety, physician relations, and nurse satisfaction\(^2\). When something has this kind of impact on an organization, it’s not a drain—it’s a driver. And how you manage that driver is one of the most important indicators of performance.

**Data-Driven Industries**

Numerous industries like Grocery, Retail, and Consumer Packaged Goods (CPG) have long understood the “make or break” connection between supply chain and performance, and the essential role that supply chain operations play in their success or failure. They are data-driven industries that use data to fuel operational efficiencies and process improvements. As such, they understand the fundamental importance of standards, and the ripple effect of benefits they get from implementing standards across their systems. Capturing these benefits is mission-critical for healthcare providers at this crossroad—and they need to create a new culture around their supply chain operations to do it.

**GS1 US**

For over 40 years, GS1 US has been helping companies to adopt and implement GS1 Standards. By becoming a member of GS1 Healthcare US, you’ll be better positioned to:

- Identify the regulatory and industry changes driving the adoption of data standards
- Understand the impact of these changes on your organization
- Act to leverage these changes to the benefit of your organization and the industry
- Validate with your industry peers on the application of the data standard

**Transforming Delivery Systems**

In order to become data-driven organizations, healthcare providers need to leverage information technologies. In the past, lack of standards across healthcare has been a major roadblock. However, numerous governmental and industry initiatives pursuing the adoption of supply chain standards and the implementation of those standards across health IT systems are giving providers the opportunity to do just that.
Understanding the Opportunity

Provider systems (e.g., supply chain systems, clinical systems, billing/claims, reporting, etc.) have each traditionally used their own identifiers and data formats, which breaks the connection between those systems. Breaking their connection inhibits the collective use of those systems to support operational and clinical processes. Moreover, it creates a high-maintenance, error-prone environment that adds complexity, inaccuracy, and cost.

Using the same standardized identifier across provider systems maintains their connection. It enables systems to be used collectively to enhance the quality and amount of data available to support operational and clinical processes. Moreover, it supports automated connections between and among systems to push/pull/view more data, automate business process, support analytics and reporting, etc. These capabilities and the associated benefits are why standards are such an integral part of data-driven industries like those described above, and why initiatives to adopt standards and implement them across health IT systems present such a tremendous opportunity for healthcare providers:

- Cost reduction through increased supply chain efficiency
  - reduce discrepancies in the ordering process to create a sustainable, reliable ordering system
  - avoid purchases of the wrong product, which lead to excess inventories of wrong products
  - promote consistent inventory levels to avoid supply disruption when products run out
- Improved benchmarking and management of supply costs
  - use data-driven analytics to effectively manage costs
  - leverage bulk buying, leading to cost savings opportunities
  - facilitate accurate product/inventory returns

Supply Chain Transformation Using Standards

There is an opportunity for provider supply chain operations to leverage established standards to drive process efficiency in their operations. GS1 Standards like the Global Location Number (GLN), Global Trade Item Number® (GTIN®), and Global Data Synchronization Network™ (GDSN®) can transform supply chain operations into highly efficient departments:

- With GLNs, providers can communicate with hundreds of suppliers using a single, standards-based identifier instead of numerous proprietary account numbers. This helps reduce order discrepancies, invoice errors, and shipment errors.
- Using GTINs in supply chain transactions helps reduce ordering errors associated with the unit of purchase, and improve invoices and shipping notifications. Using GTINs to identify products in patient records supports and facilitates recalls.
- With the GDSN, providers can receive initial and updated item information from sellers through a real-time, automated process, enabling them to have accurate, up-to-date item information without spending time, money, and resources on item master projects every few years.

Healthcare providers across the U.S. (and the world) are using GS1 Standards, and they are seeing real benefits in their supply chain processes. GS1 Standards enable provider supply chain operations to spend less time on transactional activities and more time on strategic initiatives such as outcomes analysis and data analytics. This has been especially important for providers facing the challenges of item-level identification based on packaging level, which has a significant impact on provider data management. Item masters have traditionally been maintained at one level. The change to unique identification based on packaging level will increase the number of items and the amount of data to be managed in the item master exponentially. GS1 Standards enable organizations to manage the increased data volume while also maintaining data quality.

Laying the Foundation

Standards lay the foundation for supply chain operations to leverage information technology to help transform healthcare providers into data-driven organizations. However, benefits cannot be realized with just any data; rather, they hinge on clean, standardized data that is quality, sharable, linkable, and searchable. Having clean, standardized data in the item master file provides a solid foundation for provider systems that not only reduces costs and waste, but also promotes quality of care, patient safety, and physician and nurse satisfaction. This can best be illustrated using two healthcare standards initiatives impacting the industry today: the Unique Device Identification (UDI) Rule for medical devices, and Meaningful Use criteria for electronic health records (EHRs).

GS1 Standards in Healthcare

GS1 Standards are widely used in healthcare, from pharmaceuticals to medical devices to many of the other products found in healthcare facilities. Across the healthcare industry, the largest manufacturers and distributors, as well as leading Integrated Delivery Networks (IDNs) and group purchasing organizations (GPOs), are already using GS1 Standards to improve patient safety and supply chain efficiency, and to prepare for regulatory requirements such as UDI for medical devices, DSCSA for prescription drugs, and Meaningful Use for providers. GS1 Standards can provide much needed levels of visibility into the products purchased, delivered, stored, recalled, and consumed throughout provider organizations.

U.S. FDA UDI Rule

The U.S. FDA UDI Rule requires medical devices to be labelled with a Unique Device Identifier (UDI) issued under a system operated by an FDA-accredited “issuing agency.”
Figure 1 presents a vision of healthcare providers as data-driven organizations that harness the power of data throughout their organization. It illustrates how using UDI throughout health IT systems can fuel operational efficiencies and process improvements, and translate to significant advances in delivery of care, patient safety, and cost reduction. It also illustrates the central role that data plays across provider organizations to support essential business processes, like bedside point of care, claims/billing, medication administration, recall, reporting, etc.

**How UDI will be Used by a Data-Driven Provider**

For healthcare providers, initial efforts will likely focus on process changes to implement the integration of UDIs into EHRs (e.g., updating delivery-of-care processes to include scanning barcodes that encode UDI for medical devices used on patients). However, UDI can do so much more for providers that integrate this standards-based identifier throughout their other health IT systems as well. Consider the following scenario depicting how a data-driven provider can leverage UDI:

- A caregiver scans the barcode on a medical device to record the UDI in the patient’s medical record.

- The EHR sends the information to the inventory management and replenishment system to deduct the used quantity from inventory quantity-on-hand.

- The EHR also sends the information to the claims/billing system.

- The claims/billing system generates a claim for the device—including coding, which is done automatically using an automated cross-table that matches UDIs to CMS codes.

- A caregiver needs more information about the device, so he clicks on the UDI in the EHR to open a window displaying more information about the device from the provider’s system of record for product master data.

GS1® is one of three FDA-accredited Issuing Agencies for UDI, and GS1 Standards are being used to help implement UDI by a majority of device manufacturers.

The UDI Rule created a standardized product identifier (UDI) for medical devices. It is intended to provide a standardized way to identify medical devices across all information sources and systems. However, standards are of no value unless they are being used in health IT systems—like EHRs. Therefore, it was no surprise when the integration of UDI was included in the ONC/CMS Meaningful Use criteria for EHRs. The UDI Rule is an example of an initiative to adopt standards, and ONC/CMS Meaningful Use criteria is an example of an initiative to implement standards across health IT systems. They go hand-in-hand.

**Competitive Edge**

The most progressive and forward-thinking organizations in the most demanding and competitive industries recognize the competitive edge that data provides, and create cultures dedicated to harnessing the power of data throughout their organization. Their supply chain operations are at the very heart of that culture. In order for healthcare providers to ensure long-term sustainability and thrive in this era of healthcare reform, providers need to elevate their supply chain operations and transform into data-driven organizations as well. This type of culture not only reduces costs and waste, but also enhances quality of care, improves patient safety, and promotes physician and nurse satisfaction.

With this new culture, supply chain operations will manage not only the physical flow of products, but also the flow of information about those products (including implants, devices, pharmaceuticals, supplies, etc.). They will support all of the functions and activities connected to any product used across the continuum-of-care by optimizing supply chain information across the associated systems. They will also manage the flow of detailed spend, usage, and outcome data on the reverse side to gain visibility and guide strategic decision-making to reduce costs, enhance quality, and elevate performance. By so doing, supply chain operations will emerge as a transformational force for optimizing and elevating performance across the organization.

Data-driven organizations recognize the competitive edge that data provides, and create cultures dedicated to harnessing the power of data throughout their organization.
The Road Ahead

Figure 1 only presents a few of the opportunities related to the integration of one standard (UDI). Although it is exciting, it’s just the tip of the iceberg. Momentum around the adoption of supply chain standards and their integration across health IT systems continues to grow. In fact, the effort to integrate standards into health IT systems will likely continue and expand to include additional systems (like incorporating UDI into claims and billing systems, as well as administrative transactions like registries and reporting), and additional standards (like future standards adopted by the FDA for the identification of prescription drugs pursuant to the Drug Supply Chain Security Act (DSCSA)). These standards will enable supply chain operations to optimize supply chain information across systems and functions in order to transform delivery systems and improve performance.

Get Started Today!

Engage with your suppliers
- Discuss their implementation plan for UDI
- Obtain a schedule/timeline for UDI rollout for the medical devices purchased by your organization
- Establish when you can expect the UDI identifier, barcode, and data will be available for the products you purchase
- Contact your IT vendors
  - Confirm that your ERP system can capture/accept UDIs
  - Confirm that your POC system can capture/accept UDIs
  - Confirm that your EHR system can capture/accept UDIs

Become a member of the GS1 Healthcare US Initiative
- Engage with a network of peers
- Access education, tools, and resources to assist you in implementing standards in your organization
- Identify opportunities to use standards to enhance workflow and improve performance
- Have a voice in standards adoption and implementation in your industry

Contact your IT vendors
- Confirm that your ERP system can capture/accept UDIs
- Confirm that your POC system can capture/accept UDIs
- Confirm that your EHR system can capture/accept UDIs

For more information, email:

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