



Leveraging the GDSN to Improve the Healthcare Supply Chain



Complete and accurate master product data are essential for healthcare providers to deliver the best possible care to their patients. Ideally, product master data flows freely and efficiently from manufacturers to providers. Technologically, the Global Data Synchronization Network (GDSN) with its one-to-many model makes it possible for hospitals to efficiently receive product data.

In 2012, McKinsey & Company published a report discussing global standards in healthcare. At the time, the ideal flow of master product data seemed only a distant possibility. Eight years later, the industry has moved much closer to realizing the aspirations envisioned by McKinsey & Company.

“Imagine a world where a patient’s records capture the brand, dosage, and lot number of each drug and medical device she uses, along with the name of the physician who ordered the product and the nurse who administered it; where bedside scanning confirms that she gets the right product in the right dosage at the right time; where hospitals and pharmacies know the exact location of short-supply medical devices and drugs and when they can be delivered; where regulators can recall adulterated products with accuracy and speed from every point in the supply chain; and where manufacturers can monitor real-time demand changes and shift their production schedules accordingly.”

—McKinsey & Company

In an effort to improve the healthcare supply chain data exchange, 1WorldSync has developed a unique solution to leverage the GDSN to improve efficiencies and enable scalability. To ensure proof of concept, a pilot program was undertaken with a major healthcare provider and medical product manufacturers.

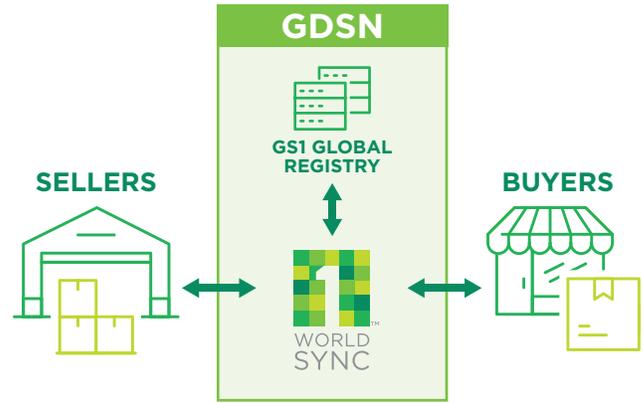
1WorldSync's Healthcare Pilot Program Summary

This report summarizes a recent pilot program to further enhance 1WorldSync's GDSN-based solution for product data exchange between manufacturers and healthcare providers. 1WorldSync is the leading provider of product content solutions, enabling more than 13,000 global companies in over 60 countries to share authentic, trusted product content. Through its highly advanced technology platform, which connects companies through the GDSN, 1WorldSync provides data exchange solutions that efficiently meet the diverse needs of the healthcare industry.

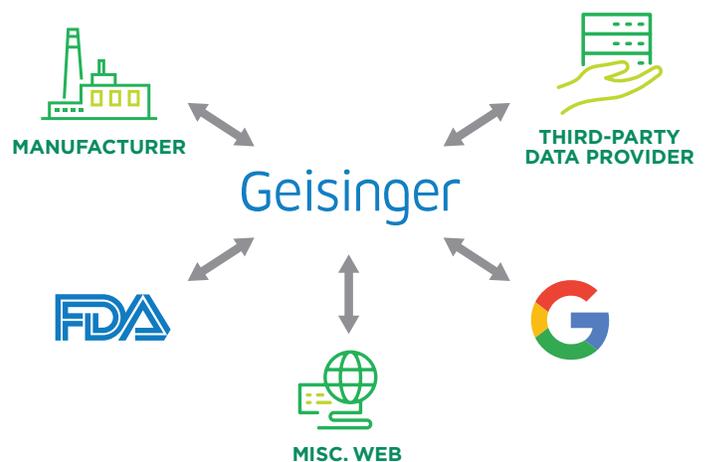
Participants in the pilot program included Geisinger Health as the data recipient, and three of the world's largest medical device manufacturers – the medical device segment of Johnson & Johnson Supply Chain (JJSC); Abbott Laboratories; and Teleflex Incorporated – as data suppliers. Each manufacturer has made a commitment to employ GS1 Standards and the GDSN for product data exchange. Manufacturers were eager to participate in this pilot program to help further the understanding of the GDSN and the benefits of adoption.

Case Study: Pilot Program Participant Geisinger Health

Geisinger is an integrated health service organization that provides care to thousands of patients in Pennsylvania and New Jersey. Geisinger agreed to participate in this pilot program because Geisinger has long sought a better system for product data exchange. In fact, just three years ago, as an active participant in a similar GDSN-based discovery program aimed at identifying a solution for better data exchange, Geisinger found the data to be “clean and accurate,” but the mapping exercise to match GDSN data to their own internal system data was too time-consuming. For instance, it took “52 hours over a span of six months to map and load just 36 items,” according to Tasha Gowin, Supply Chain System Analyst at Geisinger. Understandably, Geisinger was cautiously optimistic when agreeing to participate in 1WorldSync's new pilot program.



Geisinger's current process is to receive new item build requests through their internal Infor-Lawson Materials Management Information System (MMIS) where the manufacturer part number or model number is used as the key product identifier. To confirm selection of the correct product, Geisinger searches for Global Trade Item Numbers (GTINs) to cross-reference and match part numbers. GS1 standards would recommend using a product's GTIN as the unique identifier because, unlike manufacturer model numbers, GTINs cannot be duplicated. Outside of the GDSN, one source of data is rarely sufficient; therefore, Geisinger's analysts use multiple sites including the FDA's Global Unique Device Identification Database (GUDID), manufacturer sites (most of which do not provide GTIN information), third-party data sources, and even Google to verify the data. After the collected information is validated, it is entered into the MMIS system. Because the data collected is from multiple sources, it must be pieced together by Geisinger supply chain data analysts.



Example: Export from Geisinger’s internal system showing duplicate vendor/manufacturer’s numbers between a surgical device and a child’s sticker (*character sticker has same SKU as surgical item*)

VEN_ITEM	ITEM	DESCRIPTION	MANUF_CODE	MANUF_NBR
2227	6072578	Character Sticker	MDBD	2227
2227	6027887	Surgical Device	Manufacturer A	2227

Issues arise since these part numbers are not always unique and formats of part numbers vary across the disparate data sources. Special characters such as dashes and spaces create a huge risk for errors and potential duplication within the Geisinger item master, and ultimately add hours of unproductive work for data analysts.

In addition, if a product GTIN can be located through a third-party source, often only the unit-of-use information and no other packaging level data is included. Lack of packaging level data can cause problems when orderable and invoiced package levels are mismatched. Geisinger has experienced issues when, for example, they order one box of 10 items, but are invoiced for 10 single units (“eaches”). Using the current process, this unit-of-use mismatch is hard to prevent, even after checking multiple sources. Once detected after the fact, it is even harder to correct because the adjustments involve open transactions.

1WorldSync’s Versatile GDSN Solution

Companies in the retail and consumer goods industries who were facing the same problems as Geisinger turned to 1WorldSync for a solution. With its roots in the GDSN, 1WorldSync was already familiar with the challenges of mapping product attributes and understood the need to avoid unnecessary back-and-forth between recipients and suppliers. As a result, the 1WorldSync Playlist was created to simplify the data exchange process for both parties.

The 1WorldSync Playlist is essentially a filter that establishes a set of data validations to ensure that recipients get the exact product attribution

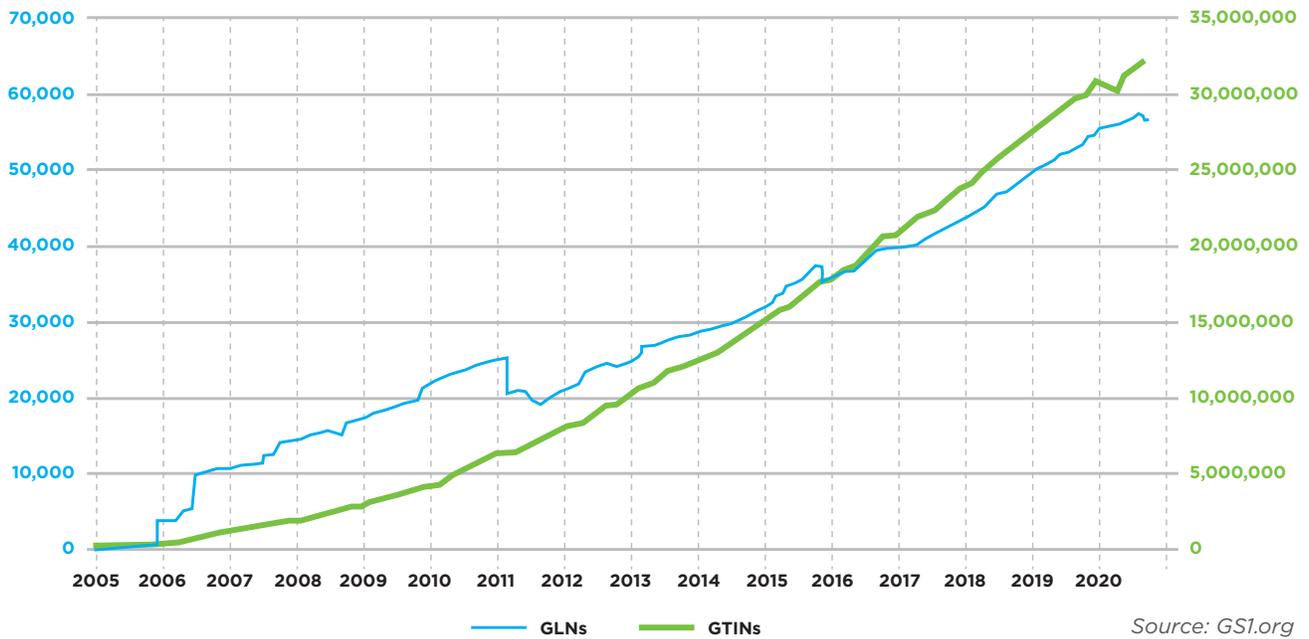
needed. In addition, the Playlist simplifies the process for suppliers by narrowing down the attribute set to that requested by the specific recipient. For example, some recipients do not use GTIN as an internal primary identifier, but the 1WorldSync Playlist still easily matches the GTIN to a manufacturer’s product number.



Expansion of 1WorldSync’s GDSN Solution into Healthcare

As 1WorldSync began deploying its GDSN solution in the healthcare industry, it realized that high-quality GDSN data from manufacturers paired with the 1WorldSync Playlist tool could be an ideal solution to address many of the data-related issues facing both suppliers and recipients. Another key ingredient to the success of the program was the application and use of GS1 standards, which ensures all parties are using the same language to identify and share data within the supply chain.

Figure 1. Exponential growth of GLNs and GTINs



In addition, hospitals and healthcare providers source many products essential for operations that are not specifically categorized as healthcare items. For example, there are millions of paper products, food service supplies, and hardline items currently in use in healthcare organizations and many are included in the GDSN.

Geisinger’s Pilot Project Results

As previously mentioned, Geisinger entered the pilot project cautiously, but optimistic. This new pilot project demonstrated significant improvement.

Tasha Gowin, Supply Chain System Analyst at Geisinger, remarked that the 1WorldSync Playlist enabled them to “extract data from multiple vendors using one source to match up items and assign GTINs in less than an hour ... a process that took over 52 hours before!”

Gowin mentioned that one of the reasons for the efficiency increase with the 1WorldSync Playlist was that she was able to “pull in only what was needed, and mapped those fields without a dictionary of definitions.”

Gowin also noted that “once my system is mapped and fully set up, this will become even easier by using only one source to match. Today, I have to search manufacturer or model numbers from two-three sources, then I have to complete matches manually. Thanks to the 1WorldSync Playlist, I can easily, even without a machine, extract data from the GDSN and verify with my system to ensure all products are up to date. Once the legacy data is cleaned up, not only could one person handle this task, but it is also *sustainable*.”

Adoption of GS1 Standards and participation in the GDSN has rapidly grown within all industries, as evidenced in Figure 1 above. Within the healthcare industry specifically, GDSN and GS1 Standards adoption has expanded exponentially in recent years. Currently, there are over 5,400 healthcare-specific global location numbers (GLNs) accounting for over four million GTINs.

Manufacturers' Findings on Data Exchange Using the GDSN

Some hospitals are connected to more than 5,000 suppliers and purchase hundreds of thousands of individual items while other healthcare providers carry only a limited number of items. Thus, a flexible, scalable solution is necessary.

The manufacturers participating in the pilot project provided feedback on the practical implementation and use of the GDSN in the healthcare industry. As part of the pilot, JJSC received current product listings from Geisinger MMIS. JJSC analyzed and reconstructed the data leveraging GS1's GTINs and other standardized attributes. JJSC used the 1WorldSync Playlist to aggregate those files to update product data. The result is JJSC and Geisinger having a shared language for that product data, enabling JJSC to publish that data directly to Geisinger via 1WorldSync using the GDSN.

MJ Wylie, Sr. Manager, GS1 Global Standards and Global Data Synchronization at Johnson & Johnson Supply Chain noted, "Johnson & Johnson Supply Chain understands trusted product data begins with accurate, consistent, and complete product content. We support the use of GS1 standards as they provide the framework to implement consistent product identification and traceability. Trading partners demand this information to influence efficiencies across the entirety of their supply chain."

Final Verdict: Improved Implementation, Scalability, and Efficiency

Improved data quality and efficiency in obtaining data is the ultimate goal that many organizations strive to achieve. Unfortunately many settle for less than ideal because of the belief that implementation of an improved standard and system is cost or resource prohibitive. While a data improvement project extends beyond the IT department, many times it is the IT aspect that applies the brakes and stalls the initiative. Major IT projects often involve installations and implementations that take months or even years to complete, requiring extensive consideration

and trials before a solution is selected. Pilot program participant JJSC found that the 1WorldSync Playlist "lowered implementation barriers by simplifying the use of attributes through the creation of healthcare-specific data models." JJSC's standard is to enter as much product information as possible into the master product record. Given this, there can be product attributes that are not relevant to every recipient. The 1WorldSync Playlist simplifies the process and guides both supplier and recipient to easily identify the needed product attributes in the proper format.

In addition, scalability is a crucial factor when considering solution options. The ability to scale a solution is especially important in healthcare, where the size of organizations varies widely, and mergers and acquisitions are constantly changing the landscape.

This pilot program was completed in a mere four weeks, demonstrating that implementation can be a expeditious process. In addition, the solution remains unchanged whether sharing one product or one million.

This project allowed manufacturers to see the value in 1WorldSync's GDSN solution. Mark Hoyle, UDI Technical Director at Teleflex Incorporated, commented on why his company is now committed for the long term: "Teleflex believes in the GDSN. Rooted in innovation, data synchronization of item information through the GDSN allows suppliers and customers to syndicate accurate and enriched information, driving efficiencies in the supply chain and enhancing patient safety. Teleflex is excited to offer a method to publish product information and make it available to our customers."

Pilot participant Abbott Laboratories perfectly summarized the benefits of leveraging the GDSN within the healthcare supply chain: "the GDSN provides detailed product information, easy visibility to all available products, and eliminates the need for multiple sources of product information. Customers that use GDSN data should have a better product master which translates to fewer errors and reduced manual effort."

1WorldSync's GDSN solution with its one-to-many concept has proven success in meeting the needs of the healthcare supply chain, from small to large providers and suppliers. In addition, the neutrality of the GDSN opens the door to suppliers around the world to efficiently syndicate product data.

The 1WorldSync Playlist solution improves accuracy and saves time in real-world use cases. With increased adoption of these GDSN tools, the healthcare industry can continue to improve patient care with easy access to complete master product data.

For more information on 1WorldSync's Playlist and how it leverages the GDSN to assist the healthcare industry, please contact 1WorldSync at businessdevelopment@1worldsync.com.

Geisinger

About Geisinger Health

Geisinger is committed to making better health easier for the more than 1.5 million consumers it serves. Founded more than 100 years ago by Abigail Geisinger, the system now includes 13 hospital campuses, a 600,000-member health plan, two research centers and the Geisinger Commonwealth School of Medicine. With 32,000 employees and 1,800 employed physicians, Geisinger boosts its hometown economies in Pennsylvania and New Jersey by billions of dollars annually. For more information, visit www.geisinger.org.

Teleflex®

About Teleflex Incorporated

Teleflex is a global provider of medical technologies designed to improve the health and quality of people's lives. It applies purpose driven innovation – a relentless pursuit of identifying unmet clinical needs – to benefit patients and healthcare providers. Its portfolio is diverse, with solutions in the fields of vascular and interventional access, surgical, anesthesia, cardiac care, urology, emergency medicine, and respiratory care. Teleflex employees worldwide are united in the understanding that what they do every day makes a difference. For more information, visit www.teleflex.com.

Abbott

About Abbott Laboratories

Abbott is a global healthcare leader that helps people live more fully at all stages of life. Its portfolio of life-changing technologies spans the spectrum of healthcare, with leading businesses and products in diagnostics, medical devices, nutritionals and branded generic medicines. Its 107,000 colleagues serve people in more than 160 countries. For more information, visit www.abbott.com.

Johnson & Johnson

SUPPLY CHAIN

About Johnson & Johnson Supply Chain

Johnson & Johnson Supply Chain includes three business sector supply chains – Consumer Health, Medical Devices and Pharmaceuticals – that cover planning, sourcing, internal and external manufacturing, as well as the Supply Chain Strategy, Innovation & Deployment organization and the Deliver organization, which manages distribution and customer service. Additional enterprise-wide functions that are part of the Johnson & Johnson Supply Chain include Quality & Compliance, Environmental Health, Safety & Sustainability and Engineering & Property Services. For more information, visit www.jnj.com.

Sources

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- GS1.org - Statistics and Facts - Overview of GDSN adoption and use figures in Healthcare.
https://www.gs1.org/sites/default/files/docs/gdsn/stats/gdsn_healthcare_adoption.pdf
- <https://www.gs1.org/standards>



About 1WorldSync

1WorldSync™ is the leading provider of product content solutions. Enabling more than 13,000 global companies in over 60 countries to share authentic, trusted content with customers and consumers. We provide solutions that meet the diverse needs of the industry through our technology platform and expert services empowering intelligent choices for purchases, wellness, and lifestyle decisions. 1WorldSync is the only product content network provider and GDSN Data Pool to achieve ISO Certification 27001. For more information, visit www.1worldsync.com.