GS1 Healthcare US™

HEALTHCARE SUPPLIER TOOL KIT

Global Location Number (GLN)

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Executive Summary

The purpose of this document is to provide guidance to healthcare suppliers about the need for standardized party and location identification in order to improve supply chain efficiency and patient safety, and to meet the U.S healthcare industry 2010 GLN Sunrise date.   To that end, it introduces and explains the GS1 Global Location Number (GLN) and the GLN Registry™, and describes how they facilitate reliable and efficient management of precise location information. In addition, the benefits to supply chain management, operational efficiency and competitive advantage are discussed, and a model for how to assess GLN ROI for your company is included as well. Finally, this document provides detailed steps for implementing GLNs in your company.

Using this document, you will better understand how the current use of multiple proprietary numbers is error-prone and inefficient, and how use of GLNs for party/location identification will best fulfill your need for a comprehensive approach to location identification that accommodates all of your supply chain roles and activities. And, using this document, you will learn how to get that effort underway today!

> This document is a companion to the *Healthcare Provider Global Location Number (GLN) Tool Kit* published July 2008. The use of both documents will increase understanding of all healthcare supply chain partners and facilitate a meaningful dialogue concerning implementation and benefits.

GS1 Healthcare US would like to thank the members of the GS1 Healthcare US Location Identification Workgroup for their hard work and dedication in developing the first U.S. Healthcare Supplier Tool Kit for GS1 standards.

About GS1®

ABOUT GS1

GS1® is a neutral, not-for-profit, global organization that develops and maintains the most widely-used supply chain standards system in the world. GS1 Standards improve the efficiency, safety, and visibility of supply chains across multiple sectors. With local Member Organizations in over 110 countries, GS1 engages with communities of trading partners, industry organizations, governments, and technology providers to understand and respond to their business needs through the adoption and implementation of global standards. GS1 is driven by over a million user companies, which execute more than six billion transactions daily in 150 countries using GS1 Standards.

ABOUT GS1 US

GS1 US, a member of the global information standards organization GS1®, brings industry communities together to solve supply-chain problems through the adoption and implementation of GS1 Standards. Nearly 300,000 businesses in 25 industries rely on GS1 US for trading-partner collaboration and for maximizing the cost effectiveness, speed, visibility, security and sustainability of their business processes. They achieve these benefits through solutions based on GS1 global unique numbering and identification systems, barcodes, Electronic Product Code (EPC®)-enabled RFID, data synchronization, and electronic information exchange. GS1 US also manages the United Nations Standard Products and Services Code® (UNSPSC®). www.GS1US.org.

ABOUT GS1 HEALTHCARE

GS1 Healthcare is a global, voluntary healthcare user group developing global standards for the healthcare supply chain and advancing global harmonization. GS1 Healthcare consists of participants from all stakeholders of the healthcare supply chain: manufacturers, wholesalers & distributors, as well as hospitals and pharmacy retailers. GS1 Healthcare also maintains close contacts with regulatory agencies and trade organizations worldwide. GS1 Healthcare drives the development of GS1 Standards and solutions to meet the needs of the global healthcare industry, and promotes the effective utilization and implementation of global standards in the healthcare industry through local support initiatives like GS1 Healthcare US in the United States.

ABOUT GS1 HEALTHCARE US

GS1 Healthcare US® is an industry group that focuses on driving the adoption and implementation of GS1 Standards in the healthcare industry in the United States to improve patient safety and supply chain efficiency. GS1 Healthcare US brings together members from all segments of the healthcare industry to address the supply chain issues that most impact healthcare in the United States. Facilitated by GS1 US, GS1 Healthcare US is one of over 30 local GS1 Healthcare user groups around the world that supports the adoption and implementation of global standards developed by GS1.

Introduction to Standards & the Healthcare Supply Chain

Suppliers in the healthcare industry use GS1 standards with their consumer goods retail customers and have experienced the many benefits of using one industry standard in the United States and globally. Healthcare suppliers, like suppliers in other industries, have found that using GS1 standards improves information quality and promotes efficient business processes. These improvements translate to significant real world benefits, including simplified supply chain management, reduced labor costs, more efficient payment and reporting processes, better cash flow, and increased customer satisfaction.

As healthcare suppliers have been experiencing the benefits of using GS1 standards with their retail customers, a movement to adopt and implement data standards in the healthcare supply chain has been building across the healthcare industry. This movement has its roots in two revealing studies. First, the *Efficient Healthcare Consumer Response* (EHCR) study of 1996, the first comprehensive analysis of healthcare standards, found that $11 billion is wasted each year in the healthcare supply chain primarily because data standards are either entirely lacking or not as widely used or well-developed as in other industries.[1] Second, a groundbreaking report on patient safety issues by the Institute of Medicine in 1999 (and a follow-up report five years later) cited staggering statistics about medical error[2] and widespread systemic problems.[3] The problems highlighted in those studies have risen to the forefront of national attention today, and the momentum behind the movement to adopt and implement data standards in the healthcare supply chain is directly related to the fact that standards are essential for solving those problems.

In response, a growing number of hospitals, healthcare suppliers and healthcare-related organizations have chosen the GS1 System of standards to help them improve supply chain efficiency and patient safety. For over thirty-five years, the GS1 System has provided globally accepted identifiers and a common language for the communication of supply chain information about products, services and locations in order to improve the accuracy, speed and efficiency of business processes.

The GS1 System is the most widely used supply chain standards system in the world, utilized in twenty-three sectors and industries including GS1's core sectors of Healthcare and Fast Moving Consumer Goods (FMCG), as well as Transport, Defense and many others.

How Standards Help to Solve Supply Chain Problems

Without standards, supply chain partners are left to develop their own identifiers and data formats, resulting in numerous proprietary "standards" for healthcare suppliers and providers to manage. The existence of numerous "standards" causes supply chain inefficiencies and inaccurate data that insert unnecessary cost and confusion into business processes. For healthcare, the absence and/or under-utilization of data standards has resulted in medical errors, widespread systemic problems and $11 billion wasted in the healthcare supply chain each year. Accurate product and location information is essential for all supply chains in order to support orders, invoices, deliveries, as well as customer service and marketing activities. Global standards provide a common language

for that information that can be used by any supply chain partner, in any industry, in any location around the world.

Global standards promote simplicity, consistency and accuracy in supply chain communications. In today's complex markets, supply chain lines are blurring and channels of distribution for various sectors are overlapping. This is especially true of the healthcare industry where manufacturers of healthcare products often supply both hospitals and consumer goods retailers in both the U.S. and across the globe; pharmacies and hospitals purchase consumer goods as well as healthcare products; and the pharmaceutical supply chain has expanded to include supermarkets and consumer goods retailers in addition to traditional pharmacies. Global standards are essential in this environment.

How the Standards Work Together

GS1 Identification Numbers provide the link between an object and the information pertaining to it. When users assign a GS1 Identification Number, they define a set of standardized information (*known as attributes*) about the object to which that identifier relates (e.g., size, weight, location) The GS1 System specifies the list of attributes that must be defined for each GS1 Identifier, and provides a precise definition as well as acceptable values and data formats for each attribute. Standardized attributes about *products* include core data like selling unit, item dimensions, and product classification. Once defined by the user, those attributes are then stored in a GDSN-certified Data Pool and shared with supply chain partners using the Global Data Synchronization Network® (GDSN®). Through this process, GS1 Identification Numbers not only identify an object, but also provide a link to information about that object.

This linkage is tremendously valuable. In fact, twenty-three industry sectors have used GS1 Global Trade Item Numbers® (GTIN®), Global Location Number (GLN) and the GDSN as the foundation for a wide range of efficiency building solutions that have improved their operations and supported their business processes for decades. Likewise, with GTINs, GLNs and the GDSN, the healthcare supply chain can lay the foundation for a wide range of solutions to improve supply chain efficiency and patient safety across the healthcare industry.

To illustrate this, Figure 1 uses the image of a house to represent the connection between the standards and how they support the healthcare supply chain. The *roof* of the house represents the ultimate goals: supply chain efficiency and patient safety. In order to raise that *roof* and achieve those goals, the healthcare supply chain needs a strong *foundation* and *pillars* of support.

Figure 1: Building Patient Safety with GS1 standards
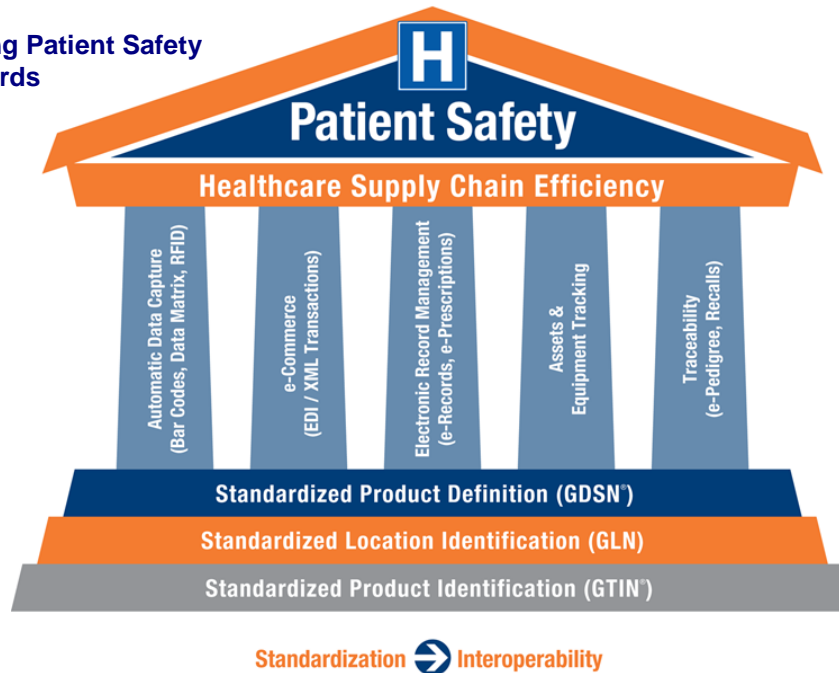
The *foundation* is the basis on which the pillars and the entire house are built. To achieve supply chain efficiency and patient safety, the ultimate goals in our house example, the strongest *foundation* is built with global standards that can be used by all supply chain partners regardless of industry sector or location. GTIN (standardized product identification), GLN (standardized location identification), and GDSN (standardized product definitions) provide such a *foundation* by fostering consistency and accuracy in supply chain information.

Pillars are built on the *foundation* to raise the house and support the *roof*. The *pillars* in Figure 1 represent the numerous and ever-evolving tools and applications that healthcare supply chains can use to improve supply chain management and patient safety. The *foundation* of global standards provides the basis for developing those tools. Of course, a house can be built on a lesser *foundation*, like proprietary standards implemented across an individual organization. Although such a house can still realize some improvements to safety and efficiency, only a house built on a strong *foundation* of global standards has the interoperability across all supply chain partners to maximize safety and efficiency.

The tools and applications represented in the pillars of Figure 1 advance the goals of supply chain efficiency and patient safety by improving healthcare business processes.

- *Automatic Data Capture* (e.g., scanning a bar-coded GTIN on a bottle of medication or hospital room) replaces manual data entry, which reduces human error and expedites the process of recording information.
- *e-Commerce* replaces paperwork with automated transactions that are more efficient and accurate.
- *Electronic Record Management* using standards for various types of information (e.g., medical devices, medication, etc.) ensure compatibility and interoperability with other systems, optimizing both the records and the systems.
- *Asset and Equipment Tracking* systems identify specific assets and locations so facilities know where those assets are when they need them (e.g., IV pumps, blood pressure monitors, wheel chairs, etc.).
- *Traceability* applications promote supply chain security by facilitating product recalls and reducing the risk of counterfeit goods.

How Standards Benefit the Healthcare Supply Chain

Global standards provide a common language for product and location information that can be used by any supply chain partner, in any industry, in any location around the world. Global standards support healthcare business processes and can bring many benefits to the healthcare industry, such as:

- Fewer medication errors through efficient automated identification: the right product for the right patient at the right time through the right route and in the right dose

- More effective product recalls

- Efficient traceability

- More time with patients, less time spent on manual documentation

- Cost reduction through increased supply chain efficiency

- Improved order and invoice processes

- More efficient receiving

- Reduced inventory

- Increased productivity in business processes

- Improved shelf management

- Improved service levels/fill rates

- Improved management of manufacturing/supply costs

- Elimination of the need for re-labeling with proprietary codes

- Supports regulatory compliance

In the journey to improve supply chain efficiency and patient safety, global standards have a large role to play. This tool kit is intended to guide you on that journey so that you can start realizing these benefits today.

Efficient Healthcare Consumer Response (EHCR), Improving the Efficiency of the Healthcare Supply Chain, November 1996. Produced by CSC Consulting, Inc. Copyright 1996, American Society for Healthcare Materials Management, Health Industry Business Communications Council, Health Industry Distributors Association, National Wholesale Druggists' Association, and GS1 US (formerly the Uniform Code Council), jointly and severally.

[2] To Err Is Human: Building a Safer Health System. Institute of Medicine (1999). The National Academies Press.

[3] Lucian L. Leape, M.D., Donald M. Berwick, M.D., *Five Years After To Err Is Human: What Have We Learned?*, Journal of the American Medical Association, May 18, 2005, 293 (19): 2384–90.

About the Standards

The GS1 System is an integrated suite of global standards that provides for accurate identification and communication of information regarding products, assets, services and locations. Using GS1 Identification Numbers, companies and organizations around the world are able to globally and uniquely identify *physical things* like trade items, assets, logistic units and physical locations, as well as *logical things* like corporations or a service relationship between provider and recipient. When this powerful identification system is combined with the Global Data Synchronization Network (GDSN), the connection is made between these physical or logical things and the information the supply chain needs about them.

Global Location Number (GLN)

The Global Location Number (GLN) is the globally unique GS1 Identification Number for locations and supply chain partners. The GLN can be used to identify a *functional entity* (like a hospital pharmacy or accounting department), a *physical entity* (like a warehouse or hospital wing or even a nursing station), or a *legal entity* (like a health system corporation). The attributes defined for each GLN [e.g., name, address, location type (e.g., ship to, bill to, deliver to, etc.)] help users to ensure that each GLN is specific to one unique location within the world.

Global Trade Item Number® (GTIN®)

The Global Trade Item Number (GTIN) is the globally unique GS1 Identification Number used to identify "trade items" (i.e., products and services that may be priced, ordered or invoiced at any point in the supply chain). GTINs are assigned by the brand owner of the product, and are used to identify products as they move through the global supply chain to the hospital or ultimate end user. The GTIN uniquely identifies a product at each packaging level (e.g., a blister of two aspirin tablets; a bottle of 100 aspirin tablets; etc.).

Global Data Synchronization Network® (GDSN®)

Each user not only defines and maintains its own GLNs and GTINs with their associated attributes, but is also responsible for sharing this information with its supply chain partners. To support those efforts, the Global Data Synchronization Network (GDSN) provides an efficient and effective approach to (1) storing GS1 Identifiers with their associated attributes, (2) checking to make sure that the identifiers and attributes are properly defined and formatted, and (3) sharing that information with supply chain partners. The GDSN offers a continuous, automated approach to data management that ensures that supply chain information is identical among trading partners, increasing data accuracy and driving costs out of the supply chain.

United Nations Standard Products and Services Code® (UNSPSC®)

The United Nations Standard Products and Services Code (UNSPSC) is a hierarchical set of product categories used by supply chain partners worldwide to classify their products and services. The UNSPSC provides a single, global classification system for all products and services in all industry sectors. Use of the UNSPSC enhances company-wide visibility of spending analysis, and promotes cost-effective procurement. As a result, the UNSPSC is used extensively around the world in electronic catalogs, search engines, procurement application systems and accounting systems.

The United Nations Development Program (UNDP) and Dunn & Bradstreet (D&B) jointly created the UNSPSC in 1998 through the merger of the U. N. Common Coding System and D&B's Standard Products and Services Classification. GS1 US serves as the code manager for the UNSPSC.

The Case for Global Location Numbers (GLNs)

The Problem: Numerous Approaches to Location Identification across the Company

Healthcare suppliers run complex businesses supported by several distinct "supply chains." Generally speaking, there is the supply chain between the healthcare supplier and its customers, as well as the group of supply chains between the healthcare supplier and its suppliers (e.g., machinery, industrial parts, maintenance supplies, computers and office equipment, office supplies, etc.). Because healthcare suppliers have a variety of supply chains, they also have a variety of supply chain roles:

- Supplier/Seller of finished goods to healthcare providers
- Consumer/Buyer of parts and/or raw materials
- Consumer/Buyer of services (e.g., labeling, packaging, transportation, etc.)
- Consumer/Buyer of products to support operations (e.g., machinery, industrial parts, maintenance supplies, computers and office equipment, office supplies, etc.)

All of these supply chains require up-to-date, accurate location information everyday. Unfortunately, this information is not always readily available.

For example, healthcare suppliers' customers (i.e., hospitals, clinics, etc.) are often structured with a parent corporation (e.g., a health system corporation) that has numerous corporate affiliates under their corporate umbrella (e.g., numerous affiliated hospitals).

> Accurate location information is essential for all supply chains in order to support orders, invoices, deliveries, as well as customer development activities like discounts, rebates and chargebacks. As a result, healthcare suppliers need to ensure the accuracy of location information not only in communications with their customers, but also in communications with their suppliers.

In addition, even those hospital affiliates may sub-contract out certain functions to other corporate entities (e.g., food services; billing; etc.). Suppliers may know who the provider organization is, but may not be aware of all of the corporate relationships and specific locations. However, suppliers need party/location information for the specific group with whom they work – not just the corporate parent or even the affiliate hospital. As a result, general corporate location information about healthcare providers is not an adequate resource for the precise location information needed by suppliers. Likewise, general corporate information about healthcare suppliers is not sufficient information for all of the location/party information their suppliers need about them (e.g., suppliers of machinery, maintenance supplies, office equipment, etc.).

Moreover, the level of location information required by supply chain partners can vary depending on sourcing model. For example, in a *Central Stock* sourcing model, all deliveries are made to one receiving point, and then the receiver distributes the supplies to its various departments as needed. In a *Just in Time* sourcing model, supply chain partners deliver directly to various departments and locations at the customer. In a hybrid sourcing model, some supplies are delivered to a central receiving point, and others are delivered directly to user locations. These examples illustrate how the various sourcing models affect the level of location information needed. Under a *Central Stock* model, supply chain partners only need the location information for the central receiving point. However, under a *Just in Time* model, supply chain partners would need location information for each of the receiving points to whom they deliver. And under a hybrid model, supply chain partners would need location information for the central receiving point, as well as for each of the direct delivery points. This impacts healthcare suppliers in terms of the location information they need about their customers, as well as the location information their suppliers need about them.

Accurate party/location information is also essential for group purchasing organizations (GPOs). Distributors and manufacturers rely on each GPO's roster of hospitals to track sales and to apply rebates and chargebacks. Nonetheless, many GPOs encounter the same problems in managing party/location information in their rosters.

For example, a roster may not reflect the difference between corporate identity and physical location. In addition, it may not have precise location information for each of the various hospitals affiliated with the healthcare parent organization, or for each of the various departments within a hospital. This is especially problematic because suppliers need to know who exactly is buying their products so they can target rebate and chargeback incentives, and ensure that those incentives are being given to their best customers. If the GPO roster is not accurate, a customer may not receive the appropriate pricing for their facility/location, and rebates and claims can be lost and/or misapplied.

In response, many healthcare participants (e.g., hospitals, manufacturers, distributors, etc.) began assigning their own proprietary numbers to locations. Although the creation of proprietary numbers began as an effort to solve problems, they in fact created new problems. So many location numbers were created that maintaining all of the various numbers became a nightmare. In addition, suppliers and providers now had to create and manage maps between all of the various location identification numbers in their systems. Despite all of the effort, the end result was an error-prone, inefficient approach to location identification that undermined supply chain management, operational efficiency and customer satisfaction, and inhibited optimization of corporate IT systems.

Figure 2: Why Healthcare Needs Standardized Party/Location Identifiers
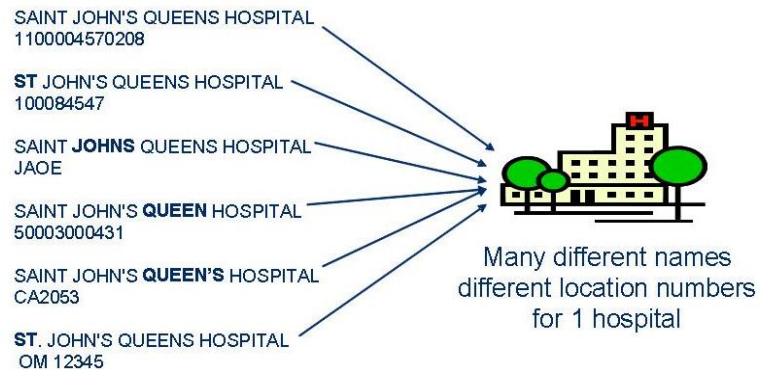
The Solution: Standardized Location Identifiers

The solution to these problems is standards-based party/location identifiers. The use of a globally accepted, standardized approach to identifiers provides a common language to facilitate the communication of party/location information among supply chain partners. This provides a comprehensive approach to location identification that accommodates all of a healthcare supplier's roles and improves supply chain management. Standards-based identifiers enable healthcare suppliers to maintain and manage precise information for all of their various corporate identities and physical locations, as well as those of their customers and suppliers. In addition, it supports the efficient exchange of accurate party/location information to support supply chain communications, deliveries, rebates and claims – which enhances customer satisfaction and competitive advantages.

The GS1 System provides globally accepted identifiers, standards and a common language for the communication of supply chain information. The GS1 Identifier for parties and locations is the Global Location Number (GLN). For decades, this GS1 Identifier has facilitated the sharing and communication of party/location information among supply chain partners in twenty-three industry sectors across the globe.

What is a GLN?

A Global Location Number (GLN) is a number – a GS1 standards-based, globally unique identification number used to identify locations and supply chain partners. GLNs can be used to identify a *functional entity* (like an accounting department or hospital pharmacy), a *physical entity* (like a warehouse or delivery point or even a particular room in a building), or a *legal entity* (like a health system corporation). For example, a GLN can be used to identify the following:

Table 1: Types of Entities Identified by GLNs

Legal Entities	A *Legal Entity* is defined as a legal organization that is subscribed to the GS1 System. *Legal Entities* can include parent corporations, subsidiaries and/or divisions. Examples: supply chain partners like customers, GPOs, distributors, manufacturers, third party logistics, providers/hospitals, etc.
Functional Entities	*Functional Entities* can include a department within a legal entity, and even unstaffed operation points like vending machines and automated supply replenishment machines. Examples: pharmacies, purchasing departments, accounting departments, etc.
Physical Locations	A *Physical Location* is defined as a single point of access with a physical address. *Physical Locations* can include specific locations within a legal entity and/or a functional entity. Examples: warehouse, warehouse gate, loading dock, hospital, delivery point, hospital unit, nursing station, particular room in a building, and even a cabinet or cabinet shelf.

In terms of data structure, GLNs are 13-digit numbers comprised of three basic segments:

- **GS1 Company Prefix:** The globally unique number assigned to a company by GS1 US (or another GS1 Member Organization). The GS1 *Company Prefix* is part of the data structure for all GS1 Identifiers (e.g., GLN, GTIN, etc.) and provides the foundation for generating all GS1 Identification Numbers.

- **Location Reference:** A number assigned by the company/organization to uniquely identify a location.

- **Check Digit:** A calculated one-digit number used to ensure data integrity. (To understand how this digit is calculated, refer to www.gs1us.org/checkdig)

Figure3: Data Format of a GLN

GS1 Company Prefix	→ ←	Location reference	Check Digit
N_1 N_2 N_3 N_4 N_5	N_6 N_7	N_8 N_9 N_{10} N_{11} N_{12}	N_{13}

What is the GLN Registry?

The GLN Registry™ is a subscription-based service that provides a comprehensive list of companies in the U.S. with their corresponding GLNs and GLN information. The GLN Registry serves as a single source of information for locations enabling subscribers to access up-to-date, reliable location information for healthcare industry trading partners to improve the accuracy of their supply chain activities. Using the Registry, Subscribers are able to access updated and accurate party and location information about manufacturers, distributors, retailers, hospitals, clinics, and retail and mail-order pharmacies to improve the accuracy of their supply chain activities. As a result, the Registry solves the industry-wide challenge of inaccurate location and party information by providing a central resource of location and party information for healthcare facilities and healthcare-related facilities in the United States.

Using the GLN and GLN Registry ensures that the right product arrives at the right place at the right time, facilitates efficient business practices, and drives down supply chain costs.

Why Should I Use the GLN Registry?

- It provides a central resource of accurate, up-to-date, standardized location and party information
- It enables users to define and manage their own account and location information
- It eliminates unnecessary, obsolete, duplicate, and inaccurate address records
- It accurately shows organizational structure using a hierarchy
- It provides 24/7 access to past and present GLN information

The GLN Registry was created by the healthcare industry to facilitate more efficient business practices and to help drive down supply chain costs for both healthcare providers and suppliers. Subscribers to the Registry include companies from across the healthcare supply chain, like hospitals, manufacturers and distributors. By providing accurate, up-to-date information on demand, the GLN Registry supports supply chain partners in getting the party and location information they need, when they need it.

The GLN Registry features and benefits:

- Access accurate company data files quickly and easily
- Create additional GLNs for other locations
- Add or create GLNs individually or through bulk upload
- Search and export GLN information
- Create an organizational profile to display your GLN Readiness to your trading partners
- Utilize Excel on all imports & exports
- Subscribe to locations and receive notifications as locations change within a given hierarchy
- View any changes from the current day for any one GLN or all GLNs in the entire Registry
- Receive a daily system extract with machine-to-machine interface that connects your system to the GLN Registry
- Connect with your trading partners through the GLN Registry messaging feature

How are GLNs assigned by a supplier?

The GLN is a globally unique, standards-based identification number for parties and locations. In general, each company/organization is responsible for assigning its own GLNs (a process known as *allocation*). In order to support them in that effort, the GS1 System provides clear, structured data standards and GLN Allocation Rules that companies/organizations follow when allocating GLNs in order to ensure that their GLNs are globally unique and in a consistent format.

There are two basic steps for allocating GLNs:

(1) First, GS1 US assigns a GS1 *Company Prefix* to the company/organization. The GS1 *Company Prefix* is part of the data structure for all GS1 Identifiers (e.g., GLN, GTIN, etc.) and provides the foundation for generating all of the GS1 Identification Numbers. Each company/organization receives a certificate with its GS1 Company Prefix and its "official" GLN. (See Appendix C). You can find out your company's GLN by calling GS1 US Customer Service at +1 937.610.4222.

(2) Second, the company/organization assigns/generates their own GLNs (per business requirements) based on their GS1 *Company Prefix* and the GS1 standards and GLN Allocation Rules.

When a user assigns a GLN, they define a prescribed set of data about the party/location to which that GLN relates (e.g., street address, floor, etc.). These *GLN attributes* define master data about the party/location (e.g., name, address, class of trade, etc.), which help to ensure that each GLN is specific to one, very precise location within the world. GS1 US provides an online tool, known as Data Driver®, to support users in allocating GLNs and defining the associated attributes. (See Appendix B for more information about Data Driver.) The GLN and its associated attributes are then saved in a database and shared among supply chain partners.

How are GLNs Used?

As described above, GLNs are assigned by suppliers and providers to identify their legal entities, functional entities and/or physical locations. Once assigned, GLNs are used to (1) identify parties and/or locations, and (2) to provide a link to the information pertaining to a party/location.

Identification of Parties/Locations

GLNs identify the various locations and functional entities in a company/organization and within a facility. One especially convenient feature of GLNs is that they can be encoded onto data carriers (i.e., bar codes and/or RFID tags). This enables companies to mark the various locations and functional entities throughout their facilities with GLN bar codes for accurate identification (e.g., warehouse; production line; etc.). Marking locations within a facility with bar coded GLNs enhances your systems by providing reliable and accurate location identification. Moreover, entering a GLN into an IT system automatically using data carriers (*as opposed to typing it in*) enables users to record a GLN with as minimal manual intervention as possible, increasing both speed and accuracy.

Link to Party/Location Information

The GLN not only identifies a specific party or location, but also provides the link to the information pertaining to it (i.e., a database holding the GLN attributes). This enables supply chain partners to simply reference a GLN in supply chain communications, as opposed to manually entering all of the necessary party/location information. Using a GLN to reference party/location information promotes efficiency, precision and accuracy in communicating and sharing location information. For this reason, GLN is required in many types of e-commerce transactions, and is most commonly used on purchase orders and delivery documents. Moreover, because GLN is utilized in many industries across the globe, suppliers can leverage GLNs for healthcare supply chains as well as other supply chains (e.g., retail; grocery; sporting goods; etc.).

Advantages of Using GLNs in the Healthcare Supply Chain

Standards-based numbering systems are essential for efficient and effective communication of party/location information in supply chains. Without a standardized approach, supply chain partners often assign their own proprietary location identification numbers, resulting in numerous numbers to manage and maintain for the same location. The use of GLNs avoids those problems. With a flexible approach to party/location identification, GLNs facilitate reliable and efficient management of precise location information to support supply chain management, operational efficiency and customer satisfaction. Moreover, because GLN is a global standard used in over twenty industry sectors, use of the GLN enables suppliers to implement one, comprehensive approach to location identification for all of their supply chains needs. As a result, there are many advantages to using GLNs:

- **Multi-sector:** GLNs can be used by any company or organization, in any sector, in any part of the world. That makes inventory systems, ordering systems and accounting systems compatible across different industries. This enables healthcare manufacturers to use GLNs in supply chain communications with their customers and with their suppliers.

- **Flexible:** GLNs may be assigned to any location, providing maximum flexibility to meet the needs/requirements of all businesses anywhere in the world -- from loading docks at a warehouse, to production lines or specific points along a production line, to healthcare buildings on a government base, to nursing stations in a hospital. This avoids the nuisance of mapping and managing multiple proprietary numbers. In addition, it promotes precision and accuracy in identifying locations, and facilitates communication of reliable party and location information to supply chain partners and within the company/organization.

- **Simple:** GLNs enable companies/organizations to efficiently and effectively manage precise supply chain information for all of their various corporate identities and physical locations using standardized identifiers which they assign and control. In addition, the Registry uses a United State Postal Service standardization program which facilitates the use of the same addresses and address taxonomy for all supply chain partners.

- **Open:** A user can share their GLNs with anyone with whom they do business.

- **GLN Registry:** Use of the GLN enables users to leverage the GLN Registry. The Registry serves as a central resource of location and party information for all healthcare facilities and healthcare-related facilities in the United States, providing accurate, up-to-date party and location information on demand.

- **Automatic Data Capture:** Suppliers can encode GLNs in data carriers, such as bar codes and Radio Frequency Identification (RFID) tags, to support automatic data capture.

- **Enhanced Organizational Visibility:** Active use of GLNs in your business creates a structured party/location hierarchy that provides a precise business view of your organization. Such enhanced visibility of your organizational structure helps you to identify redundant business practices and inefficiencies in order to improve your business model.

Benefits to Healthcare Suppliers

GLNs enable healthcare companies and organizations to efficiently and effectively manage information about all of their legal entities, functional entities and physical locations using a unique, global standard for party/location identification. Using GLNs to identify your locations, your suppliers' locations as well as your customer locations in your IT systems and commercial transactions facilitates communication of reliable party/location information among supply chain partners, and translates to significant benefits in supply chain management, operational efficiency and competitive advantage. The use of GLNs should be a critical component of your global data alignment strategy.

Supply Chain Management

Use of GLNs facilitates communication of accurate party/location information among supply chain partners. In addition, it enables healthcare suppliers to efficiently and effectively manage information about all of its locations and facilities. This promotes more efficient business practices and helps to drive down supply chain costs. As a result, there are many supply chain management benefits from using GLNs:

- **Better cash flow:** Use of GLN streamlines chargeback and rebate processing, reducing the amount of money sitting in unresolved sales accounts. There is much antidotal evidence that manufacturer rebates are often sent to the wrong facility and returned months later. The universal adoption of GLNs would eliminate this float.

- **More efficient payment and reporting processes:** With the use of GLNs (aligned with Bill To addresses), invoices will be delivered to providers automatically and with fewer errors, resulting in quicker processing.

- **Reduced labor costs:** Use of GLN frees staff time by eliminating the need to build and maintain cross reference tables in order to keep track of multiple proprietary location identification numbers. In addition, use of GLN improves order accuracy, reducing the amount of staff time it takes to manage orders and resolve issues. Moreover, GLN is a fixed length, all numeric data structure which lends itself to greater data integrity checks.

- **Facilitate contract pricing:** Each GLN allows for positive location identification, ensuring that suppliers can easily determine provider eligibility for contract pricing as GPO rosters are aligned with GLNs.

- **Improved information quality:** Using the GLN as the link to party/location information improves information quality by ensuring that party/location information is identical among supply chain partners. This benefits both internal and external business processes.

- **Improved order and invoice accuracy:** Using GLNs improves order and invoice accuracy, reducing ordering mistakes and invoice disputes. This not only increases productivity within order and item administration, but also enhances customer satisfaction.

Operational Efficiency

Use of GLN across the corporation supports company-wide visibility and automatic data capture of location identifiers, thereby improving staff utilization and productivity. As a result, there are many operational benefits to be gained from using GLNs:

- Improved staff utilization and productivity: Supervisors and operators on production lines often spend considerable amounts of time reporting and documenting downtime on the line. Encoding GLNs in data carriers facilitates the transition from manual data collection to automatic data collection, enabling problems and downtime to be reported more efficiently and effectively. This improves staff utilization and productivity by reducing time spent on non-value added reporting activities and increasing time available for activities that improve the bottom line.

- Enhanced Organizational Visibility: Use of GLNs in all of your IT systems promotes consistency, precision and accuracy in identifying locations within your company. Use of a common data format across all systems provides enhanced visibility of your corporate structure and operations, enabling you to identify redundant business practices and inefficiencies.

Competitive Advantages

Use of GLN improves order accuracy and the processing of invoices and chargebacks, which improves customer satisfaction. In addition, there is growing momentum to adopt GLNs by healthcare providers and GPOs in order to support patient safety and supply chain efficiency. As a result, there are competitive advantages to be gained by suppliers using GLNs:

- Improved customer satisfaction: Using GLNs improves order and invoice accuracy, reducing ordering mistakes and invoice disputes. The GLN data format is standardized, which eliminates confusion and dispute among trading partners about the proper format for the identifier itself. In addition, the GLN Registry provides a quick reference to confirm that a GLN is a specific address and belongs to a certain facility's hierarchy. This ensures that the purchasing experience runs smoothly for healthcare providers, improving customer satisfaction.

- Rebates and chargebacks: Use of GLN improves both the supplier and GPOs roster of hospitals. This ensures that rebates and chargebacks are being properly applied, and supports suppliers in targeting these incentives to their best customers.

- Alignment with and support of customer iniatives: Increasing numbers of healthcare providers and GPOs are demanding and implementing GLNs to support patient safety and supply chain efficiency efforts. This can translate into competitive advantages and positive PR for healthcare suppliers moving quickly to align with these efforts ahead of the curve by implementing GLNs as well.

! **In addition to this tool kit for suppliers, GS1 Healthcare US has prepared a GLN tool kit for healthcare providers as well.   Because it describes the uses and benefits of GLN for healthcare providers (i.e., your customers), the provider tool kit may be a good resources for suppliers developing their competitive advantages business case. (A link to the *Healthcare Provider Tool Kit* is provided in the *References* page of this document.)**

2010 GLN Sunrise

To improve patient safety and supply chain efficiency, organizations and companies throughout the U.S. healthcare supply chain have announced their support to adopt GS1 standards by the industry-accepted sunrise dates of 2010 for the GS1 Global Location Number (GLN) to standardize location identification and 2012 for the GS1 Global Trade Item Number (GTIN) to standardize product identification. The "2010 GLN Sunrise" date (December 2010) established by the healthcare industry calls for the adoption of GLNs in lieu of custom account/location numbers. The benefits of such an adoption have been delineated throughout this Tool Kit. The GS1 Healthcare US Location Identification Workgroup has been and continues to clarify what this date means to the U.S. healthcare supply chain. Healthcare supply chain participants are working to meet the following GLN criteria by December 2010:

- GLNs are assigned by location owners.

- GLNs are used in appropriate business transactions and processes between trading partners.

- GLN hierarchy is defined and maintained by location owners.

- GLN Registry is used to facilitate correct location identification.
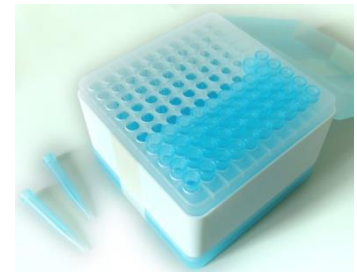
For more information on the 2010 GLN and 2012 GTIN Sunrise can be found at www.gs1us.org/hcsunrise.

Implementing GLNs in Your Company

So, what exactly does it take to implement GLNs in your company? What are the steps and who is involved? This section answers these questions with detailed, step by step instructions for implementing GLNs. These steps involve critical areas such as establishing executive support, determining an enumeration strategy, forming cross-functional teams, creating internal and external communication strategies, initiating customer involvement, and establishing standard operating procedures.

> For links to all of the *Tools* listed in the implementation steps, please refer to the *References* section of this document.

Advanced Preparation: Checking Location Status

Many healthcare suppliers may already use GLNs in correspondence with other market verticals such as retail customers, office equipment suppliers, or with another country. As a result, suppliers need to conduct some preliminary research before they begin the GLN implementation process. First, suppliers should check with GS1 US to determine if their company has a GLN assigned and if their company is already enumerated in the GLN Registry. Next, suppliers should conduct due diligence and internal research to determine if and where GLNs are currently being used in your company, and who or what department is responsible for issuing them. For example:

- Does your company do any business in the retail / grocery / hard line sector? If so, many companies in this sector, from Wal-Mart to SUPERVALU to Cabala's, require GLNs from their suppliers.

- Does your company use a data pool to access the GDSN in any of these sectors? If so, GLNs for your company may have been registered there for data synchronization. GS1 US recommends that you contact 1SYNC™ at +1 866.280.4013 to determine if your company uses their data pool services. There is also a 10% subscription discount to the GLN Registry if your company uses 1SYNC.

- Does your company do business in any other countries? If so, some countries (e.g., Turkey) require a GLN be provided as part of their national product data registry.

Once this research is complete, suppliers need to determine if GLN enumeration has already been defined or a standard operating procedure created for the company. *What exactly is "enumeration"?* At a very basic level, enumeration is the establishment of a hierarchical view of how a company wants to represent itself, and the definition of GLNs for all of the locations represented in that hierarchy. Enumeration involves the listing of all of the relevant addresses of a healthcare company/organization within internal databases to share with customers in the GLN Registry and/or GDSN. Even if your company has assigned a few GLNs, it may not have enumerated your corporate hierarchy.

Because each organization varies, begin by reviewing all of the implementation steps in their entirety, and then decide where to start based on your organization's current GLN implementation status (e.g., enumerated by GPO; partially implemented in internal systems, etc.), as well as your organizational requirements and priorities. The benefit a company realizes initially varies depending on the requirements of their customers and their internal system readiness. Some suppliers believe that roster alignment is of initial benefit. Other suppliers have initially started with transactions based on their customer requirements.

! **Finding out whether your company is already enumerated is the necessary advanced preparation for all suppliers implementing GLN. If a supplier is already enumerated, their implementation process needs to work with the current GLN enumeration, determining if it meets your needs and making adjustments where necessary. If a supplier is not already enumerated, they can work from a blank slate to define their enumeration from scratch. Either way, all suppliers still need to follow the steps below to implement GLN in their organization, regardless of whether they are already enumerated or not.**

Step One: Establish Executive Support

The goals in this step are to inform and educate executive management on standards adoption and the need for industry-wide implementation, and to obtain executive approval to proceed with GLN implementation. Many times this step is initiated in response to external pressures like a "Dear Supplier" letter from a major customer. As with any project that will impact the business processes of the organization, the support of senior management is critical. Many managers may already be familiar with the term GLN through dialogues with your customers.

Actions

- Prepare a presentation on the value of GLN and a GLN implementation plan. Consult this Tool Kit for information to support your presentation.
- Gather "Dear supplier letters," GPO announcements, 2010 GLN Sunrise information, and competitor's progress in this area as part of the intelligence gathering process to support the business case.
- Use the *Standardization…Stat!* awareness video developed by the healthcare industry to increase awareness, at all organizational levels, of the need for standards adoption.
- Consult use cases such as the Mayo Clinic / Cardinal Health GLN Implementation White Paper, the Seton Family of Hospitals / BD Success Story, and the GLN GPO Roster Pilot.
- Contact GS1 Healthcare US for standard presentation charts.
- Deliver the GLN presentation and implementation plan to senior management.
- Secure approval to initiate the project and form the needed teams (i.e., *the GLN Management Advisory Group and the GLN Registry Operational Team*).

Tools

- **GLN presentation and industry use cases from the GS1 Healthcare US Online Document Library *Location Identification* folder**
- ***Standardization…Stat!* industry awareness video from the GS1 Healthcare US Website**
- **Announcements from the GS1 Healthcare US Online Document Library *Industry Announcements* folder**
- **2010 GLN Sunrise information**

! **In addition to this kit for suppliers, GS1 Healthcare US has prepared a GLN tool kit for healthcare providers as well.   Because it describes the uses and benefits of GLN for healthcare providers (i.e., your customers), the provider tool kit may be a good resources for suppliers developing their competitive advantages business case. (A link to the *Healthcare Provider Tool Kit* is provided in the *References* page of this document.)**

Step Two: Form a GLN Management Advisory Group

The goal in this step is to establish an Advisory Group. Formation of a cross-functional Group including members outside of supply chain functions promotes buy-in, supports communication efforts, and ensures proper input from the areas most impacted by implementation.

Actions

- Recruit and solicit commitments for participation. The Group should include:
  - eBusiness/EDI Coordinator
  - Financial Controller
  - Legal Counsel
  - Supply Chain Distribution
  - Information Systems
  - Accounts Payable
  - Public Relations (internal)
  - Group Purchasing Representative
  - Primary Distributor Representative

Tools

- **GLN presentation materials (prepared in Step 1 above)**
- **GLN Registry User Guide**

Step Three: Establish Your GLN Registry Operational Team

The goal in this step is to establish a GLN Registry Operational Team. The day-to-day utilization and maintenance and funding of the GLN Registry as a support tool will require the involvement of multiple individuals. There must be one person (i.e., the *Primary Point of Contact*) that has the primary responsibility to build and load the supplier hierarchy in the Registry. In addition, a supplier can assign several *Viewer* roles to the Registry with one subscription.

Actions

- Identify and select the Primary Point of Contact.

- Identify and select initial viewers roles within your company. The number of viewer roles may increase if the need to provide access to the field representatives evolves/increases.

- Establish the role of each participant. For example:

  ➢ The Primary Point of Contact will be responsible to load and maintain the company files in the Registry and request customer file downloads when necessary. The Primary Point of Contact should create and maintain a standard operating procedure for subsequent replacements with removal of passwords from company employees if their duties change or they obtain employment outside the company.

  ➢ Viewers may need access when visiting customers

- Update job descriptions to reflect the new responsibilities of the team members.

- Provide education and training.

  ➢ Training, at a minimum, should include "What is a GLN?," "What is the GLN Registry?", 2010 GLN Sunrise information, your company GLN, and how to obtain access to the GLN Registry.

Tools

- **GLN presentation materials** *(prepared in Step 1 above)*
- **Announcements from the GS1 Healthcare US Online Document Library** *Industry Announcements* **folder**
- **2010 GLN Sunrise information**
- **GLN Registry Overview**
- **GS1 Healthcare US Web Seminars**
- **GS1 US Minnesota GLN Pilot Report Phase 1: Lessons Learned**
- **GS1 US Minnesota GLN Pilot Report Phase 2: Process Map**
- **Mayo Clinic / Cardinal Health GLN Implementation White Paper**
- **Seton Family of Hospitals / BD Success Story**

Step Four: Develop & Initiate Project Communication

The goal in this step is to inform your community of your commitment to GLN implementation. Utilize internal communication tools such as newsletters and intranet to introduce the concept and benefits of the GLN and the GLN Registry to your company, and external communication tools like websites and corporate letters for your customers and suppliers. The Advisory Group member from Public Relations should be enlisted in this effort. This effort should announce that your company is readying to use GLNs in both its external and internal communications.

Actions

- Announce company commitment to GLN and the GLN Registry in internal communications like newsletters & other media.
- Announce commitment to implement GLN standards in external communications with your customers and suppler community.

Tools

- **GLN presentation materials** *(prepared in Step 1 above)*
- **Announcements from the GS1 Healthcare US Online Document Library** *Industry Announcements* **folder**
- **GLN Registry User Guide**
- **Supplier letter template (see Appendix A)**

Step Five: Initiate Education for the Advisory Group & Operational Team

The goal in this step is to educate company participants. A base level of knowledge about GLNs, the GLN Registry, GS1 Healthcare US and GS1 standards is necessary for all active participants.

Actions

- Participate in web seminars.
- Train staff utilizing GLN work teams both free and fee based.
  - GS1 Healthcare US Location Identification Workgroup
    - Meets weekly, Wednesday, 3:00 PM ET. Must be a GS1 Healthcare US member to participate.
  - GLN Registry Steering Committee
    - Meets monthly, 1st Wednesday, 11:00 AM ET. Must be a GLN Registry subscriber.
  - GLN Registry Technical User Subcommittee
    - Meets monthly, last Monday,11:00 AM ET. Must be a GLN Registry subscriber.
  - GLN Registry User group
    - Meets monthly, 2nd Tuesday 11:00 AM ET. Open to all.
  - GLN Registry Web Seminar
    - Held monthly, Wednesday 2:30 PM ET. Requires registration. Open to all.
  - GS1 Healthcare GLN Work Group
    - Meets every other Wednesday 10:30 AM ET. Open to all.

Tools

- **GLN presentation materials** *(prepared in Step 1 above)*
- **Announcements from the GS1 Healthcare US Online Document Library** *Industry Announcements* **folder**
- **2010 GLN Sunrise information**
- **GLN Registry User Guide**
- **GLN Registry Overview**
- **GS1 Healthcare US Web Seminars**
- **GS1 US Minnesota GLN Pilot Report Phase 1: Lessons Learned**
- **GS1 US Minnesota GLN Pilot Report Phase 2: Process Map**
- **Mayo Clinic / Cardinal Health GLN Implementation White Paper**
- **Seton Family of Hospitals / BD Success Story**
- **GLN GPO Roster Pilot Report**
- **GLN Workgroups**

Step Six: Assess Information System Issues & Make Necessary Changes

The goal in this step is to evaluate the readiness of your information systems, and make the appropriate system changes required to accommodate the use of GLN. The capability of your information system to contain and utilize GLN numbers must be assessed, and the necessary changes made. The necessity of parallel files between the old location numbers and GLNs must be discussed, and a sunrise date should be determined keeping in mind the 2010 GLN Sunrise date.

Actions

- Meet with your IS system experts, internal and external, to review your implementation strategy and understand the implications for your information systems.
- Establish a collaborative plan to make the necessary changes and prepare information systems to meet or beat GPO sunrise dates for GLN.

Step Seven: Identify/Allocate Your GLNs

The goal in this step is to allocate your GLN number(s). In this effort, you must consider your company's GLN strategy and current customer requirements and then align the two. Specifically, you must determine whether your company will allocate GLNs to the main corporate address only, or to divisions, departments, receiving locations, etc. as well. This decision should be made as part of your company's overall business plan. If your company has not yet made a firm decision as to GLN strategy, it is recommended that you use the GLN assigned to corporate, and then assign others as the strategy develops and as business needs dictate.   GS1 US provides an online tool, known as Data Driver®, to support users in allocating GLNs and defining the associated attributes. (See Appendix B for more information about Data Driver.)

! **Many suppliers may already have a GLN for their top level, corporate legal entity either from subscribing to the GLN Registry or subscribing to GS1 US. The actions below instruct you on how to determine if your company has already been assigned a corporate GLN, and how to proceed either way.**

Actions

- Contact GS1 US to determine if a corporate legal entity GLN has already been assigned to your company and if your company has subscribed to the GLN Registry:
- *If a corporate GLN has already been assigned and your company has subscribed to the GLN Registry:*
    - ➢ Ask GS1 US for the specific office in your organization and the point of contact for that corporate GLN and the GLN Registry.
    - ➢ Request and obtain a Viewer pass from that office/point of contact.
    - ➢ Begin the process to define hierarchy for the rest of your GLNs jointly, if required.
- *If a corporate GLN has been assigned but your company has not subscribed to the GLN Registry:*
    - ➢ Subscribe to the GLN Registry.
    - ➢ Create the first record for your company in the Registry.
    - ➢ Begin to enumerate your hierarchy if needed *(see Step 8).*

Tools
- **GLN Registry User Guide**
- **GLN Registry Website**
- **GLN Allocation Rules**
- **Data Driver (Appendix B)**

Step Eight: Establish Implementation Strategy

The goal in this step is to establish a GLN utilization strategy and corresponding hierarchal organizational chart (e.g., warehouse system hierarchy; divisional hierarchy; etc). The establishment of your organization's GLN hierarchy is a critical step in the implementation process. It is necessary to consider not only how business is currently conducted, but also future business processes and supply system possibilities. In order to do that, current and possible distribution and billing systems must be clearly understood. It should be noted that implementation and use of GLN in healthcare and global business is an on-going process.

Actions

- Analyze your organization's current and future supply chain models and distribution systems.
- Consider organizational expansion to include new locations.
- Identify the depth of locations that your GLN numbering system will need to identify to support operations. Examples:
  - Send Payments To: a location where customers remit payments.
  - Bill To: a location where invoices from your suppliers are sent for payment. (For example, accounts payable.)
  - Ship To: a location where your supplier delivers products. (This is normally a bulk delivery location like a receiving dock, central warehouse, etc.)
  - Deliver To: a location deeper within a company location where a supplier delivers supplies (e.g., direct delivery locations for *Just in Time* systems, floor location, vending machines, employee's desk, etc.).

Tools

- GLN Registry User Guide
- GS1 Healthcare US Web Seminars
- GS1 US Minnesota GLN Pilot Report Phase 1: Lessons Learned
- GS1 US Minnesota GLN Pilot Report Phase 2: Process Map
- Mayo Clinic / Cardinal Health GLN Implementation White Paper
- Seton Family of Hospitals / BD Success Story
- GLN GPO Roster Pilot Report

Step Nine: Build Your Initial GLN Database

The goal in this step is to enter the company GLNs into the GLN Registry. Specific information for each location that has been identified for enumeration must be gathered for this effort.

Actions

- Build your organization hierarchy in the GLN Registry based on your business model.
- Review with Advisory Team and Operational Team.
- Remember the importance of maintaining the hierarchy and establish administrative rules for its upkeep.

Tools

- GLN Registry User Guide
- GS1 Healthcare US Web Seminars
- GS1 US Minnesota GLN Pilot Report Phase 1: Lessons Learned
- GS1 US Minnesota GLN Pilot Report Phase 2: Process Map
- Mayo Clinic / Cardinal Health GLN Implementation White Paper
- Seton Family of Hospitals / BD Success Story

Step Ten: Engage Customer & Supplier Involvement

The goals in this step are to prepare your customers and supplier community and identify partner(s) for testing. This is the most important step in this process. *What do your customers want?* Collaboration and communication with your customers and suppliers is critical to implementation success. So, now that an implementation plan and initial Registry hierarchy has been established, review recent use cases (especially the Mayo Clinic / Cardinal Health GLN Implementation White Paper) and engage strategic partners in a process of communication about your company's plans. It is recommended that a trusted partner be selected first to align the initial implementation. Many manufacturers recommend that the roster alignment with the GPO involved should be accomplished concurrently. (Please review the GLN GPO Roster Pilot Report.)

Actions

- Explain implementation and GLN hierarchy structure.
- Determine customer capabilities.
- Determine supplier capabilities
- Analyze impact to operations and staff.

Tools

- **GS1 US Minnesota GLN Pilot Report Phase 1: Lessons Learned**
- **GS1 US Minnesota GLN Pilot Report Phase 2: Process Map**
- **Mayo Clinic / Cardinal Health GLN Implementation White Paper**
- **Seton Family of Hospitals / BD Success Story**
- **GLN GPO Roster Pilot Report**

Step Eleven: Conduct Transactional Testing With Customers & Suppliers

The goal in this step is to successfully exchange purchase transactions with your customers and suppliers. At this point, you are ready to conduct transactional tests. The testing process will provide validation of the initial hierarchy, information system capabilities and operational impact.

Actions

- Document critical success factors.
- Make adjustments during transactional testing as issues are identified.
- Communicate with community.

Step Twelve: Make Adjustments to Initial GLN Hierarchy & Implementation Plan

The goal in this step is to keep the hierarchy consistent with your company's business model and to ensure that it remains accurate in order to obtain maximum benefit and to ensure accurate delivery locations. This is an iterative process based on your transactional testing with customers and suppliers.

Actions

- Based on test results, make the necessary adjustments to all aspects of the program, from hierarchy through communications.
- Repeat as necessary throughout testing.

Step Thirteen: Create Standard Operating Procedures

The goal in this step is to document standard operating procedures and obtain sign off, both internally and externally. Following testing and the implementation of the necessary adjustments, it is necessary to prepare standard operating procedures for internal and external staff. The Advisory Group and Operational Team should be heavily involved in this process. Much research has been done to determine if there is a generic template for standard operating procedure for supplier in other industries. At the time of this document none were available. Several areas to consider when establishing a standard operating procedure include:

- Establishing the owners of GLNs and the GLN Registry for your company.
- Procedures for the transition of roles due to a personnel change within the company.
- Procedures for adding and deleting locations within the GLN Registry. (This may include signoffs needed by executive management for command and control purposes.)
- Establishing a consistent enumeration and hierarchy strategy for your company. For example: at what level should all *Deliver To* addresses be displayed; at what level should supplier reporting occur for your organization.

Analyzing the GLN ROI for Your Company

In today's dynamic healthcare environment of declining reimbursement and a reduced labor pool, healthcare suppliers expressed a need to establish a return on investment (ROI) for the use of GLN. Indeed, demonstration of positive ROI for GLN supports companies challenged daily by the allocation of scarce resources.   This section provides guidance and a model to help each company determine their own return on investment based on their individual needs and circumstances. The model is provided as a starting point for any company wishing to pursue ROI analysis.

! **It is good to note that beyond the analysis provided in this section for the ROI of GLN alone, additional benefits and ROI can be found in the implementation of GLN as part of the implementation of the full GS1 System of standards, including Global Trade Item Numbers (GTIN) and the Global Data Synchronization (GDSN). (For more information about GTINs and the GDSN, please refer to the *Healthcare Supplier Tool Kit* prepared on those topics by GS1 Healthcare US.) Moreover, most "early adopter" organizations have realized additional value in unanticipated areas like process improvement and infrastructure development. And, many have noted the value of a new "business philosophy" or way of doing business which places the company in an advantageous position to address some of the upcoming challenges anticipated in healthcare over the next few years.**

Hot Spots for ROI

There are various functions and business processes which will be directly impacted and improved through the use of GLN. These functions and business processes serve as "hot spots" for capturing return on investment of GLN implementation. In order to support your ROI analysis, a list of ROI hot spots is provided below. Begin your ROI analysis by determining the amount of staff time and resources currently allocated to each of these functions. In addition, determine the amount of manual error corrections being done in each function as well.

Supply Chain Management

Record the number of items that do not arrive to the intended location, and the amount of staff it takes to track these items down. Consider each of the following scenarios both before and after GLN implementation:

- Right product, wrong place.

- Errors due to product being shipped to wrong location because of error *in address* within right hospital system.

- Error due to product being shipped to wrong location because of *error in name of facility* within the right hospital system.

- Error due to product being shipped to wrong location because of error in name of facility *outside of right hospital system.*

- Problem with a shipment due to the supply chain partner designating the physical and legal locations, and not the provider.

In addition to those scenarios, also consider the following:

- How long is the list of proprietary or custom "customer location numbers" assigned to your customers that must be maintained -- before and after GLN implementation?

- How long is the list of proprietary "customer location numbers" assigned to your company by your suppliers -- before and after GLN implementation?

- Distributors need to reconcile proprietary "customer location numbers" assigned by all of the parties to all of the various hospitals in order to process rebates. However, this can be a daunting and time-consuming task considering the sheer number of manufacturers, suppliers and hospitals – as well as the number of deliveries, which run into the thousands each month.

Operational Efficiency

In terms of labor management, consider the following before and after GLN implementation:

- Hours devoted to tracking customer identification numbers.

- Hours devoted to dealing with location problems and errors.

- Hours devoted to manual data collection at manufacturing and packaging facilities.

Competitive Advantage

In terms of competitive advantages, consider the following metrics which are indicators of customer satisfaction:

- Customer retention statistics
- Response time to customers
- Number of complaints
- Issue resolution rate (% and time)
- Error rates
- Customer value (computed as sales per customer, or lifetime value of customer)

ROI Model

The following spreadsheet illustrates a supplier-anticipated ROI based on the above analytical factors. (Please note all numbers are fictional.)

Table 2: Sample GLN ROI Model

	Indicates a provider entered field	
	Indicates a calculated field	

Costs (ALL NUMBERS ARE EXAMPLES ONLY)

	Year 1 (top 10% suppliers)	Year 2+ (all suppliers)
GS1 Fees	$3,500	$3,500
System enhancements to support GLN	$10,000	$0
Staff to maintain GLN Registry	0.25	0.25
Avg Fully Loaded Cost/Staff Member	$50,000	$50,000
Staff cost to maintain GLN Registry	$12,500	$12,500
Total Annual Cost	**$26,000**	**$16,000**

Savings (ALL NUMBERS ARE EXAMPLES ONLY)

	Year 1 (top 10% suppliers)	Year 2+ (all suppliers)
Dealing with errors *due to mis-aligned provider location data*		
Shipping errors due to mis-aligned location data		
# of mis-shipments per year	480	480
% mis-shipments reduced after GLN adoption	50%	80%
Staff focused on dealing with mis-shipments	2	2
Avg Fully Loaded Cost/Staff Member	$50,000	$50,000
Staff focused after GLN adoption	1	0.4
Staff savings after GLN adoption	$50,000	$80,000
Non-staff savings		
Other annual costs associated with mis-shipments	$5,000	$5,000
Other savings after GLN adoption	$2,500	$4,000
Shipping Errors Annual Savings	**$52,500**	**$84,000**
Pricing/contract errors due to mis-aligned location data		
# of orders with contract pricing errors per year	9500	9500
% of errors reduced after GLN adoption	25%	90%
Staff focused on dealing with contract pricing errors	1.5	1.5
Avg Fully Loaded Cost/Staff Member	$50,000	$50,000
Staff focused after GLN adoption	1.125	0.15
Staff savings after GLN adoption	$18,750	$67,500
Non-staff savings		
Net $ pricing OVERpayment per year	$100,000	$100,000
Pricing OVERpayment savings after GLN adoption	$25,000	$90,000
Net $ rebate UNDERpayment per year	$25,000	$25,000
Rebate UNDERpayment savings after GLN adoption	$6,250	$22,500
Contract Pricing Errors Annual Savings	**$50,000**	**$180,000**

Managing supplier accounts

# of location changes per year	15	15
# of suppliers	2000	2000
# suppliers expected to adopt GLN	10%	100%
Staff focused on managing supplier notification and accounts	0.5	0.5
Avg Fully Loaded Cost/Staff Member	$50,000	$50,000
Staff focused after GLN adoption	0.45	0
Staff savings after GLN adoption	$2,500	$25,000
Managing Supplier Accounts Annual Savings	**$2,500**	**$25,000**
Total Annual Savings	**$105,000**	**$289,000**

Net Savings (NUMBERS ARE EXAMPLES ONLY)

	$79,000	**$273,000**

(Total Savings) – (Total Costs)

Other Potential Benefits (filled in by supplier):

* Improved operational efficiencies
* Improved reporting with consistent identifiers
* More time to focus on other priorities
* Reduce loss due to products requiring special handling going to wrong locations
* Improved understanding of suppliers M&A, re-orgs, etc.

Things to consider:

Which transactions make sense to focus on first?
What changes may be necessary to your internal systems?
What customers/suppliers are most critical to get on board first?
Who in your company should be involved in the process?
Clear roles & responsibilities for all parties.
What benefits won't be realized until GLN adoption occurs?
What additional benefits will be provided with GLN adoption?

Lessons Learned & Best Practices

The following materials illustrate lessons learned and best practices for GLN implementation. The documents can be found in the GS1 Healthcare US Online Tools & Resources. (Visit www.gs1us.org/healthcare to download.) In addition, links are provided in the *References* section of this Tool Kit.

- Success Story: How GLNs and the GLN Registry for Healthcare provided a savvy supplier with a solid foundation for growth.

- Success Story: Healthcare supplier Steris implemented GLNs in record time to stay in the forefront of GS1 Standards adoption

- Mayo Clinic / Cardinal Health GLN Implementation White Paper

- Seton Family of Hospitals / BD Success Story

- GS1 US Minnesota GLN Pilot Report Phase 1: Lessons Learned

- GS1 US Minnesota GLN Pilot Report Phase 2: Process Map

- GS1 Healthcare US GLN GPO Roster Pilot Report

Frequently Asked Questions (FAQs)

What is a GLN or a Global Location Number?

The Global Location Number (GLN) is a 13-digit numeric identification number for supply chain parties and/or locations. There is an associated name and address, "tied" to each unique number and it is specific to only one, exact and very precise location within the world. The GLN is a unique number that identifies any legal, functional, or physical location within a business or organizational entity such as:

- Legal entities: whole companies, subsidiaries or divisions such as Integrated Delivery Network (IDN), hospitals, suppliers, distributors, banks, freight carriers, etc.

- Functional entities: purchasing departments within legal entities, accounting departments, returns departments, nursing stations, wards, etc.

- Physical entities: warehouses, loading docks, delivery points, hospital wings, particular rooms in a hospital, cabinets, cabinet shelves, etc.

What are examples of locations that can be assigned GLNs?

GLNs are reference keys for retrieving information from databases about: whole companies, subsidiaries or divisions such as Integrated Delivery Network (IDN), hospitals, suppliers, distributors, banks, freight carriers, purchasing departments, accounting departments, returns departments, nursing stations, hospital wards, rooms in a hospital, warehouses, loading docks, delivery points, cabinets, cabinet shelves, hospital wings, etc.

Why do I need a Global Location Number (GLN)?

Do you buy products from the same pharmaceutical companies that sell to retailers? How about food companies that also sell to restaurants and grocery stores? How about linen and textile companies that also sell to retailers? Do you ever buy anything from local retail stores?

Hundreds, perhaps thousands, of companies that do business with your organization also sell to customers in other industries. If so, they are already using GLNs with these customers. For this reason, it makes sense for U.S. healthcare to adopt a customer identification standard that is the same as the number being used by the suppliers in these other industries. The Committee for Healthcare eStandards (CHeS) recommends the use of the Global Location Number (GLN).

The GLN is an open global standard that supports 23 major industries conducting business in more than 150 countries worldwide. Since healthcare is a key component of the global economy, it simply does not make sense for U.S. healthcare to be its own island and have its own healthcare specific customer identification standard.

How and when do I use my Global Location Numbers (GLN)?

Customers use their GLNs whenever they communicate business transactions with suppliers and other trading partners outside of their organization. The GLN is an identification number for business communications because it uniquely identifies your organization across the entire supply chain with all suppliers, group purchasing organizations (GPOs), etc. Here are some more specific examples of when it is used:

- Ordering products

- Processing supply related order and invoicing inquiries

- Claiming manufacturer rebates

- Corresponding with suppliers

- For all other standard business transactions with manufacturers, distributors, group purchasing organizations, or any other stakeholder across the supply chain.

Do GPOs, manufacturers, distributors and other suppliers also have GLNs?

Yes, many of the suppliers that you do business with already have GLNs, within and outside of the U.S. healthcare industry. It is time to bring all of U.S. healthcare into these common and proven business practices of many other industries within the U.S. and around the world.

Can I use a supplier's GLNs within my systems to uniquely identify them?

Yes, using the supplier's GLNs as the standard supplier identification number within your purchasing, accounts payable, and in other systems where exact supplier information must be used is recommended.

What other industries use the GLN?

There are 23 other industries using GLNs, including: Apparel and Fashion Accessories; Building Supplies; Chemicals; Food and Beverage; Foodservice; Furniture; Baby Products; Office Supplies; Domestics/Linens; Healthcare - Over the Counter; Pharmaceuticals; Medical/Surgical; Maintenance; Repair and Operation (MRO); Computer Hardware/Software/Electronics; Lawn & Garden; Photographic Equipment; Publishing; Telecommunications; and Utilities-Power Transmission.

Why should my organization adopt GLNs now?

The adoption of GLN will: a) improve your pricing accuracy and revenue stream, b) eliminate the maintenance of thousands of single purpose proprietary supplier numbers, and c) improve the accuracy of your GPO sales reports.

Are there other location coding methods?

There are 196 different location coding methods recognized by ANSI X12, and 212 different location coding methods recognized by UN/EDIFACT. Some industries use proprietary seller generated location codes. Some use location codes assigned by accepted third party organizations. Some healthcare organizations have used DUNS +4 numbers to identify specific physical locations within their organization. (The use of DUNS +4 is primarily limited to North America.) This is a 13-digit number made up of two different pieces: a 9-digit number assigned by Dun & Bradstreet to identify an organization or a subset of an organization (DUNS) and a 4-digit number assigned by the organization or subset to uniquely identify a location within their own domain.

What are the advantages of GLNs?

The use of Global Location Numbers (GLNs) provides companies and healthcare organizations with a method of identifying locations, within and outside their company/organization, that is:

◆ Simple: an easily defined data structure with integrity checking that facilitates processing and transmission of data.

◆ Unique: GLNs are globally unique.

◆ Multi-sectoral: the non-significant characteristic of the GLN allows any location to be identified for any company and organization regardless of its activity anywhere in the world.

◆ Global: implemented around the world and supported by GS1 US and the international network of other GS1 Member Organizations, covering more than 100 countries, in the local language.

Why use GLNs instead of another identifier?

Any healthcare organization can design its own internal system and code structure to identify all the locations covering its operating requirements. Although an internal solution might seem to be the easiest and fastest way forward, when information is exchanged between computers of distinct healthcare organizations and companies this may present several problems, such as:

● Duplication: two or more supply chain partners may use the exact same location code to identify an internal location in their company/organization. There is no guarantee of uniqueness.

● Complexity: internal codes will have a variety of structures and formats, making application programming more complex and application changes costly.

● Significance: location codes that contain information related to the location in the code structure itself will become difficult to handle as the coding structure evolves to incorporate new meanings.

Can the GLN change?

If a location identified by a GLN changes, the party responsible for the GLN should change the details associated with the GLN on the related computer file (database) record. A GLN that has stopped being used will remain dormant for seven years before being reallocated; this is a specific requirement for healthcare provider facilities. The delay must allow time for all references of the old location number to be removed from trading partners' files. When the location number is re-used, the details relating to the location must be retransmitted.

How do we assign GLNs?

GLNs should be allocated sequentially and not contain `classifying' elements. For detailed information on assigning GLNs, see the GS1 GLN Allocation Rules at http://www.gs1.org/1/glnrules/.

Is the GLN an intelligent number? One than can be parsed into its component attributes?

The GLN is a non-logical number. It can not be parsed into its component part. The number in its entirety should only be used as a pointer to a database file.

Who communicates GLNs?

Normally, it is the responsibility of the company/healthcare organization assigning GLNs to keep business partners informed of all numbers issued and their associated information. Special care is needed if the ownership of the company/organization changes. However, in healthcare, the GLN Registry will be the single reference for all GLNs.

What are the benefits of GLNs?

There are many benefits of GLN, including:

● Can be used throughout the world with no need for trading partner(s) to assign proprietary numbers to ensure uniqueness.

● Saves time and money as the number can be moved quickly and confidently through the supply chain.

● May be assigned to any location ensuring ultimate flexibility of the Global Location Number (GLN) to meet the needs/requirements of all businesses anywhere in the world - from the hospital street address to the loading dock in the back, the surgery center on the 2nd floor, the supply closet nearby, the 3rd shelve of the supply closet, or the red bin on that shelve, and a hierarchical relationship for all.

● Enables users/customers to leverage the full functionality of the GS1 System.

● GLNs can be encoded in GS1-128 bar codes and physically marked onto:

   ● Trade units to identify the parties involved in the transaction (buyer, supplier).

   ● Transport units (consignor and consignee).

   ● Physical locations (place of delivery, place of departure, and point of storage).

What is meant by location?

The GLN is a unique data structure that identifies any legal, functional or physical location within a business or organizational entity such as:

- **Legal entities:** whole companies, subsidiaries or divisions such as supplier, customer, bank, forwarder, etc.

- **Functional entities:** a purchasing department within a legal entity, an accounting department, a returns department, a nursing station, a ward, a customer number within a legal entity, etc.

- **Physical entities:** a particular room in a hospital, warehouse, warehouse gate, loading dock, delivery point, cabinet, cabinet shelf, hospital wing, etc.

What is the relationship between a GLN, GTIN (e.g., U.P.C.) and GDSN?

GLNs are GS1 standards-based identifiers used to identify locations, and GTINs are GS1 standards-based identifiers used to identify trade items (products and services). Both are assigned/generated by companies based on their GS1 *Company Prefix* and the GS1 standards and Allocation Rules.

GS1 Identification Numbers provide the link between an object and the information pertaining to it. When users assign a GS1 Identification Number, they define a set of standardized information (*known as attributes*) about the object to which that identifier relates (e.g., size, weight, location). The GS1 System specifies the list of attributes that must be defined for each GS1 Identifier, and provides a precise definition as well as acceptable values and data formats for each attribute. Standardized attributes about *products* include core data like selling unit, item dimensions, and product classification. Once defined by the user, those attributes are then stored in a GDSN-certified Data Pool and shared with supply chain partners using the Global Data Synchronization Network (GDSN). Through this process, GS1 Identification Numbers not only identify an object, but also provide a link to information about that object..

I still have question, who can I call?

Contact GS1 US at:

GS1 US Customer Service
7887 Washington Village Drive, Suite 300
Dayton, OH 45459
+1 937.610.4222
info@gs1us.org
Monday - Friday 8:00 AM to 6:00 PM ET

Glossary

Visit the GS1 US Online Glossary for a complete list of terms – www.gs1us.org/glossary

Term	Glossary Definition
Attribute	A piece of information reflecting a characteristic of the object to which an identification number (i.e., GLN, GTIN, etc.) relates.
Bar Code	A precise arrangement of parallel lines (bars) and spaces that vary in width to represent data.
Company Number	A number allocated by the GS1 Numbering Organization. It is combined with the GS1 Prefix (for the GS1 Member Organization) to create the GS1 Company Prefix. The GS1 Company Prefix (i.e., the GS1 Prefix + the Company Number) uniquely identifies a company/provider.
Data Carrier	A physical or electronic mechanism that carries data (e.g., a bar code or RFID tag).
Data Standard	The entirety of all GS1 System data standardized in meaning and structure.
Data Structure	The GS1 System data structures defined in the various lengths required for the different identification purposes, which all share a hierarchical composition. Their composition blends the needs of international control with the needs of the user.
EDI	Acronym for Electronic Data Interchange (defined below).
Electronic Commerce	A method of business communications and management using electronic methods, such as electronic data interchange and automated data collection systems.
Electronic Data Interchange (EDI)	The computer-to-computer exchange of structured information, by agreed message standards, from one computer application to another by electronic means and with a minimum of human intervention.
Enumeration	The process of allocating GLNs to the key business sites of your entity.
GLN	Acronym for the GS1 Global Location Number (defined below).
Global Location Number (GLN)	The globally unique GS1 System identification number for legal entities, functional entities, and physical locations. The GLN is 13 digits, comprised of a GS1 Company Prefix, Location Reference, and Check Digit. Supply side trading partner locations generally include corporate headquarters, regional offices, warehouses, plants, and distribution centers. Demand side trading partner locations generally include corporate headquarters, divisional offices, stores, and distribution centers.
Global Trade Item Number (GTIN)	The globally unique GS1 System identification number for products and services. A GTIN may be 8, 12, 13, or 14 digits in length, represented as GTIN-8, GTIN-12, GTIN-13, and GTIN-14 respectively.
GS1 Company Prefix	A globally unique number assigned to companies/providers by GS1 Member Organizations to create the identification numbers of the GS1 System. It is comprised of a GS1 Prefix and a Company Number.
GS1 Prefix	A number with two or more digits, administered by GS1 that is allocated to GS1 Member Organizations or for Restricted Circulation Numbers.
GS1 System	The specifications, standards, and guidelines administered by GS1. GS1, through the Global Standards Management Process, manages the GS1 System to maintain the most implemented standards in the world.
GS1-128 Bar Code Symbol	A subset of the Code 128 Bar Code Symbol that is utilized exclusively for GS1 defined data structures. UCC/EAN-128 Symbols can be printed as stand-alone linear symbols or as a composite symbol with an accompanying 2D Composite Component printed directly above the GS1-128 linear component.

Term	Glossary Definition
GTIN	Acronym for the GS1 Global Trade Item Number (defined above).
Hierarchy	A classification structure that is arranged in levels of detail from the broadest to the most detailed. Each level of the classification is defined in terms of the categories at the next lower level of the classification.
Identification Number (ID)	A numerical designation that uniquely identifies an object in the supply chain. Identification numbers are used to retrieve information previously exchanged between trading partners and stored in their computer database files.
Location Number	See GLN above.
Location Reference	A number within a GLN assigned by various parties to identify a different entity.
Party	A Party (or location) is any legal, functional or physical entity involved at any point in any supply chain and for which there is a need to retrieve pre-defined information. A Party is uniquely identified by a Global Location Number (GLN).
Supply Chain Partner	A party to transactions in the supply chain, such as a supplier (seller) or a customer (buyer).
Trade Item	Any item (product or service) upon which there is a need to retrieve pre-defined information and that may be priced, ordered or invoiced at any point in any supply chain.

References

- **GLN Workgroups**

  To learn more about the various GLN workgroups, contact GS1 US at GS1HealthcareUS@gs1us.org

- **GLN Registry Website** *(click on "Sign Up" to subscribe)*

  http://healthcareportal.gs1us.org/

- **GS1 GLN Allocation Guidelines**

  http://www.gs1.org/1/glnrules/index.php/p=overview

- **GS1 Company Prefix**

  To obtain a GS1 Company Prefix, please call GS1 US at +1 937.435.3800.

- **GS1 US Data Driver**

  http://www.gs1us.org/resources/tools/data-driver

- **GS1 Check Digit Calculator**

  http://www.gs1us.org/resources/tools/check-digit-calculator

- **GLN Registry Overview**

  http://healthcareportal.gs1us.org/Default.aspx?TabId=36

- **GLN Registry User Guide**

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=769&ift=1

- **Online Healthcare Supplier Tool Kits**

  http://www.gs1us.org/industries/healthcare/tools-and-resources/healthcare-tool-kits

- **Healthcare Supplier GLN Quick Start Guide**

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=751&ift=1

- *Standardization …Stat!* **Industry Awareness Video**

  http://www.gs1ushealthvideo.com/

- **Industry Sunrise Dates**

  http://www.gs1us.org/industries/healthcare/standards-and-initiatives/industry-sunrise-dates

- Success Story: How GLNs and the GLN Registry for Healthcare provided a savvy supplier with a solid foundation for growth.

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=902&ift=1

- Success Story: Healthcare supplier Steris implemented GLNs in record time to stay in the forefront of GS1 Standards adoption

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=349&ift=1

- Mayo Clinic / Cardinal Health GLN Implementation White Paper

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=335&ift=1

- Seton Family of Hospitals / BD Success Story

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=866&ift=1

- GS1 US Minnesota GLN Pilot Report Phase 1: Lessons Learned

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=311&ift=1

- GS1 US Minnesota GLN Pilot Report Phase 2: Process Map

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=328&ift=1

- GS1 Healthcare US GLN GPO Roster Pilot Report

  http://www.gs1us.org//DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?did=325&ift=1

- GS1 Healthcare US Website

  https://www.gs1us.org/healthcare

- GS1 Healthcare US Tools & Resources

  http://www.gs1us.org/industries/healthcare/tools-and-resources/resources

- GS1 Healthcare US Web Seminars

  http://www.gs1us.org/industries/healthcare/education

Appendix A: Sample Supplier Letter

Supplier Name
Supplier Address
Supplier City, State, Zip

Date

RE: **Requirement for the use of GS1® Global Location Number (GLN) in all business documents**

Dear Supplier:

You are receiving this letter as a valued supplier/distributor to [*insert your organization name*]. In the last several years, there have been ongoing efforts to adopt GS1 commercial supply chain standards in U.S. healthcare. Government regulatory organizations, healthcare associations, group purchasing organizations and manufacturers have all supported the rapid adoption of these commercial standards**.** [*Insert your organization name*] has watched these efforts closely and has determined that now is the time to adopt GS1 standards in all of our business processes.

These GS1 standards are the same as seen in the retail/grocery industries through the use of the Global Trade Item Number® (GTIN®) for accurate product identification, GLN for accurate location identification, the Global Data Synchronization Network® (GDSN®) for product definition and data accuracy, and the United Nations Standard Products and Services Code® (UNSPSC®) for product classification.

Beginning [*insert date*], we will modify the terms and conditions in our contract language to require the use of the Global Location Number in all contracts and business transactions.

GLN – Global Location Number

A GLN is a 13 digit numerical code registered by the GS1 organization and is used to uniquely identify locations in 23 different industries including healthcare. The GLN will be used as a replacement for Customer Account numbers in e-commerce transactions, specifically in the purchase order, reply to purchase order, advance shipment, contact and catalog transactions.

In order to assist you in this transition process we urge each supplier to contact GS1 US at www.gs1us.org for the applicable specifications and standards.

Thank you in advance for your willing participation in this effort.

Appendix B: Data Driver

Data Driver® is a quick, easy-to-use online tool that defines and manages your product bar codes and location numbers, and enables you to send your product data to your customers easily and instantly. This helps you to meet your customers' requirements and get your products to market faster.

Data Driver makes it easy to:

- **Create and manage Global Trade Item Numbers (GTINs), including Universal Product Codes (U.P.C.s)**

- **Assign Global Location Numbers (GLNs)** - Data Driver manages and creates your location information

- **No standards knowledge is necessary** – Data Driver guides you with step-by-step instructions

- **Import your existing product and location data (GTINs and GLNs)**

- **Send your product information to your customers electronically, via data synchronization**

- **Online application – create and manage your bar codes and product data from anywhere, using any PC**

- **Create Product Sales/Marketing sheets with photos of your new and existing products**

Put These Data Driver Features To Work For You:

- Create new identification numbers for your bar codes (Global Trade Item Numbers/GTINs) or load and manage existing numbers for:

  - retail consumer units, inner packs, cases, pallets, including mixed cases and pallets

  - variable measure items sold by varying weight, such as wheels of cheese, or length, such as spools of cable

- Print your bar codes with a single click (UPC-A, UPC-E, and ITF-14 bar codes)

- Specify UPC-E bar codes, which are only supported by certain GS1 Company Prefixes

- Support multiple GS1 Company Prefixes

- Import your existing product and location data (GTINs and GLNs)

- Send your product data instantly to your retail customers, a cost-effective way to meet their data synchronization requirements

- Clone existing product data for easy entry of a new product

- Upload your product photos to create a *Product Sales/Marketing Sheet* to provide to your customers

- Generate a *Product Summary Sheet* containing all entered information about a product to share with trading partners

- Create a *Product Identification Detail Sheet* - to send to a vendor if you choose not to print bar code labels yourself or to provide to your product label designer if you choose to incorporate your bar code right on the package

- Link to an online directory of label vendors that can print your bar code labels

- Print a *New Product Worksheet* to quickly collect the information you need to enter into Data Driver

Data Driver Also Creates Global Location Numbers for e-commerce. You can also use Data Driver to create and manage Global Location Numbers (GLNs) for your company/organization to identify its physical locations. GLNs are communicated to your trading partners to identify your company/organization in e-commerce transactions and the Global Data Synchronization Network (GDSN). The Legal Entity GLN shown on your GS1 Company Prefix Certificate is already loaded in Data Driver. Data Driver is available exclusively to GS1 US Partner Connections members.

Appendix C: About Your GS1 Company Prefix

The GS1 Company Prefix is a globally unique number licensed to your company/organization by GS1 US, and the foundation to create the identification numbers of the GS1 System. The GS1 Company Prefix is what makes the identification numbers of the GS1 System unique. GS1 US assigns GS1 Company Prefixes in varying lengths, seven to 11 digits, depending on your needs. You may use this number to create U.P.C.'s for products and globally unique identifiers for locations, logistic units, assets, and more.

When you join to GS1 US Partner Connections and get your GS1 Company Prefix, a corporate legal entity GLN will also be automatically assigned to identify your company/organization by GS1 US. Your Legal Entity GLN is communicated to your trading partners to identify your company/organization in e-commerce transactions and the Global Data Synchronization Network (GDSN).

Appendix D: Generic 850 Purchase Order with GLN & GTIN

```
ST*850*5221004
BEG*00*SA*15875915**20040301
PER*BD*BUYER NAME*TE*5558881111
FOB*PP*OR*323-726-6271
DTM*002*20040315
TD5****M
N1*ST*John's Club - *UL*0641131030359          [GLN]
N3*800 South Park Drive
N4*Westmont*NJ                                   [GLN]
N1*VN*MEDICAL SUPPLIER*UL*00312300000017
PO1**20*CA*32.15*FX*UK*10031230481356*PI*8045502
PO4*2*5*LB
PO1**40*CA*44.22*FX*UK*10031230462706*PI*8045550
PO4*2*5*LB                                       [GTIN]
CTT*2**867*LB*15*CF
SE*16*5221004
```

Appendix E: Generic 856 Advanced Ship Notice (ASN) with GLN & GTIN

```
ST*856*347001
BSN*00*0021849*20040211*0706*0001
HL*1**S
TD1*CTN*55****G*7291.8*KG
TD1*PLT*2****G*7291.8*KG
TD5*B*2*SCAC*M
TD3*TL**6993006
REF*BM*0021849
DTM*011*20040211*0655
DTM*067*20040211*1730
N1*SF*P&G WHSE*UL*0068780152340 – Ship From party        [GLN]
N1*ST*Community Hospital*UL*0068780152357 – Ship to party
N3*KENNEDY ROAD                                          [GLN]
N4*DETROIT*MI*L6T 3G6*CA
HL*2*1*O
PRF*102345
TD1*CTN*55
TD1*PLT*2
HL*3*2*T
MAN*GM*00100370006802524594
PAL*6***25**********5                                    [GTIN]
HL*4*3*P
LIN**UK*10005780003108*LT*7295W340
```

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IAPMO

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