Healthcare

GTIN Adoption & Usage Model

Implementation Roadmap for U.S. Healthcare Supply Chain

Release 2.1, August 25, 2020

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Document Summary

Document Item	Current Value
Document Title	GTIN Adoption & Usage Model - Implementation Roadmap for U.S. Healthcare Supply Chain
Date Last Modified	August 25, 2020
Document Description	The purpose of this document is to support organizations with their initial GTIN implementation efforts, as well as provide guidance to expand or extend GTIN implementations. To that end, this document provides: - The GTIN Adoption and Usage Model - A detailed Implementation Roadmap for each level of maturity - A list of GTIN implementation resources

Log of Changes

Release Number – Date	Change
R1.0 – January 27, 2017	Release/publication
R2.0 – July 20, 2017	Updated name of document and a minor spelling correction
R2.1 – August 25, 2020	Expanded the explanations of how using Global Trade Item Numbers (GTINs) can benefit business processes across the supply chain, with new emphasis on the provider and clinician stakeholders

1 Executive Overview

Standards-based numbering systems are essential for efficient and effective communication of product information in supply chains. Without a standards-based approach, supply chain partners often assign their own proprietary product numbers. This results in multiple identifiers to manage and maintain for the same product, which can be time-consuming, error-prone and inefficient. To address this issue, numerous industry associations, advocacy groups, organizations, and companies throughout the U.S. healthcare industry support the adoption of the GS1 Global Trade Item Number® (GTIN®) to improve patient safety and supply chain efficiency.

In order to accelerate wide-scale adoption and implementation, an industry-accepted "sunrise" date was established for the adoption of GTIN in lieu of custom product numbers to standardize healthcare product identification by December 31, 2012. The *2012 GTIN Sunrise*, as it was known, focused on key target areas such as product identification, master data, order management, and the Global Data Synchronization Network™ (GDSN®). The GTIN Sunrise successfully increased adoption and implementation of GTIN across the U.S. healthcare industry, and generated the necessary momentum to drive industry change.

Today, GTIN implementation continues and grows across the U.S. healthcare industry. The inclusion of GS1 Standards in regulatory efforts like the U.S. FDA Unique Device Identification Rule ("the UDI Rule") and U.S. Drug Supply Chain Security Act (DSCSA) regulations have further extended adoption and use of GTINs. GS1 was selected as an FDA-issuing agency for UDI, enabling medical device suppliers to use GS1 Standards and GTINs for UDI requirements. Likewise, the pharmaceutical industry has long used GTINs and GS1 Standards, and the DSCSA is driving implementation focus on the use of GTINs to support track and trace capabilities. Beyond GTIN implementation for compliance reasons, many manufacturers are looking to leverage their GTIN implementations to realize supply chain efficiency benefits that can be gained from using GTINs in business processes internally and with their trading partners.

With so much progress, GS1 Healthcare US® engaged its members in renewed discussions around GTIN implementation in 2016. This effort focused on leveraging learnings from manufacturers, distributors, providers, Group Purchasing Organizations (GPOs), and solution providers to assist organizations in assessing their current state of readiness, and beginning or extending their implementation projects. The products of that effort included a high level Adoption and Usage Model and detailed Implementation Roadmaps. The Adoption and Usage Model helps healthcare companies assess where they are with GTIN implementation and use as an organization, and the Implementation Roadmaps identify the specific capabilities that need to be developed to attain each level of maturity.

This document seeks to support organizations with their initial implementation efforts, as well as efforts to expand or extend their implementations based on that work. To that end, this document provides:

■ the GTIN Adoption and Usage Model,

■ a detailed Implementation Roadmap for each level of maturity, and

■ a list of GTIN implementation resources.

✅ **Note**: As with all GS1 Standards and solutions, the GTIN Adoption and Usage Model is voluntary, not mandatory. It should be noted that use of the words "must" and "require" throughout this document relate exclusively to technical recommendations for the proper application of the standards to support the integrity of your implementation.

2 GTIN

GTIN is the globally unique GS1 Identification Number used to identify "trade items" (i.e., products and services that may be sold, delivered or invoiced at any point in the supply chain). GTINs are used to identify individual trade item units (like a box of 15 Brand X tissues), as well as all of their different packaging configurations (like a carton of six boxes of Brand X tissues). GTINs are assigned by the brand owner or manufacturer, and are encoded into data carriers (e.g., barcodes) and affixed to products, as well as used in business transactions (e.g., purchase order; invoice; etc.) to identify products. GTIN is a global standard utilized in over 25 industry sectors to identify, capture and share precise product information.

3 Industry Goals for GTIN Implementation

The 2012 GTIN Sunrise called for the industry-wide adoption of GTINs in lieu of custom part/product numbers by December 31, 2012 in order to standardize healthcare product identification. The GTIN Sunrise identified six goals to be achieved:

1. GTINs are assigned to healthcare products.

2. GTINs are marked on appropriate packaging levels.

3. GTINs are used in business transactions.

4. GTINs are scanned at points-of-delivery to enhance the clinical process.

5. GTINs are used in product returns and recalls.

6. GTINs are registered in a GS1 GDSN-certified Data Pool.

Together, these goals support a standardized approach to identifying, capturing and sharing precise product information across U.S. healthcare.

Benefits of Using GTINs

Healthcare Providers:

- Simplifies product identification with a single identifier used across all supply chain partners

- Enables providers to access and utilize manufacturer-defined product information to promote accuracy

- Provides an accurate view of the products to support correct contract pricing and to streamline rebate processing

- Reduces mis-shipments and time spent resolving order & invoice errors

- Provides the foundation for traceability to improve product recall processes, patient safety, device effectiveness data, accurate and efficient patient billing and reimbursement
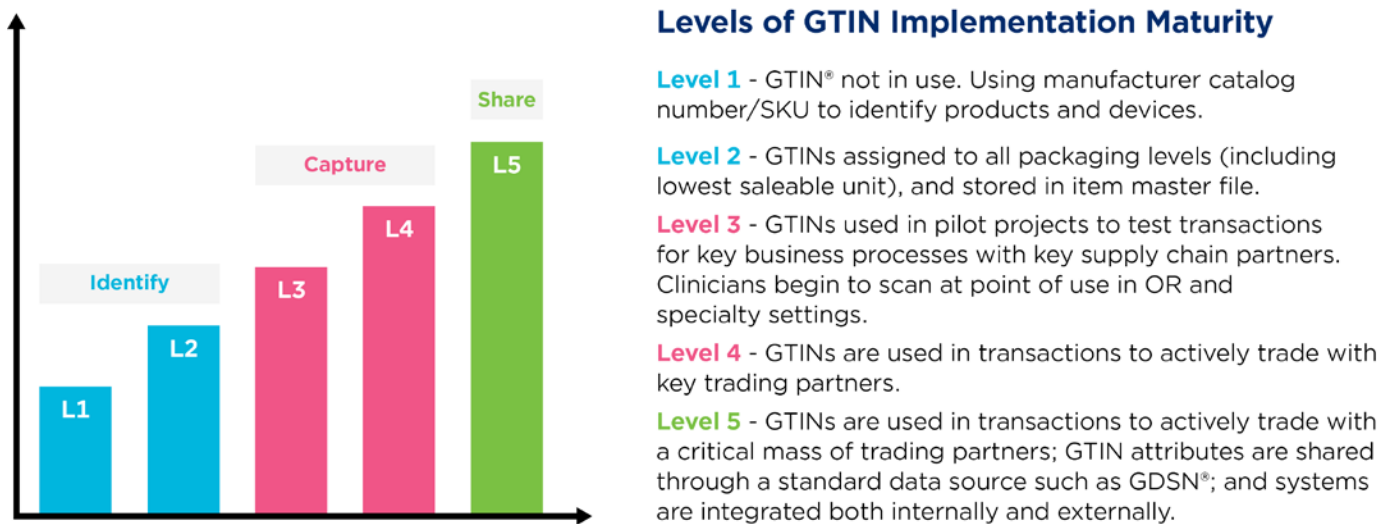
Healthcare Suppliers:

- Improves product management processes

- Streamlines sales tracing, administration fee reporting, rebate & chargeback processes

- Reduces time spent resolving order, pricing and invoice errors

- Improves customer satisfaction by enabling a smooth purchasing experience

- Provides a competitive advantage in meeting customer contract requirements

- Provides the foundation for traceability to improve product recall processes

- Supports regulatory compliance

4   GTIN Adoption and Usage Model

Building on the GTIN Sunrise goals, the GTIN Adoption and Usage Model defines five progressive levels of implementation capabilities from no use of GTINs through to fully-integrated use of GTINs across internal and external systems. These levels represent increasing sophistication, and increasing levels of benefits that can be realized.

Figure 4-1 Model for GTIN Adoption & Use

Levels of GTIN Implementation Maturity

Level 1 - GTIN® not in use. Using manufacturer catalog number/SKU to identify products and devices.

Level 2 - GTINs assigned to all packaging levels (including lowest saleable unit), and stored in item master file.

Level 3 - GTINs used in pilot projects to test transactions for key business processes with key supply chain partners. Clinicians begin to scan at point of use in OR and specialty settings.

Level 4 - GTINs are used in transactions to actively trade with key trading partners.

Level 5 - GTINs are used in transactions to actively trade with a critical mass of trading partners; GTIN attributes are shared through a standard data source such as GDSN®; and systems are integrated both internally and externally.
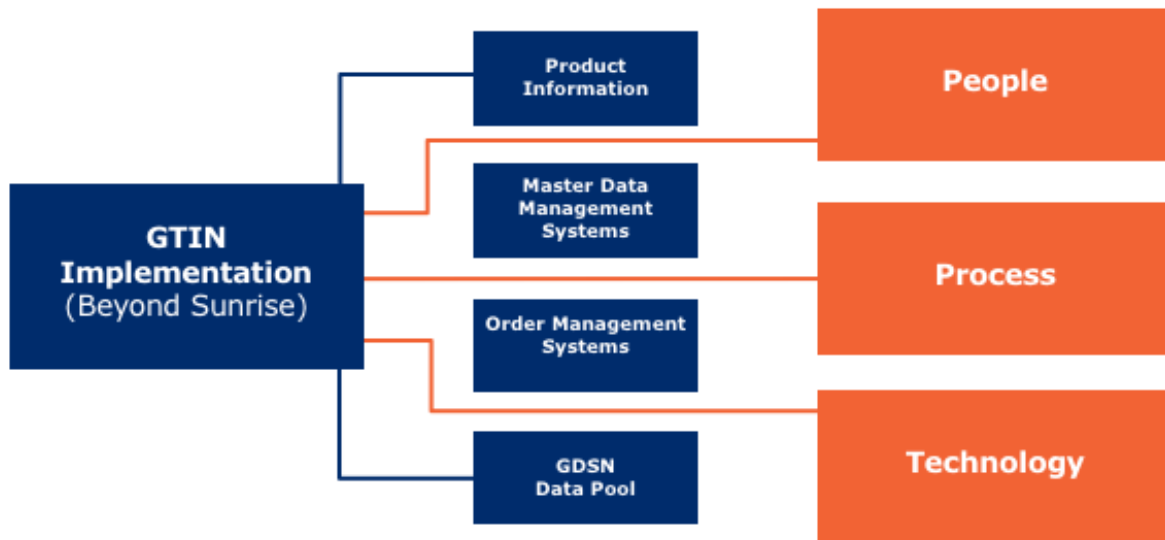
Organizations are encouraged to review the model to understand the full spectrum of GTIN maturity. With that understanding, organizations should use the model to assess where they are with GTIN implementation and use as an organization. This knowledge provides the starting point for the organization to continue its journey to advance its GTIN implementation and use.

Once an organization has determined this starting point, they can use the Implementation Roadmaps provided throughout the remainder of this document to examine and understand the capabilities and effort needed to achieve and/or progress through the various maturity levels.

5 Contextualizing the Effort

The GTIN Sunrise roadmap focused on the key target areas of product identification, master data, order management, and GDSN. What has been learned since the GTIN Sunrise is that there are three internal organizational factors that are critical to successful GTIN implementation and use: People, Process and Technology.

Figure 5-1 Key Elements of the GTIN Adoption and Usage Model

Based on that learning, the roadmap herein presents the actionable tasks for GTIN implementation in each maturity level around People, Process and Technology. Using this approach and focus can play a major role in helping to move an organization along the continuum of GTIN implementation maturity to achieve an optimized integration of the standard throughout the organization and its trading partners.

6 GTIN Roadmap

Once an organization has identified where they are in the GTIN Adoption and Usage Model, they can use the Implementation Roadmap provided throughout the remainder of this document to continue their journey to advance GTIN implementation and use within the organization.

The figure below presents a high level overview of the GTIN Roadmap and reflects the progression of capabilities an organization should consider when developing a GTIN implementation plan. This high level view is provided to help organizations understand the capabilities and effort needed to achieve and/or progress through the various maturity levels.

Figure 6-1 GTIN Roadmap

	Level One **Awareness**	Level Two **People and Process**	Level Three **Systems and Partners**	Level Four **Transact and Extend**	Level Five **Optimize**
	Communicate and Educate	*Enumerate and Develop Accuracy Processes*	*Align Systems and Attributes*	*Use GTINs instead of Proprietary Numbers*	*Maintain and Share*
People	▪ Assess impending regulatory requirements, and ability to meet or exceed requirements. ▪ Commit to implement. ▪ Inform organization and supply chain partners.	▪ Educate Customer Service, Sales Reps, Procurement teams and Clinicians on GTIN as well as company requirements and capabilities. ▪ Assign data Stewards.	▪ Prioritize external trading partners for implementation of standards in transactions. ▪ Prioritize provider care areas for scanning.	▪ Identify any new skill sets required and include in succession planning and hiring. ▪ Develop Subject Matter Experts and transition skills appropriately.	▪ Tie KPI's to standards adoption / utilization in respective area of responsibility.
Process	▪ Understand the benefits beyond compliance.	▪ Enumerate all products. ▪ Develop and maintain SOPs for master data management. ▪ Emphasize data quality by implementing an organization-wide data governance process.	▪ Include contract terms and conditions that call for GS1 Standards on all products.	▪ Use GTINs and other GS1 Standards in a majority of, if not all, transactions. ▪ Incorporate GTINs into clinical tracking and billing/reimbursement systems.	▪ Maintain, share, & access products and attributes via a shared data catalog (e.g. GDSN). ▪ Use data at the GTIN level to support clinical effectiveness, product safety studies, recalls etc.
Technology	▪ Assess current technology capabilities for standards usage.	▪ Develop process to promote accuracy and usability of GTIN as well as other required product attributes at all packaging levels and at point of care.	▪ Align IT capabilities internally and externally.	▪ Assure technology infrastructure and plan can support standards across various systems.	▪ Develop and integrate systems to synchronize with master data using GTINs at all packaging levels including Unit of Use/Scan to EHR.

The remainder of this document provides a detailed Implementation Roadmap for each individual maturity level. These Implementation Roadmaps detail key capabilities for each level of maturity and for each supply chain partner. The Roadmaps help organizations to understand the level of effort that may be required to achieve each level of maturity in GTIN implementation and use.

The Roadmaps are intended to support organizations in creating their individual implementation plans, highlighting key target areas and providing recommendations about the specific capabilities that should be mastered. This helps organizations understand what capabilities both they and their key trading partners should have accomplished at various maturity levels. Armed with this knowledge, an organization can collaborate with key trading partners to assess readiness and make implementation projects more efficient.

7 Level 1: Awareness

- GTINs are not being used. Technology and system capabilities for GTIN are being assessed.
- There is a basic understanding of regulatory requirements and the GS1 System of Standards.
- Organization commits to implement and communicates their commitment internally and externally.
- Organizational capabilities and benefits of standards are being assessed.

Level 1 Awareness: Communicate and Educate

	Manufacturer/Distributor	Provider	Solution Provider
People	- Have a basic understanding of GS1 Standards for Healthcare. - Knowledge of impending regulatory requirements (e.g., FDA UDI, Meaningful Use, DSCSA, etc.). - Commit to implement identification standards. - Assemble a project team. - Develop communication plan (internal & external), and share with all responsible departments.	- Have a basic understanding of GS1 Standards for Healthcare. - Knowledge of impending regulatory requirements (e.g., FDA UDI, Meaningful Use 3, DSCSA, etc.). - Develop communication plan (internal & external), and share with all responsible departments. - Commit to implement identification standards.	- Have a basic understanding of GS1 Standards for Healthcare. - Knowledge of impending regulatory requirements (e.g., FDA UDI, Meaningful Use 3, DSCSA, etc.). - Develop communication plan (internal & external), and share with all responsible departments. - Commit to implement a solution that includes identification standards.
Process	- Assess organizational ability to meet regulatory requirements. - Assess and understand the benefits beyond compliance. - Understand how standards will be used by downstream business partners.	- Trading partners are identified and notified of need for GTIN and any Application Identifiers. - Determine trading partner ability to meet the need. - Develop metrics to track % of items with GTIN in Item Master. - Specify requirement for GS1 Standards (specifically GTIN) in contract terms and conditions. - Assess clinical and non-clinical processes for GTIN use.	- Have a basic understanding about the use of standards by trading partners. - Capture customer requirements at a high level. - Allow contract terms and conditions to include provisional language for GS1 Standards.
Technology	Assess current technology capabilities for implementation and use of identification standards (e.g., ERP, EDI, Inventory Management, Contract Management, etc.).	- Assess systems (e.g., ERP, EHR, EDI, contract management, billing, point of use, etc.). - IT staff begins aligning internal systems to GS1 Standards.	- Assess technology solutions to understand capabilities with regard to supporting standards. - Align IT capabilities internally and externally.

Best Practices: Awareness

As implementation plans are highly dependent on technology capabilities, organizations should consider aligning with their technology teams to understand their technology capabilities and timelines when developing their implementation plans for the use of GTINs in various operational areas.

8   Level 2: People & Processes

- Staff and project teams are educated on relevant regulatory requirements and GS1 Standards to include the relevant benefits standards would have in their area of responsibility.

- Products are enumerated, and Standard Operating Procedures (SOPs) for data quality and master data management are being developed.

- Data sources are identified and vetted, and metrics are being developed to measure accuracy and penetration.

Level 2 People & Processes: Enumerate & Develop Accuracy Processes

	Manufacturer/Distributor	Provider	Solution Provider
People	▪ Inform organization & trading partners of standards strategy. ▪ Educate implementation team and relevant staff on GS1 Standards specifically within the context of meeting regulatory requirements. ▪ Align resources to GTIN development and use. ▪ Identify trading partner resources and develop engagement plan.	▪ Educate internal staff on GS1 Standards (e.g., requisitioners, buyers, IT, clinicians etc.). ▪ Identify supplier partner resources & develop a plan with key suppliers. ▪ Educate supplier contracting resources, customer service, sales representatives, and account management teams. ▪ Educate internal departments about UDI regulation and key utilization components such as barcodes.	▪ Educate sales staff and solution development team on GS1 Standards basics (GTIN, GLN, GDSN). ▪ Align resources to develop solution systems within the context of standards. ▪ Identify trading / implementation partner resources and develop a plan with key accounts.
Process	▪ Understand the benefits beyond compliance. ▪ Begin enumerating all products and all packaging levels. ▪ Develop master data management strategy. ▪ Review, develop and maintain SOPs for GTIN assignment, master data management and data quality. ▪ Begin initial testing with key trading partners.	▪ Assess use of GTIN in internal supply chain processes (e.g., contracting, requisitioning, purchasing, receiving, point of care scanning). ▪ Assess existing process for device data capture at point of use, and impact of using GTIN in same. ▪ Assess existing Item Master to Charge Master mapping process and use of GTINs. ▪ GTINs not yet used in transactions with suppliers but process has been established for sourcing.	▪ Develop project plan including basic requirements, capture, and technology roadmap. ▪ Work with key accounts and industry leaders to document detailed requirements.
Technology	▪ Identify data sources (internal and external). ▪ Develop reporting metrics to self-manage implementation efforts (accuracy of data, penetration of portfolio). ▪ Add available GTINs to item master file.	▪ Identify data sources for obtaining GTIN data (GUDID/GDSN/Supplier/Scan-a-thon). ▪ Obtain GTINs as part of sourcing process and store in item master. ▪ Develop MDM strategy. ▪ Begin initial testing with select suppliers & product categories.	▪ Develop and implement with select key accounts for functionality related to GTIN and GLN storage and transactional capabilities.

Best Practices: People & Processes

- Declare readiness for GTINs and ability to trade in transactions manual or electronic.
- Understand GTIN packaging levels and pack factors associated with GTINs.
- Understand if GTIN will replace existing cross references that identify product differently.
- Understand the *GS1 GTIN Management Standard* and the *GS1 Healthcare GTIN Allocation Rules*.
- Identify where GTIN is used throughout your organization.

9 Level 3: Systems & Partners

- Trading partner standards resources and initial plans are aligned among key trading partners.
- Contract terms and conditions specify GTIN requirement and SOPs are updated for standards.
- IT capabilities and systems assessments are complete and upgrade plans in place.
- Initial testing has begun with select trading partners.

Level 3 Systems & Partners: Align Systems and Attributes

	Manufacturer/Distributor	Provider	Solution Provider
People	- Internal staff are assigned, educated, and know GS1 Standards. - Collaborative relationships with trading partners to align and manage GTINs are intact.	- Internal staff is educated about GS1 Standards and engaged in transactional testing with key suppliers. - All departments (e.g., supply chain, IT, clinical) champion GTIN use.	- Sales staff is actively discussing standards capabilities with key accounts to establish further adoption & use of functionality. - Development team has a prioritized roadmap for product development to meet needs for GTIN storage & transactional functionality.
Process	- GTINs are actively managed. - GTINs are used in some transactions with major customers as a result of pilots. - SOPs are updated to include new use case scenarios as they become known. - Basic implementation metrics are established (e.g., % of item master enumerated; % packaging level enumerated) - Contract terms and conditions specify requirements of applicable GS1 Standards, specifically GTINs.	- GTINs are actively managed in the Item Master. - Metric of "% of total item master with GTIN" is used to drive further adoption. - Systems assessment is complete and partners identified of status. - Strategies for use of standards to support or address pain points and/or benefits are identified. - Pilot projects are executed with key suppliers & metrics to quantify ROI.	- Product development is working directly with key accounts to understand potential gaps in functionality or potential enhancements based on user acceptance testing results. - Basic implementation metrics are established (e.g., % of transactions using GTIN).

Technology	▪ Systems are upgraded (as needed) and ready to transact using GTINs. ▪ Testing continues/expands around using GTINs in a majority, if not all, transactional areas internally & externally (e.g., EDI, Order to Cash, Inventory Management, Contract/Chargeback).	▪ Systems are upgraded & ready to transact using GTINs (e.g., clinical, non-clinical, inventory, recall, EDI, contract management, point of care systems). ▪ Testing continues to use GTINs and other GS1 Standards in a majority of transactions.	▪ System integration between key functional areas (e.g., ERP, EHR, Inventory mgmt., data capture through scanning) has started. ▪ Steps have been taken to make standards functionality readily available (e.g., patches, partial upgrades, enhancements, etc.).

Best Practices: Systems & Partners

■ Identify all downstream processes where product code is communicated internal or external, begin to add GTIN to the processes and have added to reporting.

■ Initially, the actions in Level 2 and Levels 3 & 4 should be able to align with many trading partners at the same time once data is identified and submitted via GDSN.

10   Level 4: Transact & Extend

■ Required skill sets are understood and standards education is part of on-boarding.

■ GTINs are used in transactions in lieu of proprietary product numbers.

■ Technology infrastructure and plan supports standards across multiple systems.

■ Organizations use GTINs in transactions to identify products at all packaging levels, replacing the use of proprietary product numbers. *(Recommendations for how to prioritize EDI transactions for GTIN implementation are provided on the next page.)*

Level 4 Transact & Extend: Use GTINs Instead of Proprietary Numbers

	Manufacturer/Distributor	Provider	Solution Provider
People	▪ Continuing education/ certification of assigned resources. ▪ Strong cross-functional knowledge of GTIN strategy & use in various functional areas. ▪ Standards training is an established part of employee on-boarding in key areas.	▪ Continuing education or certification of assigned resources. ▪ Standards training is an established part of employee on-boarding in key areas.	▪ Continuing education or certification of assigned resources. ▪ Knowledge transfer process is in place to support standards focus. ▪ SOPs and resources are defined to assure awareness of pending regulations that may impact solution provider technology development roadmap.

Level 4 Transact & Extend: Use GTINs Instead of Proprietary Numbers

	Manufacturer/Distributor	Provider	Solution Provider
Process	• GTINs are stored in item master. • Proprietary numbers are becoming obsolete both internally and externally. • Relevant Application Identifiers are encoded, scanned and captured at receipt points along supply chain. • GTINs are used in transactions with critical mass and key trading partners.	• GTINs are stored in item master. • GTINs are used in transactions with critical mass suppliers in POs and EDI transactions. • ROI metrics now include discrepancy tracking so that manufacturers and product accuracy can be managed. • GTINs are being incorporated into clinical recording and billing/reimbursement processes.	• Actively driving the need for standards adoption & utilization within strategic accounts. • Several key accounts using system standards capabilities in key functional areas. • An SOP and process exists to train implementation partners on GS1 Standards and the solution's capabilities around those standards.
Technology	• Systems are integrated internally and externally with respect to GTIN in key functional areas. • Systems are becoming integrated across multiple standards (GTIN and GLN).	• Clinical & EHR systems can handle GTIN data and GTIN capture at point of care. • Scanning technology is in place for GTIN capture in the OR. • GTIN data is captured at point of care for all device categories (Class I, II, III).	• Technology solution is well established and meets the needs of the industry with regard to its capabilities around standards. • System integration is established across key functional areas. • A majority of key accounts are using system versions with full standards capabilities.

Best Practices: Transact & Extend

■ Providing GTIN training for customer service, procurement personnel, and others is an important success factor.

■ Organizations should use GTINs to identify products at all packaging levels, replacing the use of proprietary product numbers.

■ GTINs should replace product identifiers for both electronic and EDI transactions. *This should be your first priority as it is scalable and repeatable.*

■ GTINs in paper transactions should follow as business partners are technically capable.

■ Key EDI transactions on which to focus are:

   □ 850 [Purchase Order (PO)]

   □ 855 (Reply to PO)

   □ 810 (Invoice) later in process

   □ 832 (Product Catalog)

   □ 844 (Product Transfer)

   □ 845 (Price Authorization)

   □ 856 [Advanced Ship Notice (ASN)]

   □ 867 (Sales Reporting/Product Transfer/Resale Report)

- Based on input from all segments of the healthcare supply chain, the recommended prioritization of EDI transactions for GTIN implementation is as follows:

Table 10-1 EDI Business Transaction Priority

First Priority		
850	Purchase Order	Purchase order submission from buyer to seller; also accommodates stand-alone, consignment and blanket order business scenarios
855	Purchase Order Acknowledgment	Response from seller to buyer on processing of the purchase order
Second Priority		
856	Advance Ship Notice/Manifest	Identification of product in a pending shipment from the seller to the buyer
810	Invoice	Request for payment from seller to buyer
867	Sales Reporting/Product Transfer/Resale Report	The transaction set can be used to: (1) report information about product that has been transferred from one location to another; (2) report sales of product from one or more locations to an end customer; or (3) report sales of a product from one or more locations to an end customer, and demand beyond actual sales (lost orders). Report may be issued by either buyer or seller
Third Priority		
832	Price/Sales Catalog	Exchange of product and product price information from the seller to the buyer; may also be used to load a product catalog
844	Product Transfer/Account Adjustment	An exchange of data in the form of a debit, credit, or request for credit relating to pre-authorized product transfer actions
845	Price Authorization Acknowledgment/Status	A vendor or manufacturer transmits data relative to the status of or changes to outstanding price authorizations

11 Level 5: Maintain and Optimize

- Performance indicators of assigned resources include standards use and adoption.
- High level of awareness of the standards strategy.
- GTINs are maintained, shared and accessed with a high level of accuracy and in real-time via shared data catalogs.
- Systems are developed and integrated to share and synchronize master data using GTIN.

Level 5 Optimize & Maintain: Maintain and Share		
	Manufacturer/Distributor	**Provider**	**Solution Provider**
People	■ Internal resources are well versed in GS1 System and embrace use of standards. ■ KPIs are tied to standards use in respective areas of responsibility. ■ There is a high level of awareness of the organization's standards strategy. ■ Standards use and management is part of "the norm."	■ Internal resources are well versed in GS1 System. ■ Clinical staff use GTIN at point of care.	■ Sales, marketing, development, and implementation staff see standards as part of "the norm" and as a strategic advantage/differentiator when facing new business opportunities.
Process	■ GTINs are used in transaction with >75% of trading partners. ■ GTINs enumerated, stored and shared is >75% and covers all packaging levels. ■ Enumeration and attribute accuracy is >75%. ■ GTINs and critical product attributes are available via a shared data catalog (e.g., GDSN). ■ SOPs are well formed, inclusive and followed.	■ GTINs are used in transactions with >75% of products. ■ GTINs % of item master is >75%. ■ GDSN used to receive GTIN attributes for all packaging levels. ■ MDM strategy and SOPs are in use & maintained. ■ GTINs are captured at point of use. ■ GTIN based data is used to support clinical effectiveness, product safety studies, recalls, spend analytics, etc.	■ Adoption and utilization of standards is evident in a majority of accounts.
Technology	■ All products and packaging levels are marked in accordance with GS1 Standards. ■ GTINs are actively passed to relevant systems for inventory management, order to cash processes, invoicing, Contracts/Chargebacks.	■ GTINs are actively passed to relevant systems for inventory management, order to cash processes, EHRs, Patient Billing systems.	■ Technology solutions are readily available through cloud based version updates.

12   Resources

For more guidance and updated references for these and other topics, please see the following additional resources:

GS1 Company Prefix

Get Started Guide

Guidelines and Standards

www.gs1us.org/hcgtin

GS1 GTIN Management Standard

GS1 Healthcare GTIN Allocation Rules

Tools and Documents

https://www.gs1us.org/tools

GS1 US Creating the Case for Trusted Data

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