LEARNING UDI COMMUNITY

AHRMM
Association for Healthcare Resource & Materials Management
Advancing the Healthcare Supply Chain
A personal membership group of the American Hospital Association

Baptist Health UDI Capture Work Group Case Study

WWW.AHRMM.ORG / LUC

LEARNING UDI COMMUNITY CASE STUDY

WORK GROUP TITLE:

UDI Capture Work Group

CASE STUDY PARTICIPANTS

- Tonya Gilliam and Lana Glover, EPIC Team
- Terry Hays and Alex Monday, IT Team
- Doug Barnhart, OR Team
- Tom Stenger, Johnny Dennis and Justin Holstead, Supply Chain Team
- Lorette Hefley, Revenue Cycle Team

CASE STUDY ORGANIZATION

Baptist Health is an Arkansas-based, locally owned and managed, not-for-profit, and faith-based healthcare organization. Baptist Health is also Arkansas' most comprehensive healthcare organization with more than 9,100 employees operating nine hospitals. The health system includes the state's largest primary-care physician network, the state's leading rehabilitation hospital and outpatient therapy centers, the state's most comprehensive 400-resident retirement village, and the state's largest schools of nursing and allied health, plus wellness centers and a home health network.

OPENING STATEMENT

The project objectives are to integrate supply chain information across all systems into one point of entry, interface data to all systems that use that data, and then define the fields and the processes that use that data. The data fields are: United Nations Standard Products and Services Code® (UNSPSC®), Healthcare Common Procedure Coding System (HCPCS) codes and GS1 Global Trade Identification Numbers (GTIN)[1,2]. With this system and data integration in place, a clinician can scan a product's barcode(s) at the point of use so that the product's device identifier (DIs)[3], UNSPSC, HCPCS code and all other accessible attributes are captured and transferred to the connected systems to facilitate documentation in the patient medical record, charge capture, patient billing, inventory management, and manufacturer transactions (POs, payments, etc.). The primary benefits are better reporting by physician, increased reimbursement, and improved track-ability of recalls.

---

[1] Each issuing agency has an alternative name (aka) for the DI of UDI. The aka name used by each issuing agency is listed below:
GS1 - Global Trade Identification Number (GTIN)
HIBCC - Universal Product Number (UPN)
ICCBBA – Processor Product Identification Code (PPIC)

[2] An FDA-accredited issuing agency (IA) is an organization that operates a system for assignment of UDIs according to the UDI Rule. FDA has accredited three issuing agencies – GS1, HIBCC and ICCBBA.

[3] A UDI consists of two parts: (1) a device identifier (DI), which is the mandatory, fixed portion of a UDI that corresponds to the model or version of a device; and (2) a production identifier (PI), which is the variable portion of a UDI that identifies one or more of the following when included on the label of a device: lot/batch number, serial number, expiration date, manufacturing date, and donor identification number. http://bit.ly/2tewrRi

LEARNING UDI COMMUNITY CASE STUDY

DATE INITIATIVE WAS IMPLEMENTED

On May 1, 2017, Baptist Health's operating rooms (OR) began scanning product data via barcode into the health system's EPIC electronic health record (EHR) system.

CHALLENGES TO IMPLEMENTING A UDI CAPTURE SOLUTION

Clinicians have questioned which barcode on the product packaging to scan when there are multiple barcodes. To address this issue, Stenger developed a "tip sheet" to help them with the process (see the Training Documents section). If there is more than one barcode, the clinician is instructed to start with one and then scan the others since each barcode might contain different information.

"It works well and it takes less than a few seconds to scan all of the barcodes," said Stenger.

STAKEHOLDERS INVOLVED

Supply Chain, IT Team, Epic Team, OR Team and Revenue Cycle Team

SOLUTION

Baptist Health uses its Infor Lawson® enterprise resource planning (ERP) system item master to house its standardized and enriched product data. The team sorted their item master data by manufacturer, product code and description, and added the UNSPSCs. From there, they sorted products by UNSPSC, manufacturer and manufacturer item number to put like products together and assigned each product a HCPCS code, which they obtained from Healthcare IQ, an independent data management and analytics company, and from their group purchasing organization (GPO) Vizient. Next, the team used a Sequel interface to pull DIs for products from the U.S. Food and Drug Administration's (FDA) Global UDI Database (GUDID).

To date (May 15, 2017) Baptist Health has in its item master:

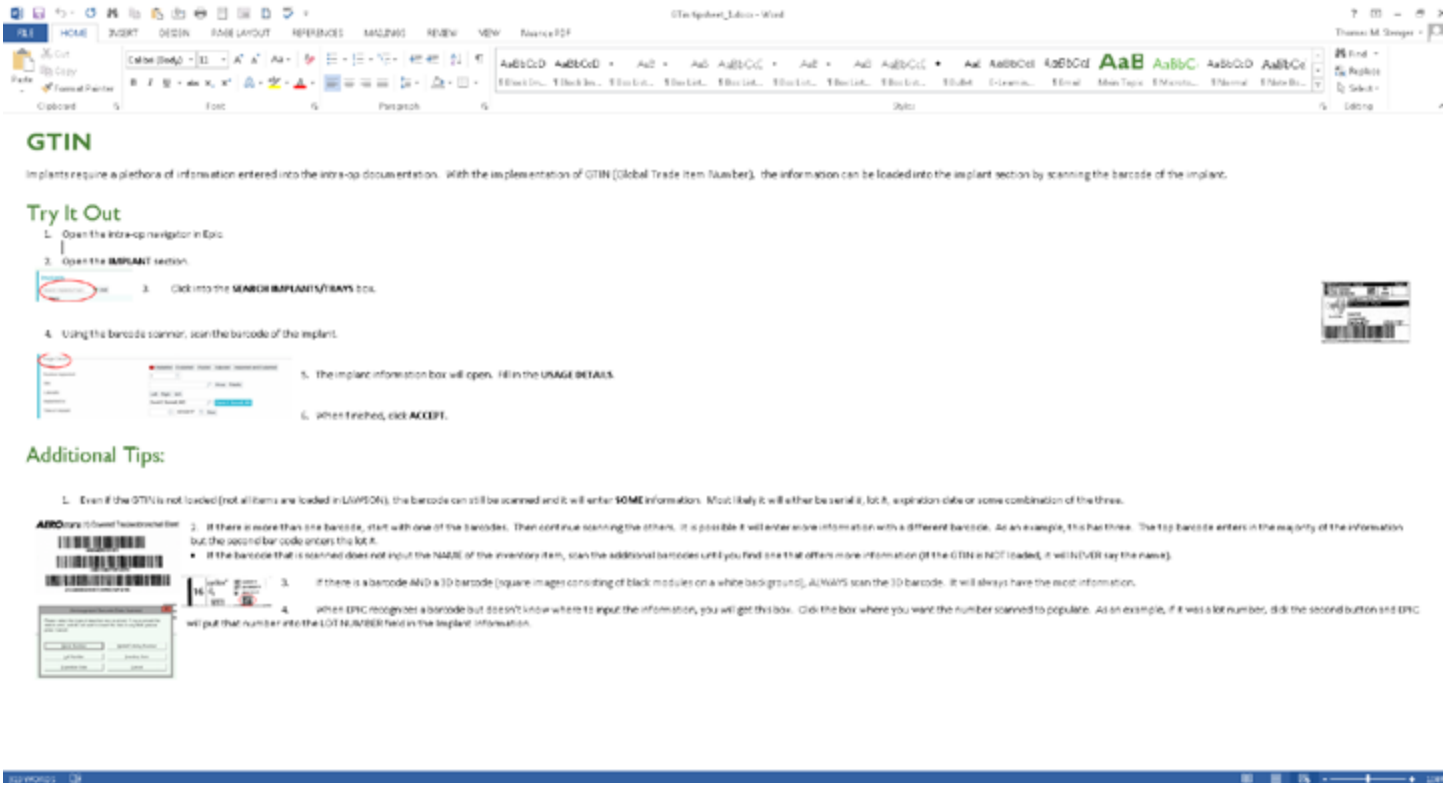
- 101,000 total products
- UNSPSCs for 90,400 products
- HCPCS codes for 73,000 products
- DIs for 63,000 products

The team built an interface from the ERP system to its EPIC electronic health record (EHR) system to facilitate the flow of product data from the item master to the patients' electronic medical records. They have also integrated the ERP and EHR systems with the health system's Champion Healthcare Technologies UDITracker® OR tissue tracking system. All three systems – ERP, EHR and tissue tracking have integrated barcode scanners.

"The OR staff loves it because they can focus more time on the patient instead of data entry, " said Stenger. "Before they were keying in serial numbers, charge codes and other fields. Now they scan the barcode(s) and all of that information pops up in literally two seconds."

LEARNING UDI COMMUNITY CASE STUDY

SOLUTION PROCESS/ TRAINING DOCUMENTS:



GTIN

Implants require a plethora of information entered into the intra-op documentation. With the implementation of GTIN (Global Trade Item Number), the information can be loaded into the implant section by scanning the barcode of the implant.

Try It Out

1. Open the intra-op navigator in Epic
2. Open the **IMPLANT** section.
3. Click into the **SEARCH IMPLANTS/TRAYS** box.
4. Using the barcode scanner, scan the barcode of the implant.
5. The implant information box will open. Fill in the **USAGE DETAILS**.
6. When finished, click **ACCEPT**.

Additional Tips:

1. Even if the GTIN is not loaded (not all items are loaded in LAWSON), the barcode can still be scanned and it will enter **SOME** information. Most likely it will either be serial #, lot #, expiration date or some combination of the three.
2. If there is more than one barcode, start with one of the barcodes. Then continue scanning the others. It is possible it will enter more information with a different barcode. As an example, this has three. The top barcode enters in the majority of the information but the second bar code enters the lot #.
   - If the barcode that is scanned does not input the NAME of the inventory item, scan the additional barcodes until you find one that offers more information (If the GTIN is NOT loaded, it will NEVER say the name).
3. If there is a barcode AND a 2D barcode (square images consisting of black modules on a white background), ALWAYS scan the 2D barcode. It will always have the most information.
4. When EPIC recognizes a barcode but doesn't know where to input the information, you will get this box. Click the box where you want the number scanned to populate. As an example, if it was a lot number, click the second button and EPIC will put that number into the LOT NUMBER field in the implant information.

TECHNOLOGY USED OR IMPLEMENTED AS A RESULT OF THIS INITIATIVE

Symbol brand scanners and are on:

- EPIC EHR 2015 IU 2
- Infor Lawson ERP version 10.06
- Champion Healthcare Technologies UDITracker® OR

SUCCESS FACTORS

- Securing consensus on the strategy and tasks the team wanted to complete.
- Having stakeholders that own their process and the desire to be successful.
- Taking a holistic approach to data management and making sure item master data is complete.

ESTIMATED COSTS AND ROI

Baptist Health Supply Chain Analysts spent 120 hours adding the 20,000 new UNSPSC codes to Lawson, which equates to approximately $6,000 in labor costs (120 x $50/hour = $6,000). Based on the need to remain current with market changes, an estimated $12,000 should be budgeted for ongoing costs. Costs for Vizient and IQ were omitted, due to stand-alone project expenses.

Feeding UNSPC data into Baptist Health's cost accounting system will require an estimated 80 IT Analyst hours, which equates to approximately $6,000 in labor costs (80 hours x $75/hour = $6,000). This decision is still pending.

All facilities utilize HCPCS and there were 40,000 enumerated across the health system. Stenger and his team identified an additional 30,000 codes by sorting items by manufacturer, manufacturer item number and UNSPSC. HCPCS codes are utilized in outpatient billing to obtain carve out revenue paid only if HCPCS are computed on the bill. This will aid in funding the project.

The UNSPSC is not needed to code HCPCS, but acts as another point of confirmation. If counted HCPCs are identified, a table can be created to track actual charges. An agreed upon factor can then be applied to compute level of improved reimbursement. HCPCS are not required to establish DIs. However, DIs can link HCPCS and UNSPSC, which improves consistency in reporting and charging. If a DI is scanned, it will be documented with the other attributes. Then the potential add process can review it. To complete this task will require an estimated 80 hours of IT Analyst time, which equates to approximately $6,000 in labor costs (80 hours x $75/hour = $6,000).

OpTime Activity Report and Potential Item Add Report

Stenger and his team are considering the development of an OpTime Activity Report that would pull all OpTime item fields and Lawson ERP data fields, combine this information, and integrate it with data from the GUDID, thus optimizing information across systems.

In addition, the team would develop a Potential Item Add Report comprised of items not contained within the ERP system. A utilization review team would review these items and determine if they should be added to the ERP system. If any of these item changes could potentially impact revenue, the items would then be added to a Charge Consistency Report (see below). The fields required are DIs, description, manufacturer number, manufacturer name, charge code, HCPCS, revenue code and charge amount. All of the information in these fields resides in the EHR and ERP systems. To complete this task would require an estimated 80 IT Analyst hours, which equates to approximately $6,000 in labor costs (80 hours x $75/hour = $6,000).

Charge Consistency Report

Stenger and his team are also developing a Charge Consistency Report, which is a table containing HCPCs that have been created or changed so they can periodically run a report of outpatient charges on those items. To calculate return on investment (ROI) from this project, Stenger and his team would have to establish an agreed upon factor on which to measure the additional revenue and project impact. They would then use this output to analyze the impact on revenue. This task would require an estimated 40 IT Analyst hours, which equates to approximately $3,000 in labor costs (40 hours x $75/hour = $3,000).

ROI

The first year project costs are projected at $60,600, with ongoing costs of $18,000. The Baptist Health team believes the project should pay for itself in less than six months.

Estimated Costs and ROI Next Steps

They also plan to run EHR reports on case costs compared by case and physicians, set metrics to measure them and then evaluate the impact of practice pattern changes. This has yet to be developed.

LESSONS LEARNED

Stenger explains that the DI unit of measure is "ambiguous" since manufacturers and healthcare providers often refer to a product's UOM in different ways, For example, what a manufacturer calls a "case," a provider could call a "box." Because a manufacturer assigns a DI to each of its products' UOM, Stenger needed a way to ensure Baptist Health's item master contained the correct DI for the UOMs consumed by the organization.

"What you call a case, I could call a box but the fact that we both know there are 100 items in it means we know we are talking about the same thing," said Stenger. "So I started with the primary level "A", the individual item or "each," and assigned that a sequence of "1." Then I walked my way up the DI tree. If UOM "B" contains "A" then "B" becomes "2" in the sequence, and if "C" contains "B" then "C" becomes "3" in the sequence, and so forth. That way, I assigned DIs for only those product UOMs that we have in the item master, and didn't have to use the whole 'tree' of DIs. I was able to pull out and use only those parts of the DI tree that we needed."

NEXT STEPS

"Our philosophy is one of continual improvement," said Stenger. "We challenge all process owners to improve their process. We will pilot any suggestion that gains group consensus, yet not all are fully integrated."

Stenger and his team are now exploring other areas where clinicians could benefit from capturing product DIs via barcode scanning, such as the intensive care unit (ICU) and Cath Labs. Furthermore, the Baptist Health Revenue Cycle team is reviewing and monitoring the HCPCS codes to evaluate their impact on patient revenue. The health system is also considering how they can use the captured product data in the future, to monitor not only case costs but also clinical efficacy.

APPENDIX 1: GS1 UDI Label Example

UDI Components

UDI = Device Identifier (DI) + Production Identifiers (PI)

GTIN® + Application Identifiers (AI)

*Another Production Identifier is Manufacture Date

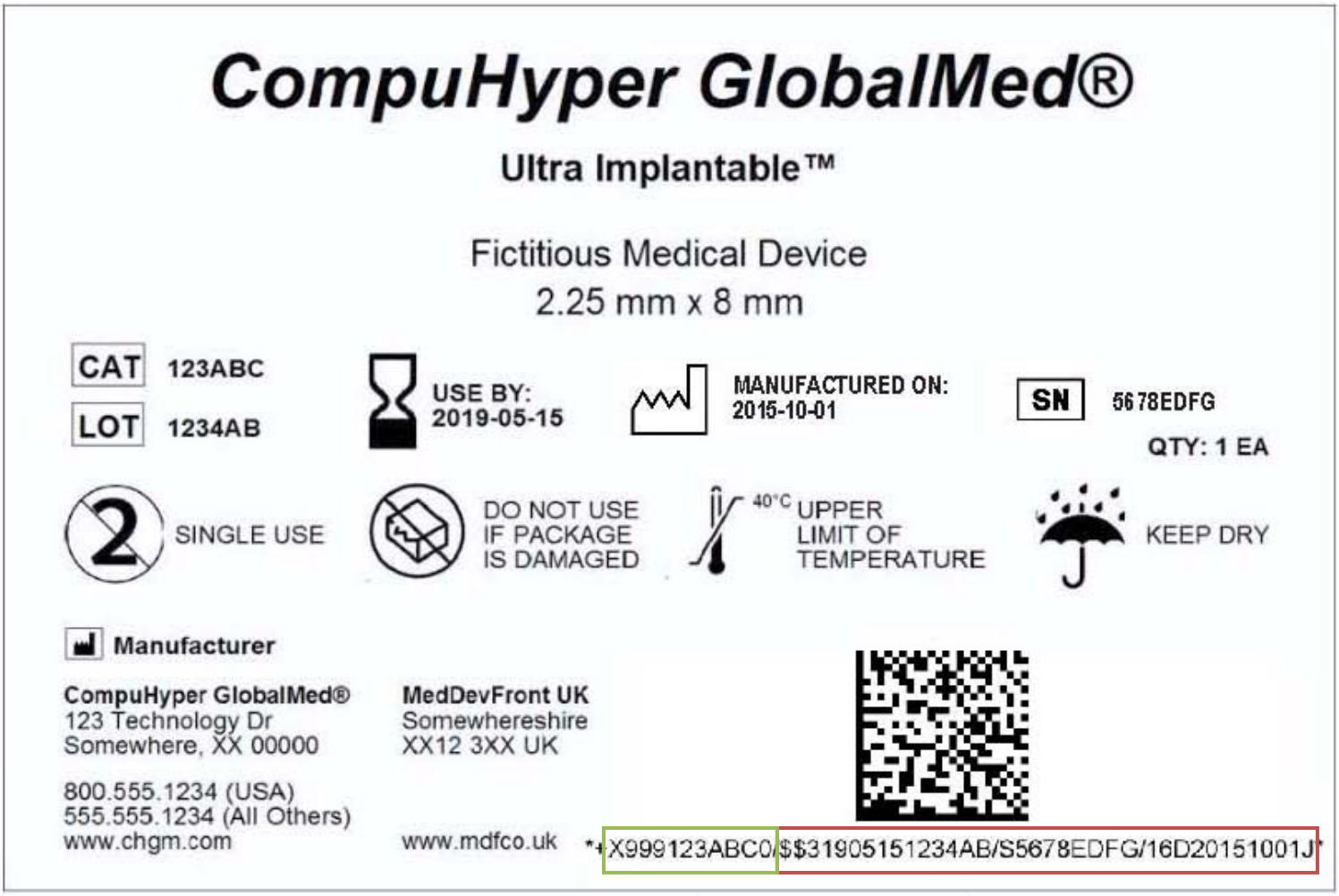
APPENDIX 2: HIBCC UDI Label Example

Health Industry Business
Communications Council

2525 E. Arizona Biltmore Cir.
Suite 127
Phoenix, AZ 85016
602-381-1091
FAX 602-381-1093
www.hibcc.org

HIBCC UDI Label Example

DataMatrix

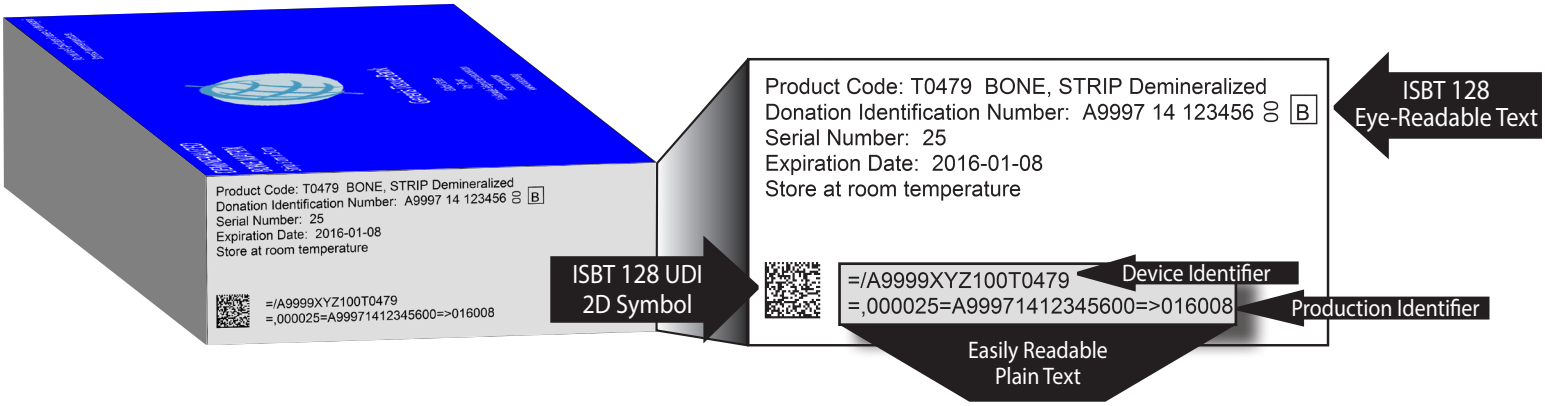


APPENDIX 3: ICCBBA UDI Label Example

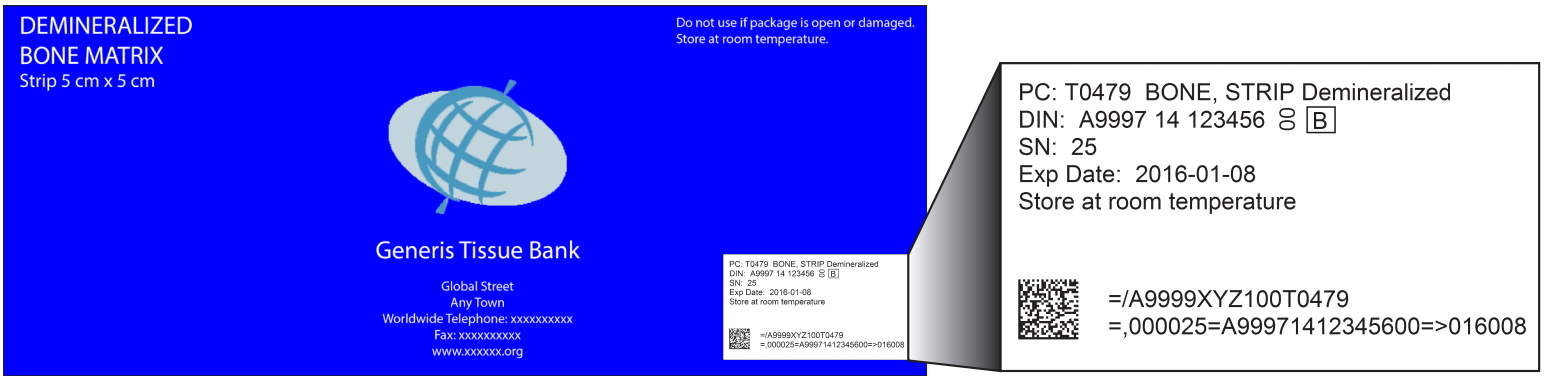
USING ISBT 128 UNIQUE DEVICE IDENTIFIER ON MEDICAL DEVICES THAT CONTAIN HUMAN TISSUE

ISBT 128
More than Identification

Medical devices containing Human Cells, Tissues, or Cellular and Tissue-Based Products (HCT/P) labeled using ISBT 128 will provide UDI information, including the Donation Identification Number, in a standardized electronically-readable format and in eye-readable text. These illustrations show examples of how the information may be presented. The two-dimensional symbol contains the critical tracking information. Receiving systems should be programmed to scan and interpret this symbol to provide optimal efficiency and accuracy.



Item	Recommended Abbreviation(s)	What it Identifies
Donation Identification Number	DIN	This identifier links the product to its donor (the Distinct Identification Code as required by 21 CFR 1271.290(c)).
Product Code	Prod Code or PC	This code identifies the type of product (e.g., bone powder or a pre-sutured tendon).
Pack Number or Serial Number	Pack or SN	This code uniquely identifies a specific product for a given DIN and Product Code.
Expiration Date	Exp or Exp Date	The date on which the product should no longer be used.
Manufacturing or Production Date	Mnf Date or Prod Date	The date on which the product was made.
Lot Number	Lot No. or LN	This identifier links to a production record of the process or the tissue.
Device Identifier	DI	The FDA UDI Device Identifier (identifies the specific version or model of a device and the labeler of the device).
Production Identifier	PI	The FDA UDI Production Identifier (information that more precisely identifies the device).



GS1 and ICCBBA Joint Guidance recommends use of ISBT 128 on medical devices containing HCT/P.