



The Global Language of Business

The importance of data quality

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Topics



- Data Quality
- Managing master data
- Global Location Numbers
- Trusted Data

The Master Data problem



Every company has a **database** filled with master data about the products they **make, sell, or buy**

But when one company **changes** any bit of information in their database or **adds a new item**, another database becomes **outdated!**



What happened to “Master Data”



- Systems have evolved in “silos” over the last 40 years
- The link between “process” and data was broken (*remains so in many cases*)
- Numerous efforts to “unify” data and process, or views of data – one use at a time
- **So what?** Business success still happened anyway... (*and hospitals operated*)
- **Only when costs increase, profits fall, (or a patient is negatively affected) does the real impact of bad data become known!**



1970s



1990s



2000s

Original source: Gartner

The reality today!



The challenge – for hospitals



Product catalogues - current situation:

- Varying methods of communicating new items
 - Supplier A – printed catalog
 - Supplier B – price quote
 - Supplier C – PDF data
 - Supplier D – Excel tables
 - Supplier E – text data
 - Supplier F – link to website
- Varying methods of communicating updates/changes (or not communicating)
- Varying descriptions and levels of detail (product attributes)
- Varying levels of data accuracy and data quality



Hospitals need single and integrated system of exchange of information on devices and adequately identified medical devices distribution and use

The challenge – for regulators



- U.S. Department of Defence* discovered that :
 - product catalogues had problems matching the correct manufacturer name for 30% of the medical devices and 20-25% lack the product brand name
 - the part number '8630' in the product catalogue of a leading GPO was linked to 9 different numbers from different distributors
- *"Different manufacturers use different standards in different ways if they use anything at all. Distributors apply their own. Hospitals apply their own. And we just sort of cascade into this series of events which means that we can't find devices."*

Jay Crowley, US FDA, FDA UDI Public Workshop, Feb. 2009

- In the US from 2005 through 2009, firms initiated 3,510 medical device recalls, an average of just over 700 per year.

Regulators need to be able to ensure highest levels of market surveillance, to efficiently manage adverse event reports and to quickly recall devices ... not only in their country but also across borders

The Challenge – for manufacturers



Where do we start???

How do we define success???

What data do I have and what do I need to start collecting???

What are customers looking for???

Are we in compliance???



Foundational Ingredients for Success



Data Governance



Roles and Responsibility

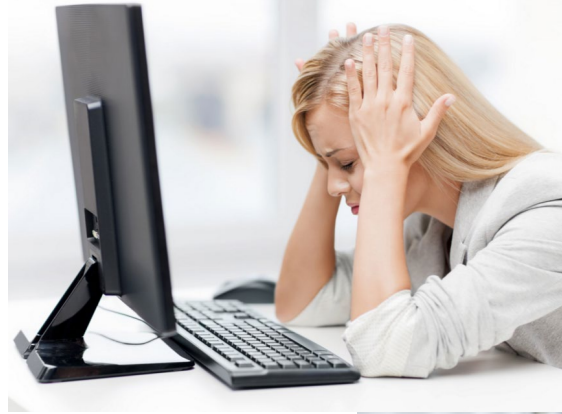


Enterprise-wide Data Management



Data Quality

The most important impact: Patient safety and care providers



Data Recipient: Trusting the Data



The primary objective is for the hospitals, and other data recipients, to transact with GS1 Keys and integrate data into internal systems

- In order for the hospitals to do so, the following conditions must exist:
 - Must trust the quality of the data
 - Verification & integrity of data chain of custody
 - Must use the data as provided by the Source without altering it
 - Have the ability to store identifiers and supporting data
 - Internal systems must be capable of supporting GS1 standards
 - Procedures and pathways must be updated to include the relevance of GS1 standards,
- Hospital processes such as procurement, logistics, warehousing, clinical, pharmacy and operating theatres need to be updated
- Establish MDM & Governance processes within the hospital system, including executive sponsorship, roles and responsibilities

We need to understand the provider's data pain points...



...in order for them to trust & use the data



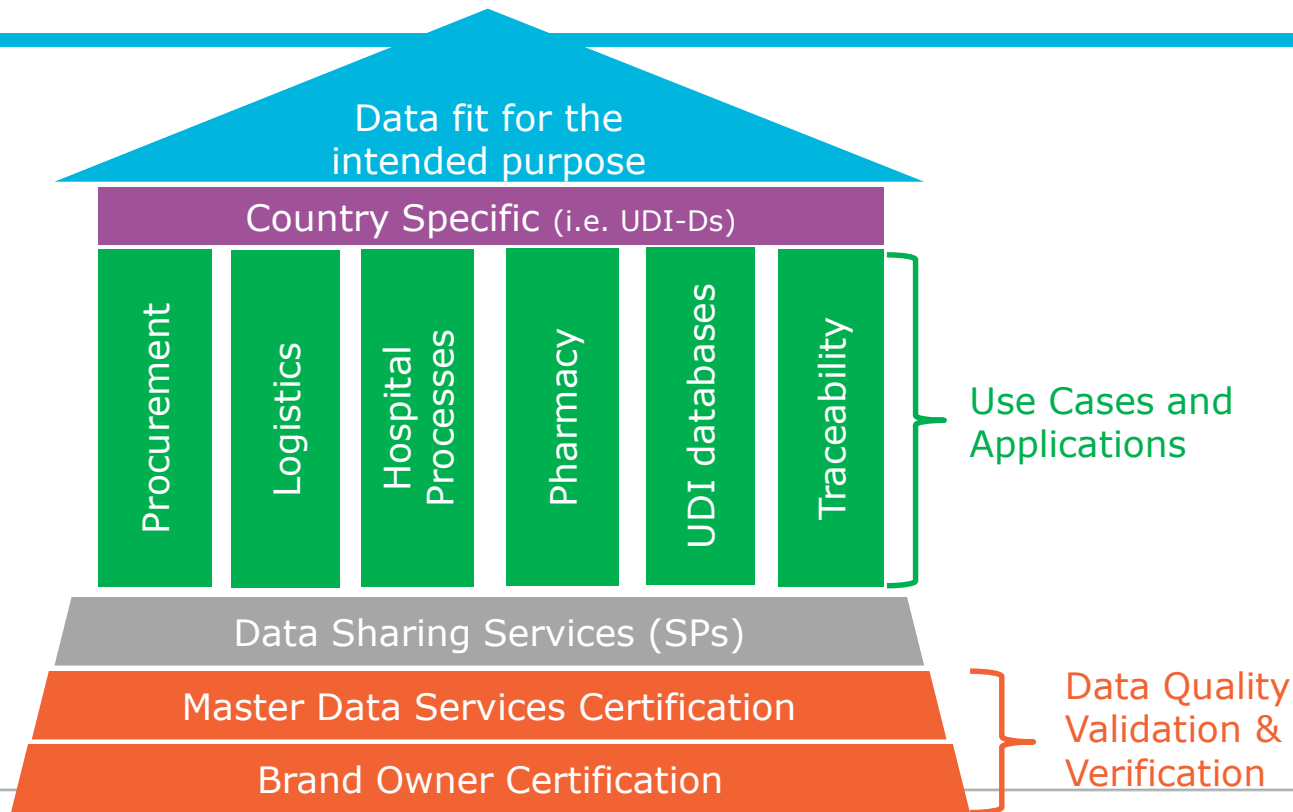
When trusted data is used



- Greater efficiencies
- Lower costs
- Improved patient outcomes



Data fit for the intended purpose: *Utopia*



Data Quality in Healthcare



Mission: Improve the quality and availability of master data throughout the entire supply chain and data chain of custody to improve and increase its consumption throughout the entire value chain, including regulation.

Inconsistent, incomplete and incorrect data increases the risk of patient safety errors and the cost of healthcare across the entire supply chain.

Quality data means:

- Reduced rework caused by data correction and need for internal audits
- Improved care by ensuring data accuracy at the point of care
- Consistent use of data attributes across all stakeholders

All actors in the information supply chain have a critical role in maintaining a high level of data quality throughout the information lifecycle. The ultimate goal is for the data recipient to trust the data and thereby integrate it into their processes.

Note: Leverage as much as possible existing GS1 data quality programmes and guidelines



Potential savings from improved data quality³



Parties in the master data sharing in healthcare



Manufacturer / Brand Owner

Data Quality at the Source

Proper Master Data Management & Governance, Roles & Responsibilities, Policies and procedures are assured

Data Quality Control

An enterprise-wide information lifecycle management process ensures the data is fit for the intended purpose

- Identify
- Mark / Barcode
- Manage the Data

Distributor / Wholesaler

Data Quality Control

Proper Master Data Management & Governance, Roles & Responsibilities, Policies and procedures

Enterprise-wide information lifecycle management process ensures the data is fit for the intended purpose

Solution & Service Providers

Verification Services

Certified Master Data Services offer additional data verification, images and other value added services

GS1 Data Sharing Infrastructure

Data Sharing

Master data is securely shared via Brand Owner authorised data sharing services such as the **GDSN** and other mechanisms

Data Recipients (Hospital, Regulator & Patient)

Access to Trusted Data

Data must be trusted in order for it to be consumed

Surety at the point of use assures the end user that deliberate steps have been taken throughout the information supply chain to ensure data quality and integrity

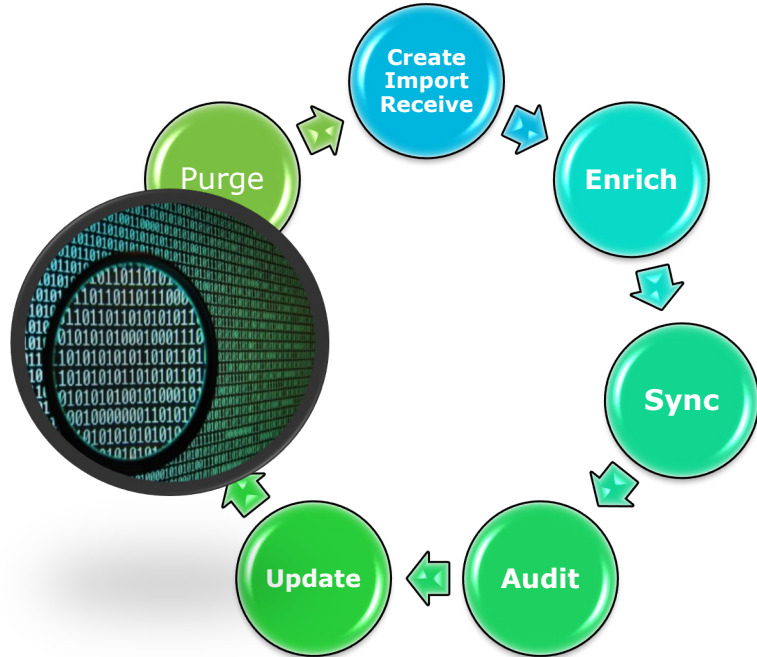
Managing master data

Information lifecycle management

Key Concepts – Information Lifecycle Processes



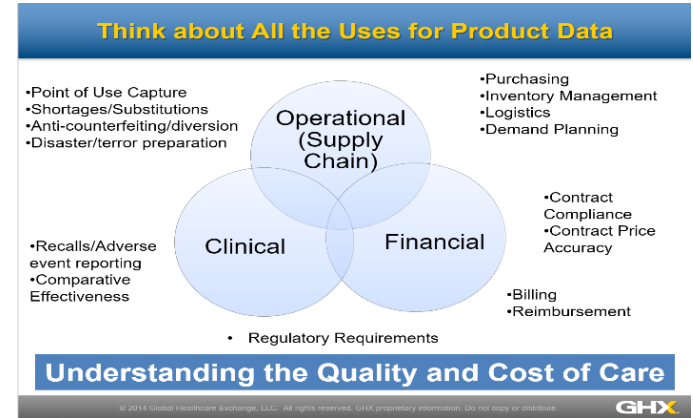
- 1. Create, Import or Receive**
 - *Collect, Create, Receive & Capture*
- 2. Enrich/Validate**
 - *Data Quality*
- 3. Sync/Activate**
 - *Push to users*
- 4. Audit/Evaluate**
 - *Routine Monitoring*
- 5. Update/Maintain**
 - *Maintain, Protect & Preserve*
- 6. Inactivate/Archive**
 - *Remove from active use*
- 7. Purge**
 - *Delete from system*



Use Cases: Understanding the intended end use of the data



1. *Data submission to regulatory databases (i.e. UDI and IDMP)*
2. *Information needed for clinical decision making and patient treatment pathways*
3. *Product data for patient usage*
4. *Procurement*
5. *Logistics*
6. *Drug identification and traceability*
7. *Outcomes and pharmacovigilance*



*Data quality is the result of deliberate actions taken which ensure the **data is fit for the intended purpose***

Managing Master Data

How to improve?



Supplier = data source

Needs single point-of-entry

- One database to load new item data and update data on existing items

Needs security

- Authorisation access by supply chain partners

Standards-based

- Standard identification keys
- Predefined (set of) product attributes

Hospital = data recipient

Needs single point-of-truth

- One source for up-to-date, accurate data
- Continuous synchronisation

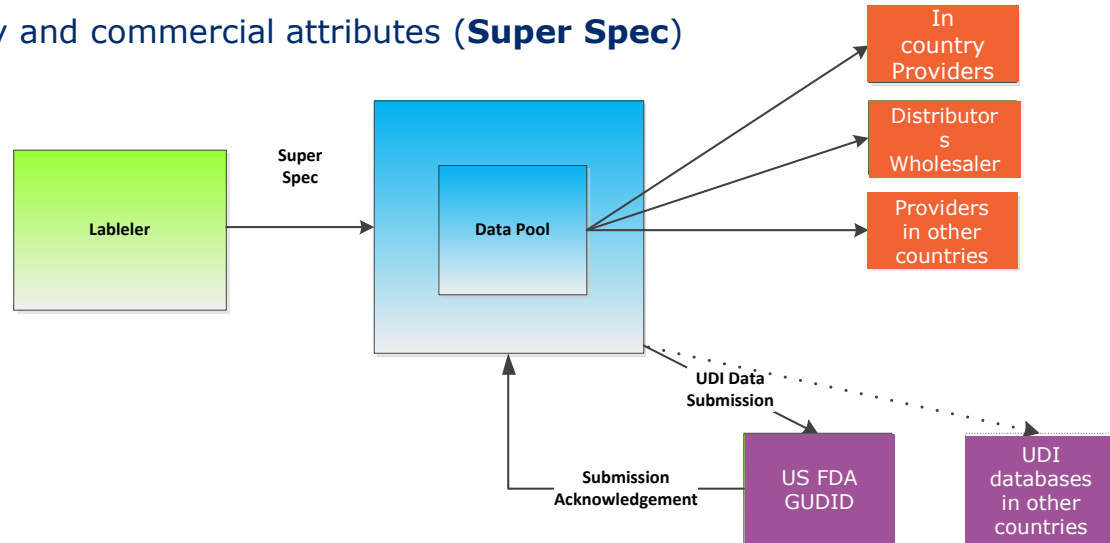
Standards-based

- Standard identification keys
- Consistently formatted information
- Complete information

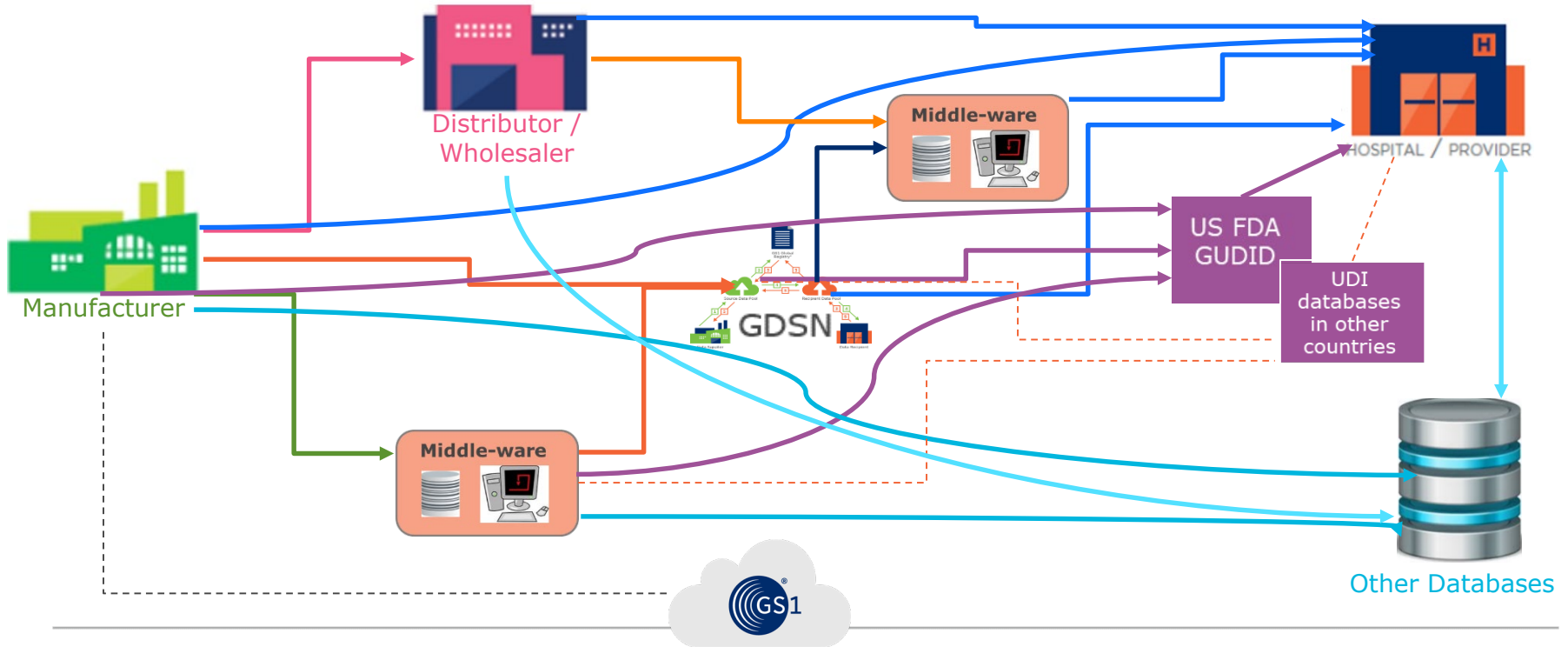
Managing data at local level and global levels



1. Find a **standards based** solution which can scale as the demand for data increases (i.e. GDSN and certified Data Pools)
2. Find a technology partner that can **connect you globally**
3. Define ALL regulatory and commercial attributes (**Super Spec**)



High data quality through all information channels



Master Data Management (MDM)



Data Governance



Roles and Responsibilities



Enterprise wide Data Management



Data Quality

The quality of the data is reflection on the quality of the product

The Global Locations Number (GLN)



The problem with location identification



- SAINT JOHN'S QUEENS HOSPITAL
- 1100004570208

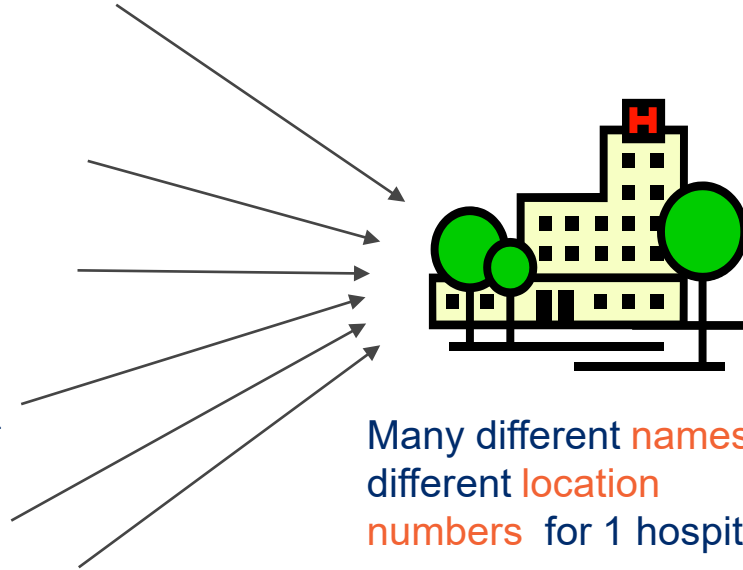
- ST JOHN'S QUEENS HOSPITAL
- 100084547

- SAINT JOHNS QUEENS HOSPITAL
- JAOE

- SAINT JOHN'S QUEEN HOSPITAL
- 50003000431

- SAINT JOHN'S QUEEN'S HOSPITAL
- CA2053

- ST. JOHN'S QUEENS HOSPITAL
- OM 12345



Many different **names**
different **location**
numbers for 1 hospital

The problem with location identification in healthcare



**300
different
names for
the same
supplier**

Manufacturer	Manufacturer	Manufacturer
SOUTHLAND TECHNOLOGY 3M	3M 800-327-5380	3M C/O EI
3M C/O PHOTO PRODUCTS DIV	3M CO	3M C/O FL
3M DIAGNOSTIC SYSTEMS INC	3M DENTAL 800-237-1650	3M C/O GC
3M ELECTRICAL SPECIALTIES DIV	3M ESPE DENTAL DIVISION 800-364-3577	3M C/O HC
3M HEALTH	3M ESPE UNITED STATES	3M C/O IN
3M HEALTH CARE CDI	3M ESPE	3M C/O JA
3M HEARING COMPONENTS	3M HEALTH CARE 800-521-2818	3M C/O LL
3M INDUSTRIAL TAPES LTD	3M HEALTHCARE PRODUCT	3M C/O NF
3M MEDICAL DEVICE DIV	3M HEALTHCATE	3M C/O NC
3M MEDICAL IMAGING SYSTEMS DIV	3M MEDSURGE	3M C/O OA
3M MEDICAL PRODUCTS DIV	3M MINNESOTA MINING MFG OFFICE	3M C/O RE
3M MEDICAL-SURGICAL DIV	3M MINNESOTA MINING & MFG.CO.	3M C/O SF
3M MEDICAL/SURG	3M OCC. HEALTH AND ENV. SAFETY DIV	3M C/O SC
3M PHARMACEUTICS AND MEDICAL S	3M OCC. HEALTH AND ENV. SAFETY DIV.	3M C/O TH
3M-MEDICAL/SURGICAL	3M SARNS/CDI	3M C/O TI
3M/ OCCUPATIONAL AND SAFETY DIV	3M SURGICAL	3M C/O TJ
3M - MINNESOTA MINING & CO	3M UNITEK 800-423-4588	3M C/O TK
3M FEDERAL GOVERNMENT	3M UNITEK	3M C/O WJ
3M FEDERAL SYSTEMS DEPARTMENT	THREE M/ ESPE	3M C/O WJ
3M HEALTH CARE SYSTEMS	3M COMPANY-C/O VAHL CORP.	3M COMM
3M HEALTHCARE \$250 MILLION ORDER	MINNESOTA IDENTIF	3M COMM
3M HEALTHCARE (MINN. MINNING)	3M COMPANY-C/O VAHL CORP.	3M COMP
3M MEDICAL - CREDIT CARD	3M HEALTHCARE	3M COMP
3M MEDICAL PRODUCTS	3M UNITEK CORP	3M COMP
3M OCC. HEALTH AND ENV. SAFETY DIVISION	3-M	3M COMP
3M OCCUPATIONAL AND SAFETY DIV	3-M COMPANY	3M COMP
3M SAFETY DIVISION	3-M COMPANY-C/O O	3M COMP
3M-DENTAL PRODUCTS DIVISION	3-M COMPANY-C/O OEM PRODUCTS	3M CONS
3M-HEALTH CARE	3-M PHARMACEUTICALS	3M CONS
3M DENTAL PRODUCTS DIV.	3M HEALTHCARE	3M CORP
3M UNITEK CORPORATION	3M	3M DENT/
3M UNITEK DENTAL PRODUCTS	3M PUERTO RICO	3M DENT/
3M BIOLOGICAL	3M SPECIALITY CHEMICAL	3M DEUT/
3M ESPE DENTAL PRODUCTS	3M % SAN-MAR	3M HEALT
3M HEALTH CARE (MED/SURG PRODS)	3M (CRJ7242)	3M HEALT
3M C/O CHECKPOINT METO	3M - MINNESOTA MI	3M HEALT
	3M - MINNESOTA MINING & MFG.CO	3M HEALT



Why use Global Location Numbers (GLN)



- A global standard for identification of legal entities and physical locations
- A GLN is an identification Key

Different locations in a hospital



- Vital for GS1 eCom messaging so that all parties and locations may be uniquely identified
- A pre-requisite for Global Data Synchronisation

Trusted data

Trusted data leads to better patient care



Safer and better treatments



Traceability

- **Standardising product data**, enables physicians to more easily analyse and compare results from products used
- **Applying unique GS1 identifiers** or UDI's enables more efficient recalls and verification of legitimacy of products
- eHealth → **combining** the best **product information** with the best **patient information**

Trusted data improves processes



Seamless order to cash

- Global Location Numbers (GLNs), GS1 EDI, and the unique Global Trade Item Number (GTIN) to identify products supports a **fully automated** order-to-cash **process**



Warehouse management

- **Accurate product data** (weight, dimensions and packaging) exchanged through GS1 Global Data Synchronisation Network saves valuable space

Trusted data means better collaboration and lowers costs



Seamless order to cash



Warehouse management

- Publishing product catalogues only once in the **GS1 Global Data Synchronisation Network (GDSN)** instead of using multiple formats, improves **accuracy of data** and **collaboration**



With clinical time back to patient care!



Reduction of human intervention (\$52,000/year)

Download the paper



<http://www.gs1.org/healthcare/share-data>



Safer, more efficient care starts with a simple scan



And accurate, complete, trusted data is needed through the whole chain so that every barcode scanned looks up an accurate database



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