GS1
One Global Standard
interacting with another
Global Standard

Christian Hay
What is GS1?

GS1 is a not-for-profit organisation dedicated to the design and implementation of global standards to improve the efficiency and visibility of supply chains globally and across sectors.

- 108 member organisations
- 30 years of experience
- Neutral platform for all supply chain stakeholders
- Over a million companies doing business across 150 countries
- Over 6 billion transactions a day

GS1 is the most widely used supply chain standards system in the world.
GS1 Standards

Global

- Integrity of the system worldwide (unique numbering across borders)
- Over 20 represented sectors (FMCG, healthcare, transport, defence…)
- Worldwide network of GS1 Member Organisations (108 in total) to support adoption and implementation

Open

- No barriers
- Ensures full interoperability

Proven

- In use for 30+ years in Retail
- The most widely used system of standards in the world
GS1 System of Standards

The global language of business

OVERALL BENEFIT: Improving efficiency & visibility in supply and demand chains

GS1 SOLUTIONS & SERVICES USING GS1 STANDARDS
Solutions: POS / Inventory Management / Asset Management / Collaborative Planning / Traceability
Services: Global (GSMP, GEPIR, Global Registry, Training and Accreditation) & Local (e.g. Certification, Implementation, Training)

GS1 System - Integrated system of standards

GS1 BarCodes
Global standards for automatic identification
Rapid and accurate, item, asset or location identification

GS1 eCom
Global standards for electronic business messaging
Rapid, efficient & accurate business data exchange

GS1 GDSN
The environment for global data synchronisation
Standardised, reliable data for effective business transactions

GS1 EPCglobal
Global standards for RFID-based identification
More accurate, immediate and cost-effective visibility of information

GS1 Identification Keys (e.g. GTIN, GLN, SSCC, GRAI, GIAI, GSRN, EPC) & Attribute Data (e.g. Best Before Date)
What is the problem?

Healthcare faces significant challenges in a supply chain lacking transparency, accuracy and efficiency.
Challenges in the healthcare supply chain

- **Medication errors** result in additional treatments, disabilities and even loss of life.
- **Counterfeiting** is an increasing global threat.
- **Traceability** from manufacturer to patient is unworkable.
- **Product recalls** are difficult to manage.
- A lot of manual interventions in the healthcare supply chain decrease its efficiency and accuracy.
Medication Error – Transfusion Error

US
- 44,000-98,000 die in the US alone as the result of medication error (IoM, 2006)
- Mis-transfusion every 14’000 transfusion. Death in 5.5% of the cases; major organ morbidity in 41% of the cases

UK
- Approximately 10% of inpatient episodes result in a medication error (Department of Health, 2007)

Quebec
- Mis-transfusion every 12’000 transfusion

Belgium
- Mis-transfusion every 400 transfusion
Ensuring the 5 Patient Rights

The *right* patient

The *right* product

The *right* route

The *right* time

The *right* dose

©2008 GS1
GS1 ID Keys

GTIN: Global Trade Item Number

The GS1 ID Key assigned to any product or service that may be priced, or ordered, or invoiced at any point in any supply chain.
A single reference for GTIN allocation

GTIN Allocation Rules reviewed & approved

- GTIN: Global Trade Item Numbers
- Existing GTIN Allocation Rules needed to be adapted to the healthcare sector
- Working from existing rules, the Global HUG created the Healthcare GTIN Allocation Rules, based on real-world examples
- The logic is the same; the specifics match the needs of this sector
Decentralised ID management

- Country prefix
- Company number

GCP = Global Company Prefix

GTIN
« AI » qualify a data field in a data carrier
GTINs and Hierarchy (Item Reference Uniqueness Approach)

Each item SAME GTIN

3007319 01020 8

Same GTIN

Consumer Trade Item A
3007319 01020 8

Consumer Trade Item B
3007319 01030 7

Different GTIN

Consumer Trade Item C
3007319 01040 6

Each pack DIFFERENT GTIN

Item Reference method of uniqueness
Standard Development

- Standard maintenance and development are user driven
- The GSMP (Global Standard Management process) has been conceived previously to address standard consistency and back compatibility

Subgroups
- GSMP BarCodes & Identification Business Requirements Group (BRG)
- GSMP BarCodes & Identification Technical Development Team
- GSMP Barcodes & Identification Technology Group (BTG)
- GSMP Business Modeling Team
- GSMP Conformance and Certification Workgroup (WG)
- GSMP Data Accuracy BRG
- GSMP eCom Business Requirement Group (BRG)
- GSMP GDSN Maintenance Release WG
- GSMP GDSN Modular Item WG
- GSMP GPC Business Requirement Group (BRG)
- GSMP GS1 DataBar (RSS) Coupon Work Group (WG)
- GSMP Healthcare Dispensing Unit WG
- GSMP Healthcare GTIN Allocation Rules Work Group
- GSMP Invoice Work Group (WG)
- GSMP Item Futurization Work Group (WG)
How to reduce medication errors?

Automatic identification solutions reduce the possibility of human error

Automatically match patient data, product data and treatment data

Automatic identification up to and at the point of care reduces medication errors
Proven results

Automatic identification in the Healthcare supply chain: proven results in pilot programs or early adopters in healthcare, for example:

• Bedside scanning **reduced medication errors by 86%** at the Topeka VA Medical Center (US)
• Robotic dispensing system **reduced dispensing errors by 67%** at the Chelsea & Westminster NHS Trust (UK)
• The introduction of a bar code point-of-care system **reduced administration errors by 74%** (from 3.10% to 0.84%) at the Gerle Ziekenhuizen in Maastricht (Netherlands)
• ADE every 100 medication administration (Bates J Gen Intern Med 1995;10:199); teaching hospital Geneva estimates that **50% of barcoded units of use reduces errors costs by 8 Mio $/year**
Automatic identification is a no brainer
• Hospital implementations have proven that it improves patient safety
• Technologies are readily available
Nevertheless, less than 10% of hospitals use automatic identification for medication administration
So why hasn’t everyone got it?

EAHP request for unit-doses

Unit doses blisters, with each single dose containing the whole information
• Trade name
• Active substance
• Dosage
• Expiry date
• Batch number
• Barcode
  • Including product ID, expiry date and batch number
  • Use of a recognized international standard (i.e. GS1)
  • Datamatrix

EAHP, 2007
Medicines should be provided in unit dose presentations, ready for use and administration, in order to help minimising the occurrence of errors. Medicines regulations should be updated to require complete and unambiguous labelling of every single unit of all licensed medicines (e.g. tablet, ampoule, vial, nebulus), including the INN, trade name, strength, expiry date and batch number and a data matrix bar code.

The data matrix bar code should contain a GS1 Global Trading Index Number (GTIN) identifier. A unique identifier may also be included in data matrix bar codes for medicines as part of more general patient safety measures to minimise the risk of counterfeit medicines and health care products entering the supply chain.
SSCC: Serial Shipping Container Code

The GS1 ID Key for an item of any composition established for transport and/or storage, and that needs to be managed across the supply chain.
The GS1 ID Key used to identify physical locations of items in the supply chain.
Global Healthcare User Group

GS1 Healthcare is a voluntary, global user community bringing together all healthcare stakeholders. Including: manufacturers, wholesalers, distributors, hospitals, pharmacies, regulatory bodies, trade associations.
GS1 Healthcare Mission & Vision

Our Mission
To lead the healthcare sector to the successful development and implementation of global standards by bringing together experts in healthcare to enhance patient safety and supply chain efficiencies.

Our Vision
To become the recognised, open and neutral source for regulatory agencies, trade organisations and other similar stakeholders seeking input and direction for global standards in healthcare for patient safety, supply chain security & efficiency, traceability and accurate data synchronisation.
Global Healthcare User Group

GS1 Healthcare is a voluntary, global user community bringing together all healthcare stakeholders including: manufacturers, wholesalers, distributors, hospitals, pharmacies, regulatory bodies, trade associations.
GS1 Standards in Healthcare

- Enable automatic identification systems
- Enable traceability systems
- Enable « clean » data

GS1 Standards in Healthcare improve patient safety
Our Goal: working together

GS1 and HL7 Join Forces to Develop Global Standards to Improve Patient Care
Two complementary global standards organizations will collaborate to develop global healthcare standards to reduce medical errors and to increase the effectiveness of the healthcare supply chain.

GS1 Healthcare and ICCBBA join forces to advance global standards to improve patient safety

©2008 GS1
GS1 standard to enhance patient safety

You'll be happy to know we have new procedures that'll prevent mistakes, Mrs. Brown.

My name's Smith!
Contact details

Christian Hay
GS1 Global Office
Avenue Louise 326, bte 10
B-1050 Brussels, Belgium
T  + 41 21 825 32 19 (office Switzerland)
M  + 41 76 369 10 54
F  + 41 21 825 34 66
E  christian.hay@gs1.org

The global language of business
www.gs1.org