



GS1 Standards in Healthcare

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Disclosure of Relevant Financial Relationships

Nothing to disclose



GS1 Standards in Healthcare

Improve patient safety

&

Increase efficiency and save costs



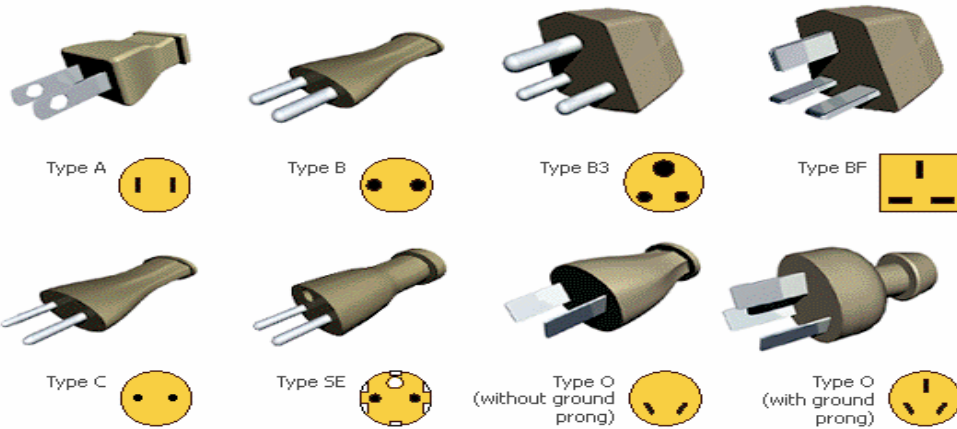
Global, open supply chain standards

- Automatic Identification & Data Capture (AIDC)
 - Bar codes
 - Radio Frequency Identification (RFID)
- Traceability
- Master data alignment
- Electronic Data Interchange (EDI)





Healthcare Global standards



Speak one language

Standards are agreements that structure any activity or any industry – rules that everyone applies.

- ✓ Open
- ✓ Neutral
- ✓ Simple
- ✓ Technology-independent



Global standards *What's in it for me?*



The healthcare supply chain today is global.

Global standards reduce complexity for multi-national suppliers.

- ✓ Production & Packaging
- ✓ Supply chain management

More cost effective for everyone.

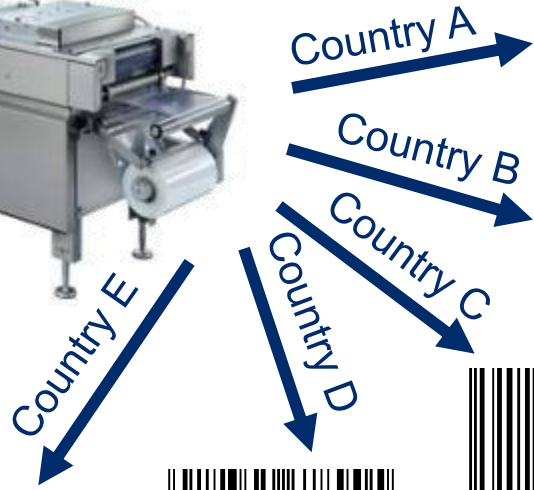


Healthcare Lack of global standards





Healthcare Lack of global standards




(01)12345678912345(17)101230(10)A234VC2


(01)30012345678906(17)101230(10)C4324(21)23QA6576P9


4 5 1 2 3 4 5 6 7 8 9 0 6 >




0 1 2 3 4 5 6 7 8 9 0 5

Additional cost and risk





Healthcare Lack of global standards



Diverging country requirements

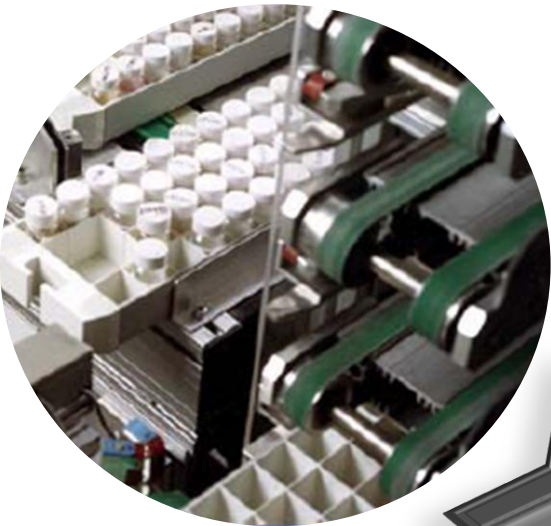
No barcode available or a unusable one

Requires (re-)barcoding by the hospital (or a 3rd party provider)

Additional cost and risk



The healthcare supply chain... *simplified*



Manufacturer



**Healthcare
provider**



Distributor, wholesaler, GPO, ...



Patient

The healthcare supply chain ... *in real life*





GS1 and GS1 Healthcare



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 - 150 Countries served

Global reach, local presence

An integrated approach

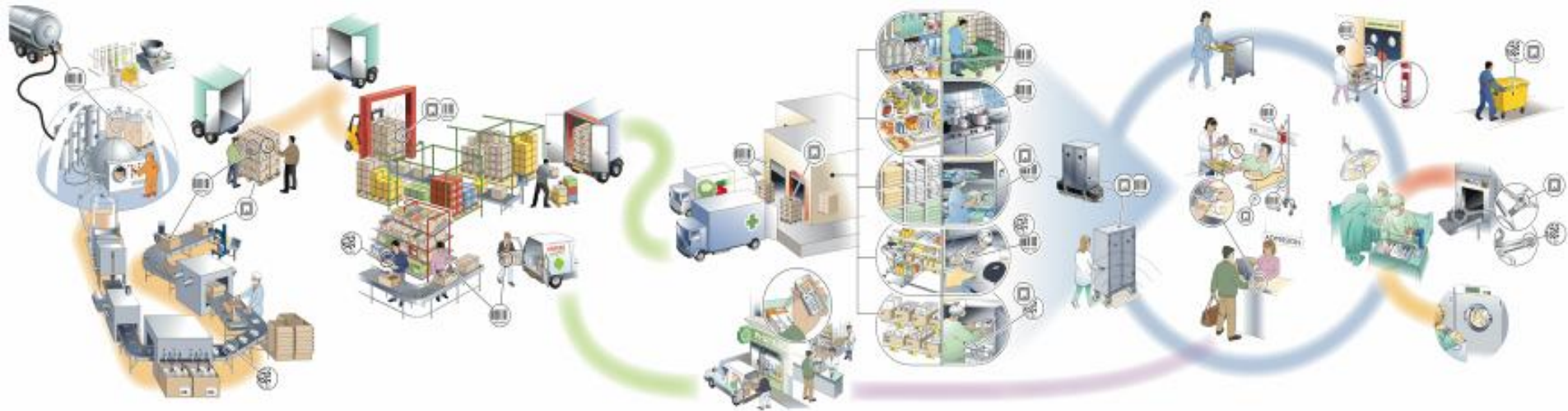
- Standardised identification keys
 - *Products, locations, assets, ...*
- Standardised data carriers
 - *Bar codes & RFID*
- Standardised sharing of static data
 - *Data on products & locations*
- Standardised sharing of dynamic data
 - *Event data*
- Standardised electronic communication



Global reach

Open standards

Neutral standards



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**.



Leading healthcare organisations pave the way...

Corporate members of the global user group



Leading healthcare organisations pave the way...

Healthcare providers and Group Purchasing Organisations going global



France



Germany



Netherlands



Hong Kong



Switzerland



Germany



Germany



USA



Austria



USA



Ireland



Netherlands



France



USA

GS1 Healthcare Increasing global recognition



And many more...



Patient safety initiatives worldwide

Advancing global supply chain standards – a few examples...

Bar coding for improved medication safety in Canada



'Coding for Success' in the UK



New Zealand Medication Safety Project



Major GPOs in the USA set sunrise dates



« Unit doses and bar codes needed for patient safety »



Automation programme to improve patient care in Brazil





GS1 Standards





Healthcare **GS1 Standards in Healthcare**

- **Developing the GS1 System of Standards to meet the specific needs of Healthcare**

1. AIDC Application Standards

- Developing global standards for the automatic identification and data capture for Healthcare products at all packaging levels

2. Traceability in Healthcare

- Defining the global solution for traceability in Healthcare

3. Data Synchronisation & Product Classification

- Developing a data synchronisation standard, including a classification solution, which will allow the Healthcare industry to use the GS1 GDSN



GS1 Healthcare GS1 Identification Keys



Item identifier = **GTIN**

Global Trade Item Number



Logistics unit identifier = **SSCC**

Serial Shipping Container Code



Location identifier = **GLN**

Global Location Number

And more ...

Identifier tiered system

333 444 123456 1

↓
GS1 prefix (country)

↓
Company prefix assigned by GS1

↓
Reference designated by company

↓
Check digit

- ✓ Unique
- ✓ Non-significant
- ✓ International
- ✓ Secure



GS1 Healthcare **Key attributes**

GS1 General Specifications:

Complete list of 100+ GS1 Application Identifiers

Including:

- ✓ Expiry date
- ✓ Lot number
- ✓ Serial number
- ✓ Logistics measure

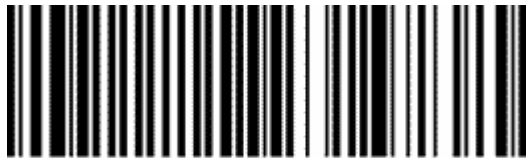


Healthcare Effective data capture

Automatic Identification & Data Capture (AIDC) Efficient and accurate

Data carrier

Scanner / Reader



(01) 0 0012345 67890 5

Linear bar code



2-D bar code



RFID tag



Laser scanner



Camera-based scanner



RFID Reader



GS1 data carriers for specific healthcare needs



(01) 0 0012345 67890 5



1012300912345678905

GS1-128 & GS1 DataBar

Preferred options if:

- ✓ package allows



(01)07612345678900(17)100503
(10)AC3453G3

GS1 DataMatrix

Preferred option if:

- ✓ Large amount of data on small space
- ✓ Variable information at high production rates
- ✓ Direct part marking



EPC/RFID

Additional option

- ✓ Non-line of sight
- ✓ Large amount of data



Image bar code scanners
needed in HC !!



Healthcare Healthcare specific requirements



Expiration data
& lot number



Small space



Direct part marking



Additional data & variable data at
high production rates



Non-retail channels

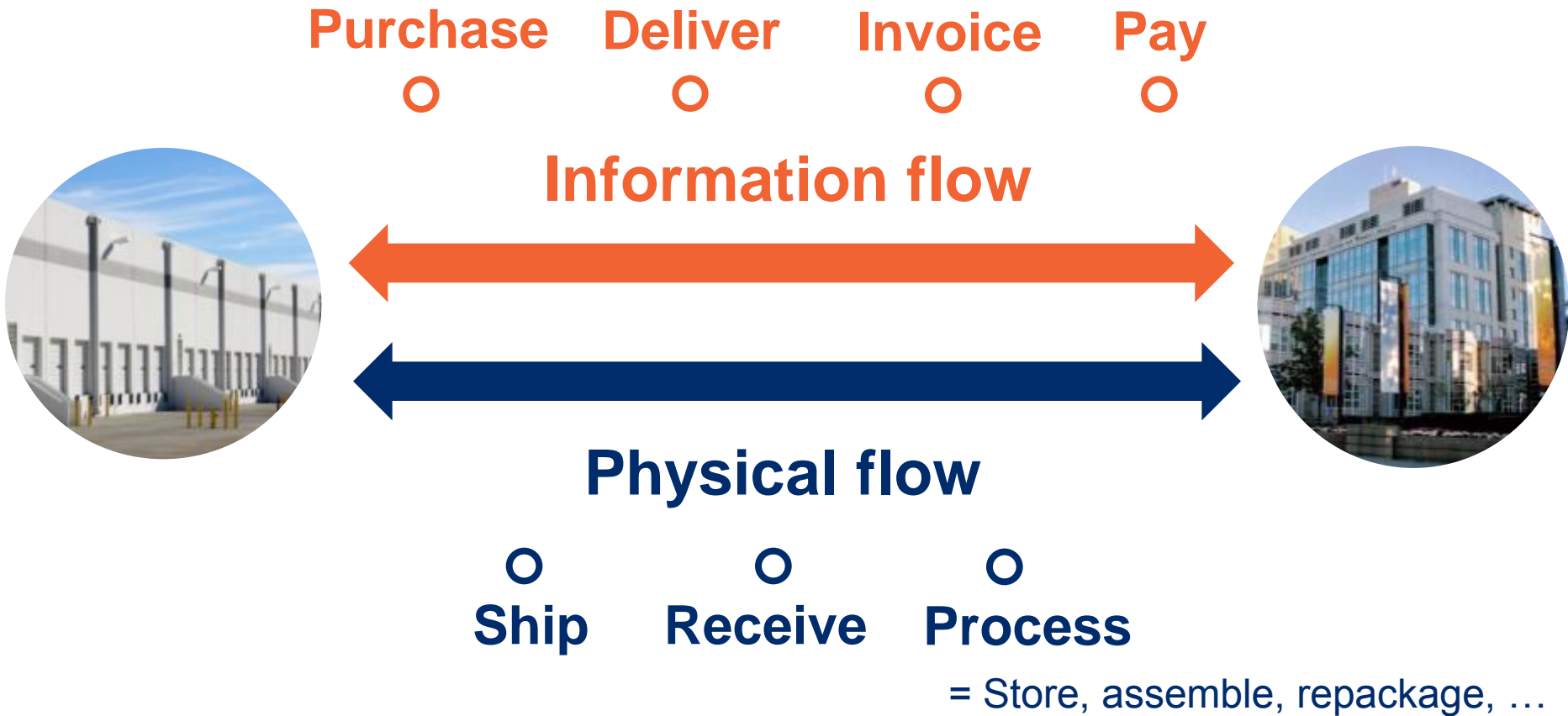
And more...



GS1 Standards between supply chain partners



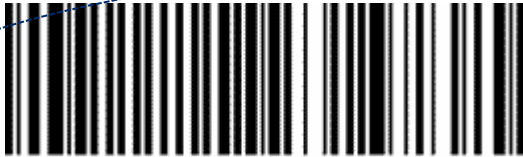
Supplying products & exchanging information





Healthcare

GS1 Standards enable AIDC

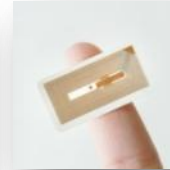


(01) 0 0012345 67890 5

GS1-128 bar code



GS1 DataMatrix



EPC/RFID



GLN
GTIN

SSCC (logistic unit)
GTIN (item)
GLN (location)

GLN (location)
GTIN (item)

Purchase
○
Deliver
○
Invoice
○
Pay
○

Information flow

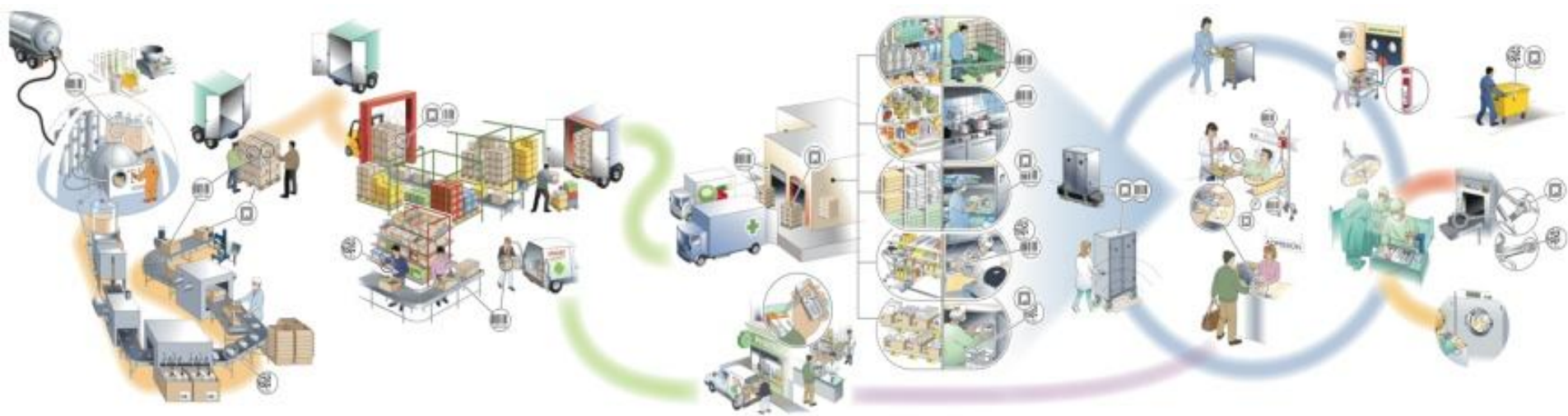


Physical flow

○
Ship
○
Receive
○
Process



Global Traceability Standards for Healthcare (GTSH)



Full actionable visibility

of all pharmaceuticals & medical devices
is possible from point of production to point of use
across geographies globally

AIDC & Traceability

What's in it for me?



- **Improve patient safety**

- Reduce medical errors (medication errors, verification of patient ID, etc.)
- Enable effective product recalls
- Fight counterfeiting
- Enable adverse event reporting
- More time for patients



- **Increase efficiency and save costs**

- Improve order and invoice process
- Optimise receiving
- Reduce inventory & improve shelf management
- Increase productivity
- Improve service levels/fill rate
- Improve benchmarking and management of supply cost
- Efficiently document treatment in patient's Electronic Health Record





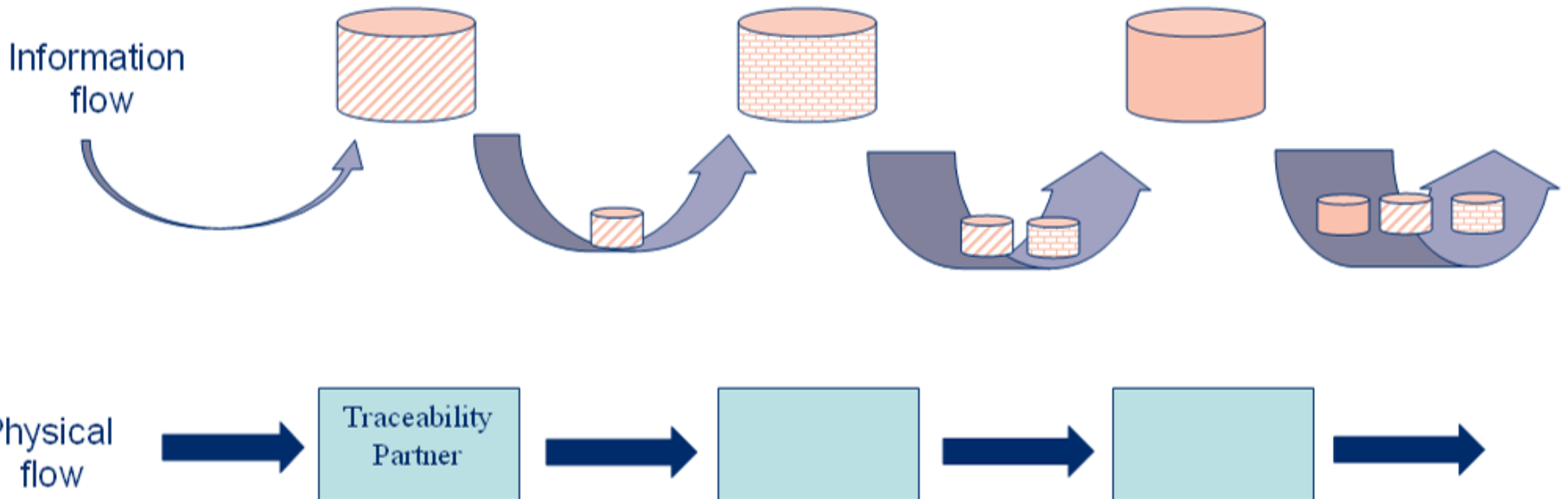
Healthcare **How does traceability work?**

The GS1 Global Traceability Standards provide guidance on how to implement effective traceability solutions

- **Unique identification**
 - Global product identification number
 - Lot/batch number or serial number (unique number at the unit level)
- **Data capture**
 - Bar coding or radio frequency identification (RFID)
- **Links management**
 - Managing identification from the point-of-manufacture to the point-of-sale/point-of-care
- **Data communication**
 - Associate the physical flow of products with the information flow
 - Different information sharing models

Cumulative Tracking (e.g., California ePedigree)

Traceability data received from all previous upstream chain sources plus its additional traceability data, available to the next downstream supply partner.

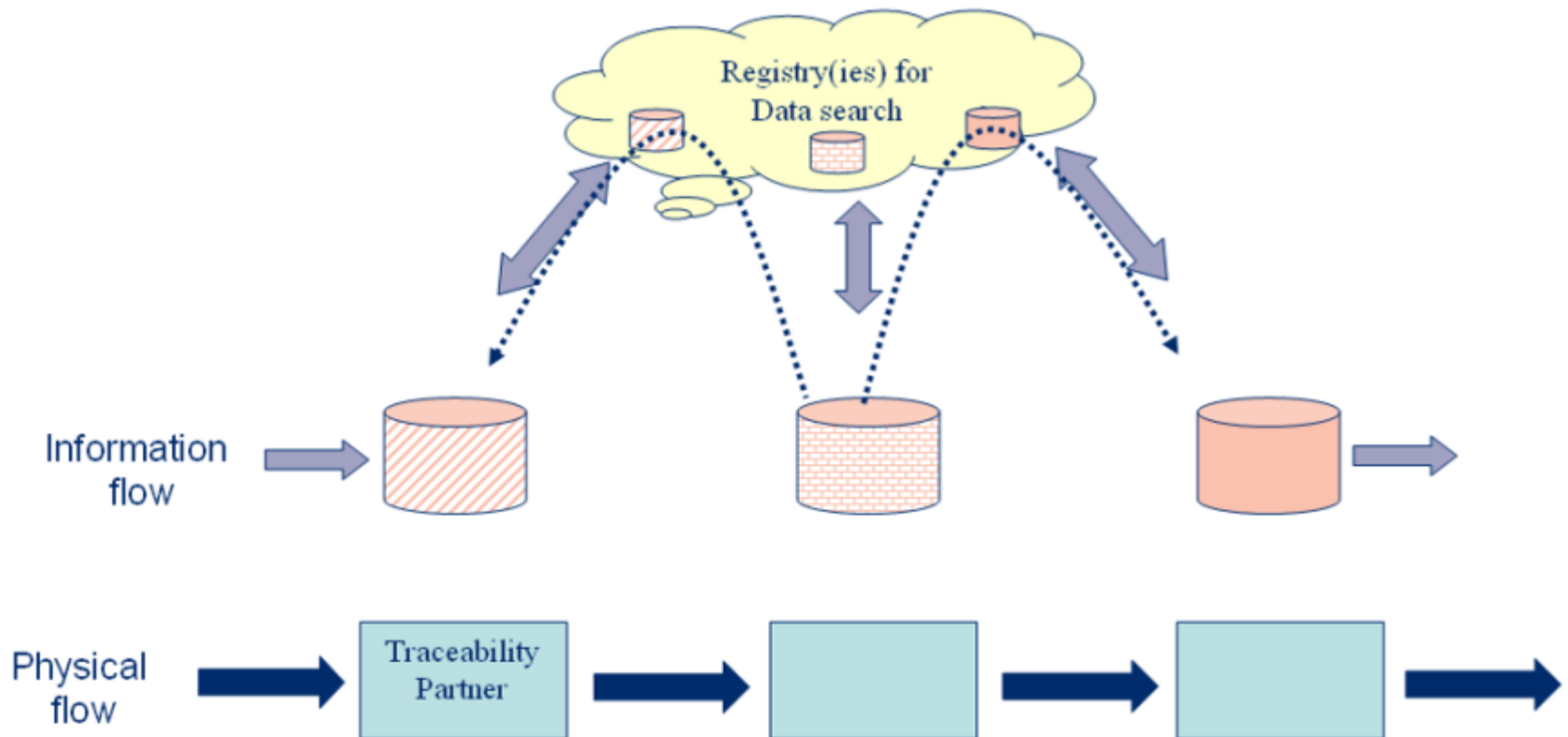




Healthcare Information sharing model

Distribution Information Sources

Traceability identification keys available in a registry to enable traceability data search - information can be stored anywhere as the registry provides the link and data search mechanism.

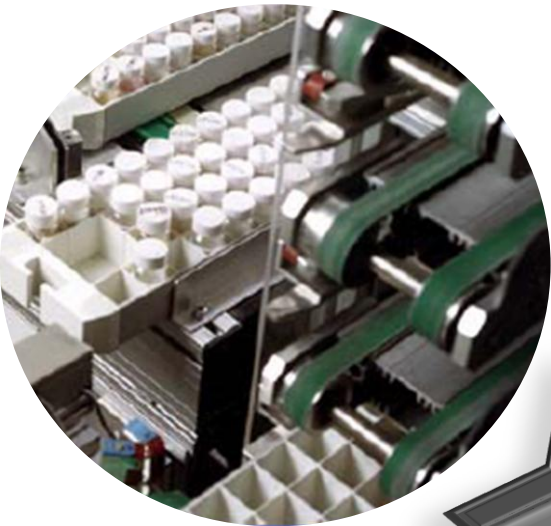




Applications



Traceability from production to patient



Manufacturer



**Healthcare
provider**



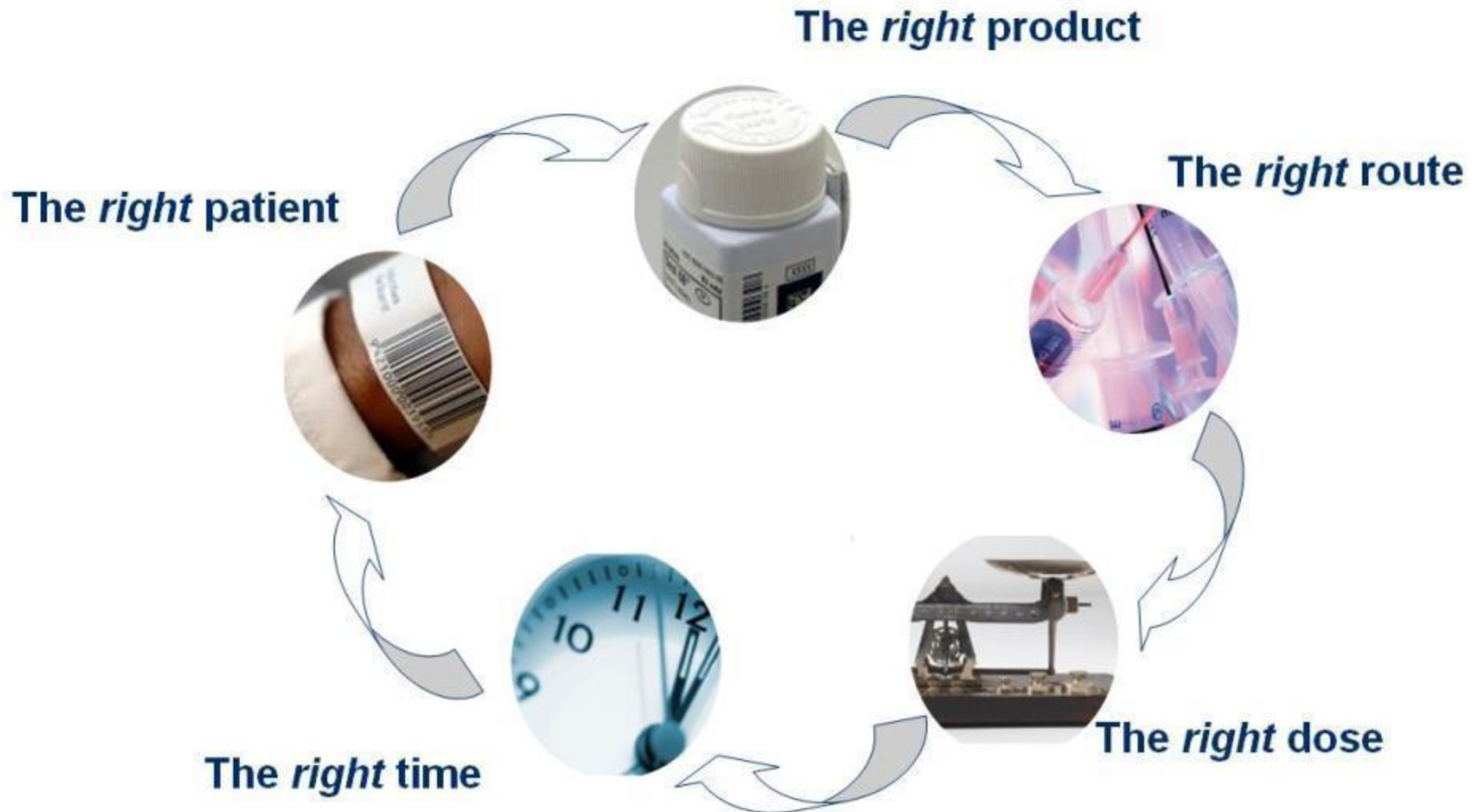
Distributor, wholesaler, GPO, ...



Patient



Healthcare Ensuring the 5 patient rights



Medication errors

How to reduce?

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



Medication errors – should we care?

- In the U.S., the Institute of Medicine estimated that medication errors injured 1.5 million people each year, of which 400,000 in hospitals costing at least **\$3.5 billion in extra medical expenses**
- In the U.S., medication errors in hospitals result in preventable adverse events with **7,000 patients** dying per year

Product recalls

How to enable?

➔

16G Dual Lumen Oocyte Recovery Set

wallace

de 16 G doppellumiges Einzelnenstrahlenset

da 16G dobbeltlappet oocytudragningssæt

es Equipo de cable luz para recogida de ovocitos de 16 G

fr Jeu à double lumière pour récupération d'ovocytes 16 G

el Σετ ονείκησης ωοκυττάρων 6 ήλκωδ αλληού 16G

it Set per prelievo oociti a doppia luce da 16G

no 16G Dobbeltlumensett for uthenting av oocytter

nl 16 G dubbellumenset voor het verzamelen van oocytten

pt Conjunto de colheita de óóulos de duplo úmen de calibre 16

sv 16 G hamningssæt for oocytter med dubbellumen

fi 16G Kaksi kanavainen munasolun keräyspakkaus

cs Souprava k odběru oocytů s dvoulumenovou jehlou 16 G

pl Dwukanalowy zestaw do pobierania oocytów 16 G

hu 16G kettős lumenű oocytgyűjtő készlet

tr 16G Çift Lumenli Oocit Alma Seti

et 16G kahe valendikuga munarakkude kogumise komplekt

ro Set cu lumen dublu pentru recoltarea ovulelor, 16G

bg Набор за събиране на яйцеклетки с двоен лумен 16 G

sk Dvo. úmenová súprava na odber oocytov 16 G

ll 16 G dvigubo spndio oocitgyűjtő rendszer

FC835-A 127

REF

DNS1633-500

Caution Do not reuse. Latex free.
Do not use if package is damaged. Sterile seal using ethylene oxide. **Caution:** Federal (USA) law restricts this device to sale by or on the order of a physician.

Smiths Medical International Ltd
Fythe, Kent CT21 5JL, UK
Australian Representative
Smiths Medical Australasia Pty. Ltd.
Emsbane QLD 4113, Australia.
www.smiths-medical.com

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LAL < 0.5 EU/ml Endotoxin level is less than 0.5 EU/ml
MEA 2 Cell Survival > 80%

LOT

1111111

2008-10

2010-10

smiths

medical

Link
to patient

© 2008 GS1

40

Counterfeit medical products *Should we care?*

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Thousands 'have taken fake drugs'

Thirty-thousand packs of fake life-saving drugs may have been consumed by NHS patients, the BBC has learned.

A senior official from the government's medicines watchdog said the case must lead to tightening of the law.

The Medicines Health products Regulatory Authority (MHRA) issued four emergency drugs recall notices in June 2007 - its highest state of alert.



Four emergency drugs recalls were issued in June 2007



GS1 Standards in the hospital



Core Services



Emergency Room



Patient Bedside



Operating Room

And more

Support Services



Central Warehouse



Pharmacy



Administration



Sterilization unit

And more

GS1 Healthcare Example 1



Medical supplies



Emergency Room

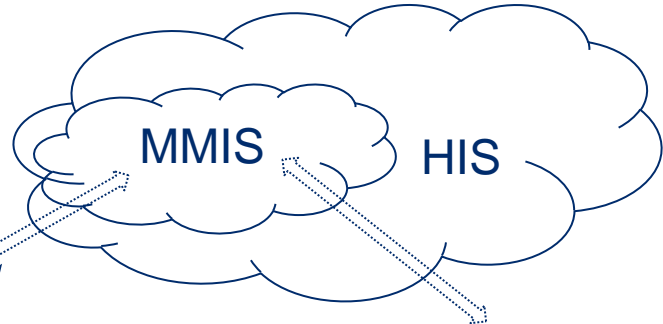


Patient Bedside



Operating Room

And more



Automatically record receipt of goods and manage inventory.

SSCC
GTIN



Central Warehouse



Pharmacy



Administration



Sterilization unit

And more

GLN

GS1 Healthcare Example 2



Emergency Room

GLN



Patient Bedside

GLN



Operating Room

GLN

And more

Standardised identification of locations.



Central Warehouse

GLN



Pharmacy

GLN



Accounting

GLN



Sterilization unit

GLN

And more

GS1 Healthcare Example 3



Emergency Room

GSRN



Patient Bedside

GSRN



Operating Room

And more

Additional verification steps in medication management process.

GTIN



Central Warehouse



Pharmacy



Accounting



Sterilization unit

And more

GS1 Healthcare Example 4



Emergency Room



Patient Bedside



Operating Room

And more

GSRN

Track surgical instruments.



GLN



GTIN



Central Warehouse



Pharmacy



Accounting



Sterilization unit

GLN

And more



Conclusion





**Improving
patient safety and
supply chain efficiency**



GS1 Standards in Healthcare ...

Our vision

GS1 Healthcare envisions a future where the healthcare sector utilises GS1 global standards for all items, locations, people and processes to drive patient safety and supply chain efficiency improvements-- starting with the manufacturer and ending with the patient.





Contact Details

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