GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

- Manufacturer
- Solution provider
- Warehousing & distribution
- Healthcare provider
- Professional caregiver
- Home caregiver
- Patient/consumer
- Payment agency
- Public authority
- Ingredient supplier
- Raw material supplier
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Manufacturer
Quality
Ingredient supplier
Raw material supplier
Solution provider
Warehousing & distribution
Healthcare provider
Professional caregiver
Home caregiver
Patient/consumer
Payment agency
Public authority
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Relationships
- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Current business
- Patient/provider
- Disruptive

Status 2018
- GS1 standards

Status 2022
- GS1 standards

GS1 standards
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Relationships
- GS1 standards
- Status 2018
- Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GTIN: Global Trade Item Number
- SSCC: Serial Shipping Container Code
- GLN: Global Location Number
- GSRN: Global Service Relation Number
GS1 enables healthcare's digital thread

Processes
- Physical flow
  - Supply chain
  - Product recall
  - Patient data
  - Transactional data
  - Reimbursement

Relationships
- Status 2018
- Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GTIN: Global Trade Item Number
- SSCC: Serial Shipping Container Code
- GLN: Global Location Number
- GSRN: Global Service Relation Number

Deployment status
- High
- Medium
- Low

GS1 standards
- GTIN
- GLN
- SSCC
- GSRN
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Relationships
- GS1 standards
- Status 2018
- Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GTIN: Global Trade Item Number
- SSCC: Serial Shipping Container Code
- GLN: Global Location Number
- GSRN: Global Service Relation Number

Deployment status
- High
- Medium
- Low
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Relationships
- GS1 standards
- Status 2018
- Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1, manufacturer, professional caregiver, raw material supplier, ingredient supplier, healthcare provider, payment agency, warehousing & distribution solution provider, public authority, home caregiver, patient/consumer.
GS1 enables healthcare's digital thread

Processes

- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Strategies

- Current business
- Patient/provider
- Disruptive

Relationships

- GS1 standards
  - Status 2018
  - Status 2022

GS1 standards legend
- GTIN Global Trade Item Number
- GLN Global Location Number
- GSRN Global Service Relation Number
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Supply chain
- Product recall
- Patient data
- Transactional data
- Reimbursement

Relationships
- GS1 standards
- Status 2018
- Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GTIN Global Trade Item Number
- GLN Global Location Number
- GSRN Global Service Relation Number

Deployment status
- High
- Medium
- Low
GS1 enables healthcare's digital thread

Processes
Physical flow
Supply chain
Product recall
Patient data
Transactional data
Reimbursement

Relationships
GS1 standards
Status 2018
Status 2022

Strategies
Current business
Patient/provider
Disruptive

Deployment status
High
Medium
Low

GS1 standards legend
GTIN Global Trade Item Number
GLN Global Location Number
GSRN Global Service Relation Number
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Relationships
- GS1 standards
- Status 2018
- Status 2022

GS1 solutions provide
- Healthcare provider
- Professional caregiver
- Warehousing & distribution
- Solution provider
- Manufacturer
- Ingredient supplier
- Raw material supplier
- Payment agency
- Public authority
- Home caregiver
- Patient/consumer
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

GS1 standards legend
- GTIN Global Trade Item Number
- GLN Global Location Number
- GSRN Global Service Relation Number

Diagram showing the interactions between various actors in the healthcare sector, including manufacturers, solution providers, warehousing & distribution, public authorities, payment agencies, healthcare providers, professional caregivers, home caregivers, and patients/consumers. The diagram uses GS1 standards (GLN, GTIN, GSRN) to illustrate the flow of information and transactions.
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Relationships
- GS1 standards
- Status 2018
- Status 2022

Deployment status
- High
- Medium
- Low
GS1 enables healthcare's digital thread

**Processes**
- Physical flow
- Patient data
- Transactional data
- Reimbursement

**Strategies**
- Current business
- Patient/provider
- Disruptive

**Relationships**
- GS1 standards

**Deployment status**
- High
- Medium
- Low

**GS1 standards legend**
- GTIN Global Trade Item Number
- GLN Global Location Number
- GSRN Global Service Relation Number

### Diagram Elements
- **Manufacturer**
- **Solution provider**
- **Warehousing & distribution**
- **Public authority**
- **Payment agency**
- **Healthcare provider**
- **Professional caregiver**
- **Home caregiver**
- **Patient/consumer**

**Glue points**
- GLN Global Location Number
- GSRN Global Service Relation Number
- GTIN Global Trade Item Number

**Processes**
- **Physical flow**
- **Patient data**
- **Transactional data**
- **Reimbursement**

**Deployment status**
- **High**
- **Medium**
- **Low**
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
  - Master data
  - Procure-to-pay
  - Traceability
  - Recalls/reverse logistics
  - Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive
GS1 enables healthcare's digital thread

Processes
- Physical flow
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Relationships
- GS1 standards
  - Status 2018
  - Status 2022

Strategies
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GS1®
GS1 enables healthcare’s digital thread

**Processes**
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recall/reverse logistics
- Reimbursement

**Relationships**
- GS1 standards
  - Status 2018
  - Status 2022

**Strategies**
- Current business
- Patient/provider
- Disruptive

**GS1 standards legend**
- GLN  Global Location Number
- GSRN  Global Service Relation Number
- EDI  Electronic Data Interchange
- GDSN  Global Data Synchronisation Network

**Diagram Elements**
- Manufacturer
- Solution provider
- Warehousing & distribution
- Login edit
- Healthcare provider
- Non-GS1 EDI
- Public authority
- Payment agency
- Home caregiver
- Patient/consumer
- Professional caregiver
- Ingredient supplier
- Raw material supplier
- GLN
- GDSN
- EDI
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GLN Global Location Number
- GSRN Global Service Relation Number
- EDI Electronic Data Interchange
- GDSN Global Data Synchronisation Network

Deployment status
- High
- Medium
- Low
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
- Status 2018
- Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

Deployment status
- High
- Medium
- Low

GS1 standards legend
- GLN Global Location Number
- GSRN Global Service Relation Number
- EDI Electronic Data Interchange
- GDSN Global Data Synchronisation Network
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

- Ingredient supplier
- Raw material supplier
- Manufacturer
- Warehousing & distribution
- Healthcare provider
- Professional caregiver
- Solution provider
- Payment agency
- Public authority
- Home caregiver
- Patient/consumer
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GLN Global Location Number
- EDI Electronic Data Interchange
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
  - Master data
  - Procure-to-pay
  - Traceability
  - Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GLN  Global Location Number
- EDI  Electronic Data Interchange

Deployment status
- High
- Medium
- Low
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
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- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

Deployment status
- High
- Medium
- Low

GS1 standards legend
- GLN  Global Location Number
- EDI  Electronic Data Interchange

Manufacturer
- Ingredient supplier
- Raw material supplier

Warehousing & distribution

Solution provider

Healthcare provider

Payment agency

Home caregiver

Patient/consumer
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 solutions enable the digital thread by connecting various stakeholders.

- Manufacturer
- Ingredient supplier
- Raw material supplier
- Warehousing & distribution
- Solution provider
- Public authority
- Healthcare provider
- Professional caregiver
- Home caregiver
- Patient/consumer

GS1 standards support the digital thread across different processes and strategies.

Current business strategies:
- GS1 standards
  - Status 2018
  - Status 2022
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master Data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

GS1 standards legend
- GTIN: Global Trade Item Number
- SSCC: Serial Shipping Container Code
- GLN: Global Location Number
- GSRN: Global Service Relation Number
- EPCIS: Electronic Product Code Information Services

Relationships
- GS1 standards
- Status 2018
- Status 2022
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
- Status 2018
- Status 2022

Strategies
- Current business
- Patient/provider
- Disruptive

Deployment status
- High
- Medium
- Low

GS1 standards legend
- GTIN: Global Trade Item Number
- SSCC: Serial Shipping Container Code
- GLN: Global Location Number
- GSRN: Global Service Relation Number
- EPCIS: Electronic Product Code Information Services
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Relationships
- GS1 standards
- GLN: Global Location Number
- GTIN: Global Trade Item Number
- SCC: Serial Shipping Container Code
- EPCIS: Electronic Product Code Information Services

Deployment status
- High
- Medium
- Low

Status
- Status 2018
- Status 2022
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Transactions

<table>
<thead>
<tr>
<th>Reason for recall</th>
<th>Status 2018</th>
<th>Reason for recall</th>
<th>Status 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse event</td>
<td></td>
<td>Production error</td>
<td></td>
</tr>
<tr>
<td>Design flaw</td>
<td></td>
<td>Labeling issue</td>
<td></td>
</tr>
<tr>
<td>Production error</td>
<td></td>
<td>Temp excursions</td>
<td></td>
</tr>
<tr>
<td>Counterfeit/diversion</td>
<td></td>
<td>Literature</td>
<td></td>
</tr>
<tr>
<td>Raise issue</td>
<td></td>
<td>Raw materials</td>
<td></td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
<td>Patient</td>
<td></td>
</tr>
<tr>
<td>Patient</td>
<td></td>
<td>Provider</td>
<td></td>
</tr>
<tr>
<td>Logistics</td>
<td></td>
<td>Government organisation</td>
<td></td>
</tr>
</tbody>
</table>
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards
- GS1 standards legend
  - GTIN: Global Trade Item Number
  - GLN: Global Location Number
  - GSRN: Global Service Relation Number
  - SSCC: Serial Shipping Container Code

Strategies
- Current business
- Patient/provider
- Disruptive

Reasons for recall
- Adverse event
- Design flaw
- Production error
- Labelling issue
- Temp excursions
- Counterfeit/diversion
- Literature

Raise issue
- Raw materials
- Manufacturer
- Patient
- Provider
- Logistics
- Government organisation
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/reverse logistics
- Reimbursement

Relationships
- GS1 standards

Strategies
- Current business
- Patient/provider
- Disruptive

Reasons for recall
- Adverse event
- Design flaw
- Production error
- Labelling issue
- Temp excursions
- Counterfeit/diversion
- Literature
- Raise issue
- Raw materials
- Manufacturer
- Patient
- Provider
- Logistics
- Government organisation

GS1 standards legend
- GTIN Global Trade Item Number
- SSCC Serial Shipping Container Code
- GLN Global Location Number
- GSRN Global Service Relation Number

Deployment status
- High
- Medium
- Low
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Master data
- Procure-to-pay
- Traceability
- Recalls/Reverse Logistics
- Reimbursement

Relationships
- GS1 standards

Strategies
- Current business
- Patient/provider
- Disruptive

Reasons for recall
- Adverse event
- Design flaw
- Production error
- Labelling issue
- Temp excursions
- Counterfeit/diversion
- Literature
- Raise issue
- Raw materials
- Manufacturer
- Patient
- Provider
- Logistics
- Government organisation

Deployment status
- High
- Medium
- Low

GS1 standards legend
- GTIN Global Trade Item Number
- SSCC Serial Shipping Container Code
- GLN Global Location Number
- GSRN Global Service Relation Number
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Relationships
- GS1 standards
  - Status 2018
  - Status 2022

In some countries
GS1 enables healthcare's digital thread

**Processes**
- Physical flow
- Patient data
- Transactional data
- Reimbursement

**Relationships**
- Manufacturer
- Solution provider
- Warehousing & distribution

**Strategies**
- Current business
- Patient/provider
- Disruptive

**GS1 standards legend**
- GTIN: Global Trade Item Number
- GLN: Global Location Number
- GSRN: Global Service Relation Number
- EDI: Electronic Data Interchange
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Relationships
- Manufacturer
- Solution provider
- Warehousing & distribution

GS1 standards legend
- GTIN: Global Trade Item Number
- GLN: Global Location Number
- GSRN: Global Service Relation Number
- EDI: Electronic Data Interchange

Deployment status
- High
- Medium
- Low
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- Disruptive

Relationships

GS1 standards
- GTIN Global Trade Item Number
- GLN Global Location Number
- GSRN Global Service Relation Number
- EDI Electronic Data Interchange

Deployment status
- High
- Medium
- Low

GS1 standards legend

= in some countries
GS1 enables healthcare's digital thread

Processes

Physical flow
Patient data
Transactional data
Reimbursement

Strategies

Current business
- Global regulatory alignment
- Security/traceability/anti-counterfeiting
- Data quality and completeness
- Operationalisation of standards
- Trading partner data exchange

Patient/provider
Disruptive

GS1 enables healthcare's digital thread...
GS1 enables healthcare’s digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
  - Global regulatory alignment
- Security/traceability/anti-counterfeiting
- Data quality and completeness
- Operationalisation of standards
- Trading partner data exchange
- Patient/provider
- Disruptive

Description
Continue to be the open, neutral source for regulatory agencies and other government organisations to drive harmonised uptake of global standards.
GS1 enables healthcare’s digital thread

**Processes**
- Physical flow
- Patient data
- Transactional data
- Reimbursement

**Strategies**
- Current business
- Global regulatory alignment
- Security/traceability/anti-counterfeiting
- Data quality and completeness
- Operationalization of standards
- Trading partner data exchange
- Patient/provider
- Disruptive

**Description**
Continue to educate, support and assist with implementation of global standards to ensure supply chain security and medical product traceability and help to prevent counterfeit product entering the legitimate supply chain.
Promote use of global standards to enable accurate, consistent, complete and timely product master data and transactional data to be shared between healthcare stakeholders.
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Global regulatory alignment
- Security/traceability/anti-counterfeiting
- Data quality and completeness
- Operationalisation of standards
- Trading partner data exchange
- Patient/provider
- Disruptive

Description
Continue to educate and help drive deeper implementation of GS1 identification keys and data carriers (e.g., GTIN, GLN, SSCC) to make their use commonplace across all healthcare stakeholders and increase interoperability.
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
  - Global regulatory alignment
  - Security/traceability/anti-counterfeiting
  - Data quality and completeness
  - Operationalisation of standards
  - Trading partner data exchange
- Patient/provider
- Disruptive

Description
Continue to educate, support and assist with implementation of global standards for electronic interchange of transactional business messages between healthcare stakeholders.
GS1 enables healthcare's digital thread

Processes
- Physical flow
- Patient data
- Transactional data
- Reimbursement

Strategies
- Current business
- Patient/provider
- EHR/system interoperability
- Digital bridge
- Reimbursement agency engagement
- Single unit ID and patient/caregiver ID
- Disruptive

Ingredients supplier
Raw material supplier
Manufacturer
Solution provider
Warehousing & distribution
Healthcare provider
Professional caregiver
Home caregiver
Payment agency
Patient/consumer
Public authority
Increase collaboration with healthcare solution providers with the objective to ensure they support GS1 standards in their solutions.
Create an interoperable architecture to allow a single GS1 barcode on a medical product package to be scanned and have the user, depending on their characteristics (e.g., consumer, healthcare provider), be able to access the needed online product information, complementing reliance on information on the label. With that, drive the efforts towards ONE global barcode on medical product packages.
GS1 enables healthcare’s digital thread

**Description**

Increase engagement of reimbursement agencies (insurers and payers) to educate and drive implementation of global standards as part of healthcare reimbursement processes.
Increase education and implementation of GS1 identifiers and barcodes for patient and caregiver identification and primary packaging identification to enable scanning at the point of care.
Research and monitor technology developments that may impact GS1’s role in the healthcare environment. Upon identification of areas of impact/opportunities, engage the digital disruptors to encourage them to use GS1 standards, as necessary undertake relevant standards development activities and support implementation activities.