A pathway to scan medical devices in the Operating Room

GS1 Healthcare Webinar

Diederik Rood, Senior advisor ERP Solutions & Project leader Dutch Implant Registry
Dijklander Hospital, Hoorn & Purmerend, the Netherlands

September 17, 2020
Welcome and thank you for attending!

• Welcome to our September 2020 webinar.
  Thank you to our guest speaker Diederik Rood, senior advisor ERP Solutions & Project leader Dutch Implant Registry, Dijklander Hospital, the Netherlands

• Some housekeeping for today:
  - All attendees will be in listening-only mode
  - If you have questions during the presentation, please type them into the questions area and these will be monitored then answered at the end of the call

• After the webinar:
  - Within a week, the recording will be posted to: http://www.gs1.org/healthcare/hpac_webinars
  - All previous webinars are also posted to this location, so please feel free to use this resource and share the link
GS1 Healthcare Webinars

Create a forum for the global clinical provider environment for thought leaders and adopters of GS1 Standards in healthcare. The final goal: improve patient safety, cost efficiency and staff productivity through the implementation of GS1 standards.

- The practical realities of implementation of GS1 Standards in the care giving environment in regard to the impact on clinical care and patient interaction
- Supporting the adoption of GS1 Standards in healthcare providers and retail pharmacies
- For publication, presentation and sharing
- To those involved in GS1 standards development, the wider Healthcare stakeholder community and senior executives/decision-makers to gain their buy-in and support for implementation of GS1 Standards
Specific GS1 Healthcare Activities

Webinars

• Bimonthly webinars open to all stakeholders interested in learning about GS1 standards implementation in the care giving environment.
• http://www.gs1.org/healthcare/hpac_webinars

Awards

• At each global GS1 Healthcare Conference
• Provider Implementation Best Case Study Award
• Provider Recognition Award
• The prize: travel & accommodation to attend the next GS1 Healthcare conference
• http://www.gs1.org/healthcare/hpac

GS1 Healthcare holds two global conferences per year. In 2020 - due to the exceptional circumstances – we will host an online summit, November 17-19, 2020.
Presenting today

Diederik Rood

- Senior advisor ERP Solutions
- Project leader Dutch Implant Registry
- At the Dijklander Hospital, in the Netherlands
- Member of the GS1 Netherlands healthcare knowledge group
A pathway to scan medical devices in the Operating Room using GS1 UDI barcodes for efficient registrations, improved inventory management and patient safety
Agenda

• Introduction Dijklander Hospital
• Operating room logistics
  • Why we started (goals)
  • How we started
  • Benefits of operating room logistics
    • Lessons learned
• Dutch Implant Registry
  • Regulations Dutch Implant Registry
  • Gathering of data – connect to GDSN
  • Our solutions for gathering information
    • Lessons learned
    • The next steps to take

Sept 17, 2020
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Sept 17, 2020

Diederik Rood
GS1 Webinar
September 17, 2020
Goals

• Integrate the solution in three systems: ERP, EMR, MIS

• More efficient processes for the purchase, logistics, finance and Operating theatre departments

• Improved warehouse management

• Track and trace of implants to improve patient safety

• More accurate cost calculation of procedures

• Comply to medical registries
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    • The next steps to take
How we started

- Appoint a broad project team
- Develop knowledge about barcodes
- Workshops to identify processes and solutions
- Our operating room logistics solution
- Collect Data
How we started

• Appoint a broad project team
• **Develop knowledge about barcodes**
• Workshops to identify processes and solutions
• Our operating room logistics solution
• Collect Data
UDI (GS1 barcode)

Application Identifiers (AI’s)

- 01 GTIN
- 17 Expiry date
- 10 Batch number
- 21 Serial number

September 17, 2020
How we started

• Appoint a broad project team
• Develop knowledge about barcodes
• **Workshops to identify processes and solutions**
• Our operating room logistics solution
• Collect Data
How we started

• Appoint a broad project team

• Develop knowledge about barcodes

• Workshops to identify processes and solutions

• **Our operating room logistics solution**

• Collect Data
Operating room logistics

1. Supplier
   - Deliver articles to Dijklander hospital

2. Receiving articles and post it in the ERP

3. Transport articles to OR warehouse

4. Prepare articles for procedure based on setup list

5. Scanning of barcodes in EMR by OR logistics

6. Unused products back in stock

7. Automatically reduction of implanted products of the on-hand inventory in ERP

8. OR warehouse

9. Ordering based on MRP planning (Min-Max)

Implanted packages in a yellow bag

Deliver articles to Dijklander hospital

Transport articles to OR warehouse

Prepare articles for procedure based on setup list

Scanning of barcodes in EMR by OR logistics

September 17, 2020
How we started

• Appoint a broad project team
• Develop knowledge about barcodes
• Workshops to identify processes and solutions
• Our operating room logistics solution
• Collect Data
Collecting product data in 2016 - 2018

- Contacting Supplier:
  - Collecting the product data (GS1/HIBC)
  - Gathering GTIN and product information
  - Uploading manually in our ERP and EHS

September 17, 2020
Collecting product data in 2016 - 2018

- Contacting Supplier:
  - Gathering product information (product description/external reference)
- Gathering by the hospital:
  - Manually registering GTIN based on:
    - Product name
    - External reference number
  - Manually processing the data into our ERP and EHS
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Sept 17, 2020
Overview of the expiry date

Products in stock with:
- Batch number
- Expiry date

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<th>Item number</th>
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Minimizing the waste of expired items
Overview critical on-hand inventory

Overview with “critical” items

All the items with a stock value below the minimum stock are shown

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<th>Artikelnummer</th>
<th>Productnaam</th>
<th>Configuratie</th>
<th>Verrichtingcode</th>
<th>Site</th>
<th>Magazijn</th>
<th>Batchnummer</th>
<th>Locatie</th>
<th>Min.voorradd</th>
<th>Fysieke voorraad</th>
<th>Besteld</th>
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Adjustment of stock values

Adjust min/max stock values based on historical transactions

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<th>max wv</th>
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<th>Min</th>
<th>Max</th>
<th>(Min wv - max wv)</th>
<th>1 art voorraad</th>
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312026

Verkocht, Ingelast, Voorraad, Min/max

September 17, 2020
## Recall data

### Current on-hand inventory with batch number

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<thead>
<tr>
<th>Search name</th>
<th>Site</th>
<th>Batch number</th>
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<th>Physical reserved</th>
<th>Available...</th>
<th>Ordered in...</th>
<th>On order</th>
<th>Ordered res...</th>
<th>Total avail...</th>
<th>External item number</th>
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### Transaction overview where recalled batches are used

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</table>

### Search for batch numbers

### Search for operation number
Each procedure is posted in the general ledger account with the financial dimensions: specialism, procedure, products for management information and insight into cost price per procedure.

Overview with the setup list for each operation with the scanned implants.
Automated and improved processes
**Operating room logistics – complete overview**

1. Receive articles, scan UDI to post in ERP with batch and expiry
2. Transport articles to the OR warehouse
3. OR warehouse
4. Prepare operation based on setup lists
5. Scanning UDI by OR logistics and process to ERP system
6. Procedure
7. Scanned articles after consumption
8. Unused articles back in stock
9. Ordering based on MRP planning (Min-Max)

**Supplier**

- Package of articles in a yellow back and transfer to OR logistics
- Prepare operation based on setup lists
- Article overview per procedure
  - Overview by setup lists per procedure
  - Scanned articles after consumption
  - Compare the same procedures
- Financial overview
  - Insight cost price per procedure
  - Compare procedures
  - Negotiations with insurers
- Management of inventory
  - Order automatically based on min-max stock value
  - Checking expired items
  - Control loss and shrinkage
  - Adjustments of stock value based on historical transactions
- Track and trace:
  - What is the routing of articles
  - Which articles do we have in stock?
  - Quickly find the procedure where recalled batches are implanted
  - How many items are on-hand?

**Receive articles, scan UDI to post in ERP with batch and expiry**

**ERP**

- Automatically reduction of implanted products of the on-hand inventory
- Procedure

**OR warehouse**

- Scanned articles after consumption
- Prepare operation based on setup lists
- Financial overview
- Management of inventory

**Deliver articles to Dijklander hospital**

**Product and administration process**

- Packages of articles in a yellow back and transfer to OR logistics

**Scanning UDI by OR logistics and process to ERP system**

**ER**

- Procedure
- OR warehouse
- Unused articles back in stock
- Scanned articles after consumption
- Prepare operation based on setup lists
- Financial overview
- Management of inventory

**Results, insights and overview**

- Article overview per procedure
- Financial overview
- Management of inventory
- Track and trace:
Agenda

- Introduction Dijklander Hospital
- **Operating room logistics**
  - Why we started (goals)
  - How we started
  - Benefits of operating room logistics
  - **Lessons learned**
- Dutch Implant Registry
  - Regulations Dutch Implant Registry
  - Gathering of data – connect to GDSN
  - Our solutions for Gathering information
  - Lessons learned
  - The next steps to take

Sept 17, 2020
Lessons Learned

- Involve everyone and keep them informed
- Start small and scale up after success
- Centralize barcode scanning and processing
Involve everyone and keep them informed.
Start small, test and scale after success
The pathway of Dijklander hospital

- Knee and Hip implants
- Vascular implants
- Screws and plates
- Lenses
- Mamma
- Shoulders
- Stapling

September 17, 2020
Centralize barcode scanning
Agenda

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Sept 17, 2020
Dutch Implant Registry regulations

1. Register the implant data in the electronic medical record of the patient;

2. Providing the implant data to the patient in writing or digitally

3. Sending implant data to the Dutch Implant Registry

4. Ensure that the supplier of implants makes the correct article data available to:
   1. The hospital;
   2. Dutch Implant Registry.
Data we need to receive via the GDSN

1. Product description
   1. Trade item description
   2. Functional name
   3. Brand name
2. External reference
3. GTIN of the product
4. GLN manufacturer
5. Brand owner or party name
6. GMDN Code
7. SNOMED Code
8. Additional trade Item Identification type (for HIBC Barcodes)
9. Additional Trade Item Identification (for HIBC Barcodes)
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Gathering of data – connecting to the GDSN

Request access to product data of the supplier based on GLN

Entering/uploading in systems

Make product data available to the Dutch Implant Registry (LIR)

1. Thousands of products
2. Lots of “data attributes”

September 17, 2020
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Sept 17, 2020
Gathering the right product data – our solution

1. Send CSV file with products of Dijklander
2. Extract from GDSN the preferred data entities and complement with SNOMED code & product code ERP, EMR
3. Send CSV file to Dijklander
4. Upload the data in ERP and EMR
Gathering product data with API solution

1. An implant from a loan set of implants is implanted during an operation
2. If it’s not yet an article in EMR then the barcode is scanned in an “API website”
3. Via the API the GTIN is searched in the GMDN pool
4. If there’s a hit, an overview is created with information needed to create (manually) an article in the EMR
5. Enter the data in EMR

Loan set of implants

"Type2Solutions"

Check if the GTIN is found in the GDSN

GLN of Dijklander Hospital
Quickly show the API

Scan Barcode of the implant
GTIN: 00889024215153

Result

Entering in EMR

September 17, 2020
Gathering of data via GDSN – total overview

- **Request access to product data of the supplier based on GLN**
  - Suppliers: Johnson & Johnson, Zimmer Biomet, DePuy Synthes

- **Uploading product data in GDSN**

- **Extract and complement data**
  - Solution Provider: "Type2solutions"

- **Enter product information in ERP**

- **Enter product information in EMR**

- **Make product data available to the Dutch Implant Registry (LIR)**

- **Registration of implant data in EMR**

- **Release product data to the patient**

**Suppliers**
- Johnson & Johnson
- Zimmer Biomet
- DePuy Synthes

**Solution Provider**
- "Type2solutions"

**Dutch Implant Registry (DIR)**

**Link between EMR and LIR**

*September 17, 2020*
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Sept 17, 2020
Lessons Learned

• Start to connect with the GDSN and make handshakes
• Monitor your data
• Together we can build a strong chain
• Take advantage of moments when systems are renewed or upgraded
• Continue to seek for improvements in processes
Start to connect with the GDSN and make handshakes
Monitor your data
Together we can build a strong chain
Take advantages of updates
Search for the next step to improve
Agenda

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Sept 17, 2020
Centralize barcode scanning

New ERP

Linking systems

Clinical logistics

Centralized master data
GS1 Healthcare webinar:
Questions and contact details

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