Evolutionary implementation of GS1 standards in the area of medical devices in the University Clinical Center in Gdańsk

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Thursday 15th March 2018
Welcome and thank you for attending!

• Welcome to our March 2018 webinar.
  Thank you to our guest speaker mrs. Joanna Nowak, Master of organization and management, Head of Medical Procurement Unit, Gdańsk Hospital, Poland

• Some housekeeping for today:
  - All attendees will be on mute
  - 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
The GS1 Healthcare Provider Advisory Council (HPAC)

Focus is on thought leaders and adopters of GS1 Healthcare Standards from the global clinical provider environment. Their final goal is to improve patient safety, cost efficiency and staff productivity through implementation of GS1 standards.

- A forum for sharing and discussion
  - About the practical realities of implementation of GS1 Standards in the care giving environment in regards to the impact on clinical care and patient interaction

- Identification of projects and case studies
  - That support 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

- A source of expertise and advice
HPAC Activities

**Webinars**

- Monthly webinars open to all stakeholders interested in learning about GS1 standards implementation in the care giving environment.
- [http://www.gs1.org/healthcare/hpac_webinars](http://www.gs1.org/healthcare/hpac_webinars)

**Awards**

- Twice per year
- Provider Best Case Study Award
- Provider Recognition Award
- The prize is travel / accommodation to attend the next GS1 Healthcare conference
- [http://www.gs1.org/healthcare/hpac](http://www.gs1.org/healthcare/hpac)

GS1 Healthcare also holds two global conferences per year. The next conference will be in Bogota from April 10-12, 2018, with significant Healthcare Provider participation on the agenda.
Evolutionary implementation of GS1 standards in the area of medical devices in the University Clinical Center in Gdańsk

Joanna Nowak
15-03-2018
University Clinical Center in Gdansk

- One of the largest hospitals in Poland, was established in 1945;
- 33 medical departments, different laboratories;
- 60 outpatient clinics;
- Over 1,100 hospital beds;
- Over 120,000 patients annually.
University Clinical Center - a modern hospital

- In 2012, the Invasive Medicine Center with an area of 32,000 m² was opened;
- by 2020, the Center for Non-Invasive Medicine will be put into use, with an area of 75,000 m²;
- we plan further development of the Pediatric Medicine Center.
Medical supply department

We organize the purchase and supply of medical devices for the Hospital through:

• Preparation of tenders,
• Implementation of contracts,
• Send orders to suppliers,
• Accept deliveries,
• Process invoices,
• Distribution of products in the hospital.
Structure of IT systems in our hospital
IT systems in our hospital - Area of medical devices

- **CliniNET** is a Hospital Information System:
  It has already collected the data of 1 million patients, including:
  about 20 million laboratory tests, over 200 million diagnostic images;

**Impuls** is a system of Enterprise Resource Planning, in the area of
warehouse management and accounting.

Both systems are integrated using the HL7 data exchange protocol for
warehousing.
Medical devices in the hospital

• A very large range of needs, from simple medical devices, through elements of small equipment, various disposable, reusable and implantable products

• Every year, the number and types of medical procedures increase

• The costs of purchasing and maintaining stocks are going up

• The costs of administrative support related to purchases are going up

• In the past, we incurred losses due to the loss of product expiration dates
How to save on medical materials/devices?
Deposit warehouses

• We have established that there is a large group of products of many types, sizes, most often highly specialized disposable medical devices or implanted ones;

• To perform an operation, you need to have products in a full range of types, sizes and appropriate quantities;

• Initially, we were interested in products which were not cheap;

• There were products in this group with expired dates, which generated considerable loss for the hospital…
The first deposit warehouse in the Department of Cardiac Surgery

• At the beginning, heart valves were selected, which are needed in many types and sizes,
• The process was determined,
• A tender was prepared,
• The contracts were signed,
• The first orders were placed,
• Deliveries started ...
Deposit delivery process

- Order of a new product
- Order to the Supplier from the central warehouse
- Delivery to the central warehouse
- Income to the depository warehouse
- Internal transport to the deposit
- Location on the shelf in the deposit
- Product use for the patient and scanning
- Settlement and invoice Central warehouse
First difficulties in deposit

There were a lot of products to be handled simultaneously so the questions appeared:

• How should we accept them so that the identification is fast and error-free,

• How should we assign them to a given patient, to know the costs of treatment and have information about the product, type, expiry date, and serial number in the IT system?

• How to quickly handle the actual consumption, or how to notify suppliers about the need to issue an invoice,

• How to top up the product on deposit quickly?
Barcodes on the packaging of medical devices

• By analyzing the codes on the packaging of individual medical devices, an idea appeared - to facilitate the process of entering data into the system,

• After all, in the medical industry, as in large stores, you can scan products and speed up processes,

• We started looking for knowledge about the codes used on the products,

• We gained a lot of information from publications of GS1 Poland, webinars, and the experience of other hospitals.
Types of barcodes – GTIN
Types of bar codes - GS1 128 linear
Types of bar codes - GS1 128 linear
Types of bar codes - GS1 DataMatrix
Types of bar codes

Internal manufacturer's codes
Missing barcodes on medical devices
Stages of barcode implementation

• Initially, we had the idea to rewrite the manual information under barcodes to the information system,

• Then we bought the first code reader to the warehouse which was reading barcodes from the products.
Stages of barcode implementation

• Later, we created electronic warehouses with the flow of information between the Impuls storage system and the Clininet medical system,

• Currently, after the product is used, the goods are assigned automatically to the patient by scanning the product code or sticker from the packaging and the patient's code.
We have chosen GS1 as the leading standard
- important information on the product for one beep

• GTIN – Global Trade Item Number, defines each type of product individually, but it is not enough to fully identify medical devices,

• Application identifiers (IZ) perfectly define important information such as (17) - expiry date, (10) LOT number or production batch, (21) serial number.

• The GS1 standard is the most universal and the most common code used on medical devices.
Benefits for the hospital

• Deposit warehouses for medical devices were created in subsequent places in the hospital;
• We currently have 15 different deposit stores;
• Inventory maintenance costs were reduced by 60%
• Thanks to the codes on the products, information about what was used in the treatment process is stored in the IT system.
Product scanning - an example from the Department of Cardiac Surgery

The team of perfusionists is responsible for keeping the deposit and dispensing the products for surgery:

• Stickers from products used for the patient are entered in the implantation protocol,
• The sticker with the patient’s barcode is also attached to the protocol,
• We add the date of the procedure,
• The report goes to the medical secretary who enters data into the IT system by scanning a patient’s and product’s codes.
Product scanning - an example from the Department of Cardiac Surgery

As a result, an out-of-print document is created in the CliniNET system, and thanks to HL7, this document goes to the Impuls warehouse system.

The data is processed on the order to the supplier based on the tender contract and is sent electronically in PDF for delivery. Then we are just waiting for the invoice ...
Product scanning - an example from the Operational Block

- There are barcodes on the labels attached to medical devices,
- in the operating room, stickers from products are applied to the implantation protocol,
- a sticker with patient data is attached - with a barcode,
- the medical secretary scans the codes to the Clininet system.
Product scanning - an example from the Department of Radiology

Products deposited in a warehouse

During the procedure or shortly after, protocols supported by radiology technicians are created
Product scanning - an example from Stimulation Cardiology

Nurses take care of deposit products

The products are in the treatment room
Product scanning - an example from Stimulation Cardiology

During the treatment, stickers from used products are attached to the patient's protocol.

After the procedure, based on the protocol, the nurse scans the data to be entered to the IT system.
Tenders for medical devices

We observed that not all products were marked in the GS1 standard.

So we decided to encourage Suppliers to place the GS1 standard on primary packaging of products by introducing additional points in tenders for products that are barcoded.
Tenders for medical devices

Quality in tenders is additionally scored:

• the product has a GTIN number in a barcode that can be scanned;
• the product has data such as Expiry date and batch number with the option to scan them;
• the contractor assigns the GTIN number to the product's catalog code;
• on the products there are stickers to be included in the documentation, preferably with the code in the GS1 standard.
Tenders for medical devices

For verification we request the suppliers to attach photos of product packaging or product samples.
Tenders for medical devices

Some suppliers, with the tender documentation, attach a list of product code numbers with GTIN numbers with the option to scan a number.

We can enter data easily into the IT system.
Order to the supplier with the GTIN number of the product
Stickers with and without GS1 standard
Tenders for medical devices

The effects of introducing additional scoring for the GS1 standard on a single package of the medical device in the tender:

1. Educating market participants;
2. Increasing the number of suppliers using such solution on their products;
3. More efficient logistics of the process;
4. Quick identification of products, whether the product evaluated in the tender is actually the one that reaches us with the delivery.
Apparently one standard but there are some problems ...

The basic problem that currently exists are products packed in collective packagings.
To reach the codes from the inner packaging, you need to open the packaging.
Delivery documents often do not include GTIN number from single packages.
Apparently one standard but there are some problems ...

Delivery document

Packaging of 6 pieces of the product
Apparently one standard but there are some problems ...

You need to open the package.

To scan a GTIN with 1 piece of the product.
Apparently one standard but there are some problems ...

Scanning a GTIN number allows you to search for your order and product in IT system.

Scanning the DataMatrix code allows you to enter details, in addition to the GTIN, expiration date and the batch number.
Apparently one standard but there are some problems ... 

In the warehouse it is better and easier to work on collective packaging, but the medical staff needs data from a single item.

In collaboration with our largest suppliers and developers of our IT system we are currently looking for a better solution.
Apparently one standard but there are some problems ...

Some manufacturers or suppliers place several types of codes on their products that differ in their content. Depositors must check which code is entered into the IT system, which is a real nuisance.
Other bar code applications

Together with our suppliers, we have developed new treatment protocols with the GTIN number for neurosurgical or orthopedic implants.

Creating orders is faster and fewer mistakes are made.
The effect of scanning codes from medical devices

• Traceability of products at every stage of "hospital stay",

• Traceability of products after implantation - we know who has been given what,

• Reducing errors when entering data into the system,

• Reduction of errors when entering data about the product after the procedure (the right patient - the right product),

• The solution is cheap and doesn’t generate errors, data loss, mistakes,

• Patient safety.
And what's next?

In the near future, we would like to:

• launch an electronic data exchange in the field of e-catalogs with the transfer of GTIN numbers and other necessary information,

• purchase and implement a modern WMS system that allows the improvement of receptions and issues based on mobile storage service,

• simplify and shorten the paths in handling individual warehouse processes,

• implement electronic data exchange based on orders, delivery and invoice notice (EDI).
Thank you for your attention
HPAC Questions and contact details

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