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

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Medical supply department

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

- prepare tenders,

- implement contracts,

- send orders to suppliers,

- accept deliveries,

- process invoices,

- distribute products in the hospital.

Medical devices in the hospital

- A very large range of needs, from simple medical devices, through elements of small equipment various disposable, reusable and implant[…] products;

- Every year, the number a[…] procedures incre[…]

- The cos[…] […]g stocks

- […]tive support related to […]oing up;

- […]ered considerable loss in the past due to storage of materials.

How to save on medical materials/devices to cure effectively?

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The first deposit warehouse in the Department of Cardiac Surgery

- At the beginning, heart valves which are needed in many types and sizes were selected,
- The process was determined,
- A tender was prepared,
- The contracts were signed,
- The first orders were issued,
- Deliveries started …

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First difficulties in deposit

There were a lot of products to be handled at the same time,

so the questions appeared:

- How should we accept them so that the identification

  could be 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, expiration 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?

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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 IT 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 the publication of GS1 Poland, webinars, and the experience of other industries.

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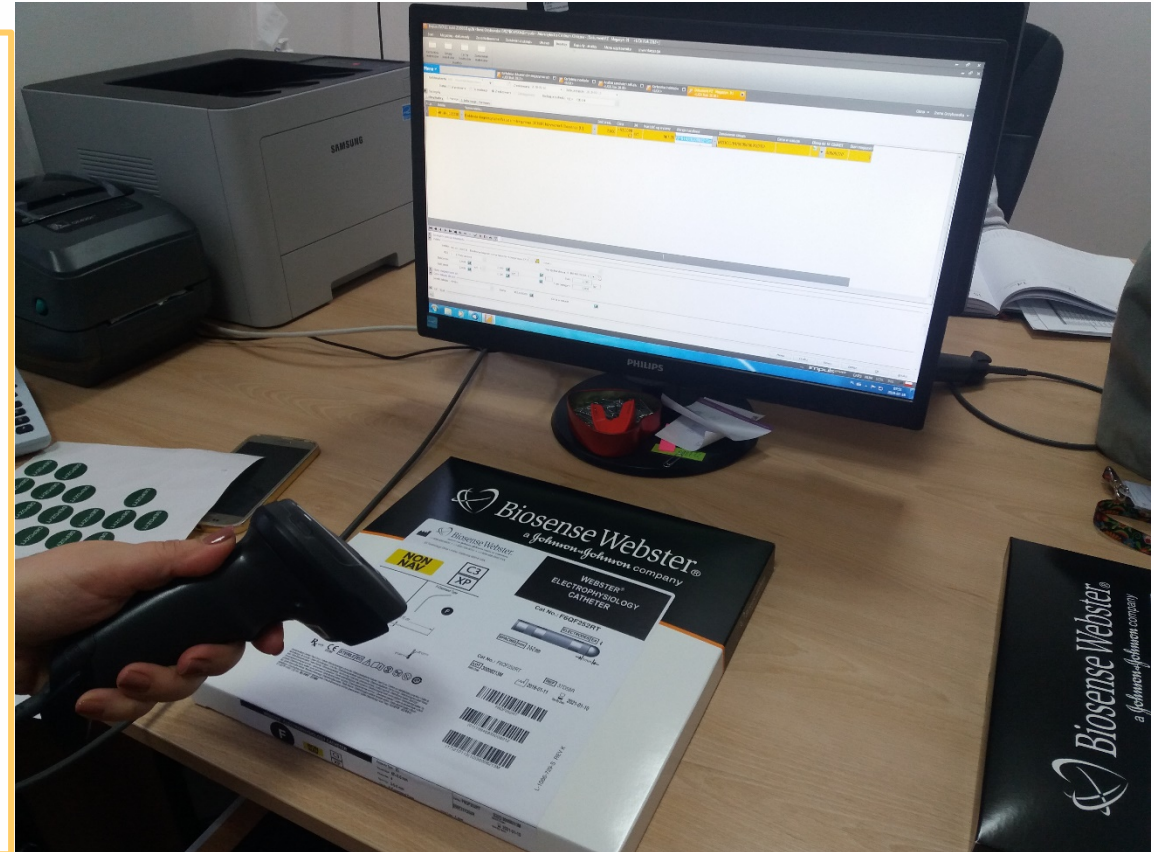
Types of barcodes – GTIN
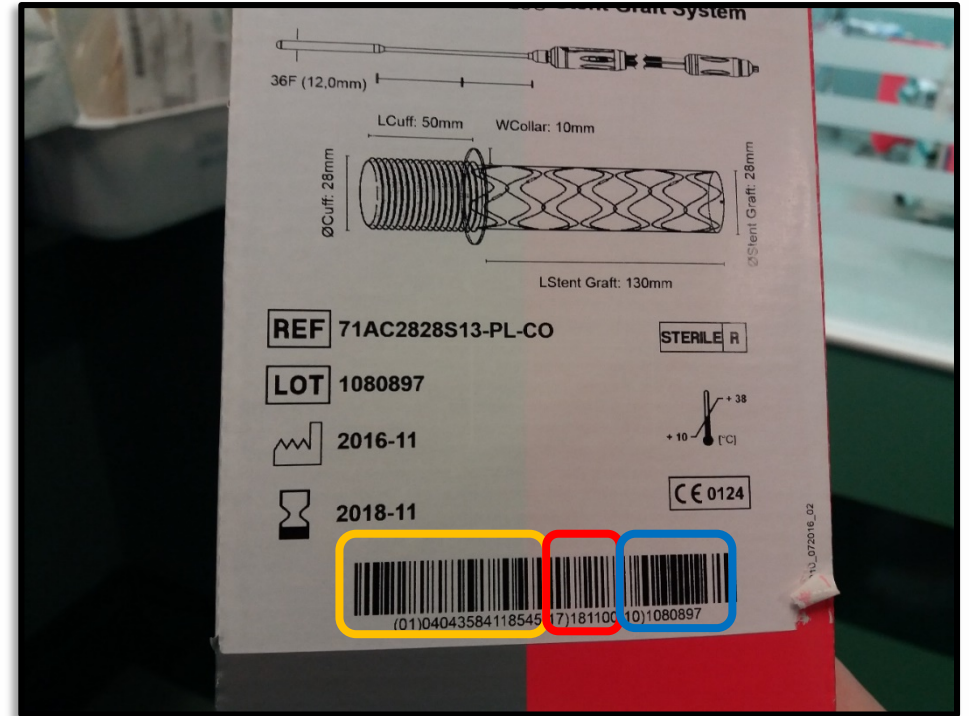
Types of bar codes
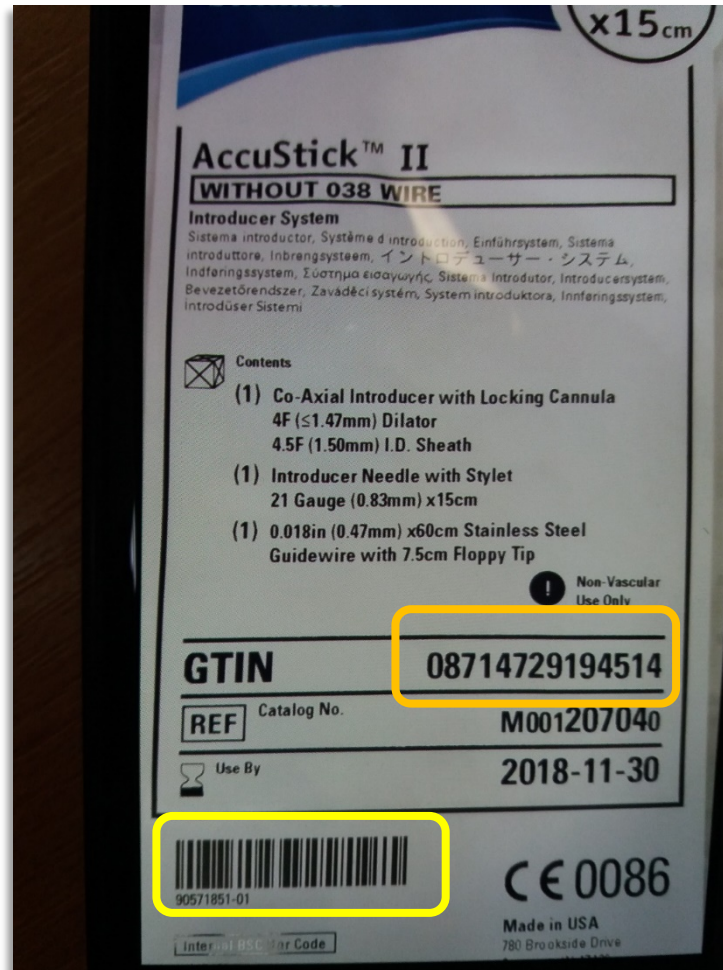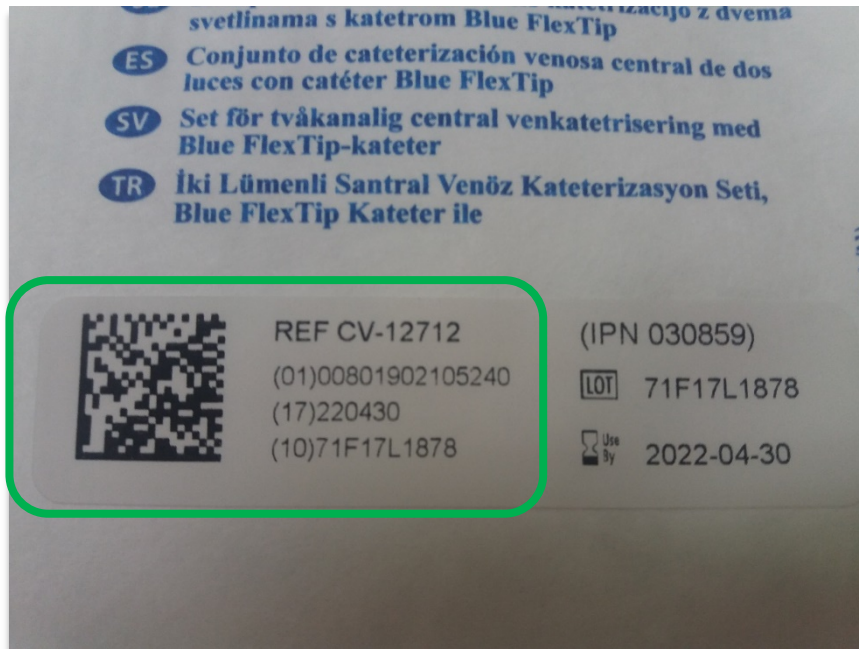
We have chosen GS1 as the leading standard - important information on the product for one click

- GTIN – global trade item number, defines each type of product individually, but it is not enough to fully identify medical devices,

- Application identifiers (AI) perfectly define important information such as (17) - expiration 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.

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Benefits for the hospital

- Deposit warehouses for medical devices were created in other places in the hospital;

- We currently have 17 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 the patient's and product's codes.

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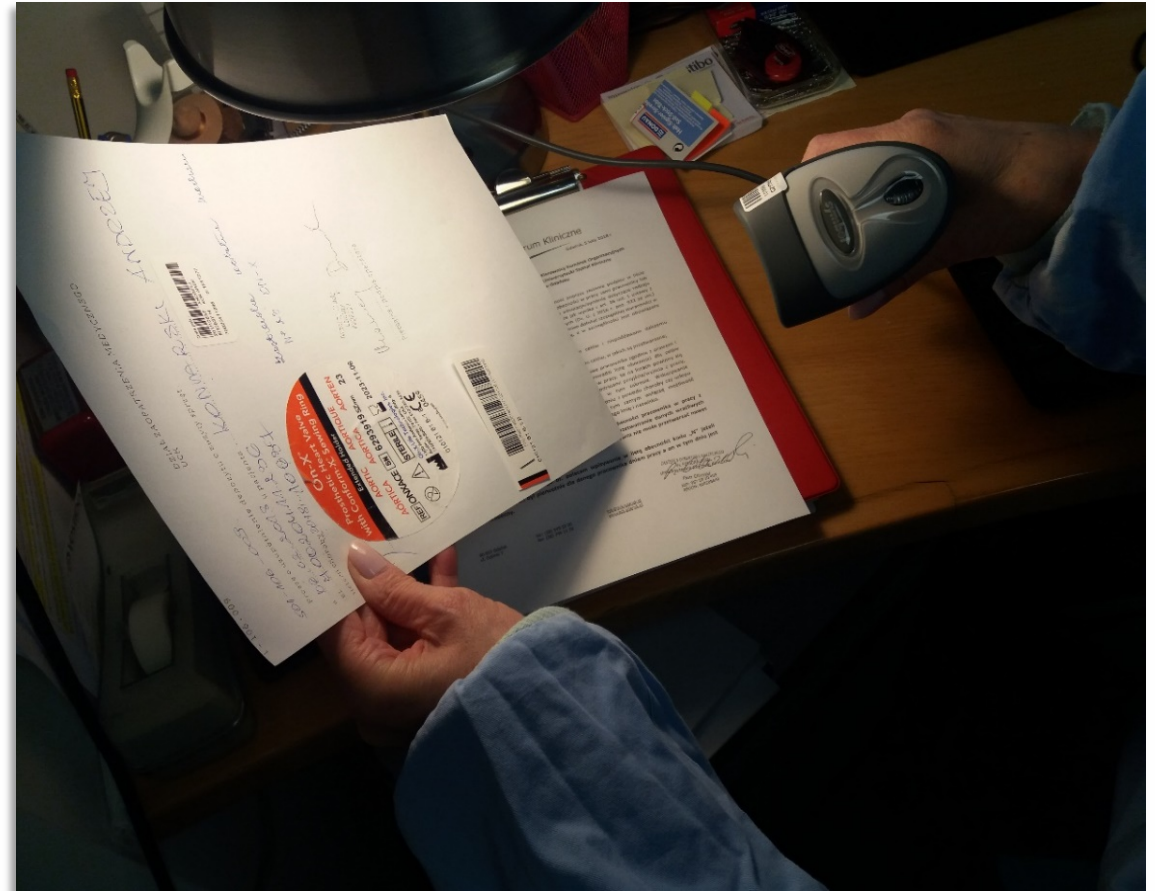
Product scanning - an example from the Department of Cardiac Surgery

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 ...

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Product scanning - an example from the Department of Radiology

Products deposited in the 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

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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 unitary packaging of products by introducing additional points in tenders for products that have such marking.
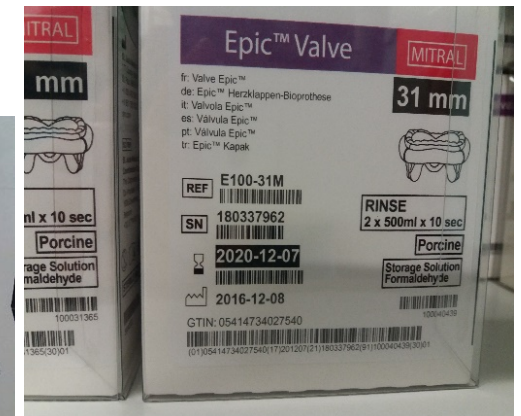
Apart from perfect barcodes you need good master data …

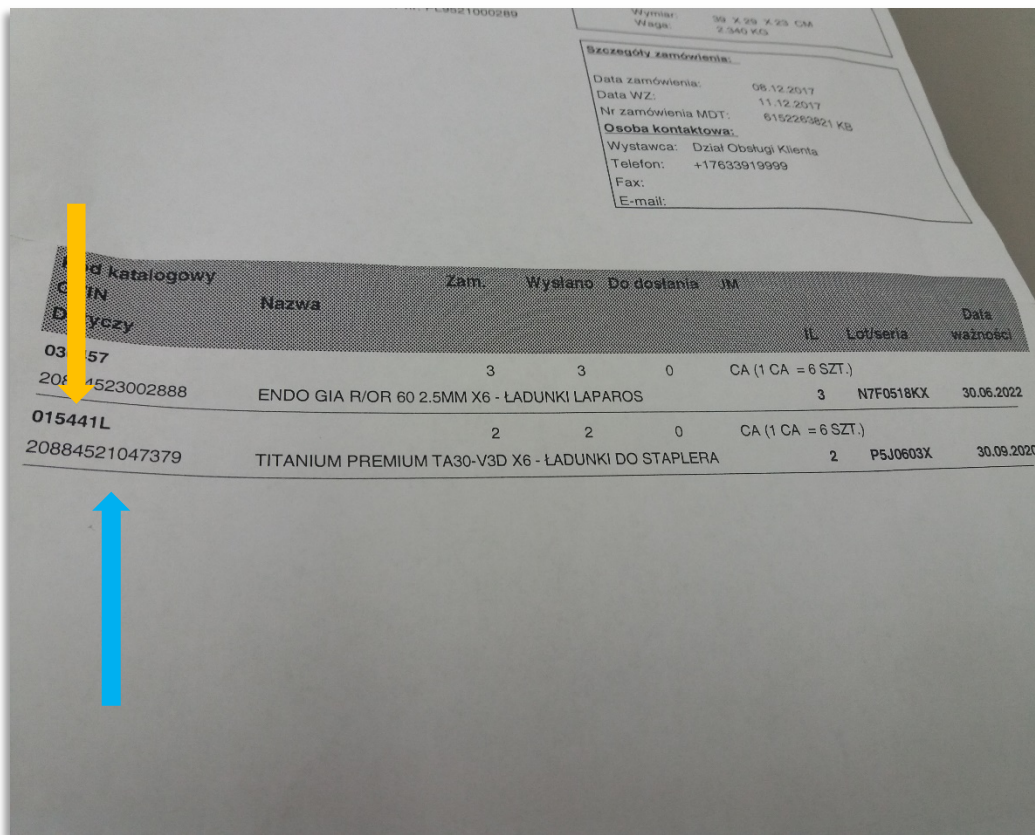The basic problem that we are currently facing are products
packed in collective box.
To reach the codes from the inner packaging,
you need to open the whole box.
Delivery documents do not include the GTIN number
from unit packages, so you need accurate master data.

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Apart from perfect barcodes you need good master data …

Delivery document

Packaging of 6 pieces of the product

Apart from perfect barcodes you need good master data ...

You need to open the package
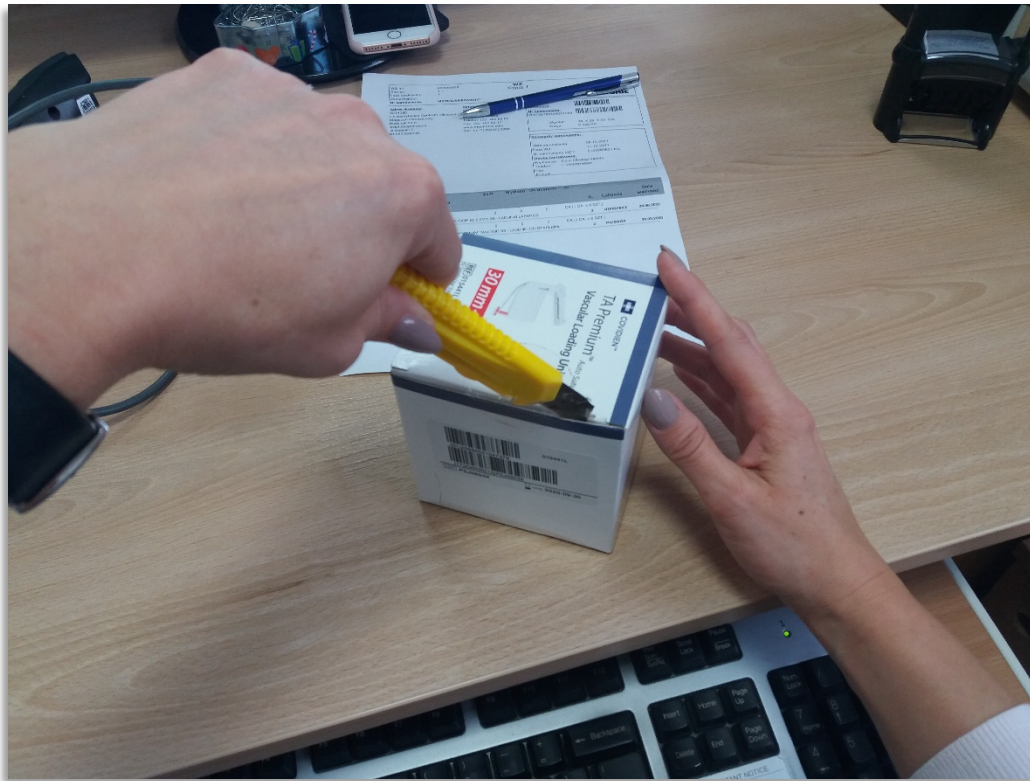
To scan a GTIN of 1 piece of the product

We want one barcode...

Some manufacturers or suppliers place several types of codes on their products.

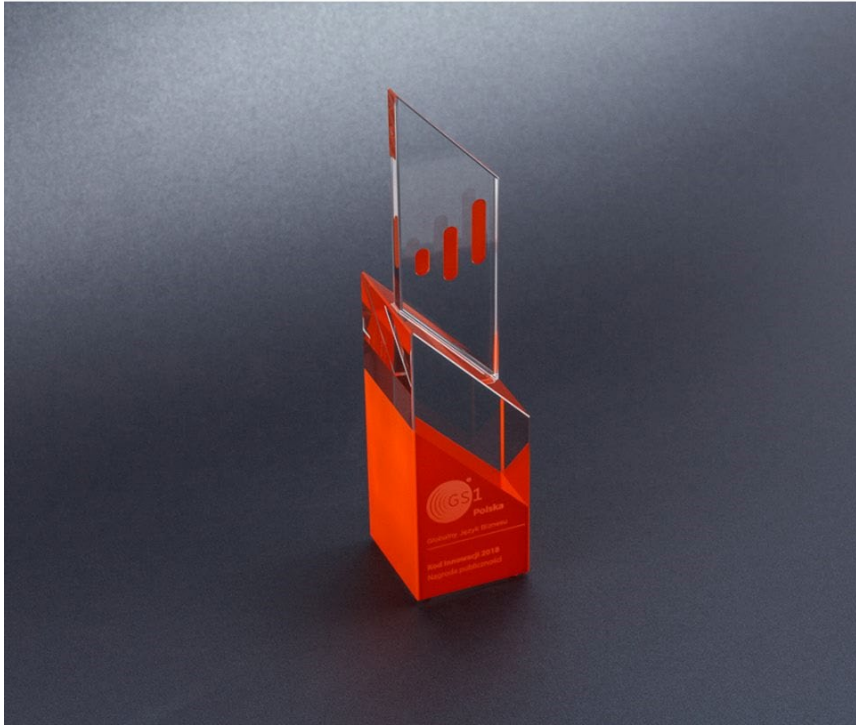Depositors are confused and are not sure which barcode should be scanned.

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 received it, which product was given,
- Reduction of errors when entering data into the system (the right patient - the right product),
- The solution is cheap and doesn't generate errors, data loss, mistakes,
- Patients' safety.

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And what's next?

- 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,

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

- implement electronic data exchange based on orders, delivery and invoice notice (EDI).

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Thank you for your attention