The impact using GS1 standards:
The Greek Army Medical Supplies Centre and the Army’s healthcare supply chain

Sotiris Tsiafos-Tsiaras, Logistics Manager, Greek Army Medical Supplies Centre
Thursday November 10 2016
Welcome and thank you for attending!

- Welcome to our November 2016 webinar. Thank you to our guest speaker – **Sotiris Tsiafos-Tsiaras**, Pharmacist, Logistics Manager, Greek Army Medical Supplies Centre
- 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)

Thought leaders and early 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
- That support the adoption of GS1 Standards in healthcare providers and retail pharmacies
- For publication, presentation and sharing

Identification of projects and case studies

- 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

The Global Language of Business © GS1 2015
### 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 annum
- 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 annum. Next conference will be in Berlin from April 4-6 2017. There will be significant Healthcare Provider participation on the agenda.**
Agenda

• **Who we are, what we do.**
  - A few words -and data- about Greek Army’s Medical Supplies Centre.

• **Former situation.**
  - The challenges and issues we had to solve

• **The solution.**
  - What we did and how we did it

• **Outcomes.**
  - Are we any better now ?

• **Next steps.**
  - And now what ?

• **Learnings and recommendations**
About Greek Army’s Medical Supplies Centre

• Starting point of Greek Army’s healthcare supply chain
• Distributes pharmaceuticals, medical devices, minor equipment, medical instruments
• Production of 35 different pharmaceuticals of general use in various forms (tablets, capsules, liquids, ointments)
• Supports all army units, both medical and non-medical and also personnel deployed abroad
• Readiness for distributing humanitarian aid if needed
About Greek Army’s Medical Supplies Centre

- During 2015:
  - More than 2,000,000 items and
  - more than 1,500 unique SKUs where distributed
  - Over 2.5 million euro mean stock value
  - Nearly 80 different suppliers

- A nation-wide network of 11 regional warehouses and 3 major military hospitals

- 35-40 non-medical units as direct “clients”
About Greek Army’s Medical Supplies Centre

Items distributed during 2015

- pharmaceutical 27%
- dental equipment and consumables 25%
- radiology consumables 1%
- hospital equipment 6%
- veterinary drugs 1%
- gauze and related items 4%
- medical devices 25%
- microbiology equipment and consumables 6%
- surgical sutures 5%
Former Situation

• Own proprietary, closed codification scheme (Greek Army’s National Stock Number)

• Non-standard description of items

• No relation between our own Stock Numbers and supplier’s codes (GTIN or other)

• Almost impossible to clearly identify specialized items (e.g. surgical instruments) without a National Stock Number

• Often the same Stock Number for different items!
Former Situation

- Operations supported by a custom-built ERP system but with no warehouse automation support.
- LOT numbers and expiry dates are manually registered in the ERP.
- All movements are tracked at the LOT level, but manually.
- Manual processes (goods receipt, stock movement, orders fulfillment) based on printed lists that had to be checked twice.
- The exact location of an item/LOT not recorded in the ERP.
Former Situation

• Difficulty to locate certain items, especially the slow-movers

• Lengthy order fulfillment times.

• “Bad” data in the ERP due to errors in the manual registration of LOTs and expiry/production dates

• Errors in the preparation of orders

• Product obsolescence and consequently capital loss

• Inability to know for sure where a certain item/LOT has been delivered
Challenges

• Clearly and unambiguously identify each stock item using a global codification system

• Ability to collect item data using automated methods

• Less –or even zero- errors in orders fulfilment

• Quicker and more efficient warehouse operations

• Know exactly where each item/LOT is inside the warehouse

• Know exactly where each item/LOT has been delivered

• Better collaboration with our suppliers/clients in recalls (fast and accurate)
Solution

The GS1 system of standards is the system of choice:

- Global Trade Item Number (GTIN) allows us to unambiguously identify items.
- Ability to issue own GTINs for our pharmaceutical products and items not already codified by the suppliers/ producers.
- Crucial product information (LOT, exp date) can be incorporated in a barcode following each item as it moves through our warehouse.
- An open system of standards, no huge costs to adopt, no need to maintain our own codification system.
- A robust framework for standardizing our business, covering 100% of our needs.
Solution

First steps:
- Decide which GS1 standards should be used
- Define the range of the initial implementation (maybe a pilot first? which items?)
- Contact with GS1 Association Greece to know more technical details about the GS1 system of standards
- Engage a software vendor to implement a Warehouse Management System (WMS) that would operate along with our ERP
- Review our workflows and procedures according to the new rules
Solution

What codes did we use?

• Pharmaceuticals: National Stock Number (NTIN) already on the box (safety label)– barcoded. Also GTIN, if exists.

• Own production pharmaceuticals: GTIN for use inside the Greek Army supply chain.

• Medical devices: GTIN of item if exists. Own GTIN for non-codified items (as with pharmaceuticals).

• We had to relate our existing codes with the GTINs because our clients still use the army’s codification system.
Main types of barcodes used:

GS1-128 and GS1 Datamatrix®
Solution

Assigning a **different GTIN at each packaging level** makes our job quicker, easier and more accurate.
No need to scan each item separately.
Solution
Solution

- Detailed mapping of the warehouse.

- Unique ID for each shelve (location) printed on a barcode label

- Detailed review of our organization’s workflows and procedures according to the new rules

- Mandatory use of handheld terminals in all warehouse operations
Solution

- Item barcode
- LOT barcode and
- Location barcode

are **always scanned at each movement** (goods receipt, movement between shelves, order preparation),
verifying:

- the right PRODUCT
- the right LOT
- from the right LOCATION

Information is captured and registered in the WMS database **quickly and accurately**
Solution

- Products can be placed anywhere; no standard shelve for each one. Location is registered in the WMS → **flexibility**

- Warehouse personnel are guided to the exact location of each item inside the warehouse → **speed** in order picking.

- The WMS software alerts the users where an expired or quarantined item/LOT is scanned → **Safety** for our clients

- All warehouse operations are now standardized and more **user-independent**
Outcomes

- No more “bad” data registered in the WMS/ERP
- Fewer errors in order fulfilment
- Faster operations (and no need for reworks)
- Accuracy and clear view of our stock
- Easier for the personnel - even the less experienced
- Alerts ensure that expired or recalled items will never leave the warehouse
- Accurate LOT tracking allows us to know where exactly an item was delivered
Outcomes
Improvements

During the first year of operation:

- Stock accuracy raised to **96%** for fast-moving items, more than 10% increase
- Reduction in error rate from **10** to **3%**
- Reduction in order fulfilment time approximately **25 to 30%**
- Productivity: more than **20h** gained each month
- Faster recall response
- Full traceability of items/LOTs inside the warehouse
Next Steps

- Same system already implemented at two major regional warehouses (since May 2016). More to follow.

- EDI implementation for:
  • Master item data exchange
  • Automated order processing
  • Invoicing & despatch advices

- Pilot implementation in a regional military hospital pharmacy is on the way

- Issue of a technical instruction for medical devices according to the GS1 standards

- Implementation of GS1 standards in our pharmaceuticals production line
Learnings & Recommendations

- The implementation of standards is not a turn-key solution. Is a very live process that evolves day by day.

- There will be resistance by the people to change their way of work.

- Users should be engaged at an early stage in order to overcome their “fear of the unknown”. Their training and support are of paramount importance.

- Engagement of the IT department is crucial, but don’t let them have the last word. The real users of the system should be on the front line: Pharmacists, nurses, physicians, etc.

- Large multi-national companies fully comply with GS1 standards. Smaller, local vendors/suppliers need guidance.
Learnings & Recommendations

- Identify the challenges and describe in detail the operations where standards need to be implemented.

- Build a strong, well-documented case.

- Gain the trust and support of your higher management. At the end, they will approve the funding (and money is always the question).

- Fully –and truly- support the engaged personnel to overcome their fears.

- Measure outcomes/performance (KPIs !)

- Engage your suppliers, especially the smaller ones

- Build – try – correct - repeat
Learnings & Recommendations

Don’t hesitate, just do it !
Thank you!
Contact Information

Sotiris Tsiafos - Tsiaras
Lt Col. (Pharm)
Logistics Manager

Greek Army Medical supplies Centre
174 Pireos str.
177 78 Tavros
Athens, Greece

T  +30 210 3461494
M  +30 693 2913526
E  s.v.tsiafos-tsiaras@army.gr || s.tsiaras@gmail.com