



Healthcare provider implementation

Hospital De Cascais uses GS1 standards for seamless operations and patient safety

Built in 2009, Hospital de Cascais is a public-private partnership and one of the hospitals in the Lusíadas Saúde Group's nationwide healthcare network in Portugal. More than seven years ago, the hospital started a journey to automate its processes with GS1 standards and software solutions. Today, Hospital de Cascais can automatically replenish stock so that products are there when needed for patient care. The hospital also identifies each single dose of medication so that caregivers can scan the medication and patient's wristband for accurate and safe medication administration.



By Vasco Antunes Pereira

Known for excellence

Hospital de Cascais has 277 beds, 33 outpatient rooms and three types of emergency care services – pediatric, general and obstetrics & gynecology. The hospital, with its team of experienced healthcare professionals, is known for excellence in patient services based on respect for the individual along with unwavering ethics, quality, competence and innovation.

In 2012, the hospital received its initial accreditation by the Joint Commission International (JCI) and achieved reaccreditation in 2015. Considered the “gold standard” in global healthcare, JCI accreditation highlights Hospital de Cascais' commitment to patient safety.

Ensuring the five rights of patients

Hospital de Cascais wanted to implement technological solutions based on GS1 standards that would support its medication administration processes for improved patient safety. The hospital also wanted to optimise its logistics processes in order to reduce costs and provide better quality of care through information technology (IT)-driven services.

“Our main goal was to aid our hospital's clinicians and staff in their daily tasks, making it easier for them to perform their responsibilities and do what they do best—caring for patients,”

Vasco Antunes Pereira, CEO at Hospital de Cascais.

Hospital de Cascais was especially focused on providing its hospital staff with the tools that would help them avoid possible errors when administering medications—giving the right patient, the right dosage of the right drug, at the right time and in the right way.

Managing inventory levels in real time

In 2009, Hospital de Cascais implemented Ekanban®, BIQ Health Solutions logistics software that optimises all supply chain processes. The Ekanban solution and GS1 standards were implemented in the warehouse, pharmacy and clinical departments. With this solution, the

hospital's entire logistics process was automated with staff using handheld devices.

To replenish stock in each of the clinical departments, the logistics staff now receives a list of products on their handheld devices based on levels of usage. The picking list is automatically sorted according to the optimal route.

When picked, the products are sent to the requesting clinical departments and the products' inventory levels are updated. As each product is used, the staff scans via their handheld device, the GS1 Global Trade Item Number® (GTIN®) encoded in a barcode printed on the product's package. Once again, the inventory levels of used products are updated in real time.

"When a product reaches a certain inventory level, a purchase order is automatically created for replenishment," says Pereira. "By using this process with GS1 standards, we have the items on hand to ensure our patients get the best of care, in a timely manner."

Making medication administrations safer

Next, Hospital de Cascais implemented the BIQ Health Solutions PharmaTrac® in its clinical departments for greater patient safety throughout the entire medication cycle—from handling to bedside administration.

The pharmacy uniquely identifies a single-dose of medication using a GTIN and a serial number, along with the lot number and expiration date. This information is encoded in a GS1 DataMatrix barcode that is applied to the individual dose. As the medication is administered, the barcode of each dose is scanned at bedside along with the patient's identification wristband. Each patient is uniquely identified with an internal code encoded into a GS1 Datamatrix barcode on his or her wristband. By scanning both barcodes - medication and wristband - "information matching" is activated to confirm if the right patient is receiving the right dosage of the right medicine at the right time.

"An alert is activated whenever there is a potential error—if the medication is not prescribed, if the dosage is different, if the drug has expired or the batch recalled," explains Pereira. "An automated record of the medication administered and the usage is only registered when the medication is effectively and safely administered."

This process not only helps avoid potential errors in the medication administration process, it also automatically updates the patient electronic medical record (EMR) for accurate and efficient invoicing upon discharge.

Standards-based platform for seamless care

Hospital de Cascais decided to once again extend the use of GS1 standards and software-based automation in its operations by implementing MAPP®, a mobile app platform that combines all nursing activities into a single handheld device. "The MAPP solution with GS1 standards not only provides for increased mobility and productivity for our nurses, it also supports our hospital's commitment to patient safety via barcode scanning," says Pereira.

MAPP supports patient safety by combining the hospital's software apps—PharmaTrac, BTrac®, MilkTrac® and Ekanban—into one seamless platform. The use of GS1 standards facilitates interoperability between the various processes and users.

All functions, using one unique handheld device, one integrated platform and GS1 standards, are automatically linked to the hospital's information system and patients' EMRs for a paper-free process.

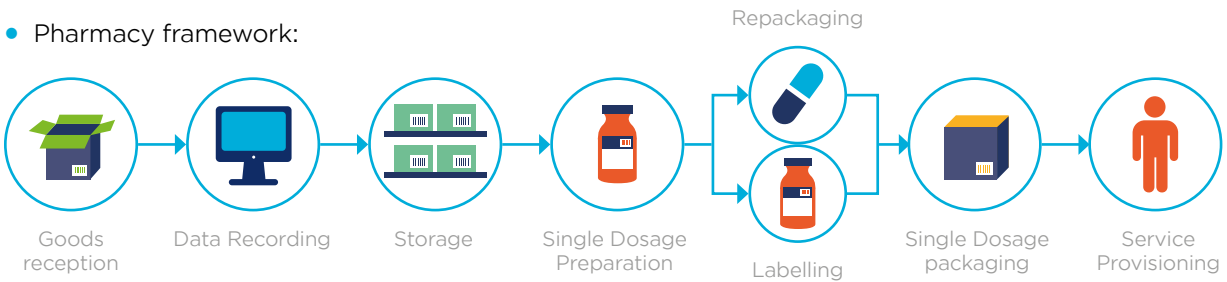
"By having accurate information at hand, this significantly increases the time nurses can spend with patients and reduces time spent on updating records," says Pereira. "And it's fully compliant with HIMMS (Healthcare Information and Management Systems Society) and JCI standards."

Universal standards for interoperability

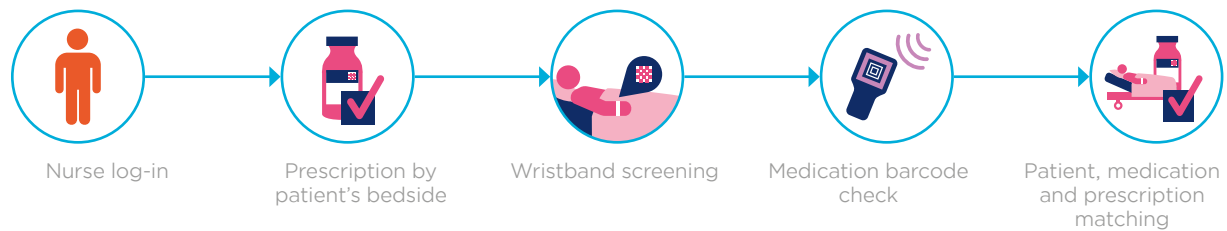
With the implementation of GS1 standards throughout its operations, Hospital de Cascais has more control over data (such as the lot numbers and expiry dates) related to all medicines and other products used in treating patients. The GTIN with the lot number and expiry date encoded in a GS1 DataMatrix barcode uniquely identifies and provides valuable information about a product. This information can then be accessed with a simple scan by Hospital de Cascais' clinicians and staff.

New framework

• Pharmacy framework:



• Service framework:

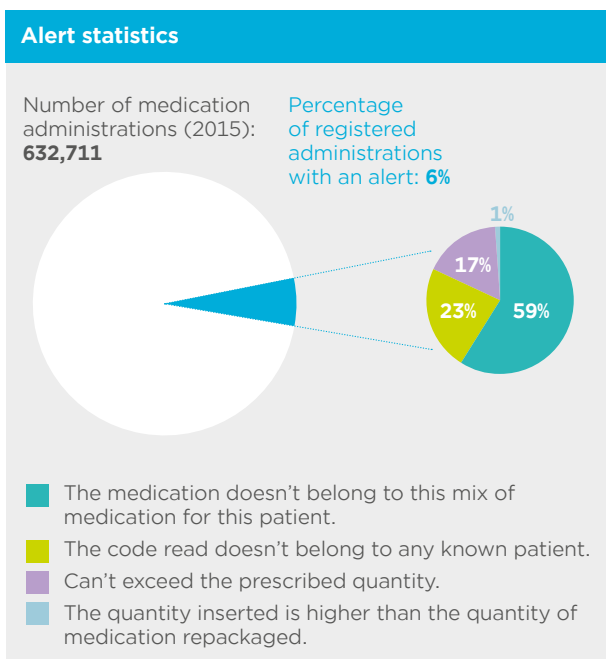


Since the GS1 system of standards is “open,” it works independent of the software solution or supplier, thus, enabling compatibility between systems. “The GS1 system of standards provides the ‘connected tissue’ of our body of automated solutions,” says Pereira. “It brings together the different systems, enabling them to work together for clear interoperability.”

A wealth of benefits

With GS1 standards in place, Hospital de Cascais has experienced a wealth of benefits for its operations, caregivers, staff and patients.

- ✓ Logistics staff are more productive, saving time and costs when replenishing products. The hospital has achieved greater transparency of its supply chain with reductions in stock levels and waste.
- ✓ Patients get the care they need since products are there when needed for treatments.
- ✓ Nurses can now spend more time with patients, thanks to time-saving tools at hand. Patient EMRs are automatically updated in real time and accurate, timely invoices are generated upon patient discharges.
- ✓ The hospital and its staff have access to more accurate medicine and product data for better decision-making and the hospital has reduced waste and costs.
- ✓ With single-dosage identification and bedside scanning, the hospital is keeping patients safer by verifying the right patient is getting the right dosage of the right medicine. Each dosage of medicine can be tracked and traced throughout the hospital processes—from the point of receipt to the point of administration.



- ✓ The automation also facilitated to change the shift of nurses and the handover of responsibilities to the next shift to the bedside. This does not only decrease the time needed for the shift change, but also involves the patient in this process, which adds to patient safety.

Endless opportunities

Hospital de Cascais has recognised the seemingly endless opportunities of using GS1 Standards in its processes. Due to the European Union (EU) Falsified Medicines Directive regulation, Hospital de Cascais plans to use GS1 standards provided on primary packages by suppliers instead of producing its own GS1 barcodes internally.

“We are confident that our suppliers will adopt GS1 standards,” concludes Pereira. “Standards offer many benefits for the entire industry and especially our patients.”



The hospital identifies each single dose of medication so that caregivers can scan the medication and patient's wristband for accurate and safe medication administration.

About the Author



Vasco Antunes Pereira is CEO at Hospital de Cascais, which is part of Portugal's National Healthcare System and one of the four public hospital's with private management in Portugal. In 2005, Vasco started working in the healthcare industry in different roles, from general secretary and general counsel of a large

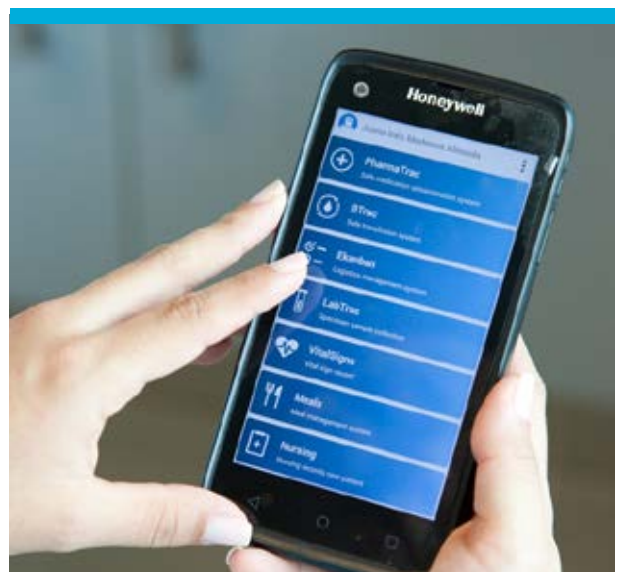
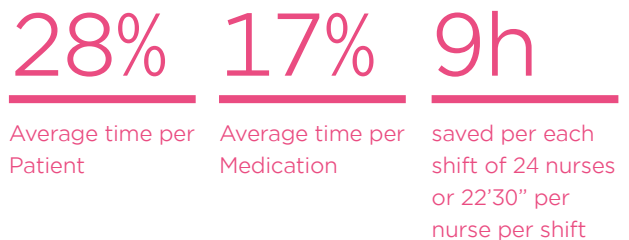
hospital to the head of Supply Chain and Procurement at Lusíadas Saúde. In this role, he worked directly with Amil and UnitedHealth Group to maximise global negotiations and obtain important synergies for the company. Vasco is also a lawyer and has an MBA from Georgetown University in the U.S.

About Hospital de Cascais

Hospital de Cascais is considered the best hospital in Portugal in its category. It is accredited by the Joint Commission International and is the only hospital in Portugal with HIMSS Stage 6 certification and is now preparing for Stage 7 certification.

www.hospitaldecascais.pt/

Time saved with GS1 barcodes



Today, Hospital de Cascais can automatically replenish stock so that products are there when needed for patient care.