Healthcare provider implementation

Investing in GS1 standards helps control costs and highly efficient OT procedures

On 1 October 2015, the revised version of the German Ordinance on the Dispensing of Medical Devices (MPAV) came into force. One of its major requirements specifies that healthcare institutions enhance patient safety when it comes to medical devices. In the event of a product recall, a healthcare provider should be able to identify within three days all affected patients based on the model, batch or serial number of the implant as well as the manufacturer and its responsible facility. To this end, the Agaplesion Frankfurter Diakonie hospitals are implementing barcode-scanning systems based on GS1 standards to manage their clinical and administrative processes. This will allow seamless case-specific documentation, transparent cost control and the ability to quickly trace medical devices, representing a significant step forward in improving patient safety.

By Kai Piesche

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From paper to barcodes

The driver of the revised version of the MPAV is noteworthy since many operating theatres' documentation procedures are still performed manually. Implants and other medical devices, complete with batch and serial numbers, are recorded in handwriting, which frequently leads to transcription errors, is extremely time-consuming and, in an emergency situation, can even endanger patients.

Furthermore, the lack of information and communications technology, standardisation in identifying items and master data management can prove to be huge obstacles when it comes to quickly identifying patients and products in the event of a recall.

For Agaplesion Frankfurter Diakonie hospitals, one of the most significant challenges centred on the management of master data. The first task of the project was to ensure that all products carried GS1 Global Trade Item Numbers (GTINs) encoded in barcodes.

> "We chose GS1 standards because they are most widely used to identify medical devices and they gather all information documentation required. Apart from that, we expect that GS1 standards will prevail,"
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> **Kai Piesche**, Deputy Head of Purchasing, Agaplesion Central Purchasing Department.

At the same time, suppliers were contacted to gather the required data about each of their products and enter this information into the ORBIS system database. “When it came to choosing hardware and software, we went with the ORBIS system from Agfa HealthCare,” explains Piesche. “Barcodes are scanned using code readers, or CRIDs, which communicate with the materials management system via an interface.”

Taking an integrated approach

To maximise patient safety and improve efficiency, the Agaplesion Frankfurter Diakonie hospitals now rely on high-quality master data, and especially on taking an integrated approach to control and monitor hospital processes. “We have achieved interoperability and many more benefits by scanning barcodes based on GS1 standards,” says Piesche. “As a result, it’s now possible to use the networked CRID modules to access the latest product data digitally stored in the materials management system. Equally important, we can also receive complete, case-specific records of every operation and cardiac catheterisation that enable traceability and transparency for cost control and as part of the patient’s electronic medical record. In addition to enhanced patient safety, our hospitals are using this opportunity to increase the efficiency of their processes through the use of GS1 standards.”

Here’s how the new process works: The first step involves scanning every product’s barcode during the order picking process at the Agaplesion Logistics Centre. When medical devices are used during an operation, the GTINs encoded in barcodes on the packages are scanned and read, again using a CRID. Then, the stored data is translated and transferred to the ORBIS system. This process not only applies to implants; the same steps are followed for all materials used, such as surgical trays, medicines and sutures. All information is recorded in patients’ electronic medical records in the hospital’s IT system in real time.

> “Thanks to the scanning process based on GS1 standards, we have put in place unambiguous, case-specific cost control for every operation and at all times.”
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> **Kai Piesche**, Deputy Head of Purchasing, Agaplesion Central Purchasing Department

“It’s extremely important for us to be able to identify all the medical devices used within three working days as specified in the MPAV, without having to spend extra time doing so,” says Piesche. “By using the barcode scanning process, we also have a real-time, case-specific overview of all materials used for each operation and clear cost control.”

Worthwhile investment

By recording the information using CRID and avoiding transcription errors, the itemised list that’s generated is always correct and complete. This is highly beneficial when executing the reimbursement process with health insurance companies.

“As part of the hospital’s cost control measures, all materials used in each operation are determined on a case-by-case basis,” advises Piesche. “With an accurate, final cost analysis for each treatment, this helps increase the hospital’s revenue and, at the same time, the patient’s safety. If there is an implant to be substituted because of a producer’s recall, we know in a few minutes which patient must be contacted due to the MPAV. The initial capital investment of around €20,000 for hardware and software has already been recouped in the first six months of using the barcode scanning solution.”

Hospitals can now scan to read each GS1 DataMatrix barcode, helping to ensure that the right medicine is being dispensed to the right patient.

About the Author

Kai Piesche *is the Deputy Head of Purchasing, Agaplesion Central Purchasing Department for Agaplesion Frankfurter Diakonie hospitals. He is qualified as a nurse, anaesthetist and critical care nurse with 15 years experience working in management positions in the intensive care field with a focus on heart surgery. Kai has also completed a degree in Health and Social Economics. About 13 years ago, he moved into hospital purchasing and since then, has worked as the Deputy Purchasing Manager at AGAPELSION gAG, responsible for strategic purchasing of medical equipment. Since September 2015, Kai has been the authorised signatory for the AGAPELSION Logistics Centre responsible for developing and implementing an integrated logistics and procurement concept for all AGPLESION facilities. The implementation is planned for completion by mid 2018.*

About Agaplesion Frankfurter Diakonie Kliniken GmbH

Agaplesion Frankfurter Diakonie Kliniken *(FDK) is the non-profit umbrella organisation of the Agaplesion Markus Krankenhaus in Frankfurt-Ginnheim and Agaplesion Bethanien Krankenhaus in Frankfurt-Bornheim. FDK is a subsidiary of the non-profit Agaplesion gemeinnützige AG, which has over 100 healthcare-related facilities nationwide. As a Christian healthcare organisation, Agaplesion aims to provide advanced medicine and excellent standards of care coupled with Christian values. The two hospitals have a combined capacity of approximately 900 beds. With them plus the close ties to the Agaplesion Logistics Centre in nearby Obertshausen and four retirement homes, the organisation offers a wealth of expertise in the fields of medical and nursing care to the residents of the Rhine-Main area—at every stage of life.*

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