60. INVENTORY & SUPPLY CHAIN OPTIMISATION USING RFID TECHNOLOGIES

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BACKGROUND:

At Charité in Berlin, material management was not in real-time. There were only visual inventory audits and no central electronic access to product information. Losses due to expiration were poorly documented. With time-consuming manual searches for products and in-house re-ordering taking >24 hours, it was also inefficient.

OBJECTIVES:

- Establish efficient supply chain processes in cath lab and purchasing through:
  - Real-time inventory & usage data to provide transparency
  - Consistent master data
- Optimise inventory level by:
  - Reducing excess inventory
  - Minimising product expiration & loss
- Strengthen support to ensure patient safety through:
  - Product availability alarms
  - Automated recall & expiration management

METHODS:

A multi-staged pilot project was undertaken in the cath lab of Charité Campus Mitte. The project began with a company-driven current and future state workflow analysis.

In Phase 1, Cardinal Health's Inventory Management Solution (CIMS) was installed in the cath lab. CIMS is a combination of user-friendly radio-frequency identification- (RFID) and barcode-scanning technologies, mobile apps and cloud-based analytics software.

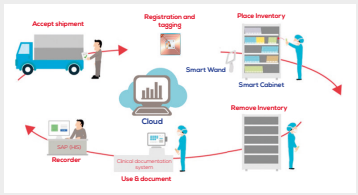

Diagram showing workflow at Charité.
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Smart Cabinets and Point-of-Use Station in Charité cath lab.
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CIMS has been used since July 2017 to:

- Register receipt of high-priced products (e.g. TAVI, stents, EP-catheters) in the cath lab with RFID tags
- Perform rolling inventory counts via RFID-enabled Smart Cabinets and Smart Wand
- Document usage at Point-of-Use Station in the cath lab, integrated directly into the clinical documentation system
- Actively manage expiration, as well as inventory and usage analysis via the cloud-based application

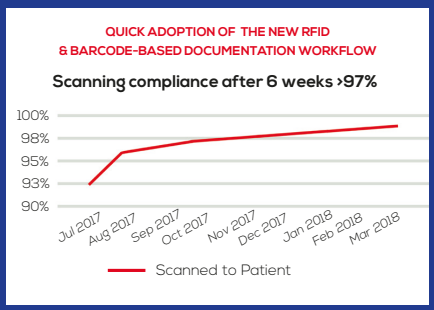
RESULTS:

What has been achieved?

Quick adoption, convenient installation & sustainable support
- Steep learning curve and unique integration with clinical documentation system
- Master data support through CIMS product tree
- CIMS is more than a scanning solution – account management includes continuous onsite support and process consulting

Strategic vision
- State-of-the-art technology for an efficient value chain

Process efficiency
- Increased patient safety through alert systems for recalls, expiration and out-of-stock risks
- Easy and consistent data analytics to support economic decision making



Learning curve of scanning compliance.
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Measurable effects
- Early and active inventory management to reduce loss due to expiration – avoided expiration worth **EUR 74,000**
- 26% of used products constitute 80% of the cost – CIMS already manages these medical supply costs
- With Phase 2, expected reduction of ordering lead time by one day

TAKE-AWAYS:

What worked well?

Mastering data gaps
- Ensuring that economic and clinical systems use the same data source and fulfil the same requirements, e.g. integrating barcodes into ERP system
- Using CIMS worldwide product tree and customer data support team to bridge gap

Complex interface configuration
- Clear and diligent project management
- Internal engineering of Cardinal Health

Integrating data and process migration into daily business operations
- Involving and training the right personal
- Cardinal Health presence on site

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