



ALBERT EINSTEIN

SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA

HOSPITAL • ENSINO E PESQUISA • RESPONSABILIDADE SOCIAL

Drugs Traceability System at the Albert Einstein Hospital

*Use of two-dimensional bar codes as a tool for drugs traceability in
Albert Einstein Hospital to improve safety in the medication process*

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March 18th, 2010



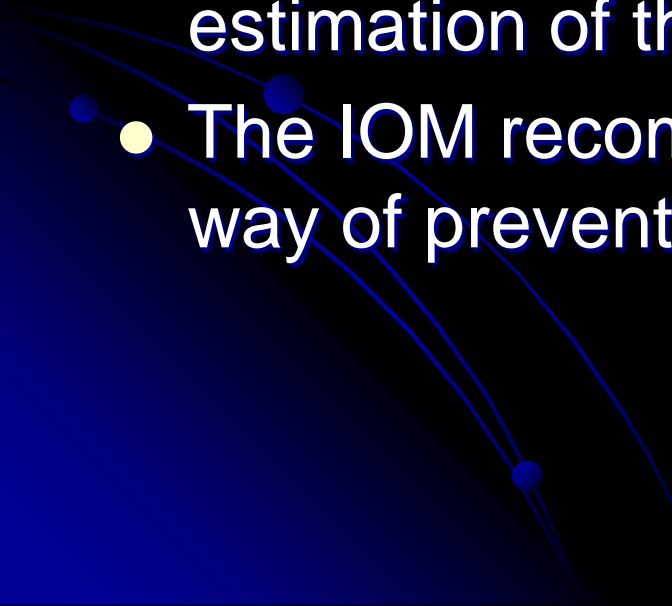
Organization Accredited
by Joint Commission International



Hospital Israelita Albert Einstein

- HIAE numbers (2007)
 - More then 6.000 active employees
 - Morumbi Unit
 - 530 beds (2010)
 - 143.960 patients-day
 - 101.061 ambulatory consults in the Urgent Care
 - 28 operation rooms (2 Surgery Centers)
 - 27.058 surgeries
 - 2.931 labours
 - The most important liver transplant center in Brazil (11,5% of the whole in Brazil). More then 1400 procedures since 2002.

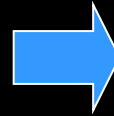
Dados do IOM

- According to the IOM report (Institute of Medicine – EUA, 1999), 7000 Americans die annually due to medication errors.
 - Annually, medication errors cost 3,5 billion dollars in the US, according to conservative estimation of the IOM (2006).
 - The IOM recommends process automation as a way of preventing errors, or adverse events.
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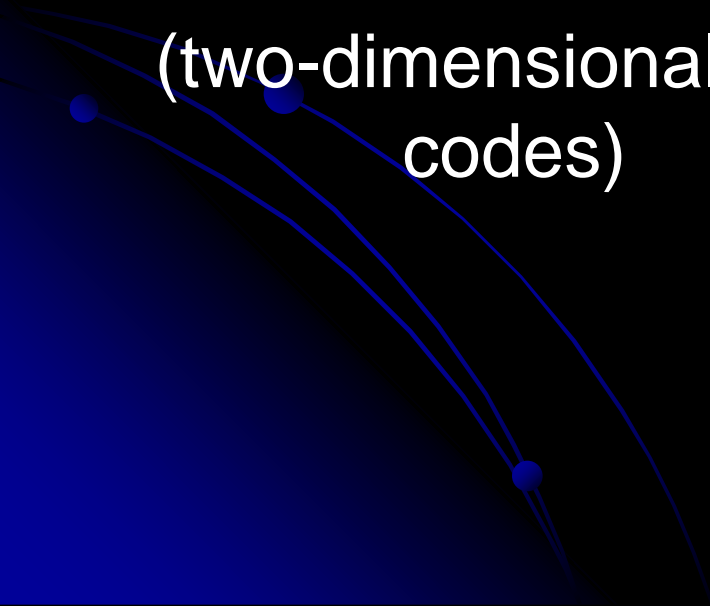
Safety and Quality
(errors reduction and
traceability)



Automated processes
(two-dimensional bar-
codes)



Costs reduction



Safety - Traceability

- According to the MMU.3.3 Standard from the Joint Commission International, traceability is extremely relevant, since it is necessary to retrieve recalled or discontinued medicines by the manufacturer or the local sanitary authority.
Are considered elements of performance:
 - The institution capacity of retrieving and disposing this kind of medicines;
 - Inform physicians and staff who can order or administer these medicines;
 - Identify and inform physicians which patients received these medicines.

Unsafe product identification Re-labeling

- Products re-labeling
 - Risk of identification errors
 - High expenditures with manual work



Unsafe product identification

Re-labeling

- How they are...



Repackaged
oral solids



Relabeled
vials



Relabeled
ampoules

Two-dimensional bar codes

- Important application for process security.
 - Traceability requires bar codes with lot and expiration date.
 - Identification and partnership establishment with the manufacturer:
 - Hypofarma
 - Eurofarma
 - Isofarma
 - (Baxter)



GS1 DataMatrix

Two-dimensional bar codes

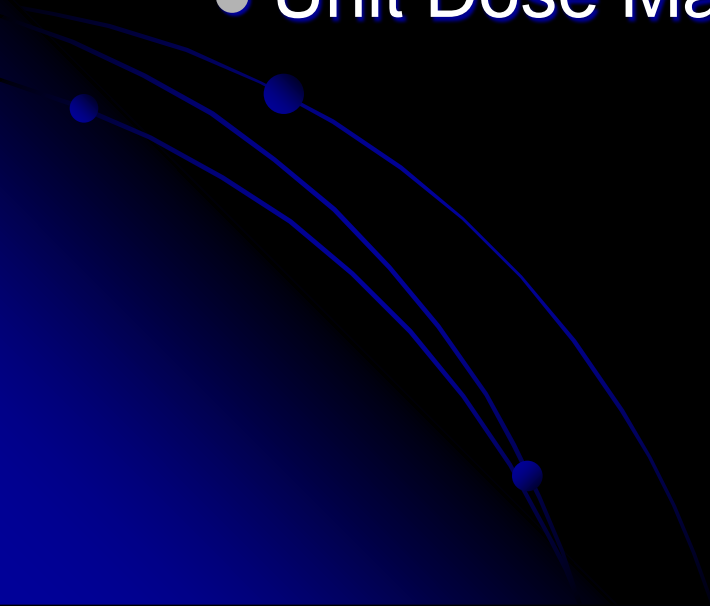
- How they should be...



All
GS1 DataMatrix



Software adjustments

- The desire of using the new standard determined the necessity of some software adjustments (December 2005):
 - ERP SAP R/3
 - Unit Dose Manager System
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Hardware acquisition

- Bar code readers (USB or PS/2 – keyboard interface)



Hardware acquisition

- Mobility in the inventory management
 - Use of PDA (on-line via radio-frequency) and bar codes.



Safety and traceability in the process

- Merchandises receiving;
- Internal distribution;
- Dispensation to patients.



BCMA – Bar-code-assisted Medication Administration

- Process end – (first test already run in the hospital)
 - Right patient
 - Right medicine
 - Right dose
 - Right time
 - (Right route)



Benefits

- Faster processes in the pharmacy (higher productivity)
- Errors reduction
 - Receiving
 - Stock movement
 - Better purchase management
 - Medication – 5 rights
 - Right patient
 - Right medicine
 - Right dose
 - Right time
 - (Right rout)
- Traceability
- Simplifies and promotes major efficiency in retrieving expired medicines
- Man-power reduction

- Quality request:
 - ISO 9000;
 - ONA (National Organization of Accreditation);
 - Joint Commission

↓ **MEDICATION ERROR**

↑ **QUALITY**

Benefits (Two-dimensional bar codes)

- Current data (2009):
 - 250K labeled items/month (315K at max);
 - 160K repackaged oral solids/month;
 - **115K no more labeled units/month— reduction of 320 uninterrupted work hours/month (10 sec/ampoule);**
 - **Cost reduction of ~R\$ 1.200,00/month with consumables (labels and printer ribbon)**

Thank you!



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