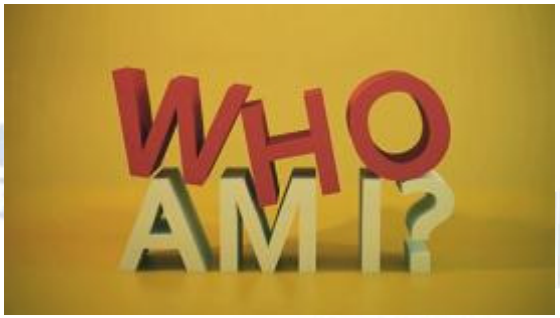
Implementation of barcode scanning in a hospital in Brazil

Nilson Gonçalves Malta
Pharmacist
Hospital Israelita Albert Einstein
São Paulo - Brasil

Who am I?

- Nilson Gonçalves Malta
  - Senior Pharmacist at Hospital Israelita Albert Einstein
  - Graduated at São Paulo University
  - MBA in Hospital and Health Systems Administration at Getulio Vargas Foundation
  - Current activity: Pharmacy Informaticist
    - Systems conception, development support, testing, maintenance and user support
      - Logistics Automation
      - Clinical Decision Support Systems
      - Hospital Information System
      - Pharmacy Information System



© 2012 GS1

Our Hospital (Morumbi Unit)

© 2012 GS1

Some figures (2011)

- About 10,000 employees (without third party)
- 644 beds
- 188,242 patient days
- 227,005 attendances in Emergency Dept
- 3,8 millions of examinations
- 34 surgery rooms
- 35,420 surgeries
- 3,531 births
- Transplants - among the most successful programs of the world.
  - The index of transplanted patients' survival is compared to the best hospitals of United States and Europe.
  - performed 2.208 organ transplants (Between 2002 and 2011)

ALBERT EINSTEIN
SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA
HOSPITAL • ENSINO E PESQUISA • RESPONSABILIDADE SOCIAL

Facing the problem

What do we know?

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).

Kohn LT, Corrigan JM, Donaldson MS, eds. To Err is Human: building a safer health system. Washington, DC. National Academy Press; 1999.

Aspden P et al. Preventing Medication Errors: Quality Chasm Series. Washington, DC. National Academy Press; 2007.

© 2012 GS1

Does it really happen?

Baby may have received milk in his vein instead of Normal Saline

Nurse administers acid instead of a tranquilizer in a child

LPN gives Vaseline to a child instead of Normal Saline (IV!!!)

© 2012 GS1

Barcodes can HELP! BUT...

- **Our main issues**:
  - No oral solids have a barcode at the each level (unit of use).
    - In Brazil the majority of the oral solids are available in blisters and the barcode (EAN/GTIN-13) is printed only on the secondary package
  - Ampoules and vials have no barcode
  - Bottles have barcode (EAN/GTIN-13) also only on the secondary package

- **Brazilian Law:**
  - Ordinance 801/1998 – GTIN + EAN-13 established as standard for medicines

© 2012 GS1

GTIN- Global Trade Item Number

Workaround…

RELABEL

- All oral solids need to be repackaged
- All ampoules, vials and bottles are relabelled
- Compounded injectables receive a specific barcode

All barcodes with product code, lot and expiry date

© 2012 GS1

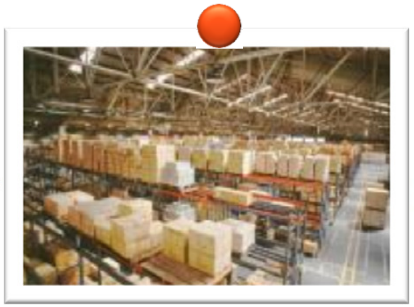
As it is said... It is workaround!

- If no barcodes:
  - Receiving and information input are manual
- Re-labelling and repacking - Re-Work
  - Risk of identification errors
  - High expenditures with manual work

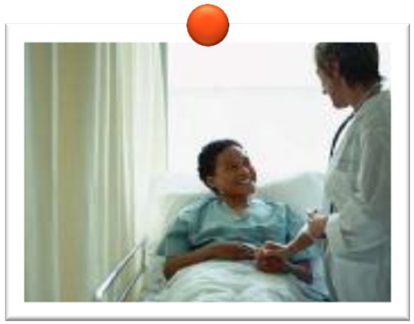
© 2012 GS1

Standards are REAL SOLUTIONS!

Manufacturer



Distributor,
wholesaler, GPO, …



Hospital

GS1 DataMatrix containing:
GTIN + Lot + Expiry Date

© 2012 GS1

Partnership with the Pharmaceutical Industry

HC WG GS1 Brasil

- 2005 – The first step GS1 RSS
  - Albert Einstein and Hypofarma
- 2008 – GS1 DataMatrix

ALBERT EINSTEIN
SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA
HOSPITAL • ENSINO E PESQUISA • RESPONSABILIDADE SOCIAL

HC WG GS1 Brasil + Albert Einstein

DataMatrix - they began...

Baxter

isofarma
Industrial Farmacêutica Ltda.

Eurofarma
Brasil, sempre.

...others are joining

B|BRAUN
SHARING EXPERTISE

ABL
Antibióticos do Brasil

prati-donaduzzi
Medicamentos Genéricos

© 2012 GS1

Results

- **Increase efficiency and save costs**
  - No need of hospital repacking / relabeling
  - Man-power reduction - 3 suppliers → 40% reduction in relabeling
  - Automated control in dispensation
- **Visibility and Traceability**
- **Ensure 5 patient rights**
  - Bedside check medication administration
- **Quality request:**
  - ISO 9000, ONA (National Organization of Accreditation), Joint Commission, etc.

↓ MEDICATION ERROR

↑ PATIENTE SAFETY

© 2012 GS1

Next Steps

- Law 11.903/2009 – Established GS1 DataMatrix as new standard, but currently still under discussions at ANVISA - Brazilian Health Surveillance Agency (regulatory body).
- Other uses for GS1 Standards
  - Surgical instruments
  - Patients
  - Assets
  - Linen
  - GDSN – Data Synchronization
  - …

© 2012 GS1

Let’s watch the process...

ALBERT EINSTEIN
SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA
HOSPITAL • ENSINO E PESQUISA • RESPONSABILIDADE SOCIAL

Thank you!

ALBERT EINSTEIN
SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA
HOSPITAL • ENSINO E PESQUISA • RESPONSABILIDADE SOCIAL

NILSON GONÇALVES MALTA
Pharmacist

Av. Albert Einstein, 627/701 - CEP 05652-901 - São Paulo - SP - Brasil
Fone: (55-11) 2151-2248 - Fax: (55-11) 2151-4212
e-mail: nilsongm@einstein.br