



UZ  
LEUVEN



# The missing link in patient safety

Thomas De Rijdt

*Global GS1 Healthcare conference 04-10-2011*

UZ  
Leuven

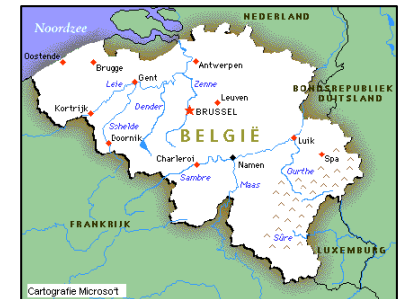
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UNIVERSITY HOSPITALS LEUVEN

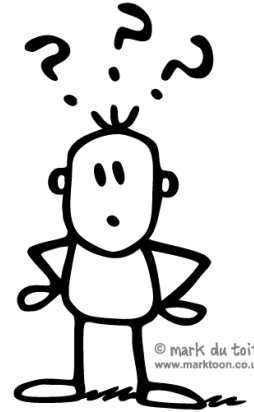
# Who's talking ?

- Thomas De Rijdt, PharmD
- Vice-president of B.A.H.P.
  - *Belgian association of hospital pharmacists*
- Boardmember of V.Z.A.
  - *Flemish association of hospital pharmacists*
- Assistant-head of pharmacy UZ Leuven



# About what ?

Not about barcoding ...



... but about **patient safety** !



## When something happens ...

- Who's afraid to go to the hospital ?
- Why are you afraid ?



Nothing can go wrong,  
we don't make mistakes !

**Until 1999**

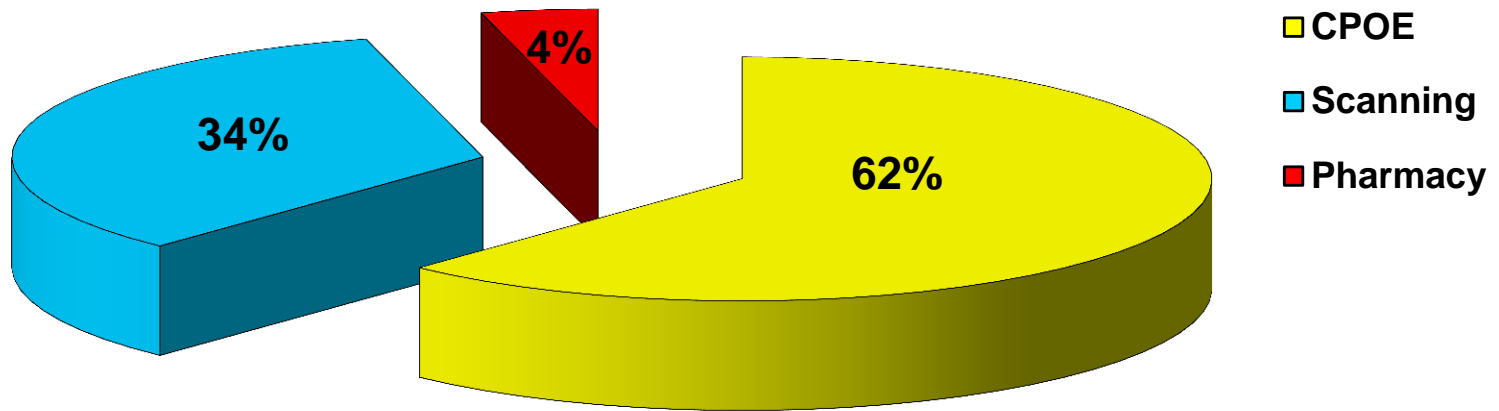


# To err is human ...

- Report Institute of Medicine: “To Err is Human” (1999)
  - 44.000 – 88.000 deaths/year by medical errors
  - Extrapolation for Belgium :
    - 1000 deaths / year (<150 medication errors)
    - € 2.500.000 / year for 700 bed hospital
  - Avoidable ADE in 2 % of the admissions



# Distribution of medication errors





# From prescribing to C.P.O.E.

<span>Overzicht Hos</span> <span>Voorschrift Hos</span> <span>Voorschrift Hos</span> <span>Schema's Hos</span> <span>Chemotherapie</span> <span>(Thuis)therapie</span> <span>Ambulant voorschrift</span>											
<span>8 dagen</span> <span>begindatum</span> <span>Dat</span> <span>03-09-2011 00:00</span>											
<span>A 0</span> <span>GM ↔ GM 0 3 5</span> <span>GM x 2 0</span> <span>7 10 7</span> <span>GM ↔ Voeding 1</span> <span>Pijnscore 0</span>											
Medicatie	Toed.	Eenh.	za 03-09	zo 04-09	ma 05-09	di 06-09	wo 07-09	do 08-09	vr 09-09	za 10-09	
<b>Beenmergtransplantatie op 19/04/2011</b>											
NATR.CHLORIDE 0,9 % (FL INF 1.000 ML VIAFLO) - 1 infuus + LITICAN (AMP INJ 50 MG/2 ML) - 4 amp + LARGACTIL (AMP INJ 25 MG/5 ML) - 0 amp	IV-Inf	infuus			1 infuus	1 infuus					
NATR.CHLORIDE 0,9 % (FL INF 1.000 ML VIAFLO) - 1 infuus + LITICAN (AMP INJ 50 MG/2 ML) - 5 amp + LARGACTIL (AMP INJ 25 MG/5 ML) - 0 amp	IV-Inf	infuus	1 infuus	1 infuus							
NATR.CHLORIDE 0,9 % (FL INF 1.000 ML VIAFLO) - 1 infuus + LITICAN (AMP INJ 50 MG/2 ML) - 6 amp + LARGACTIL (AMP INJ 25 MG/5 ML) - 0 amp	IV-Inf	infuus									
SONDEVOED. ENERGIER. (1 X 0.5L)	Maagsonde	fles				1 fles	1 fles				
SONDEVOED. ENERGIER. (2 X 0.5L)	Maagsonde	fles	2*1 fles	3*1 fles	3*1 fles	1 fles					
SONDEVOED. STANDAARD (1 L)	Maagsonde	fles					1 fles	1 fles	1 fles	1 fles	
PERIO AID MONDSPOEL. (FL 500 ML 0.12 %)	OROMUC	ml	2*15 ml	2*15 ml	2*15 ml	15 ml	2*15 ml	2*15 ml	2*15 ml	2*15 ml	
PANTOMED (TABL 40 MG)	PO	tabl	1 tabl	1 tabl	1 tabl	1 tabl	1 tabl	1 tabl	1 tabl	1 tabl	
MOTILIUM (TABL SMELT 10 MG)	PO	zuig-tabl									1 zuig-tabl
LITICAN (AMP INJ 50 MG/2 ML) # zo nodig	IV-Bolus	amp	3*1 amp	3*1 amp	3*1 amp						
LITICAN (AMP INJ 50 MG/2 ML)	IV-Bolus	amp									1 amp
MOVICOL (ZAKJE NEUTRAAL 13.79 G) # zo nodig	PO	poeder (zakje)	2*1 poeder (zakje)	2*1 poeder (zakje)	2*1 poeder (zakje)	2*1 poeder (zakje)	2*1 poeder (zakje)	1 poeder (zakje) (1/2)	2*1 poeder (zakje) (2/2)	2*1 poeder (zakje)	
CLEXANE (SPUIT 40 MG/0,4 ML)	SC	spuit	1 spuit	1 spuit	1 spuit	1 spuit	1 spuit	1 spuit	1 spuit	1 spuit	
DAKTARIN (FL SPRAY 100 G) # zo nodig	LOC uitw	toediening	1 toediening	1 toediening	1 toediening						
EUSAPRIM (TRIMETH./SULFAM.) (TABL FORT 160-800 MG)	PO	tabl	2*1 tabl	2*1 tabl	2*1 tabl	2*1 tabl	2*1 tabl	4*1 tabl	4*1 tabl	4*1 tabl	
DIFLUCAN (CAPS 200 MG)	PO	caps	2 caps	2 caps	2 caps	2 caps	2 caps	2 caps	2 caps	2 caps	
LIORESAL (TABL 10 MG)	PO	tabl	3*0.5 tabl	3*0.5 tabl	3*0.5 tabl	2*0.5 tabl	3*0.5 tabl	3*0.5 tabl	3*0.5 tabl	3*0.5 tabl	
CONTRAMAL (AMP INJ 100 MG/2 ML) # bij pijn	IV-Inf	amp	4*0.5 amp	4*0.5 amp	0.5 amp (1/4)						
DAFALGAN (TABL 500 MG)	PO	tabl							2*1 tabl	1 tabl	
DAFALGAN (TABL FORTE 1 G) # zo nodig - max.1 per Buur	PO	tabl					1 tabl (1/1)	1 tabl (1/1)	1 tabl (1/1)	1 tabl (1/1)	
DAFALGAN (TABL FORTE BRUIS 1 G)	PO	bruis-tabl						1 bruis-tabl		1 bruis-tabl	

# Decision support for prescribers

Thuismed.

Dienst-gebonden sjablonen

Form. Medicatie:  Vorm:

Posologie & Toedieningsweg

Dosis:

Duur:

Debiet:

Tijdstippen


**Substitutie van medicatie BISOPROLOL EG TABL 10 MG**

Mogelijke substituties:

Form. Medicatie:  Vorm:

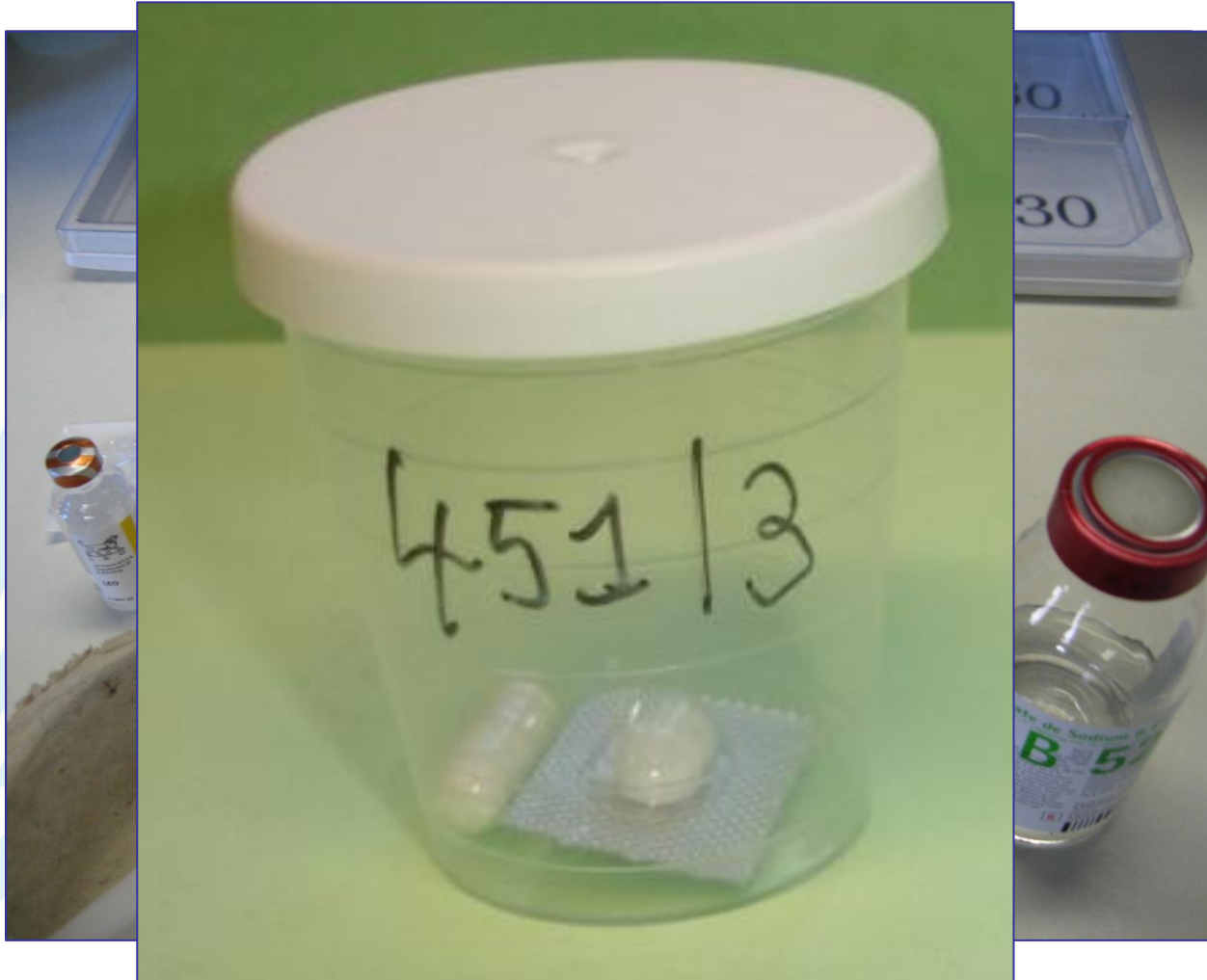
Disclaimer

*Deze databank werd met de grootste zorg samengesteld. Eventuele onjuistheden die aan de apotheek worden gesignaleerd, zullen zo snel mogelijk worden gecorrigeerd.*

<b>A</b>	<input type="text" value="0"/>	GM ↔ GM	<input type="text" value="0"/>	<input type="text" value="3"/>	<input type="text" value="5"/>	GM x 2	<input type="text" value="0"/>
	<input type="text" value="7"/>	<input type="text" value="10"/>	<input type="text" value="7"/>	GM ↔ Voeding	<input type="text" value="1"/>	Pijnscore	<input type="text" value="0"/>



# You're not a number ...



# Bedside scanning ...

- The final checkpoint !
- Requirements
  - Fully deployed CPOE
  - Hardware and software
  - Barcode on every single dose
- UZ Leuven
  - Already for blood and antineoplastic drugs
  - All medication from 01-01-2012
    - 14.000.000 doses / year



# Packaging ...



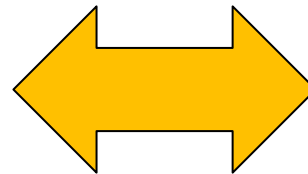
**Mostly multidoses**

mg : € 10 (for 30 caps)  
identification, expiry date, no  
number, no barcode

50 mg / capsule  
dose with

# Single dose, barcode ...

- Single Dose versus Unit Dose





# ... hard to get !

- How to get 14.000.000 doses ready ?
  - Repacking in the pharmacy
    - Legally seen as compounding
    - GMP in cleanroom
    - Time consuming
    - 4 blistering machines
  - Outsourcing
    - Legally seen possible
    - GMP in cleanroom
    - Expensive for small batches



# With a little help ... ?

- Companies are not interested
  - Change in production line, registration, ...
  - Cost
  - Market
- Official request from UZ Leuven
  - Willingness at base
  - Management does not follow
    - Blisteringlines are European or global
    - Need for a standard and legal obligation





BELGISCHE VERENIGING VAN ZIEKENHUISAPOTHEKERS  
ASSOCIATION BELGE DES PHARMACIENS HOSPITALIERS



## The global language of business

**OVERALL BENEFIT: Improving efficiency & visibility in supply and demand chains**

### GS1 SOLUTIONS & SERVICES USING GS1 STANDARDS

Solutions: POS / Inventory Management / Asset Management / Collaborative Planning / Traceability  
Services: Global (GSMP, GEPIR, Global Registry, Training and Accreditation) & Local (e.g. Certification, Implementation, Training)

### GS1 System - Integrated system of standards



Global standards  
for automatic  
identification

Rapid and accurate,  
item, asset or  
location identification



Global standards  
for electronic business  
messaging

Rapid, efficient  
& accurate business  
data exchange



The environment  
for global data  
synchronisation

Standardised, reliable  
data for effective  
business transactions



Global standards  
for RFID-based  
identification

More accurate, immediate  
and cost-effective  
visibility of information

GS1 Identification Keys (e.g. GTIN, GLN, SSCC, GRAI, GIAI, GSRN, EPC) & Attribute Data (e.g. Best Before Date)

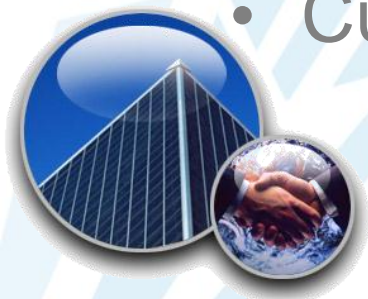
vereniging het standpunt van de European Association of Hospital Pharmacists (EAHP) bij.





# Why SD/BC by company ?

- GMP production facility
- Optimal storage conditions (*primary*)
- Minimal cost (*just do it once, big batches*)
- Liability
- Protection against counterfeiting (*serial number*)
- Supply chain management (*all packaging levels*)
- Customer support (*P&T committee, track and trace, ...*)



# Re-engineering ...

- Healthcare logistics in the future
  - Automatisatie
  - Robotisatie
  - Standardisatie
  - Track and trace

**Less errors**  
**More safety**  
**Better therapy**







Questions ?