Dutch Hospital Pharmacists’ position paper on Single Unit of Use packaging and barcoding

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Conflict of interest

None
NVZA position paper

- All medication used in hospitals should be available in Single Unit of Use Packages
  - Unit Dose administration
- All Single Unit of Use Packages should contain the correct barcode
  - Record the administration of medication electronically
  - Significantly contributes to greater medication safety
Single Unit of Use packaging

• Packaging
  – packaged as single unit and can be opened/used without the use of any tools or instruments.

• Labelling
  – for each unit the following items are present: name of substance + strength + expiry date + batch number + (if necessary) method of administration
  – Single dose level: barcode in GS1 Data Matrix format including GTIN, expiry date, and batch number.

• The GS1 standard
  – at the primary (single dose), secondary, and tertiary level (case/shipper) packaging.
Single Unit of Use
WHY?
The Essence of Health Care

- Effective
- Equitable
- Quality
- Patient Centred
- Timely
- Safe

FIVE RIGHTS
- Right Patient
- Right Drug
- Right Dose
- Right Route
- Right Time

MEDICINE EXPIRATION DATES
- Exp: EXPIRED!
Typical Process
Optical Failure
Optical Strenght and Weakness

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Sound alike
High risk medication (RTA)

Logistical Considerations
Given that most syringes have a relatively limited surface area for labeling, 2D DataMatrix or Aztec bar codes are preferred due to their small size and speed of scanning success.

Impact of Bar Code Errors
According to a USP MEDMARX report from 2006, 51% of the errors associated with bar code technology were the result of attaching the wrong bar code to a product. Affixing a bar code label indicating the wrong strength accounted for another 23% of the errors reported.

Photo courtesy of Medi-Dose, Inc / EPS, Inc

Photo courtesy of Carla Maslakowski
Medication Errors

KNMP/NVZA: Centrale Medicatieincidenten Registratie 2013
Results of BCMA

Ordering errors, 39% of all serious medication errors
  With CPOE, 55% reduction

Transcription errors, 12% of all serious medication errors
  With eMAR, 100% reduction

Dispensing errors, 11% of all serious medication errors
  With pharmacy bar-code scanning, 67% reduction

Administration errors, 38% of all serious medication errors
  With bar-code eMAR, 51% reduction

Scanning on the Ward
Wrong Drug
Preparations on the ward
Good Manufacturing Practice
Medication Dispensing (Nursing)Home
Current status
Stock Keeping Units (SKU): 2012
SKUs dispensed/year
3,522,500

Production
SKU: 63 (3.1%)
SKUs dispensed/year
13,112 (0.4%)

Solid oral (tab/caps)
SKU: 854 (42.5%)
SKUs dispensed/year
2,760,274 (78.4%)

Other
SKU: 1095 (54.4%)
SKUs dispensed/year
749,114 (21.2%)

Overall Barcode
SKU: 1164 (57.9%)
SKUs dispensed/year
2,870,483 (81.5%)

Overall No-Barcode
SKU: 848 (42.1%)
SKUs dispensed/year
652,017 (18.5%)
I think I did.
Medication IT in the Netherlands

The Netherlands is leading in Medication IT

Opportunity for Dutch Pharma
Implementation >95%
UDP BCMA is Slow

2003
2011
2013
EU Falsified Medicine Directive

1. Legislative proposals:
   - to tackle (see Mer
   - to enable medicine
   - to improve monitoring

These proposals will be examined by the Council.

2. A political agenda:
   - to discuss pricing
   - to develop medicine
   - to strengthen medicines
   - to improve red

Redesign

http://ec.europa.eu
BAR CODING TO THE SINGLE UNIT OF MEDICINE ADMINISTERED IN HOSPITALS
The patient safety case for bar coding to the single unit

America takes action!

• In 2001 the **Federation of American Hospitals (FAH)** called for bar coding to the single unit

• The National Coordinating Council for Medication Error Reporting and the American Society for Health System Pharmacists supported the call

• **2006 – campaign success!** The US FDA made it mandatory for medicines supplied to hospitals to be bar coded to the single unit.
Our needs

single unit of use packages eg.
- Solid oral (tablets, capsules, ..)
- Solid/Liquid parenteral (ampoules, syringes, vials)
- Liquids (minims, unit dose morfine solution, etc)
- Ointments etc (not available in NL)

- label should contain:
  - Nonproprietary and proprietary names.
  - Dosage form.
  - Strength
  - Expiration date
  - Control number (lot number)
  - Barcode/Datamatrix GTIN
Road Map

• Covenant of all stakeholders
  • Manufacturers, Gov’t, Regulators, Health Care Professionals
• Prioritising High Risk medication
• Identification all single use medication
• Batch number, expiry date
The outcomes

- Medication safety at point of care
- Possibility of recalls at single dose level
- Registration batch number biologicals
- Solutions along the continuum of care
My Doctor said "Only 1 unit of alcohol a day". I can live with that.
Single Unit of Use

• Usability in primary and secondary healthcare
• In line with international developments.
• Meeting national and international standards in the trading of medication
• Reducing the definition of SUoU to its essence
• Limiting the requirements that apply to SUoU to an absolute minimum
• Communicating the importance of SUoU among other organisations and manufacturers
EAG

- unique serial number
- product code
- batch number
- expiry date
- national reimbursement number