

Medication Management in the Netherlands

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Some figures in Dutch healthcare

- Population: 16,000,000
- general practitioners: 7,000
- medical specialists: 16,000
- prescriptions per year (via pharmacies): 120,000,000
- pharmacies: 1,600
- hospitals: 100
- healthcare insurance companies: 80
- clearing house pharmacy: 1
- pharmaceutical statistics institutes: 4

General Practitioner

- **Process:**
 - **diagnosis**
 - **prescribing**
- **tools:**
 - **GP information system**
 - **electronic prescription support system**
 - **drug database**
 - **prescription message**

Pharmacy 1

- **Process:**
 - medication surveillance
 - dispensing
- **tools:**
 - pharmacy information system
 - drug database
 - prescription message (from GP)
 - dispensing report message (to GP)
 - web site

Pharmacy 2

- **Process: deputy service**
- **tool: medication retrieval message (to pharmacy)**

- **Process: hospitalisation of patient**
- **tool: medication report message (to hospital)**

- **Process: reimbursement, management**
- **tools:**
 - **reimbursement file to insurance company**
 - **data file to statistics institute**

Electronic prescription support system

- Project 1999-2003
- goals: improved quality, reduced costs
- Guidelines of NHG (Dutch College of General Practitioners)
- ICPC-diagnosis (International Code of Primary Care)
- sex, age, relevant contraindications
- integrated in GP information system and drug database
- digital formulary

Prescription message

- **Edifact message MEDREC (1989)**
- **Dutch national standard**
- **all GP information systems can send prescription**
- **some GP IS accept dispensing report message**
- **used in 5% of potential number**

- **25% of GP's is directly connected to pharmacy**
- **>30% prescriptions via fax**

Prescription message, demands of healthcare inspectorate

- **Freedom of choice for the patient**
 - **unambiguous**
 - **clear procedures**
 - **security and privacy**
 - **authorisation and verification**
 - **archive**
 - **responsibility**
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- **fax does not comply with the law**

Prescription message, developments

- Implementation of new version of MEDREC
- coded instructions for use
- CEN ENV 13607 is basis for new standard
- identification of patients and healthcare person
- network, internet

Medication retrieval and report message

- Deputy service of one pharmacy for a group of pharmacies (evening and weekend)
- identify a patient in deputy pharmacy
- find the information of that patient with cross reference index on a LDAP-server in closed pharmacy
- information system in closed pharmacy sends a medication report message (6 months history)
- deputy pharmacy sends dispensing report message to closed pharmacy

Drug database G-Standaard

- Z-Index, a company of KNMP, maintains G-Standaard
- de facto standard used by entire healthcare sector
- drugs, medical supplies, OTC, homeopathic products
- 80,000 product packages
- package number, aggregated numbers
- updated data files every month
- data files are source for information systems of GP, pharmacy, insurance company, scientific institutes,
- www.z-index.nl

G-Standaard, functionalities

- **Medication surveillance: dosage, interaction, contra-indication, double medication (with advice text)**
- **dispensing: substitution, label texts, ingredients for compound products**
- **reimbursement: clustering, prices, price limits, declaration data**
- **logistics: barcodes stock control, ordering, responsible producer, wholesaler**
- **statistics: ATC, DDD**

Reimbursement

- Declaration from pharmacy to insurance company
- largely via clearing house
- reimbursement files every month
- national standard
- one record per dispensed medicine

Statistics

- **Foundation for Pharmaceutical Statistics (SFK)**
- **within the office of KNMP**
- **panel of 1360 out of 1630 pharmacies**
- **data files every month**
- **one record per medicine**
- **drug, pharmacy, prescriber, patient, insurance**
- **data warehouse, web based reports, Facts & figures**
- **www.SFK.nl**

Information about drugs and pharmacy on the internet

- www.apotheek.nl
- portal web site for all Dutch pharmacies
- information > 200 drugs (active ingredient)
- > 700 pharmacies have their own web site

National ICT Institute for Healthcare

- All parties in healthcare
- starts 1 April 2002
- stimulate development of interoperability
- financed by Dutch government
- medication management will be one of the first targets