

Patient Classification

A Comparison between Countries

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Outline

- 1 Introduction
- 2 Grouping Process
- 3 Major Diagnostic Categories
- 4 Split Variables
- 5 Trends and Harmonization

Patient Classification System

Description

- instrument to divide patients into a manageable number of homogenous groups
- used to describe hospital products
- used for benchmarking or financial aspects

Diagnosis-Related Groups (DRG)

Background

- the most widespread PCS in Europe
- grouping according to
 - principal diagnosis
 - procedures
 - age
 - comorbidities and complications (CC)

Diagnosis-Related Groups (DRG)

EuroDRG

Countries represented in this research project either use

- a foreign DRG-system without / only minor changes
 - Ireland (AR-DRG), Poland (JGP), Spain and Portugal (AP-DRG)
- a foreign DRG-system with major own developments
 - France (GHM), Germany (G-DRG), Estonia, Finland and Sweden (NordDRG)
- self-developed PCSs
 - Austria (LKF), England (HRG), the Netherlands (DBC)

Historical Development

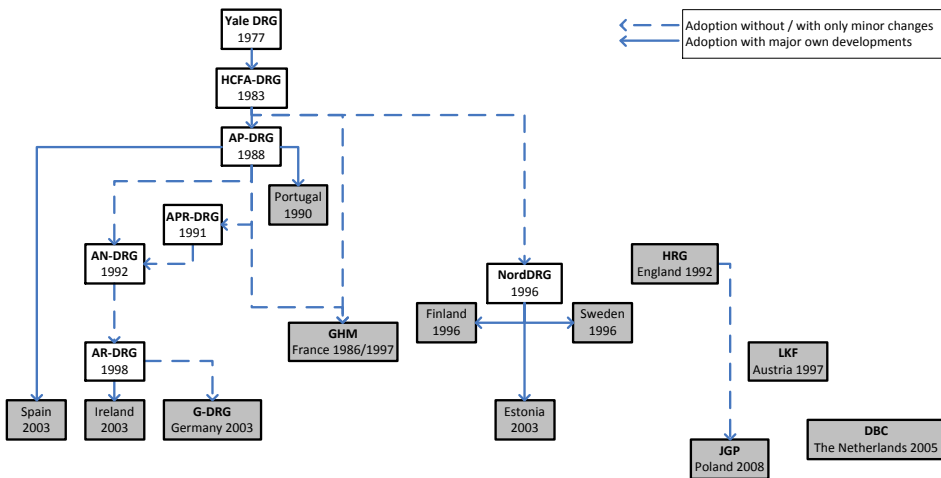


Figure based on Schreyögg et al. (2006) & <http://www.fischer-zim.ch/textk-pcs/index.htm>

Diagnosis-Related Groups (DRG)

General Description

All adopted DRGs have a *similar* general structure

- 1 Allocation to a Major Diagnostic Category (MDC)
- 2 Partition by type of treatment
 - operation room / surgical partition
 - medical partition
 - other partition
- 3 Split by procedures, age, secondary diagnoses

HRG and LKF

Description

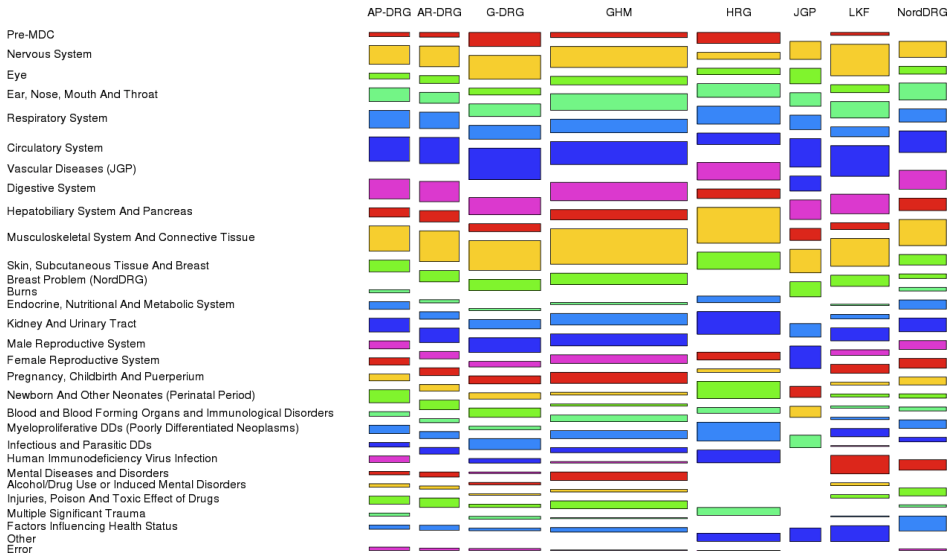
- procedures as primary grouping criteria
- diagnoses as secondary grouping criteria
- two partitions
 - procedure-driven partition (significant procedures)
 - diagnosis-driven partition (no significant procedures)
- further grouping
- no MDCs

MDC Comparison

Comments

- mutually exclusive categories (approx. 24-28)
- MDCs correspond to single organ system or etiology
- Chapters correspond to medical specialties
- *similar* structure in all countries

Graphical Representation



Graphical Representation

	AP-DRG	AR-DRG	G-DRG	GHM	HRG	JGP	LKF	NordDRG
Pre-MDC	■	■	■	■	■		■	
Nervous System	□	□	□	□	□	□	□	□
Eye	□	□	□	□	□	□	□	□
Ear, Nose, Mouth And Throat	□	□	□	□	□	□	□	□
Respiratory System	□	□	□	□	□	□	□	□
Circulatory System	■	■	■	■	■	■	■	■
Vascular Diseases (JGP)	□	□	□	□	□	■	■	□
Digestive System	□	□	□	□	□	■	□	□
Hepatobiliary System And Pancreas	□	□	□	□	□	□	□	□
Musculoskeletal System And Connective Tissue	□	□	□	□	□	□	□	□
Skin, Subcutaneous Tissue And Breast	■	□	□	□	■	□	□	■
Breast Problem (NordDRG)	□	■	□	■	□	□	■	□
Burns	□	□	■	■	□	■	■	□
Endocrine, Nutritional And Metabolic System	□	□	□	□	□	□	□	□
Kidney And Urinary Tract	□	□	□	□	□	□	□	□
Male Reproductive System	□	□	□	□	□	□	□	□
Female Reproductive System	□	□	□	□	□	□	□	□
Pregnancy, Childbirth And Puerperium	□	□	□	□	□	□	□	□
Newborn And Other Neonates (Perinatal Period)	□	□	□	□	□	□	□	□
Blood and Blood Forming Organs and Immunological Disorders	□	□	□	□	□	□	□	□
Myeloproliferative DDs (Poorly Differentiated Neoplasms)	□	□	□	□	□	□	□	□
Infectious and Parasitic DDs	□	□	□	□	□	□	□	□
Human Immunodeficiency Virus Infection	□	□	□	□	□	□	□	□
Mental Diseases and Disorders	□	□	□	□	□	□	□	□
Alcohol/Drug Use or Induced Mental Disorders	□	□	□	□	□	□	□	□
Injuries, Poison And Toxic Effect of Drugs	□	□	□	□	□	□	□	□
Multiple Significant Trauma	□	□	□	□	□	□	□	□
Factors Influencing Health Status	□	□	□	□	□	□	□	□
Other	□	□	□	□	■	■	■	□
Error	■	■	■	■	■	■	■	■

Characteristics used:

- diagnoses
- procedures
- age
- length of stay
- type of discharge
- mechanical ventilation
- weight of newborn
- ...

How split variables are applied (example)

AR-DRG and G-DRG

- Patient Clinical Complexity Level (PCCL) defined for each BaseDRG
- PCCL (5 levels) is calculated as the cumulative effect of all secondary diagnoses
- max. 4 DRGs per BaseDRG in AR-DRG
- no limit in G-DRG

HRG

- 3 levels of severity defined on (sub)chapter level
- level corresponds to the most severe complication
- max. 3 HRGs

How split variables are applied (example)

GHM

- 4 levels of severity
- age has systematic impact
- > 79 years: increases all levels by one
- > 69 years: increases only levels 1 and 2 by one
- < 2 years: increases level 1 by one

other DRG-systems

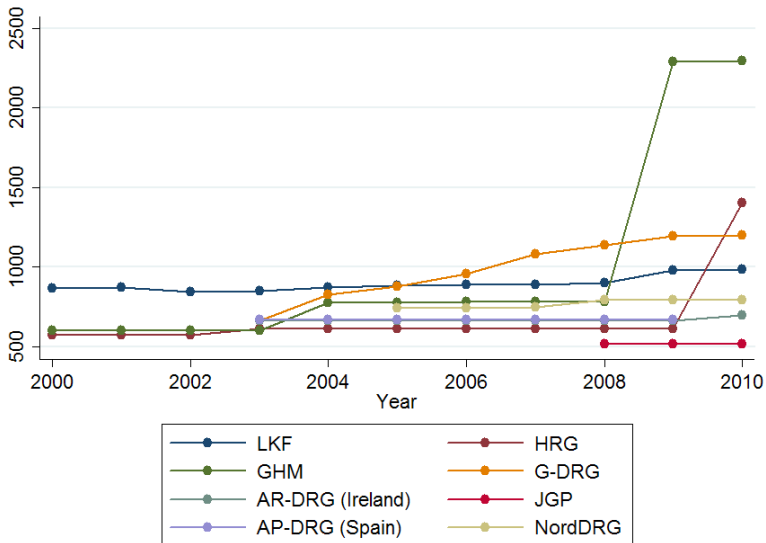
- no systematic impact in most systems
- LKF: some groups split by age (e.g. >14, >64)
- NordDRG (Sweden): possible age splits at 18

Trends

Observations

- inclusion of medical innovations
- refinement of severity levels (e.g. GHM, HRG)
- extension of coverage (e.g. outpatients, ambulatory care, mental health care, long-term care)
- most obvious: nr. of groups is increasing

Graphical Representation



Chances for Harmonization

We have seen that . . .

- information used is *similar* across countries
- how information is applied differs
- despite all developments, general structure (on MDC level) unchanged
- differences in coding of diagnoses and procedures

Chances for Harmonization

Diagnoses

- standard: International Statistical Classification of Diseases and Related Health Problems (ICD)
- most countries use ICD-10, with country specific modification
- different coding standards exist
- Spain and Portugal still use ICD-9

Chances for Harmonization

Procedures

- no general standard exist
- most countries have developed an own catalogue of procedures
- major differences in granularity
- LKF (Austria) 1.500 items
- G-DRG (Germany) 30.000 items

Chances for Harmonization

possible steps towards a common European DRG-system

- 1** harmonization of coding (e.g. diagnosis, procedures)
 - mapping (as a first step)
- 2** common European discharge dataset
- 3** limited coverage

Thank you for your Attention!