DIAGNOSIS RELATED GROUPS: LEADING THE DEBATE

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Diagnosis Related Groups
What, Why and How

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DRGs.........What

- Grouping system of hospital admissions
- Related to diagnosis (ICD-9/10)....but also procedures (ICM) and severity (new refinements, Australian DRGs)
- Initially developed by Yale University (Robert Fetter) as an information management tool and a devise for adjusting hospital performance for patients' characteristics (including clinical ones)
- Lately adopted by Medicare in the US to move reimbursement from retrospective (cost per service) to prospective (tariff per-case)
- Eventually "migrated" to other payers in the US and to most healthcare systems in affluent countries (both social-insurance and NHS-based systems)

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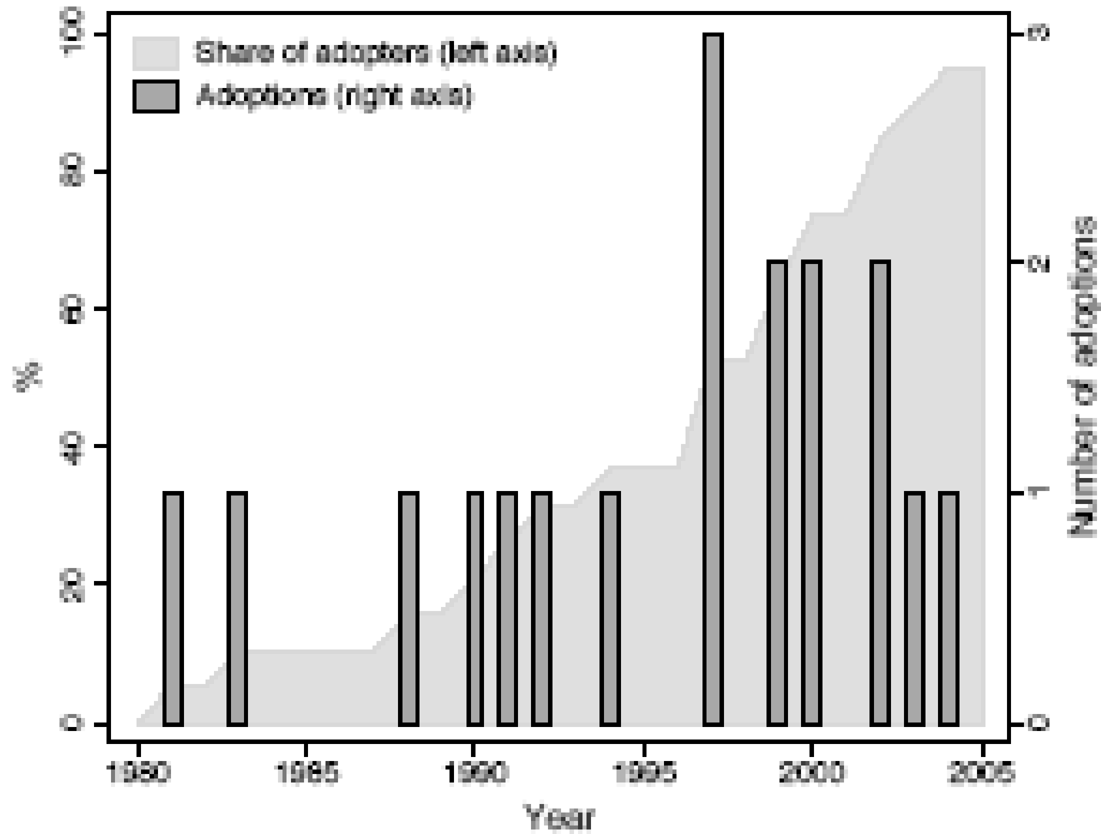
18 OECD countries have introduced a DRG-like classification systems



Gilardi et al. 2008.

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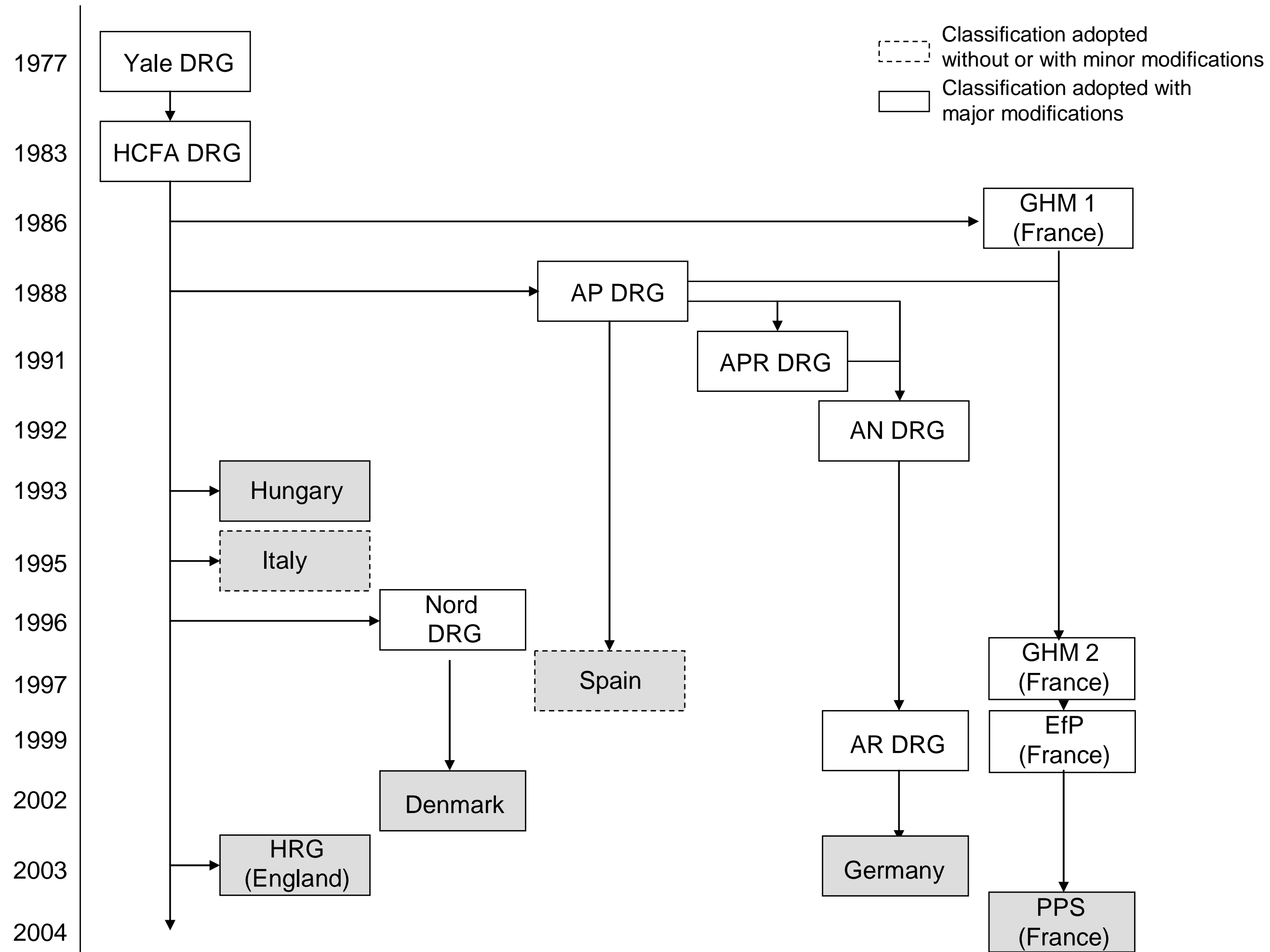
DRG systems over time (9 countries of HealthBasket project)



(HealthBasket) Schreyogg et al. (2006)

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DRGs.........how in Europe

	Coding system	Classification system
Austria	ICD-9-CM	DRG
Belgium	ICD-9-CM	LDF
Danemark	ICD-10 Nomesko	NORD-DRG
England	ICD-10, OPCS	HBG, HRG, PbR
Finland	ICD-10 Nomesko	Nord-DRG
France	ICD-10	GHS
Germany	ICD-10	G-DRG
Island	ICD_10 Nomesko	Nord-DRG
Italy	ICD-9-CM	DRG
Netherlands	ICD-9-CM	DBC
Norway	ICD-10 Nomesko	Nord-DRG
Portugal	ICD-9-CM	DRG
Spain	ICD-9-CM	DRG
Sweden	ICD-10 Nomesko	Nord-DRG
Nonis e Rosati (2008).		

DRGs.........How

A classification of hospital admissions

- Based on data "normally" collected (demographic and clinical; based on the medical clinical record)
- Medically reasonable and administratively manageable (but now IT more powerful and cheaper)
- Iso-resource (variance between cases in the same group kept at minimum)
  - Initially calculated on the basis of US Medicare claims
- Typically to each group is associated a value (tariff) or a weight
  - Grouping
  - Value/weight attached to each group

DRGs.........Why?

By Medicare in the US (in the 80s) to change hospital reimbursement system

- Mainly for cost-containment
- Evidence (somehow controversial) (Pauly, 2001)
  - Reduction in Length of Stay (up to 25%)
  - Decrease in hospital profit margins
  - Lower rate of growth of hospital costs
- No evidence of significant impact on quality and outcome
- Other effects
  - Up-coding and DRG creeping
  - Effects on out-patient care costs

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DRGs.........Why in Europe?

- to change reimbursement system
  - Introduced from different starting points: Global (negotiated) budgets, per diem, cost recovery
  - To stimulate efficiency (LOS, occupancy rate, appropriate use of hospital settings, to limit the introduction of expensive technologies)
  - To allocate resources according to output rather than “needs” (e.g. DRGs in Italy are used to compensate inter-regional patients’ mobility)

- to monitor performance of hospitals and hospital units (DRGs as part of evaluation and “accountability” systems)
  - Data required to calculate DRGs generate “reliable” information systems to be used for different purposes (monitor activities, frequency of sentinel events, admission rates by gender/age...etc. etc..., segmentation of case-mix)
  - E.g. in Italy used to identify admissions at risk of inappropriateness

- to support management control systems (to keep clinicians accountable)

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An example of Management use of DRGs: a summary report received by the head of a clinical unit of a major Italian hospital (Obstetrics and Gynaecology):

	2007 (€ 000)	**2006 (€ 000)**
DRG Revenues (ordinary admissions)	3376	3282
DRG revenues (day hospital)	430	425
Total	3.806	3.707
Costs		
Personnel	1256	1034
Drugs	436	527
Diagnostic services	426	423
Operating theatre	856	897
…………		
Total direct costs	3626	3517
Contribution Margin	**360**	**405**

DRGs for funding: How? some issues

- Depends on the starting point (previous payment system and contestability of hospital markets)
- Often risk of volume increase and adoption of counter measures (target, caps, formulas to decrease tariffs on the basis of volume)
  - variety of regional approaches in the Italian case
- Differentiation between types of providers (level of input prices; teaching/ non teaching; public/private; with/without ER)
- Definition and funding rules of outliers
- Other lines of funding (capital spending, ER, “banks”, prevention programmes, etc.)
- Ex-ante versus ex-post funding (what if hospitals run deficits)
- How (and how often) updating of grouping rules and costing (innovation)

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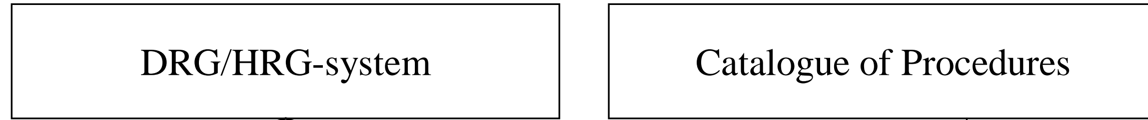
Definition of reimbursement rates

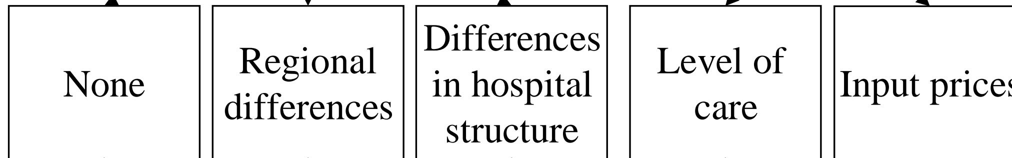
Type of reimbursement system used



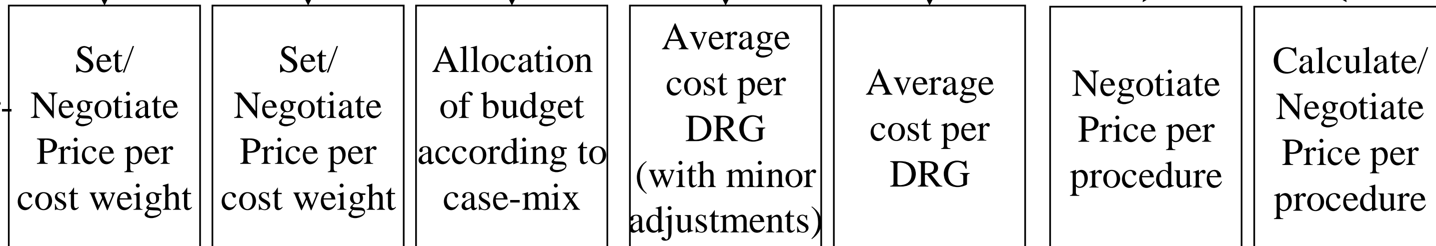
Use/Calculation of DRG cost weights

Calculation of prices

Adjust-ment of DRG prices



Definition of reimbur-sement rates



Hungary (n) | Denmark (r) Germany (n) Italy (r) | Spain (r) | France (n) | England (n) | Poland (n) | Netherlands (n)

(n) = National DRG classification and DRG cost-weights are used uniformly in the country
(r) = DRG classification / DRG cost-weights calculation depends on the regions/counties

HealthBasket Schreyogg et al. (2006)

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DRG tariffs and costing

- Various approaches to set "tariffs" (not only cost analysis)
  - Depending
    - Hospital market characteristics
    - General rules about healthcare funding (e.g. if under global budget)
    - Policy objectives (e.g. to discourage specific interventions)
    - Incentives (statically and dynamically)

- Various cost-analysis models and discretional choices on several relevant issues (allocation of overheads, direct/indirect attribution depending of the features of the information systems)

- How tariffs can/should relate to costs depend on the nature of the system (NHS versus insurance-based systems) and policy objectives

- Focus on direct costs (cost directly attributable to the patient (case))

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Concluding remarks

- DRGs is a major innovation to be used for a variety of purposes;
- It is mainly known as a system related to hospital payments, but other relevant uses;
- Important to observe how it impacts clinical behaviour and management decisions (analysis of consequences within hospitals)
- A variety of European experiences deserving attention, knowledge sharing, benchmarking

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