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DRG payment

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Diagnosis-Related Groups in Europe

Moving towards transparency, efficiency and quality in hospitals

Reinhard Busse, Alexander Geissler, Wilm Quentin and Miriam M. Wiley (Eds)

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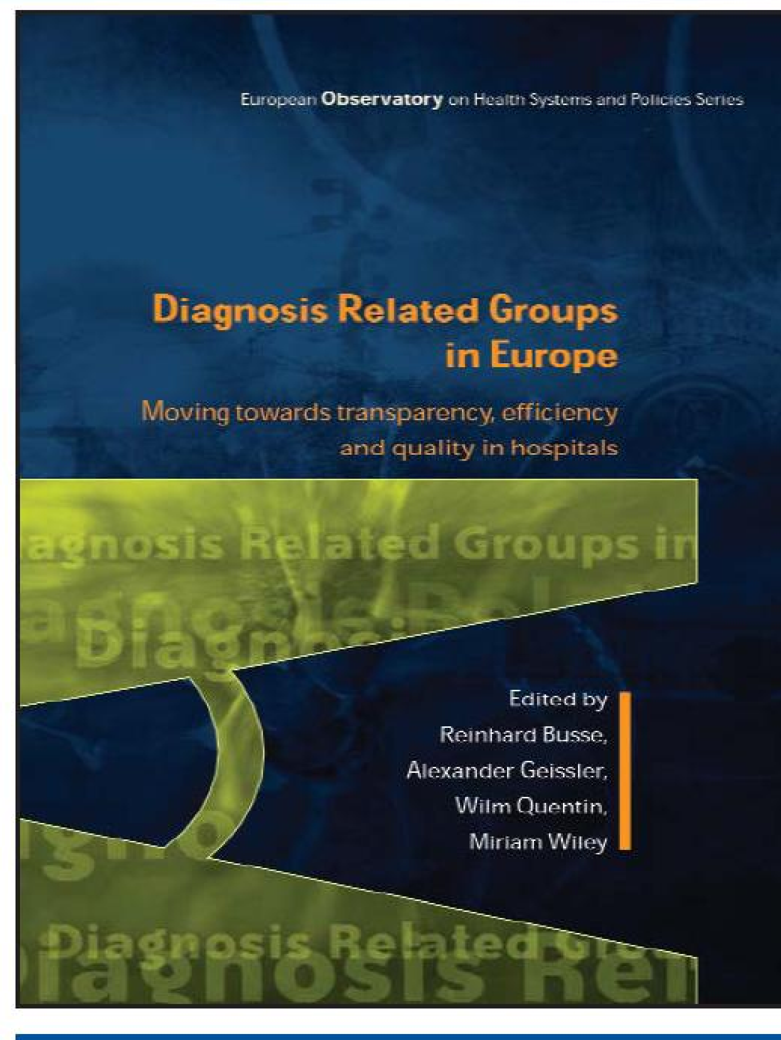
Diagnosis Related Group (DRG) systems were introduced in Europe to increase the transparency of services provided by hospitals and to incentivise greater efficiency in the use of resources invested in acute hospitals. In many countries, these systems were also designed to contribute to improving - or at least protecting - the quality of care. After more than a decade of experience with using DRGs in Europe, this book considers whether the extensive use of DRGs has contributed towards achieving these objectives.



Why DRGs? Advantages and disadvantages of different forms of hospital payment

	Activity		Expenditure Control	Technical Efficiency	Quality	Admini-strative simplicity	Trans-parency
	Number of services per case	Number of cases					
Fee-for-service	+	+	-	0	0	-	0
Global budget	-	-	+	0	0	+	-

Why DRGs? Advantages and disadvantages of different forms of hospital payment

→ “dumping“ (avoidance), “creaming“ (selection) and “skimping“ (undertreatment)
→ up/wrong-coding, gaming

	Num servic cas	Number of cases	Expenditure Control	Technical Efficiency	Quality	Admini-strative simplicity	Trans-parency
Fee-for-service	+	+			0	-	0
DRG-based payment	-	+	0	+	0	-	+
Global budget	-	-				+	-

USA 1980s

European countries 1990s/2000s

Empirical evidence (I): hospital activity and length-of-stay under DRGs

Country	Study	Activity	ALoS
US, 1983	US Congress - Office of Technology Assessment, 1985	▼	▼
	Guterman et al., 1988	▼	▼
	Davis and Rhodes, 1988	▼	▼
	Kahn et al., 1990		▼
	Manton et al., 1993	▼	▼
	Muller, 1993	▼	▼
	Rosenberg and Browne, 2001	▼	▼

Cf. Table 7.4 in book

Empirical evidence (II)

Country	Study	Activity	ALoS
Sweden, early 1990s	Anell, 2005	▲	▼
	Kastberg and Siverbo, 2007	▲	▼
Italy, 1995	Louis et al., 1999	▼	▼
	Ettelt et al., 2006	▲	
Spain, 1996	Ellis/ Vidal-Fernández, 2007	▲	
Norway, 1997	Biørn et al., 2003	▲	
	Kjerstad, 2003	▲	
	Hagen et al., 2006	▲	
	Magnussen et al., 2007	▲	
Austria, 1997	Theurl and Winner, 2007		▼
Denmark, 2002	Street et al., 2007	▲	
Germany, 2003	Böcking et al., 2005	▲	▼
	Schreyögg et al., 2005		▼
	Hensen et al., 2008	▲	▼
England, 2003/4	Farrar et al., 2007	▲	▼
	Audit Commission, 2008	▲	▼
	Farrar et al., 2009	▲	▼
France, 2004/5	Or, 2009	▲	

Cf. Table 7.4 in book

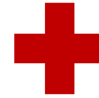
So then, why DRGs?

To get a common “currency” of hospital activity for

- transparency → efficiency benchmarking & performance measurement (protect/ improve quality),
- budget allocation (or division among providers),
- planning of capacities,
- payment (→ efficiency)

Exact reasons, expectations and DRG usage differ among countries – due to (de)centralisation, one vs. multiple payers, public vs. mixed ownership.

Scope of DRGs within set of hospital activities



Excluded costs
(e.g. for infrastructure; *in U.S. also physician services*)

Payments for non-patient care activities
(e.g. teaching, research, emergency availability)

Payments for patients not classified into DRG system
(e.g. outpatients, day cases, psychiatry, rehabilitation)

Additional payments for specific activities for DRG-classified patients (e.g. expensive drugs, innovations), possibly listed in DRG catalogues

Other types of payments for DRG-classified patients
(e.g. global budgets, fee-for-service)

DRG-based case payments,
DRG-based budget allocation
(possibly adjusted for outliers, quality etc.)

Euro DRG

Essential building blocks of DRG systems

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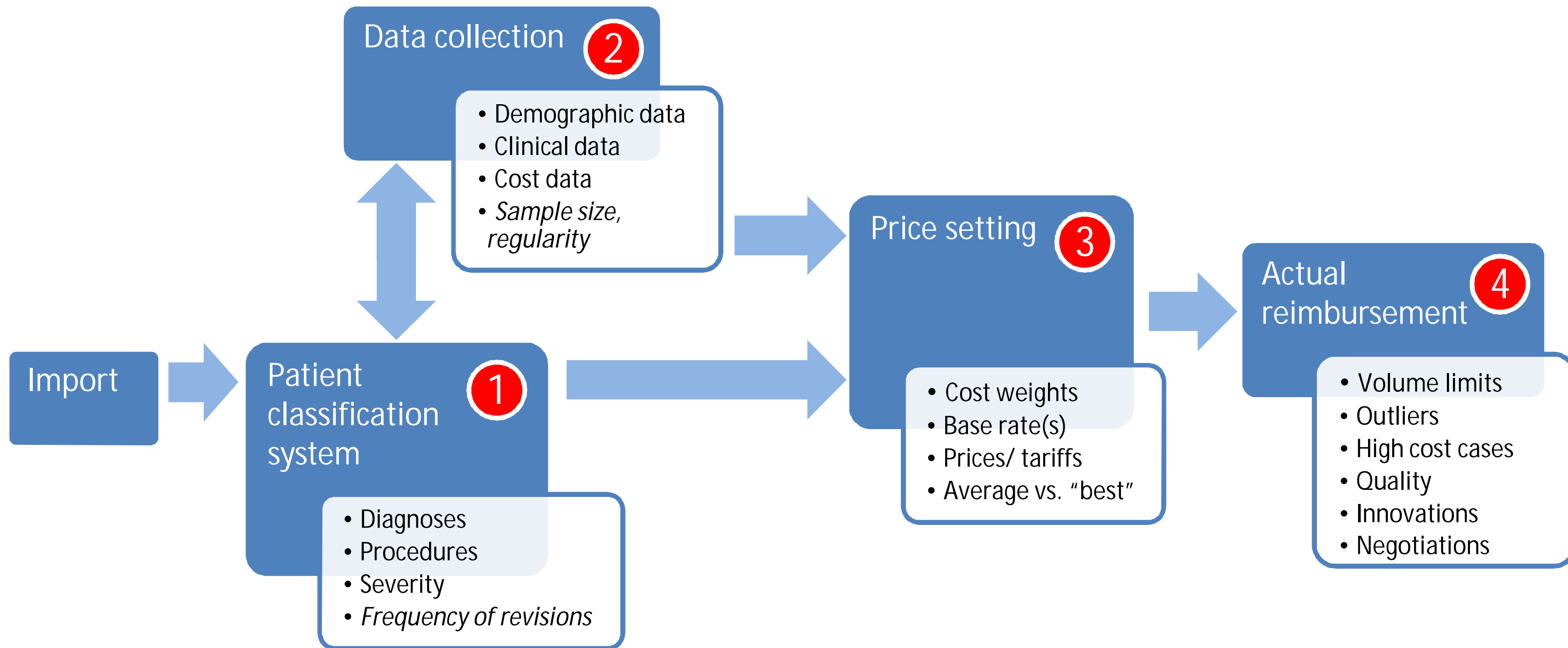

EuroDRG

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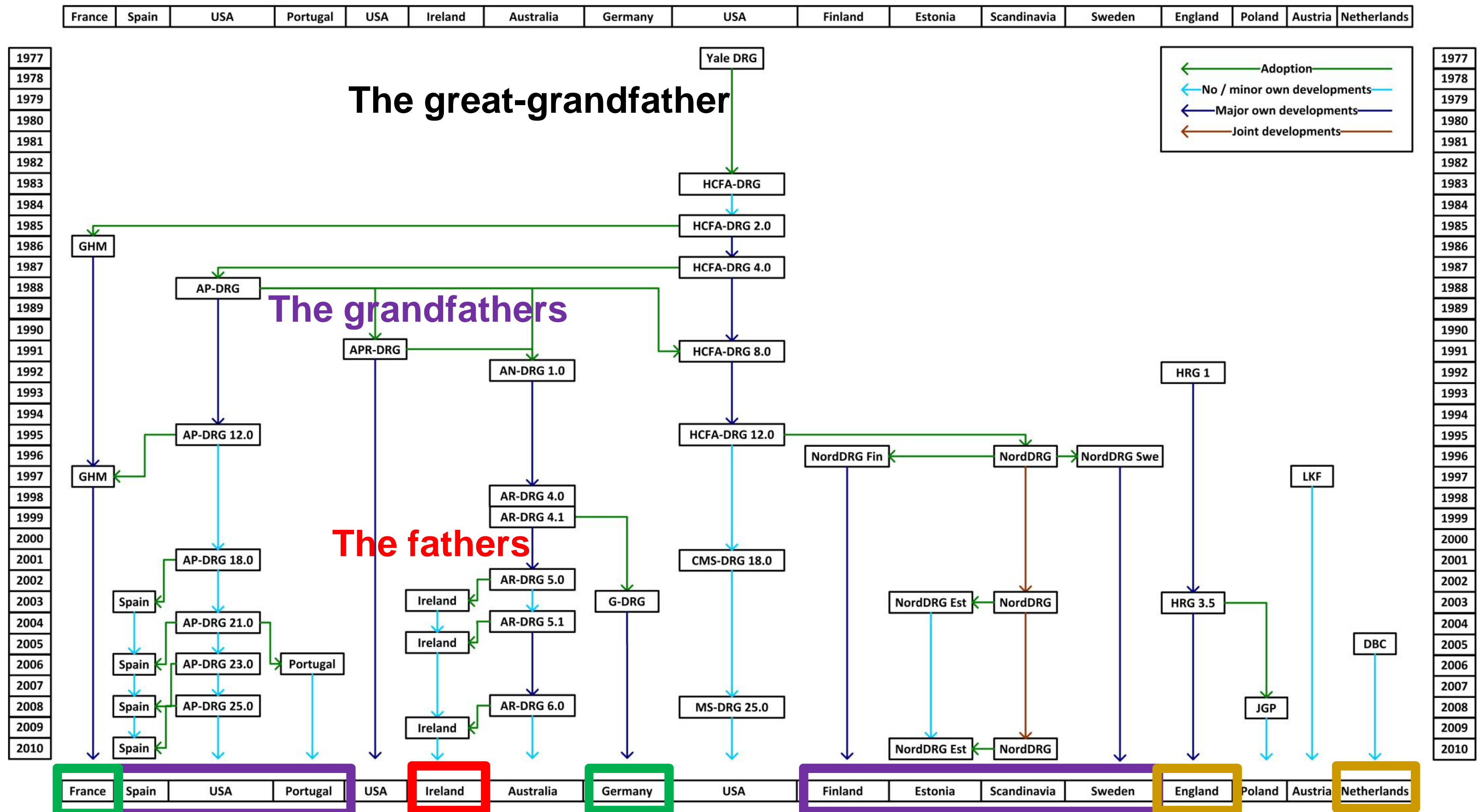
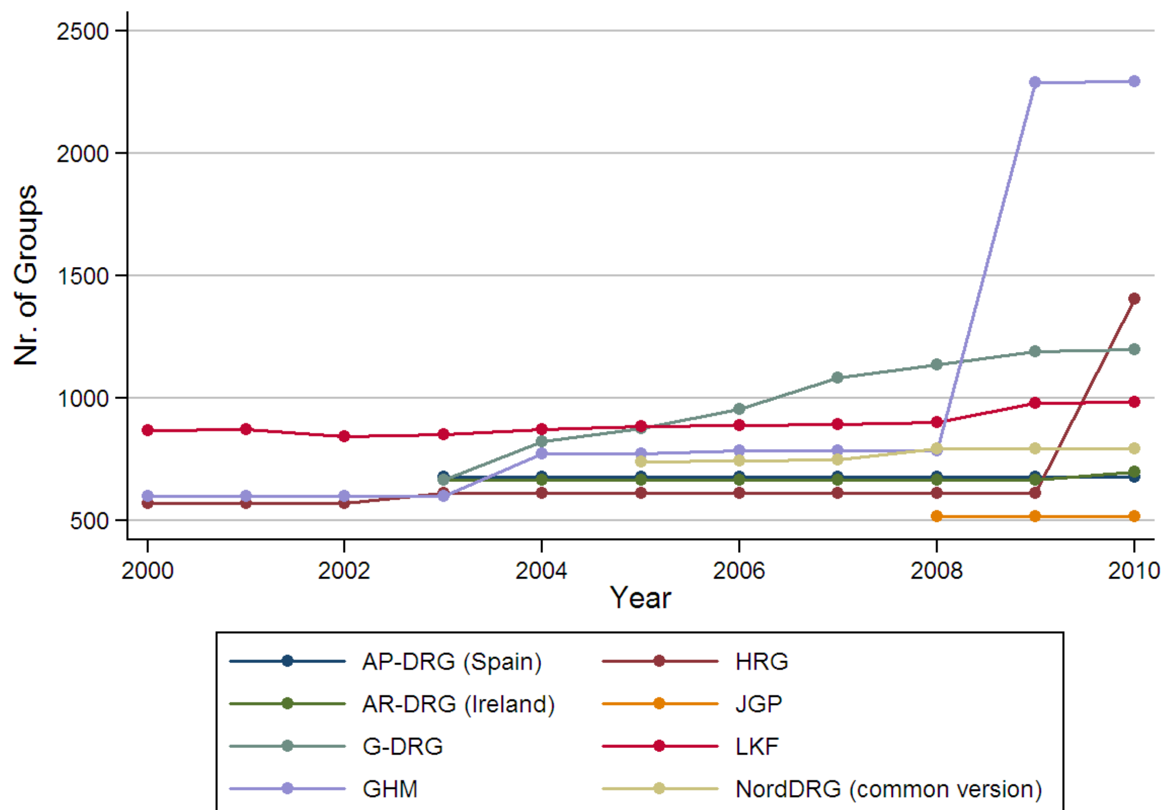
Choosing a PCS: copied, further developed or self-developed?

Patient classification system

- Diagnoses
- Procedures
- Severity
- *Frequency of revisions*



Basic characteristics of DRG-like PCS in Europe



Patient classification system

- Diagnoses
- Procedures
- Severity
- *Frequency of revisions*

	AP-DRG	AR-DRG	G-DRG	GHM	NordDRG	HRG	JGP	LKF	DBC
DRGs / DRG-like groups	679	665	1,200	2,297	794	1,389	518	979	≈30,000
MDCs / Chapters	25	24	26	28	28	23	16	-	-
Partitions	2	3	3	4	2	2*	2*	2*	-

Main questions relating to data collection

Data collection
- Demographic data
- Clinical data
- Cost data
- *Sample size, regularity*

Clinical data
→ classification system for diagnoses *and*
→ classification system for procedures

Cost data
→ imported (not good but easy) *or*
→ collected within country (better but needs standardised cost accounting)

Sample size
→ entire patient population *or*
→ a smaller sample

Many countries: *clinical data* = all patients;

cost data = hospital sample
with standardised cost accounting system

How to calculate costs and set prices fairly

Price setting

- Cost weights
- Base rate(s)
- Prices/ tariffs
- Average vs. "best"

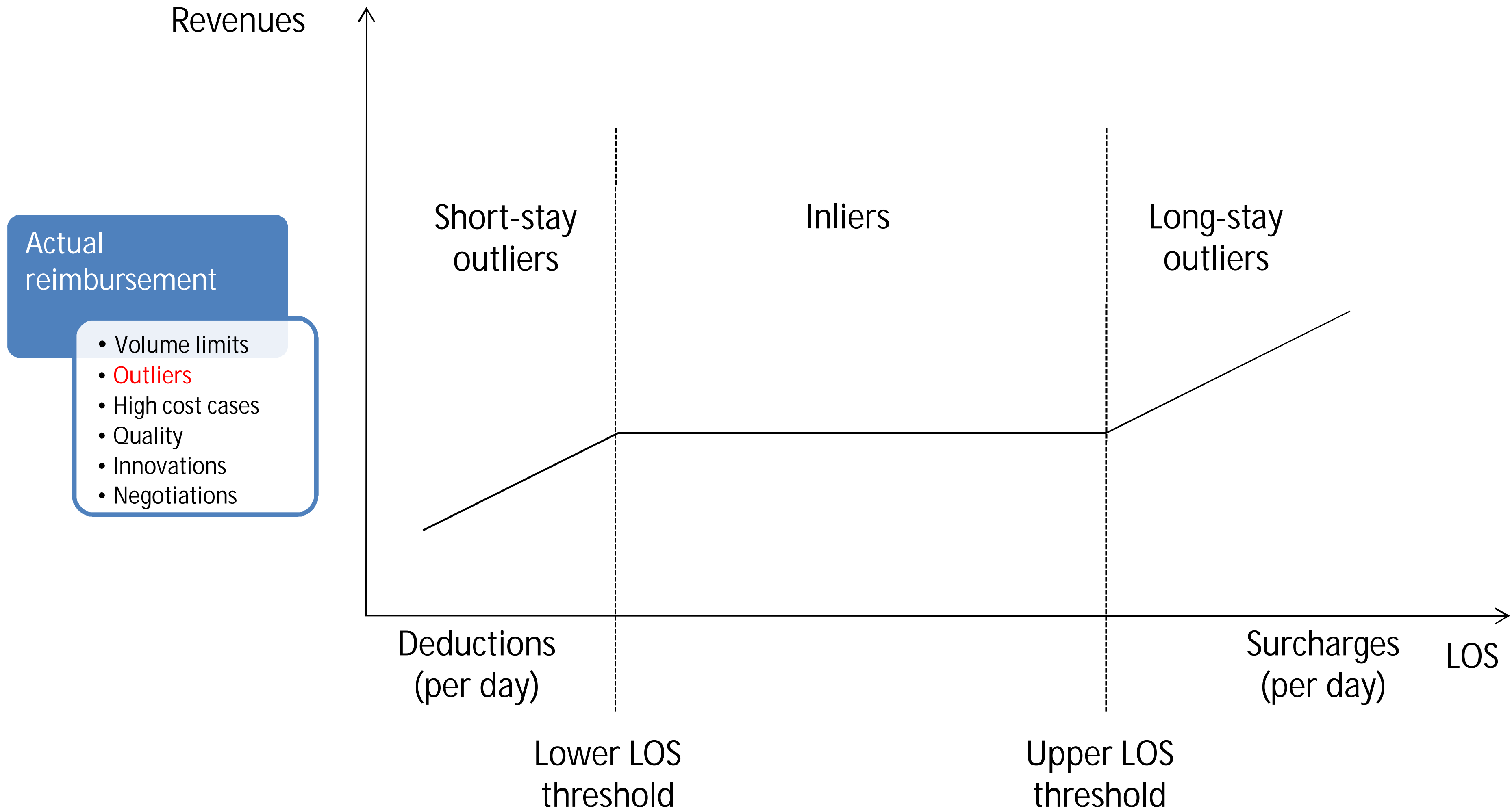
- Based on good quality data (not possible if cost weights imported)
- "Cost weights x base rate" vs. "Tariff + adjustment" vs. Scores
- Average costs vs. "best practice"

Incentives and hospital strategies

Incentives of DRG-based hospital payment	Strategies of hospitals
1. Reduce costs per patient	a) Reduce length of stay • optimize internal care pathways • inappropriate early discharge ('bloody discharge')
	b) Reduce intensity of provided services • avoid delivering unnecessary services • withhold necessary services ('skimping/undertreatment')
	c) Select patients • specialize in treating patients for which the hospital has a competitive advantage • select low-cost patients within DRGs ('cream-skimming')
2. Increase revenue per patient	a) Change coding practice • improve coding of diagnoses and procedures • fraudulent reclassification of patients, e.g. by adding inexistent secondary diagnoses ('up-coding')
	b) Change practice patterns • provide services that lead to reclassification of patients into higher paying DRGs ('gaming/overtreatment')
3. Increase number of patients	a) Change admission rules • reduce waiting list • admit patients for unnecessary services ('supplier-induced demand')
	b) Improve reputation of hospital • improve quality of services • focus efforts exclusively on measurable areas

Positive and negative consequences are closely related

How European DRG systems reduce unintended behaviour: 1. long- and short-stay adjustments



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How European DRG systems reduce unintended behaviour: 2. Fee-for-service-type additional payments

Actual reimbursement

- Volume limits
- Outliers
- High cost cases
- Quality
- Innovations
- Negotiations

	England	France	Germany	Nether-lands
Payments per hospital stay	One	One	One	Several possible
Payments for specific high-cost services	Unbundled HRGs for e.g.: • Chemotherapy •Radiotherapy •Renal dialysis •Diagnostic imaging •High-cost drugs	Séances GHM for e.g.: • Chemotherapy •Radiotherapy •Renal dialysis Additional payments: • ICU • Emergency care • High-cost drugs	Supplementary payments for e.g.: • Chemotherapy •Radiotherapy •Renal dialysis •Diagnostic imaging •High-cost drugs	No
Innovation-related add'l payments	Yes	Yes	Yes	Yes (for drugs)

How European DRG systems reduce unintended behaviour: 3. adjustments for quality

Actual reimbursement

- Volume limits
- Outliers
- High cost cases
- Quality
- Innovations
- Negotiations

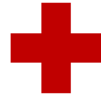
- England & Germany: no extra payment if patient readmitted within 30 days
- Germany: deduction for not submitting quality data
- England: up 1.5% reduction if quality standards are not met
- France: extra payments for quality improvement (e.g. regarding MRSA)

4. Frequent revisions of PCS and payment rates

Country	PCS		Payment rate	
	Frequency of updates	Time-lag to data	Frequency of updates	Time-lag to data
Austria	Annual	2–4 years	4–5 years	2–4 years
England	Annual	Minor revisions annually; irregular overhauls about every 5–6 years	Annual	3 years (but adjusted for inflation)
Estonia	Irregular (first update after 7 years)	1–2 years	Annual	1–2 years
Finland	Annual	1 year	Annual	0–1 year
France	Annual	1 year	Annual	2 years
Germany	Annual	2 years	Annual	2 years
Ireland	Every 4 years	Not applicable (imported AR-DRGs)	Annual (linked to Australian updates)	1–2 years
Netherlands	Irregular	Not standardized	Annual or when considered necessary	2 years, or based on negotiations
Poland	Irregular – planned twice per year	1 year	Annual update only of base rate	1 year
Portugal	Irregular	Not applicable (imported AP-DRGs)	Irregular	2–3 years
Spain (Catalonia)	Biennial	Not applicable (imported 3-year-old CMS-DRGs)	Annual	2–3 years
Sweden	Annual	1–2 years	Annual	2 years

Conclusions

- DRG-based hospital payment is the main method of provider payment in Europe, but systems vary across countries
  - Different patient classification systems
  - DRG-based budget allocation vs. case-payment
  - Regional/local adjustment of cost weights/conversion rates
- To address potential unintended consequences, countries
  - implemented DRG systems in a step-wise manner
  - operate DRG-based payment together with other payment mechanisms
  - refine patient classification systems continously (increase number of groups)
  - place a comparatively high weight on procedures
  - base payment rates on actual average (or best-practice) costs
  - reimburse outliers and and high cost services separately
  - update both patient classification and payment rates regularly
- If done right (which is complex), DRGs can contribute to increased transparency and efficiency – and quality



DRG payment – the way forward

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(e.g. for infrastructure; *in U.S. also physician services*)

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Separate priority activities not related to a particular patient from DRG payments

Pay separate for patient-related activities which you want to incentivize (upon prior authorization, 2nd opinion?)

- Define clinically meaningful groups (constant updating),
- which are cost-homogeneous (on average or "best practice"),
- measure quality and
- adjust payment

EuroDRG project partners

Austria	Department for Medical Statistics, Informatics and Health Economics, Innsbruck Medical University
England/ UK	Centre for Health Economics, University of York
Estonia	PRAXIS Center for Policy Studies, Tallinn
Europe	European Health Management Association, Brussels
Finland	National Institute for Health and Welfare , Helsinki
France	École des hautes études en santé publique, Rennes & Institut de recherche et documentation en économie de la santé, Paris
Germany	Department of Health Care Management, Technische Universität Berlin
Ireland	Economic and Social Research Institute, Dublin
Netherlands	Institute for Health Policy & Management, Erasmus Universitair Medisch Centrum Rotterdam
Poland	National Health Fund, Warsaw
Portugal	Avisory board member Céu Mateus
Spain	Institut Municipal d'Assistència Sanitària, Barcelona
Sweden	Centre for Patient Classification, National Board of Health and Welfare, Stockholm