2012 International Symposium & Workshop of HIRA - Experience of European, US and Australian DRG Systems and its Lessons for Korea

Cost accounting and DRG-based payment approaches across Europe

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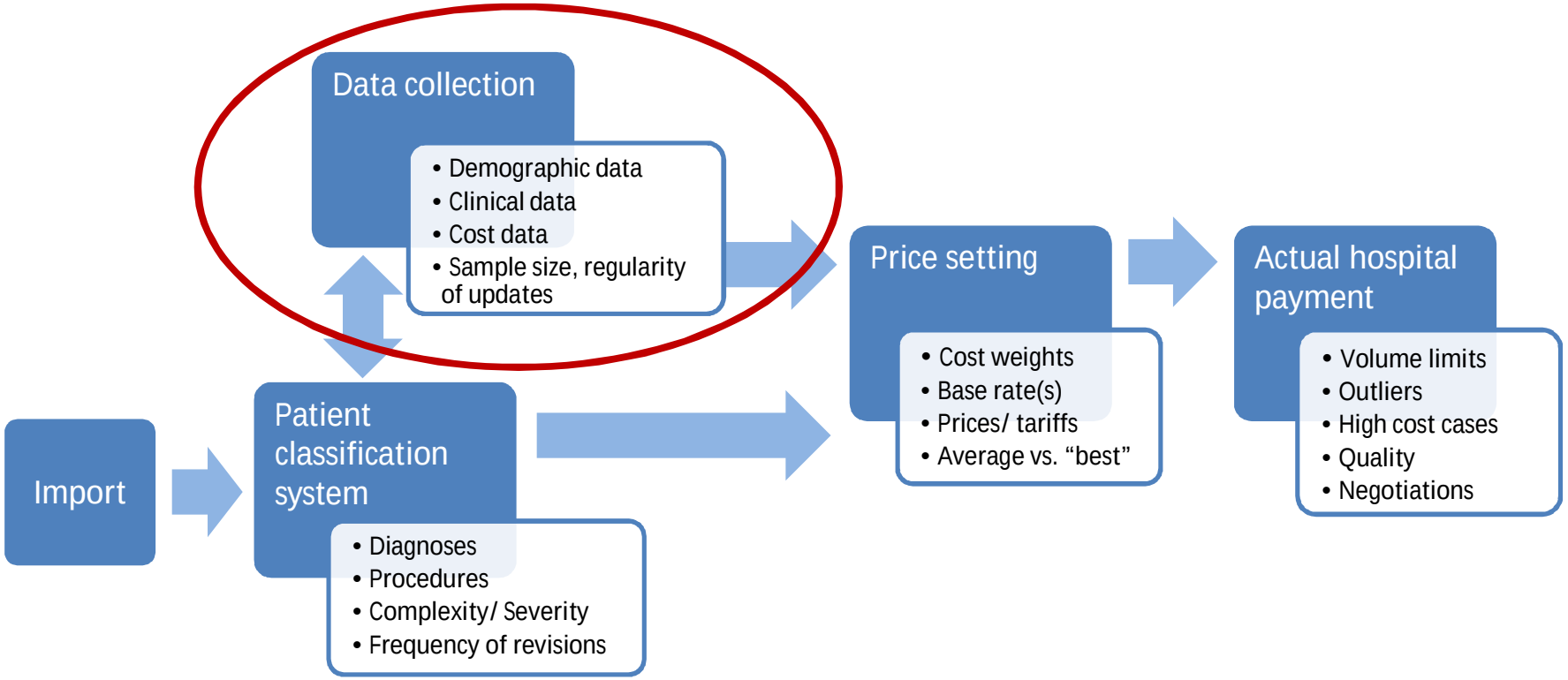
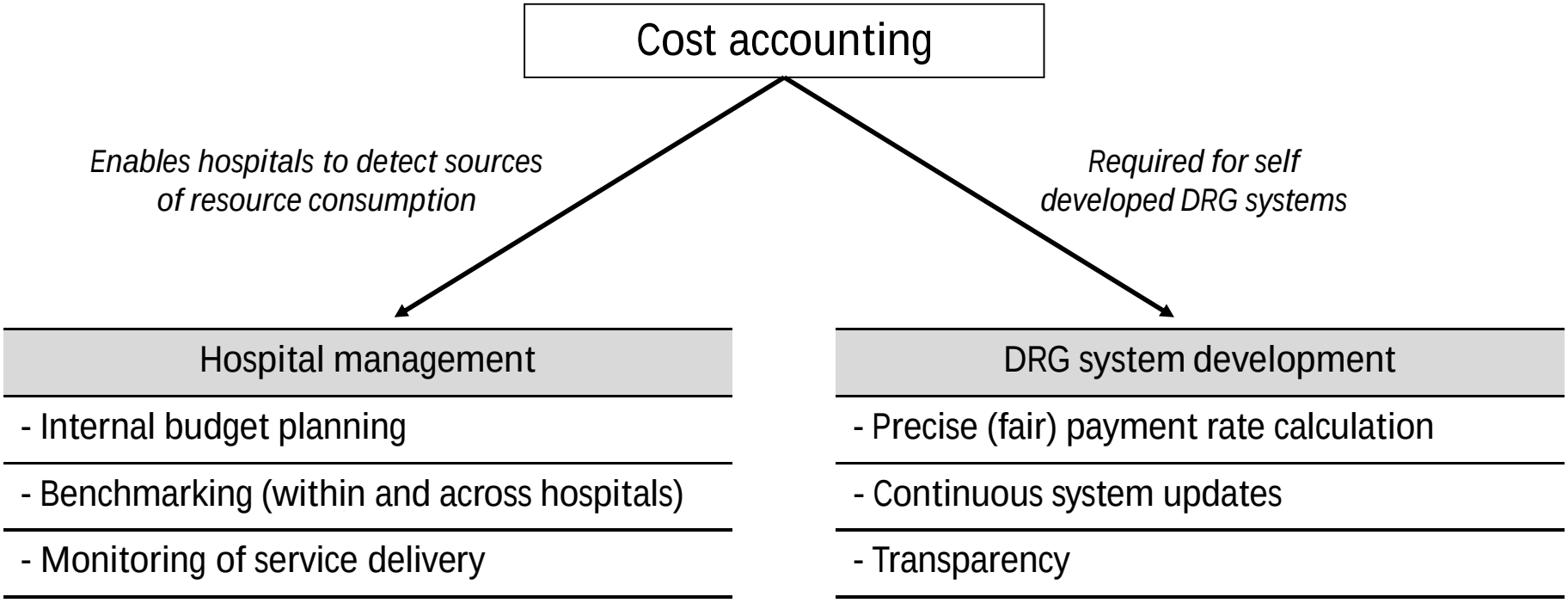
DRG system building blocks



Cost data collection

High quality cost information is vital for making informed decisions about DRG-based payments and hospital care pathways.



DRG coverage

Country	% of DRG-based hospital revenues	Costs covered by DRG-based payments	Costs not covered by DRG-based payments
Austria	96%	inpatient-, day- and outpatient care	education, research, capital costs and interest
England	60%	acute inpatient- and outpatient care	education, research, psychiatric services, primary care, community and ambulance services
Estonia	39%	inpatient- and surgical outpatient care	education and research
Finland	varies by hospital	most hospital districts: inpatient- and daycare; remaining districts: inpatient-, surgical day- and outpatient care	education, research, psychiatric services, intensive and emergency care, capital costs and interest
France	80%	acute inpatient- and outpatient care	education, research, psychiatric services, intensive and emergency care, rehabilitation, neonatology, dialysis, inpatient radiotherapy and expensive drugs
Germany	80%	acute inpatient care	education, research and intensive and emergency care, expensive drugs, capital costs and interest, allowance for bad debts, taxes, charges and insurance
Ireland	<80%	inpatient-, day- and outpatient care	education, research, psychiatric services, rehabilitation, geriatric services, capital costs and interest, allowance for bad debts and pensions
Poland	>60%	inpatient care	education, research and intensive and emergency care
Portugal	80%	inpatient- and surgical outpatient care	education, research and expensive drugs
Netherlands	84%	inpatient- and outpatient care	education, research, expensive drugs and commercial exploitation
Spain/ Catalonia	15-20%	inpatient- and surgical outpatient care	education and research
Sweden	varies by hospital	inpatient-, day- and outpatient care	education, research, rehabilitation, burn treatment, expensive drugs and accreditation

Presence of costing guidelines

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Country	Presence of mandatory cost accounting system	Presence of national costing guidelines	Presence of own cost data
Austria	---	---	X
England	X	X	X
Estonia	---	---	X
Finland	---	---	X
France	---	X	X
Germany	---	X	X
Ireland	---	X	---
Poland	---	---	---
Portugal	X	X	---
the Netherlands	X	X	X
Spain/Catalonia	---	---	---
Sweden	---	X	X

(Ireland, Poland, Portugal and Spain import DRG cost weights from abroad)

Methods of direct cost allocation

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Specification of hospital services

- *Accuracy* +

Measuring of hospital services

+ *Accuracy* -

Top down grosscosting	Top down microcosting
Bottom up grosscosting	Bottom up microcosting

Characteristics of costing methods

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	Number (share) of cost collecting hospitals	Overhead allocation	Indirect cost allocation	Direct cost allocation	Data checks on reported cost data
Austria	20 reference hospitals (about 8% of all hospitals)	varying by hospital	varying by hospital	mainly grosscosting	regional authority, regularly
England	all hospitals	direct method	weighting statistics	top down microcosting	national authority, annually
Estonia	hospitals contracted with the national health insurance fund	direct method	mainly mark-up percentage	mainly top down microcosting	national authority, annually
Finland	5 reference hospitals meeting particular cost accounting standards (about 30% of specialised care)	direct method	weighting statistics	bottom up microcosting	no (responsibility of hospitals)
France	99 volunteering hospitals participating in the hospital cost database ENCC (about 13% of inpatient admissions)	step down method	weighting statistics	mainly top down microcosting	regional authority, annually
Germany	about 225 volunteering hospitals meeting InEK cost accounting standards (about 13% of all hospitals)	preferably step down method	weighting statistics	bottom up microcosting	national authority, annually
Netherlands	resource use: all hospitals; unit costs: 15-25 volunteering general hospitals (about 24% of all hospitals)	direct method	weighting statistics	bottom up microcosting	national authority, annually
Sweden	hospitals with case costing systems (about 62% of inpatient admissions)	direct method	weighting statistics	bottom up microcosting	national and regional authority, annually

(Ireland, Poland, Portugal and Spain import DRG cost weights from abroad)

Costing example: Germany

Bottom-up microcosting

- Common cost accounting approach in (voluntary) cost data sample participating hospitals across Germany

→ Example: DRG I03A
(Hip revision or replacement with cc)
Cost weight: 4,192

			Cost- Element Groups										
			1: Labour costs of the other medical staff	2: Labour costs of the nursing staff	3: Labour costs of the administrative and technical staff	4a: Drug costs	4b: Drug costs (individual costs/ actual c nsumtion)	5: costs of implants and grafts	6a: Material costs (without drugs, implants and grafts)	6b: Material costs (individual costs/ actual consumption, without drugs, implants/ grafts	7: Medical infrastructure costs	8: Non- medical infrastructure costs	
			Labour			Material					Infrastructure		Total
Cost- Centre Groups	01: Normal ward	Hospital units with beds	654	1744	80	156	41	----	131	19	371	1358	4554
	02: Intensive care unit		152	360	10	45	11	----	60	1	64	179	881
	03: Dialysis unit		----	----	----	----	----	----	----	----	----	----	0
	04: Operating room	Diagnostic and treatment areas	623	----	401	23	32	1282	286	109	264	360	3380
	05: Anaesthesia		356	----	236	30	2		85	5	50	112	875
	06: Maternity room		----	----	----	----	----	----	----	----	----	----	0
	07: Cardiac diagnostics/ therapy		2	----	2	----	----	----	1	2	1	1	8
	08: Endoscopic diagnostics/ therapy		3	----	3	----	1	----	2	----	2	2	12
	09: Radiology		46	----	67	1	----	2	14	41	24	45	240
	10: Laboratories		18	----	110	6	339	----	75	82	12	50	694
	11: Other diagnostic and therapeutic areas		36	2	271	1	----	----	14	16	15	111	468
		Total	1890	2106	1180	261	424	1283	669	276	803	2219	11 112

Costing example: German DRG Institute

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Financing of InEK *(2008)*

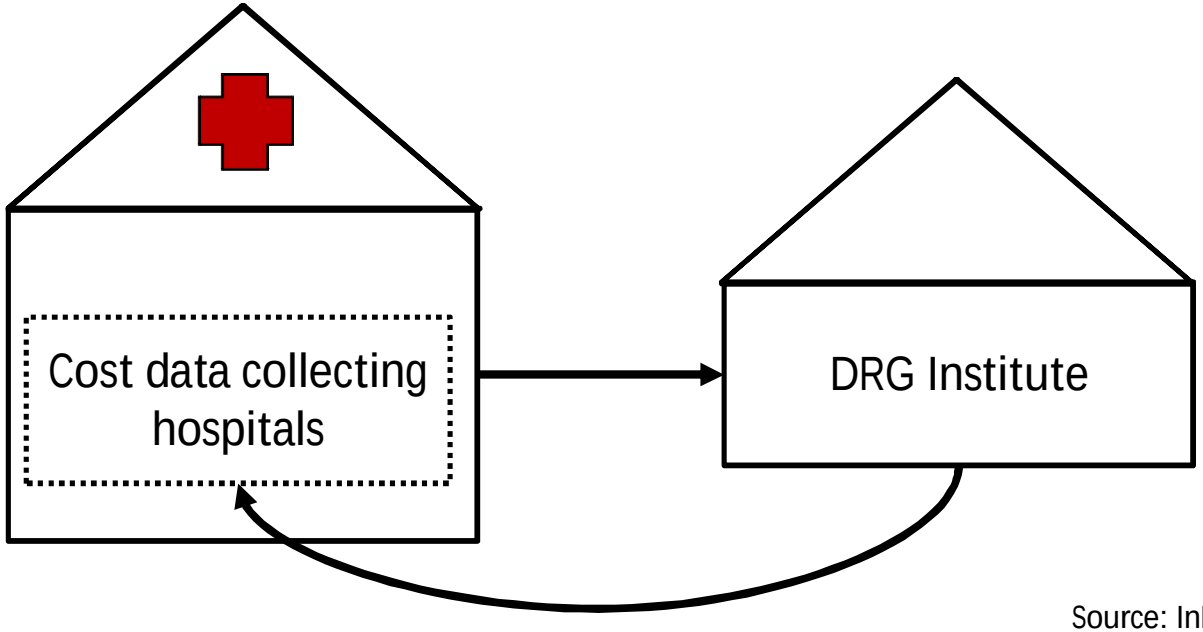
- DRG system fee paid by hospitals for each DRG related case

  → € 0.90 per case → Total budget : ~ € 13.5 M

Expenditures of InEK *(2008)*

- payments for cost collecting hospitals based on the number of accurate delivered cases

  → Total: ~ € 9 M
- Staff cost: ~ € 2.1 M
- Infrastructure and overhead costs: ~ € 0.8 M



Source: InEK annual statement 2008

Costing example: German DRG Institute

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Medical department (13 staff incl. administration)

- Developing, updating and maintainance of the DRG system
  - Definition of groups
  - Maintainance of Base-DRGs
  - Maintainance of severity level system
- Developing and updating coding guidelines
- Cooperation with institutions/organisations
- Cooperation with other countries regarding development, implementation and maintainance of DRG-based payment systems

Economics department (16 staff incl. administration)

- Calculation
  - of relative weights
  - of surcharges and deductions
- Calculation of supplementary payments

Administration (4 staff)

IT and statistics (10 staff)

TOTAL → 43

Source: InEK website www.gdrg.de

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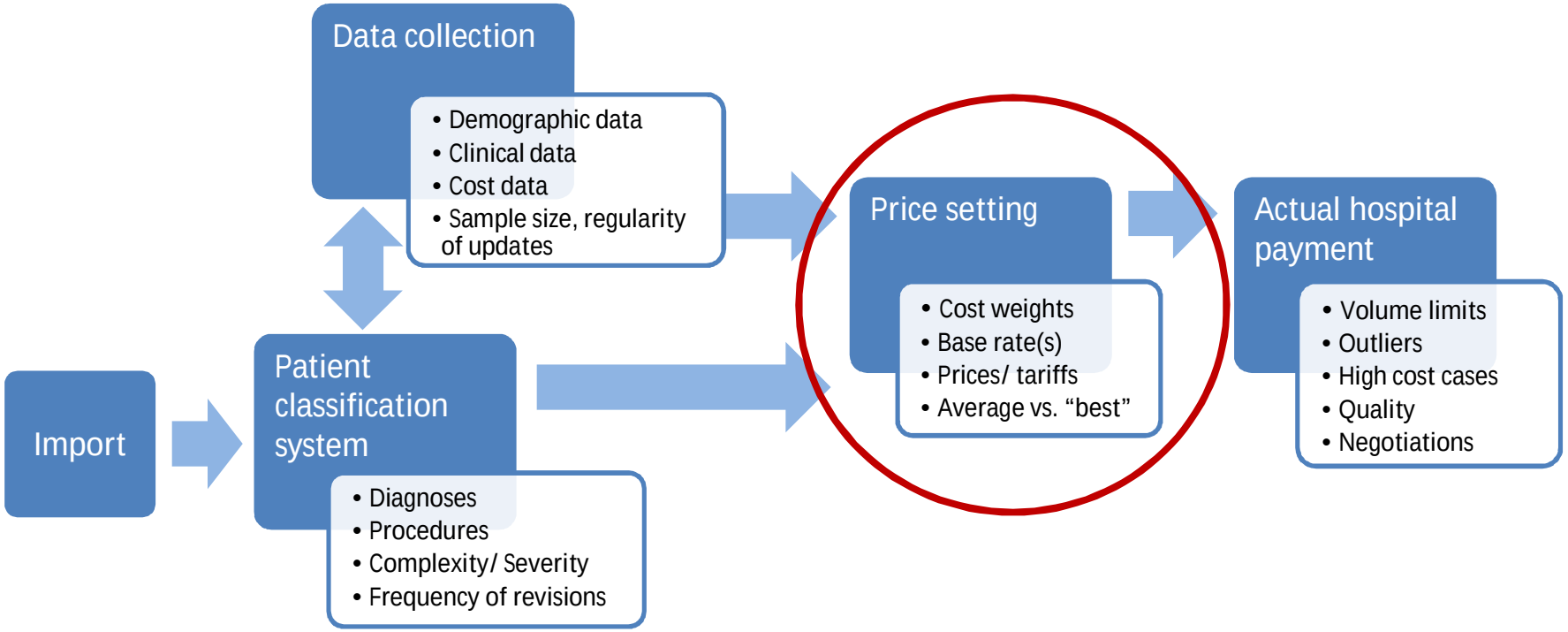
DRG system building blocks



How to set prices?

1. Applicability of DRG weights and conversion rates
   → hospital/regional specific or uniform nationwide?

2. Type of Hospital payment
   →DRG-based case-payment?
   →Within or without global budgets?
   →DRG-based budget allocation?

3. Share of hospital revenues related to DRGs
   →Availability of other funding sources (e.g. teaching, research)?
   → Activities not covered by DRGs?

Price setting (examples)

- Based on good quality data (not possible if cost weights imported)
- Two elements of "DRG payment rates" (DRG weight *x* Monetary conversion)
- "Cost weights x base rate" *vs.* "Tariff + adjustment" *vs.* "Scores"
- Average costs *vs.* "best practice"

	DRG weight (varies by DRG)	Monetary conversion or adjustment	Hospital payment rate
Relative weight (e.g. Germany)	1.0	€ 3000 (+/-) (varies slightly by state)	€ 3000
Raw tariff (e.g. France)	€ 3000	1.0 (+/-) (varies by region and hospital)	€ 3000
Raw tariff (e.g. England)	£ 3000	1.0 – 1.32 (varies by hospital)	£ 3000
Score (e.g. Austria)	100 points	€ 30	€ 3000

Price setting (examples)

Calculation of hospital payment

	England	France	Germany	Netherlands
Payment calculation	Direct (price)	Indirect (cost-weight)	Indirect (cost-weight)	Direct (price)
Applicability	Nationwide (but adjusted for market-forces-factor)	Nationwide (with adjustments and separate for public and private hospitals)	Cost-weights nationwide; monetary conversion state-wide	List A: nationwide List B: hospital specific
Volume/ expenditure limits	No (plans exist for volume cap)	Yes	Yes	List A: Yes List B: Yes/No

DRG weights across Europe

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Country	DRG weight (unit)	Applicability of DRG weight
Austria	Score	Nationwide
England	Raw tariff	Nationwide
Estonia	Relative weight	Nationwide
Finland	Relative weight	Nationwide (8 districts), District-specific (5 districts)
France	Raw tariff	Nationwide (separate tariffs for public and private hospitals)
Germany	Relative weight	Nationwide
Ireland	(Adapted) Relative weight	Nationwide (separate weights for paediatric hospitals)
Netherlands	Raw tariff	Nationwide (67% of DRGs), hospital-specific (33% of DRGs)
Poland	Score	Nationwide (separate tariffs for emergencies, elective cases, day cases)
Portugal	(Adapted) Relative weight	Nationwide
Spain (Catalonia)	(1) (Adapted) Raw tariff (AP-DRGs); (2) (Imported) Relative weight (CMS-DRGs)	(1) Nationwide (AP-DRGs) (2) Region-wide (CMS-DRGs)
Sweden	Relative weight	Nationwide, county-specific (some counties)

Monetary conversion across Europe

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Country	Monetary conversion/ adjustment factors	Applicability of conversion rate / adjustment factors
Austria	(Implicit) Point value	Depending on state
England	Market forces factor	Hospital-specific
Estonia	Base rate	Nationwide
Finland	Base rate	Hospital-specific
France	(1) Regional adjustment (2) Transition coefficient (until 2012)	(1) Region-specific (2) Hospital-specific
Germany	Base rate	State-wide
Ireland	Base rates	(1) Specific to one of four hospital peer groups (2) Hospital-specific
Netherlands	Direct (no conversion)	Not applicable
Poland	Point value	Nationwide
Portugal	Base rate	Hospital peer group
Spain (Catalonia)	(1) Direct (no conversion) (2) Base rate	(1) Not applicable (2) Region-wide (CMS-DRGs)
Sweden	Base rate	County-specific

Type and importance of DRG-based payments

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Country	DRG-based hospital payment model	% of hospital revenues related to DRGs	Other payment components
Austria	DRG-based budget allocation	≈ 96	Per diems
England	DRG-based case payments	≈ 60	GB, additional payments
Estonia	DRG-based case payments	39	FFS (33%), per diem (28%)
Finland	In 13 out of 21 districts: DRG-based case payments (within GB)	Varies	Varies
France	DRG-based case payments, MLPC	≈ 80	GB, additional payments
Germany	DRG-based case payments (within GB)	≈ 80	GB, additional payments
Ireland	DRG-based budget allocation	≈ 80	GB, additional payments
Netherlands	DRG-based case payments (within GB for 67% of DRGs)	≈ 84	GB, additional payments
Poland	DRG-based case payments, MLPC	≥ 60	GB, additional payments
Portugal	(1) DRG-based budget allocation (NHS) (2) DRG-based case payments (health insurance)	≈ 80	Additional payments
Spain (Catalonia)	DRG-based budget allocation (Catalonia)	≈ 20	GB (based on structural index), FFS, additional payments
Sweden	DRG-based case payments with volume ceilings or GBs (region-specific allocation methods)	Varies	Varies

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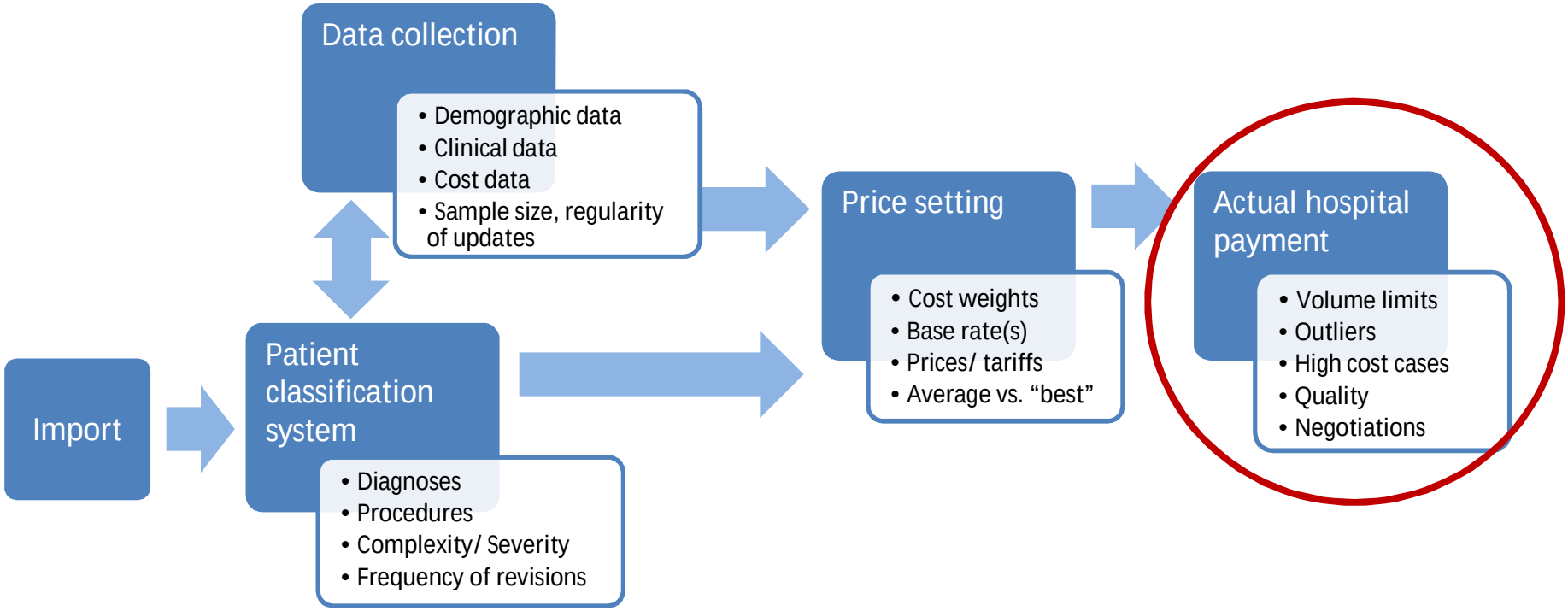
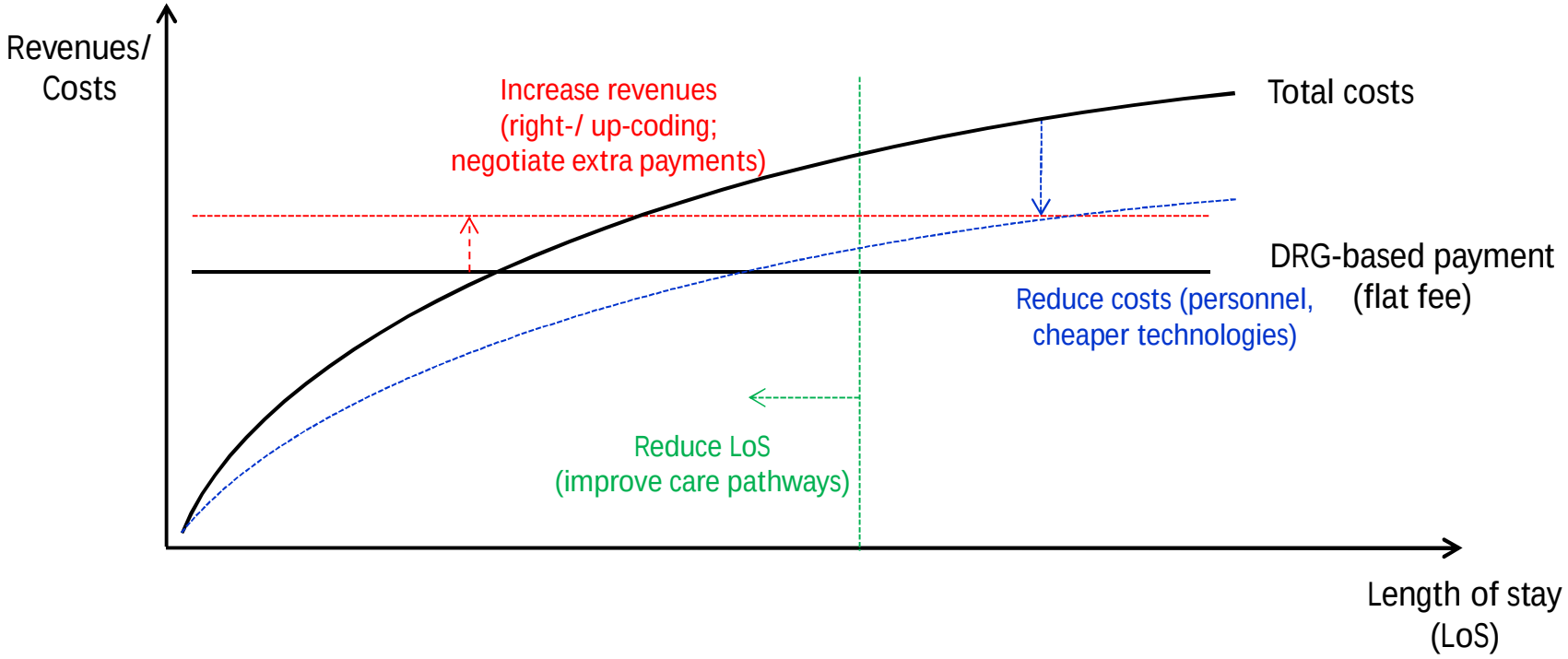
DRG system building blocks



Hospital behaviour and strategy



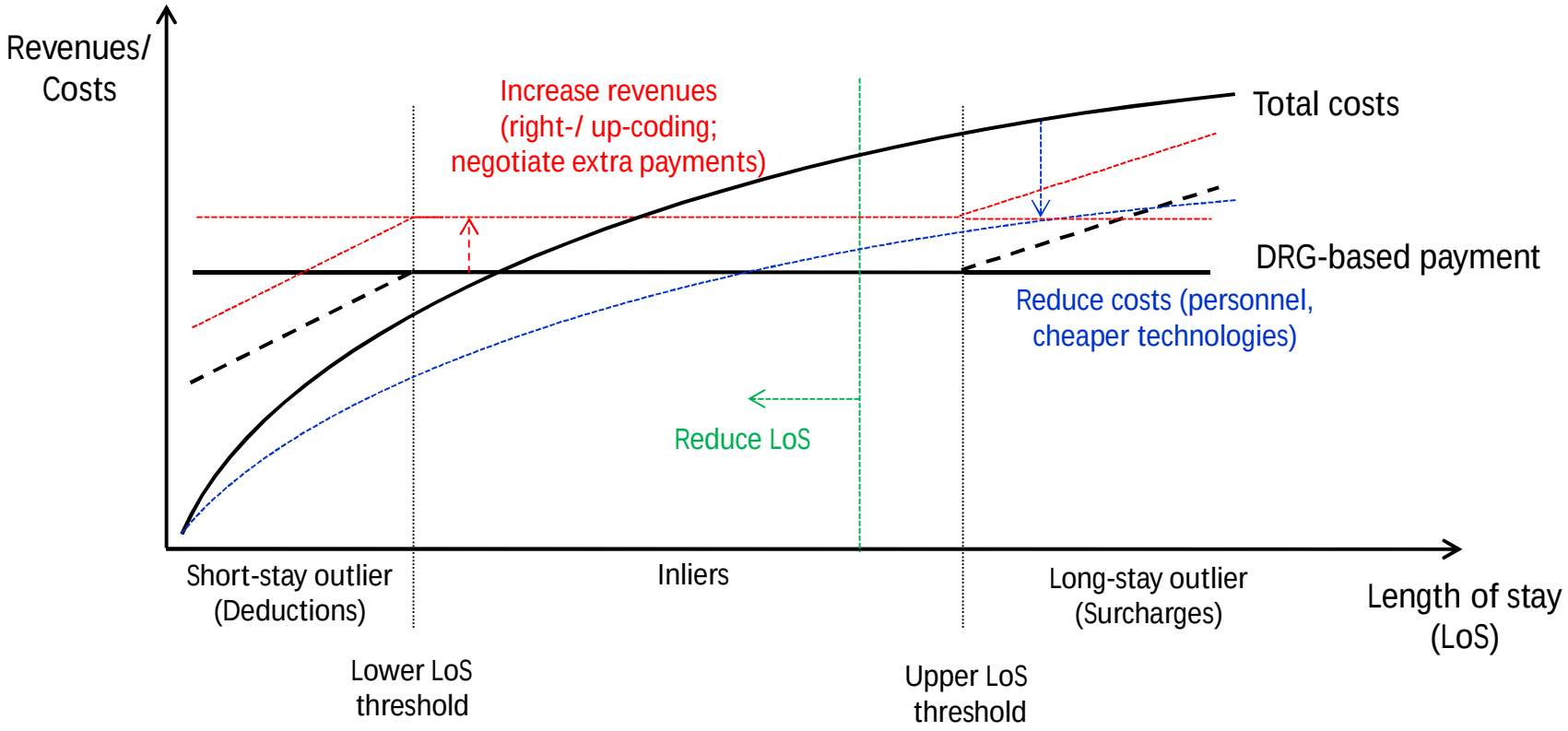
Hospital behaviour and strategy

Incentives of DRG-based hospital payment	Strategies of hospitals
Reduce costs per patient	a) Reduce length of stay • optimize internal care pathways • inappropriate early discharge ('bloody discharge')
	b) Reduce intensity of provided services • [illegible]ivering unnecessary services • [illegible]necessary services ('skimping/undertreatment')
	[illegible]ents [illegible]in treating patients for which the hospital has a competitive advantage [illegible]cost patients within DRGs ('cream-skimming')
Increase revenue per patient	[illegible]ing practice [illegible]oding 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')
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 DRG systems try to face

a) Long and short stay adjustments



b) Fee-for-service-type additional payments

	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 •High-cost drugs	No
Innovation-related additional payments	Yes	Yes	Yes	Yes (for drugs)

c) Adjustments for quality

Type of adjustment	Mechanism	Examples
Hospital Based	• Payment for entire hospital activity is adjusted upwards or downwards by a certain percentage • Hospital receives an additional payment unrelated to activity	• Predefined quality results are met/not met *(for example, in England)* • Overall readmission rate is below/above average or below/above agreed target *(for example, in the United States)* • Hospitals install new quality improvement measures *(for example, in France)*
DRG/disease based	• Payment for all patients with a certain DRG (or a disease entity) is adjusted upwards or downwards by a certain percentage • DRG payment is not based on average costs but is awarded to those hospitals delivering 'good quality'	• Insurers negotiate with hospitals that DRG payment is higher/lower if certain quality standards are met/not met *(for example, in Germany and the Netherlands)* • DRG payment for all hospitals is based on 'best practice'; that is, costs incurred by efficient, high-quality hospitals *(for example, in England)*
Patient based	• Payment for an individual patient is adjusted upwards or downwards by a certain amount • No payment is made for a case	• Readmissions within 30 days are not paid separately but as part of the original admission *(for example, in England and Germany)* • Complications (that is, certain conditions that were not present upon admission) cannot be used to classify patients into DRGs that are weighted more heavily *(for example, in the United States)*

d) Frequent revision of payment rate

Country	Frequency of updates	Time-lag to data
Austria	4–5 years	2–4 years
England	Annual	3 years (but adjusted for inflation)
Estonia	Annual	1–2 years
Finland	Annual	0–1 year
France	Annual	2 years
Germany	Annual	2 years
Ireland	Annual (linked to Australian updates)	1–2 years
Netherlands	Annual or when considered necessary	2 years, or based on negotiations
Poland	Annual update only of base rate	1 year
Portugal	Irregular	2–3 years
Spain (Catalonia)	Annual	2–3 years
Sweden	Annual	2 years

Conclusions

DRG-based hospital payments rely mostly on national cost data, but

- Cost accounting approaches differ substantially across and within countries
- Cost information is mostly obtained from just a sample of hospitals without specific sample selection criteria (number /characteristics of hospitals)

DRGs are the common entity for paying hospitals in Europe, but to different exent:

- DRG-based budget allocation vs. DRG-based case-payment
- Regional/local adjustment of cost weights/conversion rates

To address potential unintended consequences, countries

- operate DRG-based payment together with other payment mechanisms (e.g. GB)
- base payment rates on actual average (or best-practice) costs
- unbundle standardized specific services from DRGs
- reimburse outliers and and high cost services separately
- update both patient classification and payment rates regularly

Thank you very much for your time and attention!

All slides are available on:
www.mig.tu-berlin.de

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