



ihea Congress 2011

# The EuroDRG project: DRG systems and determinants of hospital care across Europe

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**on behalf of the EuroDRG team**

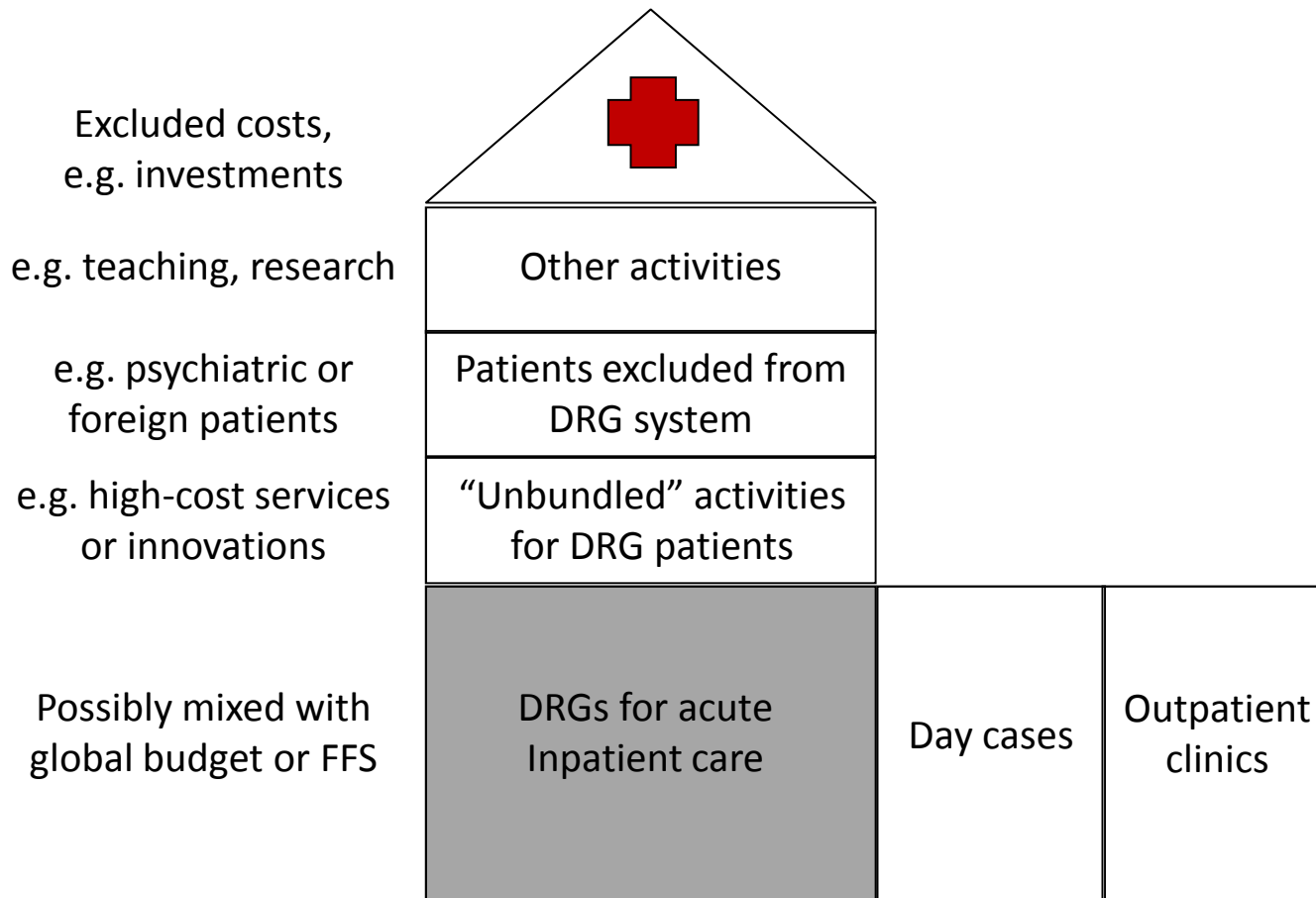


Countries covered by EuroDRG project

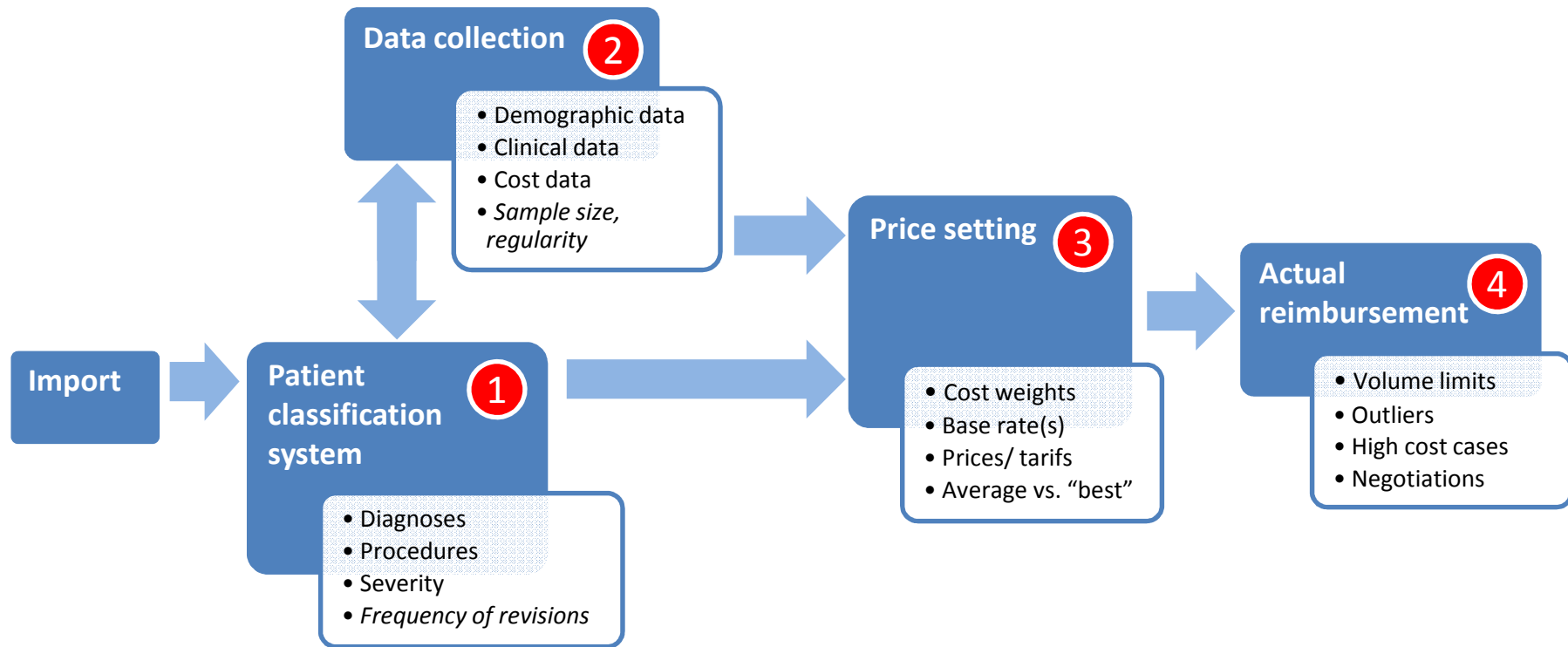
Austria	Department for Medical Statistics, Informatics and Health Economics, Innsbruck Medical University
England/ UK	Centre for Health Economics, University of York
Estonia	PRAXIS Center for Policy Studies, Tallinn
Europe	European Health Management Association, Brussels
Finland	National Institute for 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

- Description of DRG systems, updates and usage for patient classification and reimbursement across countries
  - Detailed description of grouping algorithm and cost weights for 10 episodes of care
  - Analysis of commonalities and differences
  - Literature review on effects in regard to quality and efficiency
- Book on DRGs in Europe (Open University Press Nov. 2011) with chapters on patient classification systems, cost accounting, DRGs for reimbursement/ avoiding unintended consequences, efficiency, quality, innovations in DRG systems + country chapters

## Scope of DRGs – the “DRG house”



Country	Inpatient	Outpatients	Psychiatry	Rehabilitation
Austria	X	?	?	?
England	X	X	starting 2012	?
Estonia	X	starting 20xx	?	?
Finland	X	X	?	?
France	X	X	starting 20xx	starting 20xx
Germany	X	-	starting 2013	-
The Netherlands	X	X	?	?
Ireland	X	X	-	?
Poland	X	starting 20xx	starting 20xx	starting 20xx
Portugal	X	?	starting 20xx	?
Spain	X	starting 20xx	?	?
Sweden	X	X	?	?



Patient classification

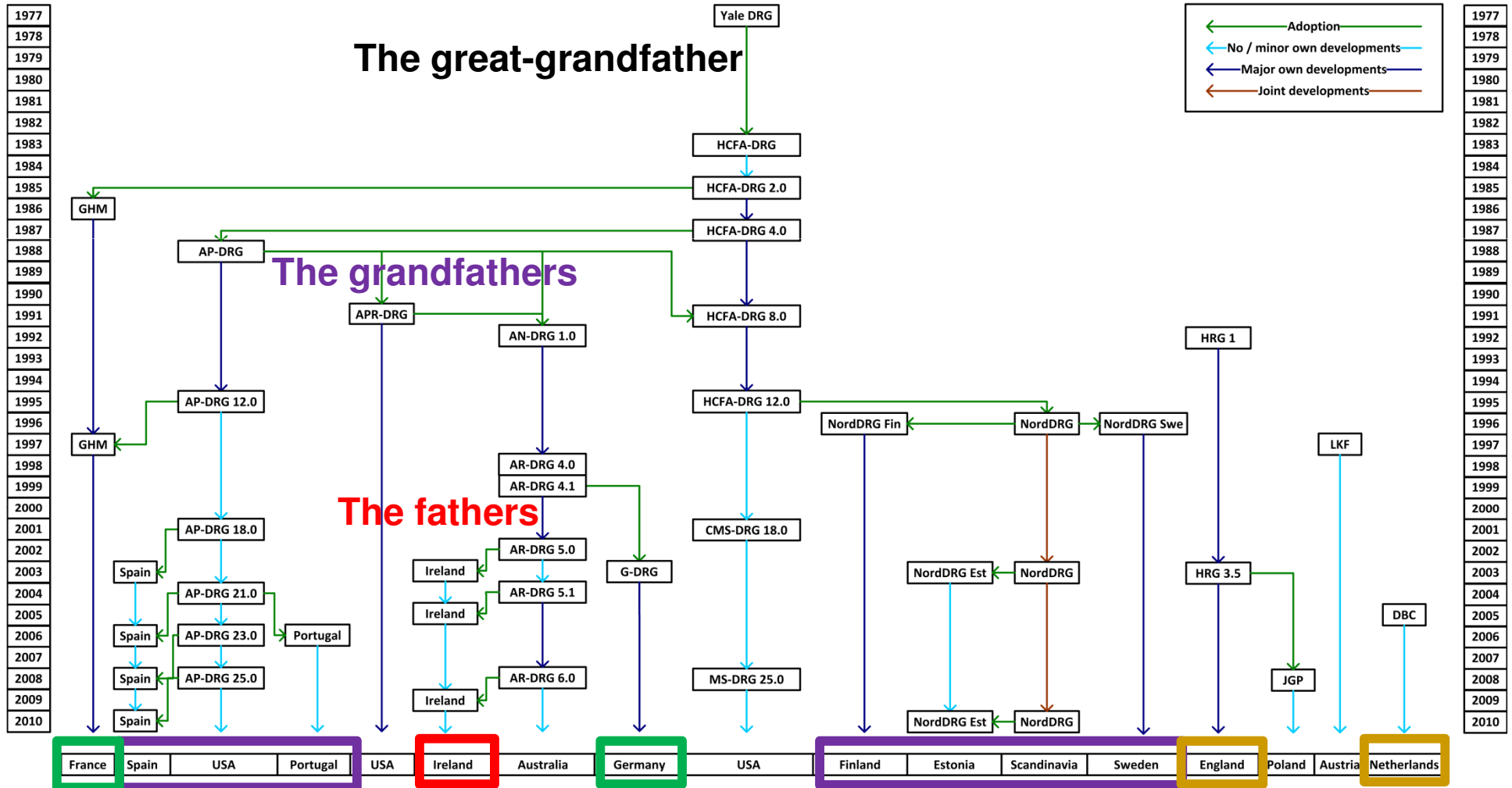
Hospital payment

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

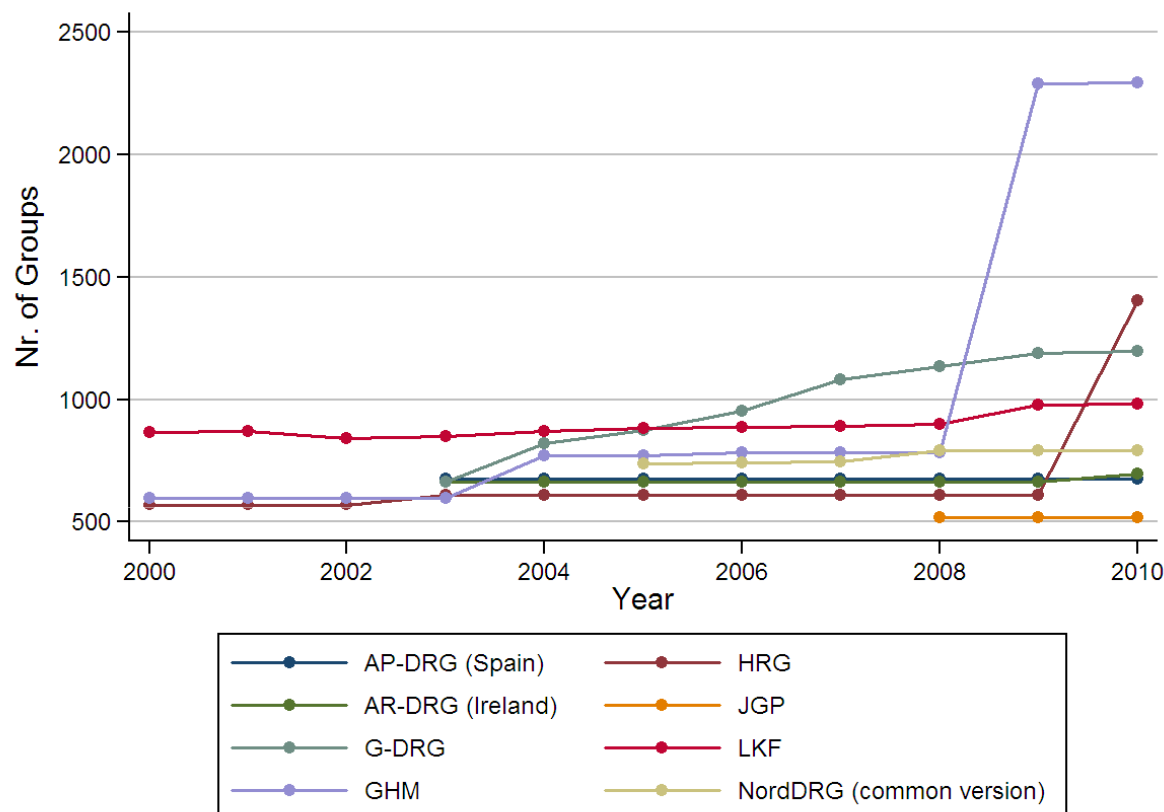
## Patient classification system

- Diagnoses
- Procedures
- Severity
- Frequency of revisions

France	Spain	USA	Portugal	USA	Ireland	Australia	Germany	USA	Finland	Estonia	Scandinavia	Sweden	England	Poland	Austria	Netherlands
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**Patient classification system**

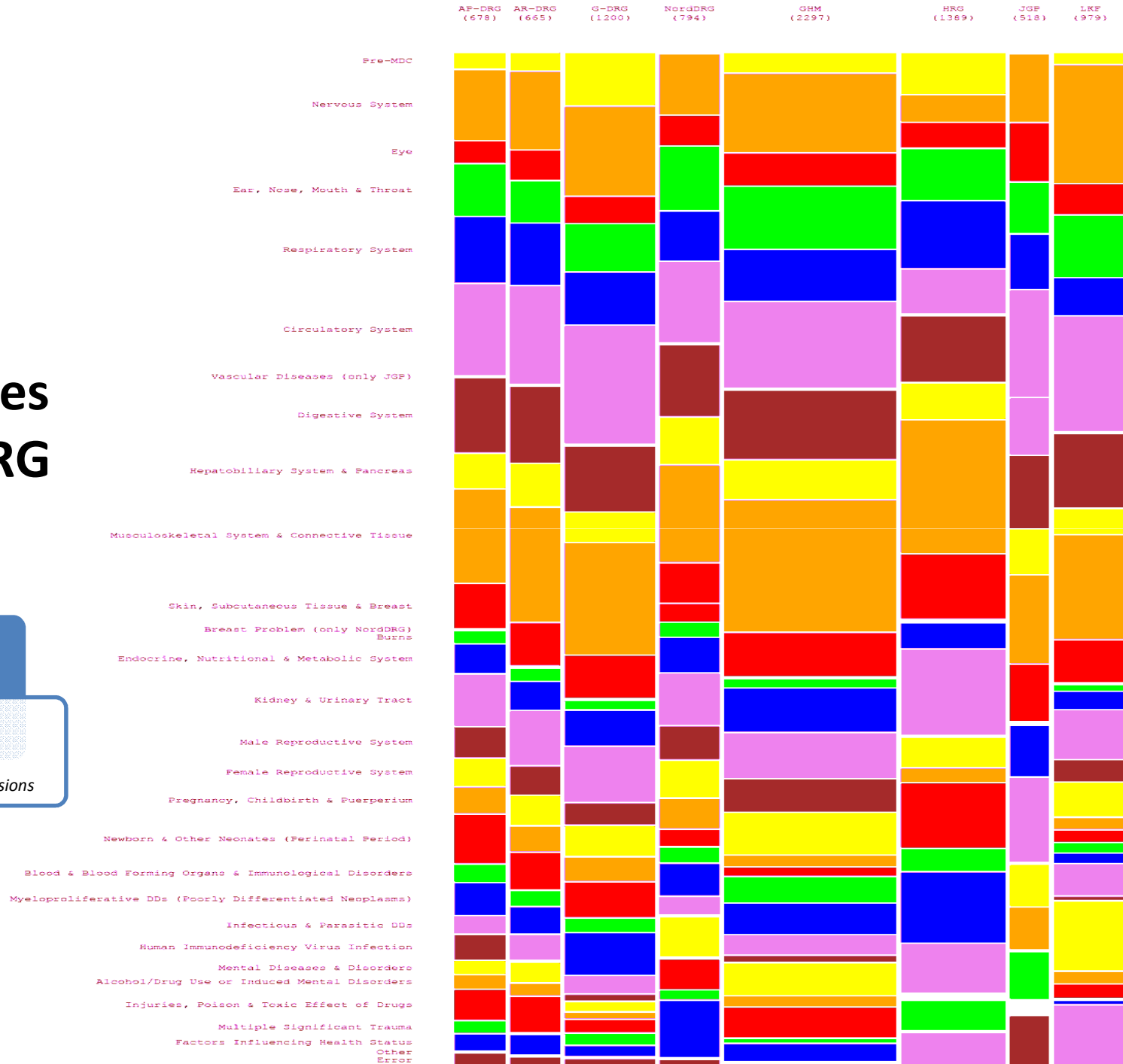
- Diagnoses
- Procedures
- Severity
- Frequency of revisions

	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*	-

# MDC differences across DRG systems

**Patient classification system**

- Diagnoses
- Procedures
- Severity
- Frequency of revisions



### Data collection

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

# Cost calculation and price setting – selected country experience

### Price setting

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

	England	France	Germany	Netherlands
<b>Cost data collection methodology to determine payment rate</b>				
Sample size (% of all hospitals)	All NHS hospitals	99 hospitals (5%)	253 hospitals (13%)	Resource use: all hospitals; unit costs: 15-25 hospitals (24%)
Cost accounting methodology	Top down	Mix of top-down and bottom-up	Mainly bottom-up	Mainly bottom-up
<b>Calculation of hospital payment</b>				
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

# The two elements of “DRG prices” – selected countries

**Price setting**

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

	“cost weight“, tariff or score		“base rate“ or adjustment
<b>England</b>	£ 2500	<b>X</b>	1.0 – 1.32 (varies by hospital)
<b>France</b>	€ 3000	<b>X</b>	1.0 (+/-) (varies by region and hospital)
<b>Germany, Ireland, Sweden</b>	1.0	<b>X</b>	€ 3000 (+/-) (varies slightly by state/ hospital group/ county)
<b>Poland</b>	100 points	<b>X</b>	PLN 40 (uniform)

## Actual reimbursement

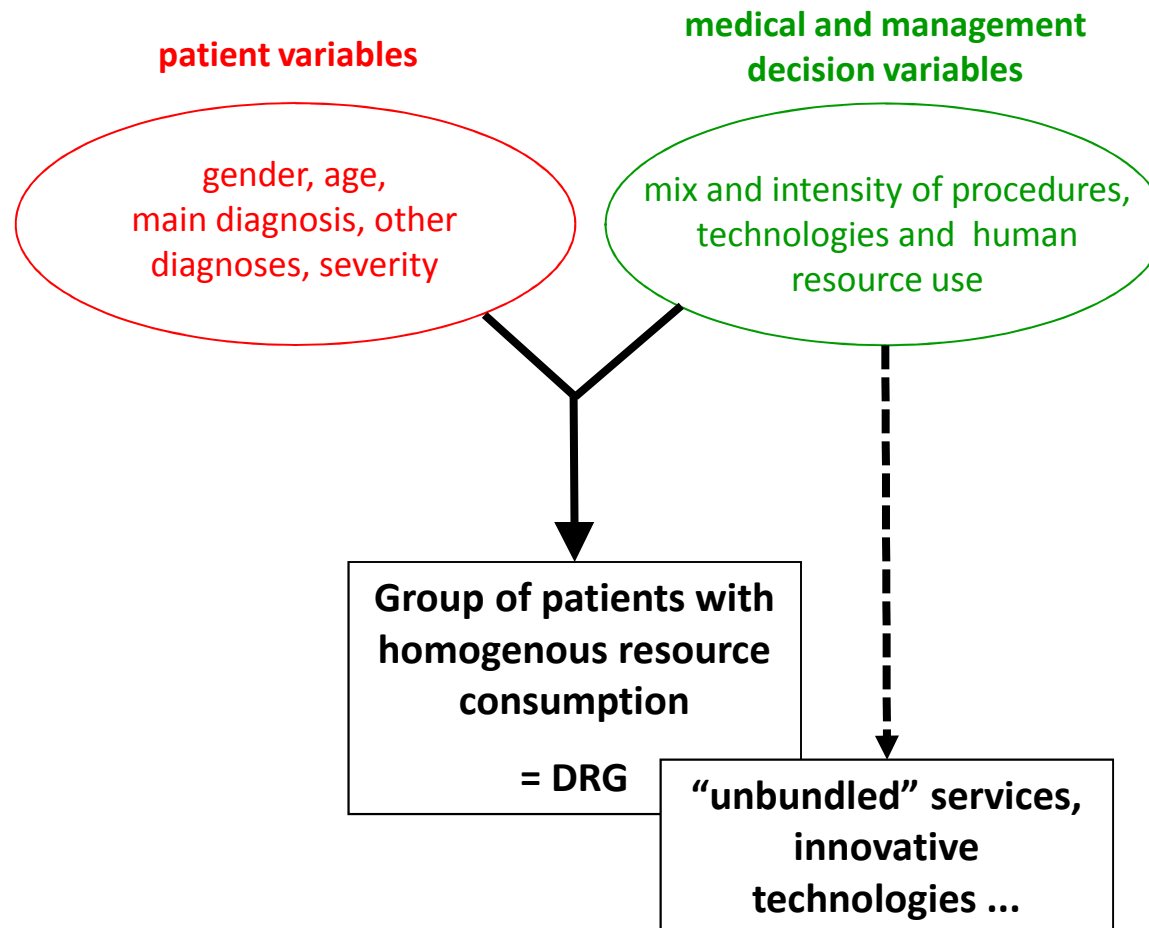
- Volume limits
- Outliers
- High cost cases
- Negotiations

- 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
- Netherlands: insurers may include quality in negotiations about “list-B“-DBC
- France: extra payments for quality improvement (e.g. regarding MRSA)



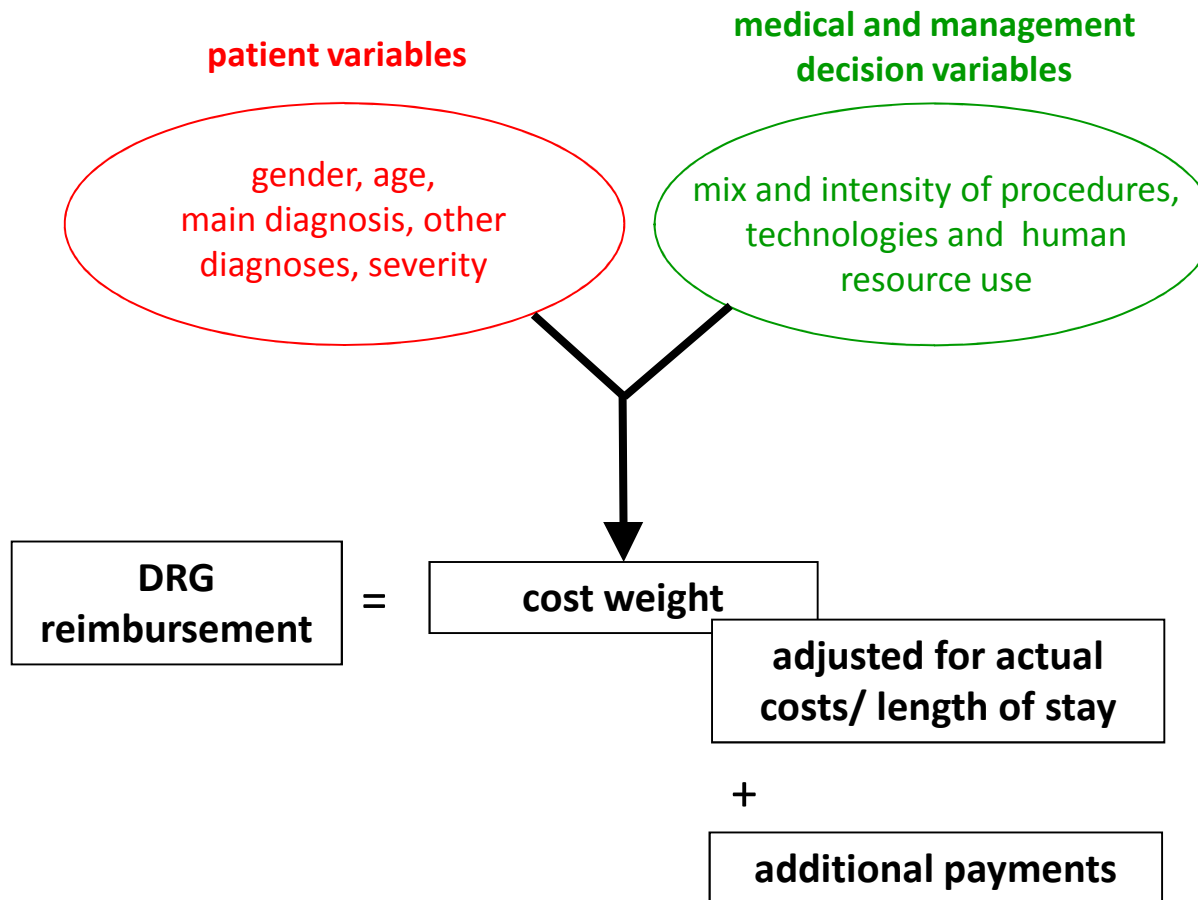
Classification variables	Major Category	Partition	Procedure	Type of Admission	Main Diagnosis	Complications/ Comorbidities	Age	DRG	% of all cases in EoC	% of all cases in DRG	Price (Euros)			
Austria (2008 Version) 97.4% of all cases in EoC (based on data from 2008)	procedure driven episode	surgery	appendectomy				>69 years	MEL06.01A	2.8%	31.7%	3,049			
							≤14 years	MEL06.01B	30.1%	77.5%	2,273			
							14 – 69 years	MEL06.01C	64.5%	73.4%	1,877			
Catalunia (V2008, AP-DRG V23) 98% of EoC cases (based on data from 2008)	Digestive system diagnosis	surgery	digestive system procedure <sup>1</sup>					553	3.2%	21.6%	12,563			
			appendectomy	with major cc										
				without major cc										
				complicated appendicitis (?)	with cc	164	3.2%	96.4%	7,311					
				without cc	165	9.4%	98.4%	4,359						
other appendicitis	with cc	166	3.5%	92.2%	4,700									
without cc	167	56.2%	96.7%	2,657										
laparoscopic appendectomy								883	22.4%	94.6%	2,822			
	digestive system procedure / diagnosis	Appendectomy					with major cc	FZ20A	4%	66%	3,899			
							>18 years							
without major cc							FZ20B	59%	66%	2,641				
≤18 years							FZ20C	35%	71%	2,719				
digestive system diagnosis	surgery	appendectomy					with cc	164	2.7%	100%	1,323			
							without cc	165	10.1%	98.6%	860			
							with cc	166	3.5%	100%	824			
							without cc	167	82.7%	99.4%	562			

# Understanding the role of 3 factors in cost differences and price setting (1)

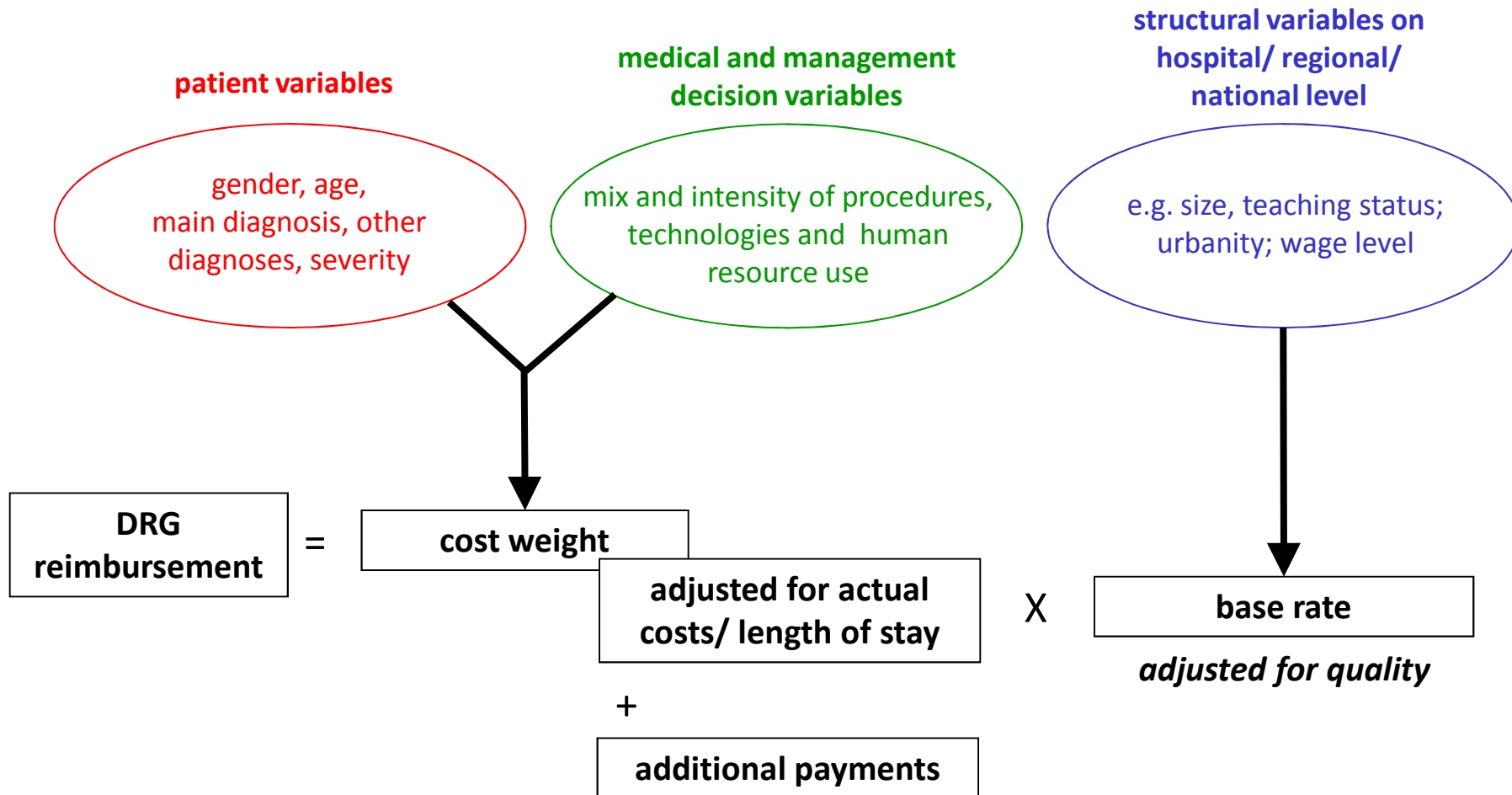




# Understanding the role of 3 factors in cost differences and price setting (2)



# Understanding the role of 3 factors in cost differences and price setting (3)



## determinants of hospital costs for 10 episodes of care

patient variables

gender, age,  
main diagnosis, other  
diagnoses, severity

medical and management  
decision variables

mix and intensity of procedures,  
technologies and human  
resource use

structural variables on  
hospital/ regional/  
national level

e.g. size, teaching status;  
urbanity; wage level

within countries

across countries

DRG  
reimbursement

=

cost weight

adjusted for actual  
costs/ length of stay

X

base rate

*adjusted for quality*

+

additional payments

**DRGs and quality**

**“Hospital Benchmarking Club” – explores this with individual hospital data**

Final conference regarding policy conclusions on 17 November 2011 in Berlin:

- Are hospital services and costs across European countries really so different to justify different systems for patient classification and cost weights? Could cost differences not be handled through base rate adjustments (as in the US)?
- What do we know regarding the effects on hospital efficiency and quality of service delivery under DRGs?



[www.eurodrg.eu](http://www.eurodrg.eu)