



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

NFZ
Narodowy Fundusz Zdrowia

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Hospital payment and DRGs in Germany

The G-DRG system



Dr. med. Wilm Quentin, MSc HPPF

Department of Health Care Management (MiG)

Berlin University of Technology

European Observatory on Health Systems and Policies

WHO Collaborating Centre for Health Systems, Research and Management



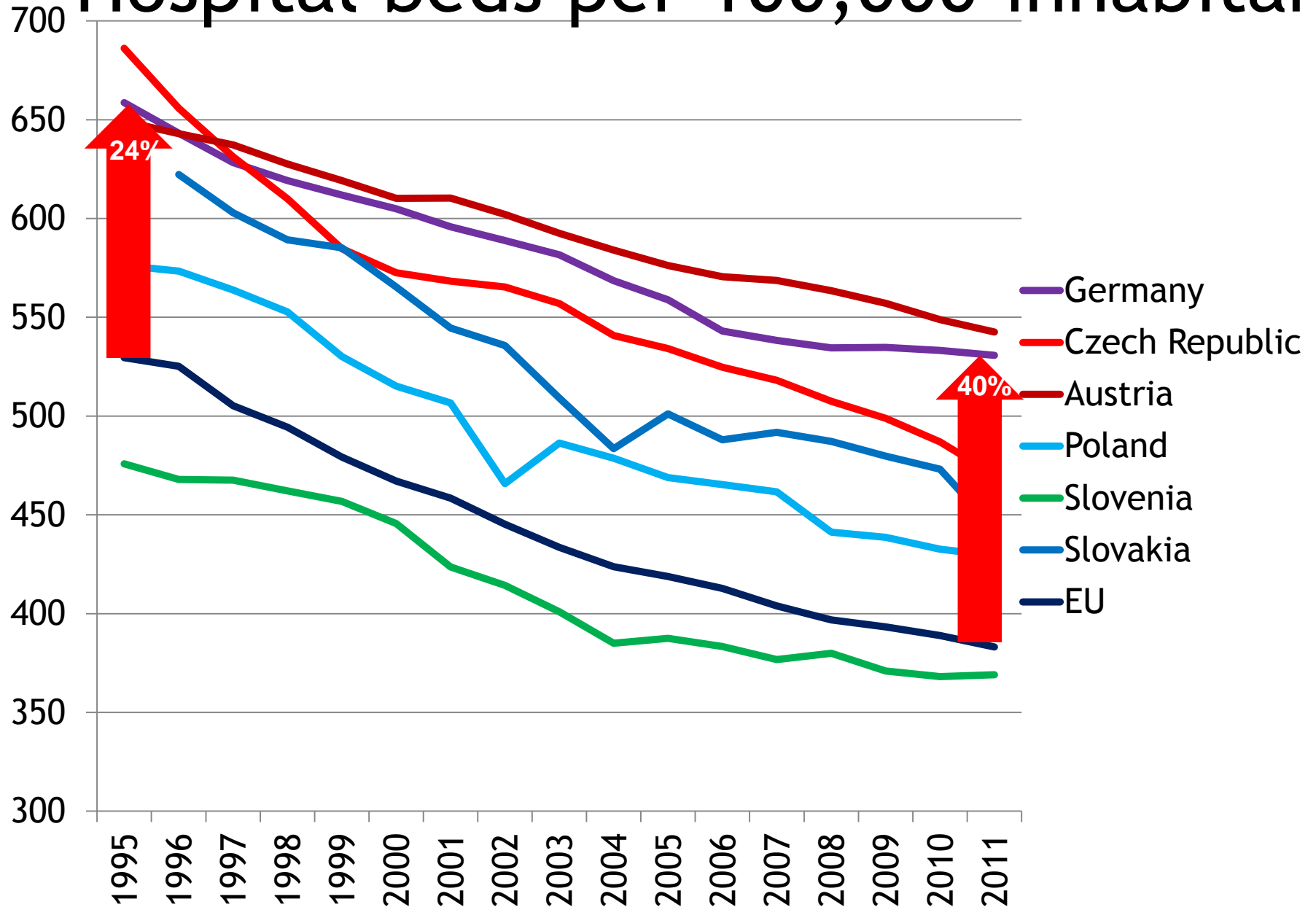
European
Observatory
on Health Systems and Policies



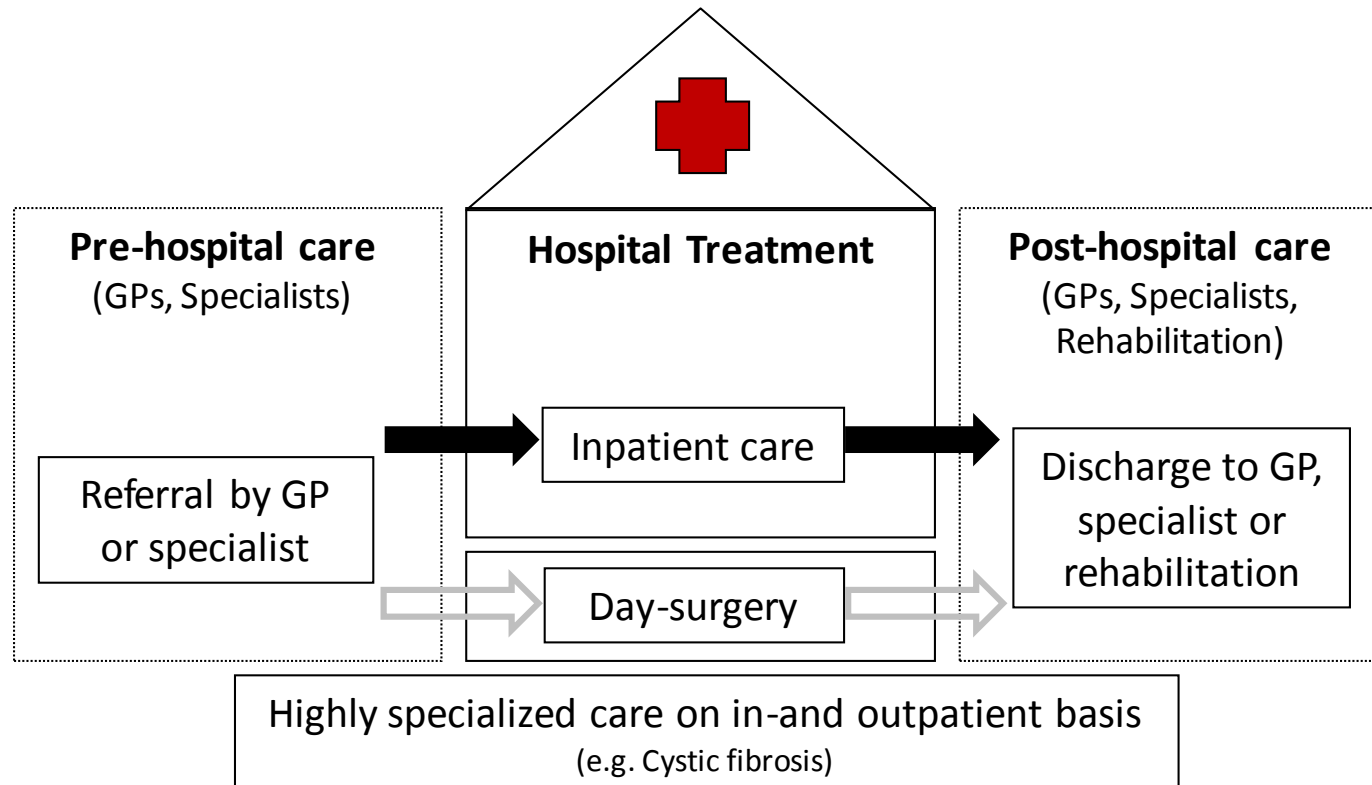
Hospital facts (Data year 2012)

Size and type of ownership	Hospitals overall	Beds	Beds per 100 000 inhabitants	Occupancy	Cases	Cases per 100 000 inhabitants	ALOS*
	Number (Share in %)	Number (Share in %)	Number	[%]	Number (Share in %)	Number	Days
Hopital size in beds	2 017 (100)	501 475 (100)	624	77.4	18 620 442 (100)	22 775	7.6
< 49	440	7 718	10	63.2	217 689	271	8.2
50 - 99	256	18 621	23	63.2	544 041	677	9.3
100 - 149	260	31 768	40	63.2	1 051 335	1 307	8.4
150 - 199	183	31 707	39	63.2	1 166 329	1 450	7.5
200 - 299	282	69 351	86	63.2	2 527 629	3 143	7.6
300 - 399	203	69 665	87	63.2	2 577 787	3 206	7.7
400 - 499	139	62 223	77	63.2	2 310 371	2 873	7.6
500 - 599	90	48 998	61	63.2	1 990 302	2 475	7.0
600 - 799	71	48 347	60	63.2	1 814 064	2 256	7.6
> 800	93	113 077	141	63.2	4 410 556	5 485	7.5
Public hospitals	601 (29.8)	240 180 (47.9)	299	78.9	9 088 869 (48.8)	11 303	7.6
under private law	354	136 344	170	77.2	5 341 551	6 643	7.2
under public law	247	103 836	129	81.2	3 747 318	4 660	8.2
- legally dependent	108	34 344	43	80.8	1 148 692	1 428	8.8
- legally independent	139	69 492	86	81.3	2 598 626	3 232	8.0
Non-profit hospitals	719 (35.6)	171 276 (34.2)	213	75.9	6 408 575 (34.4)	7 970	7.4
Private hospitals	697 (34.6)	90 019 (18.0)	112	76.1	3 112 659 (16.7)	3 871	8.0

Hospital beds per 100,000 inhabitants

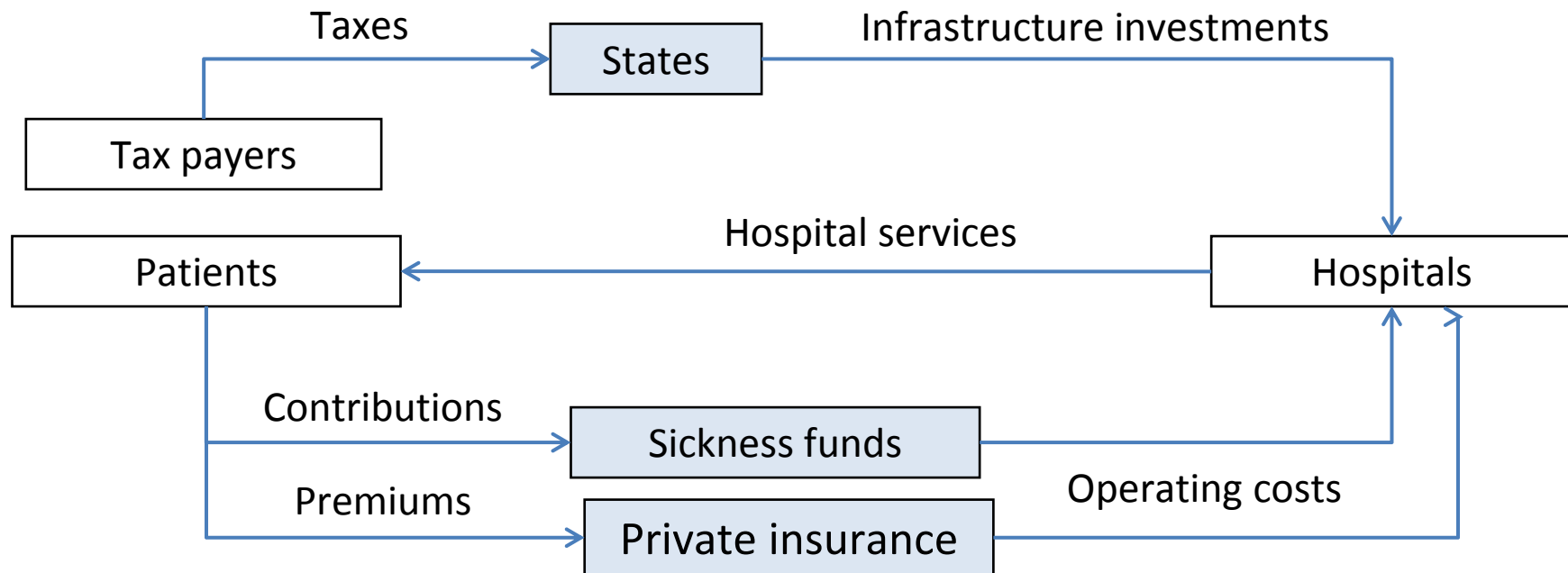


Range of activities and services in hospital sector

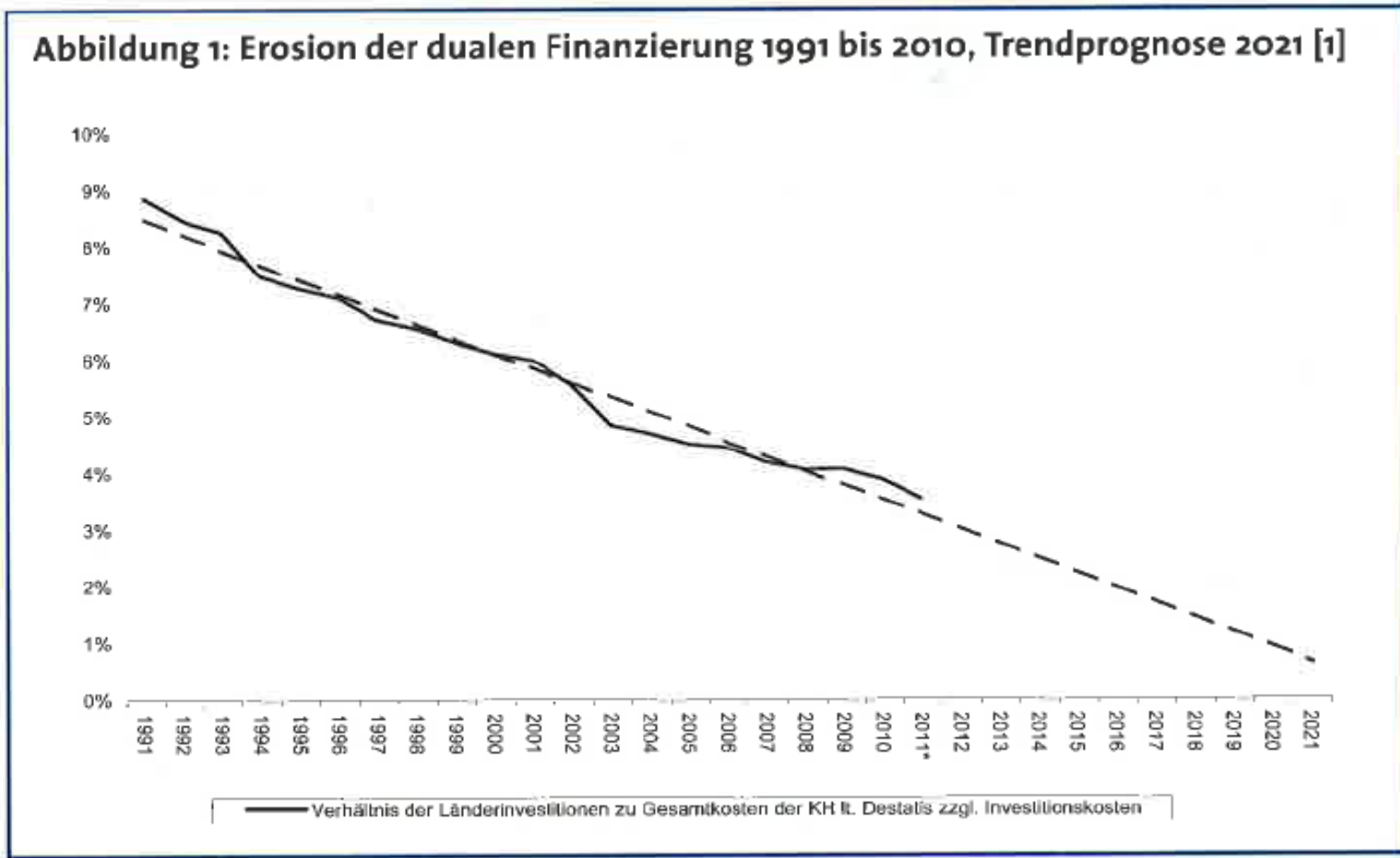


Hospital payment and capacity planning

- The Hospital Financing Act (KHG) of 1972 introduced the “principle of duality”
 1. State governments plan hospital capacities and finance investments
 2. Sickness funds reimburse operating costs



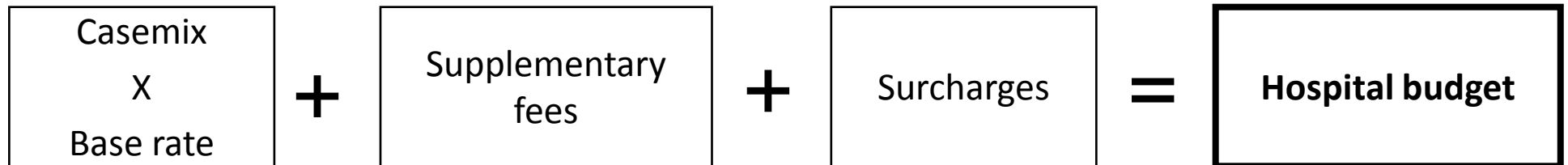
Infrastructure investments



Leber & Scheller-Kreinsen (2012)

Operating costs

- Sickness funds negotiate activity based DRG budgets every year with every “planned” Hospital

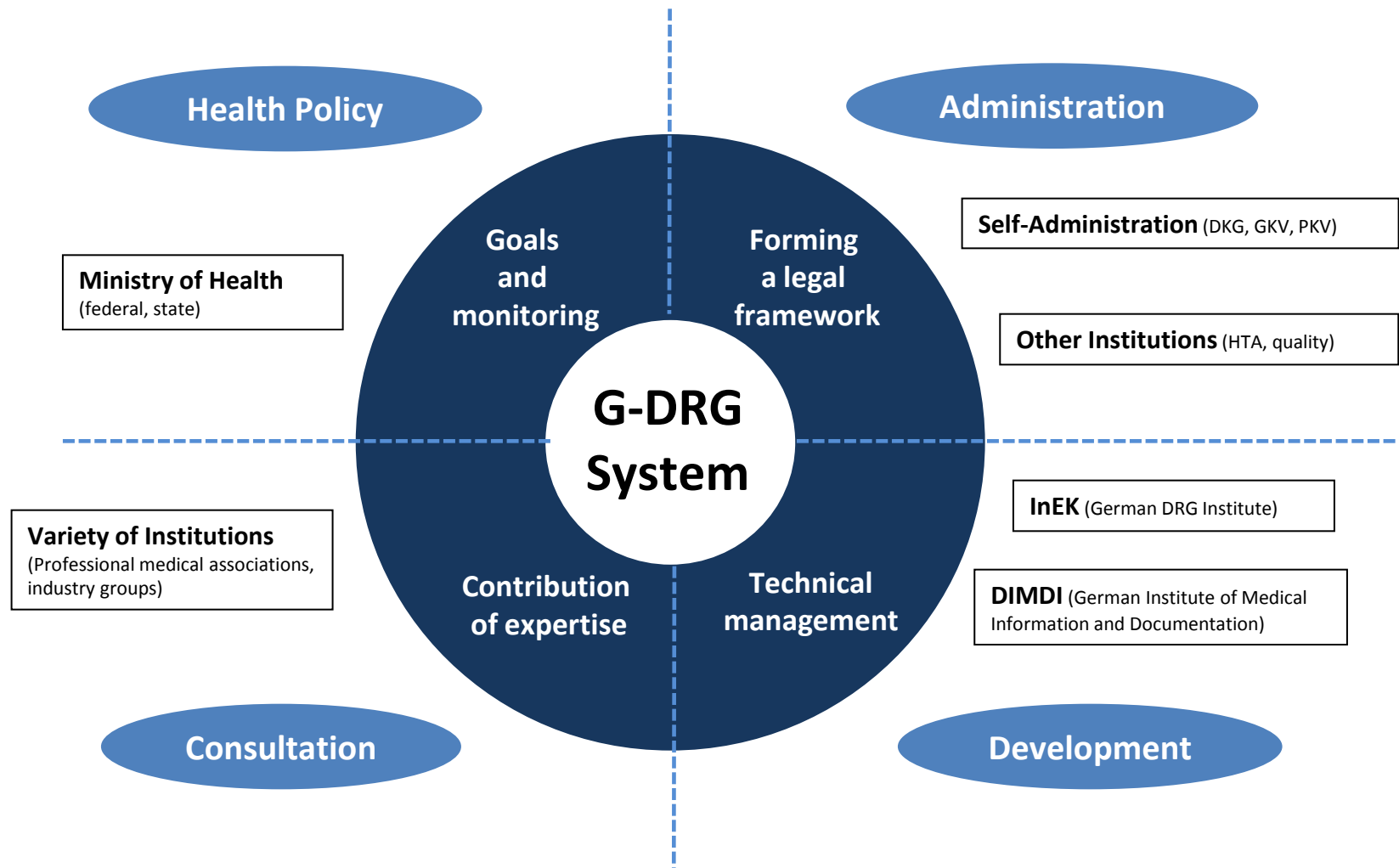


- Budget over-run adjustment (hospital pays back):
 - 65 % (standard DRGs), 25 % (drugs, medical, polytrauma and burns DRGs),
Negotiations for certain DRGs (those that are difficult to predict)
- Budget under-run adjustment (hospital receives compensation) :
 - 20% (standard DRGs)

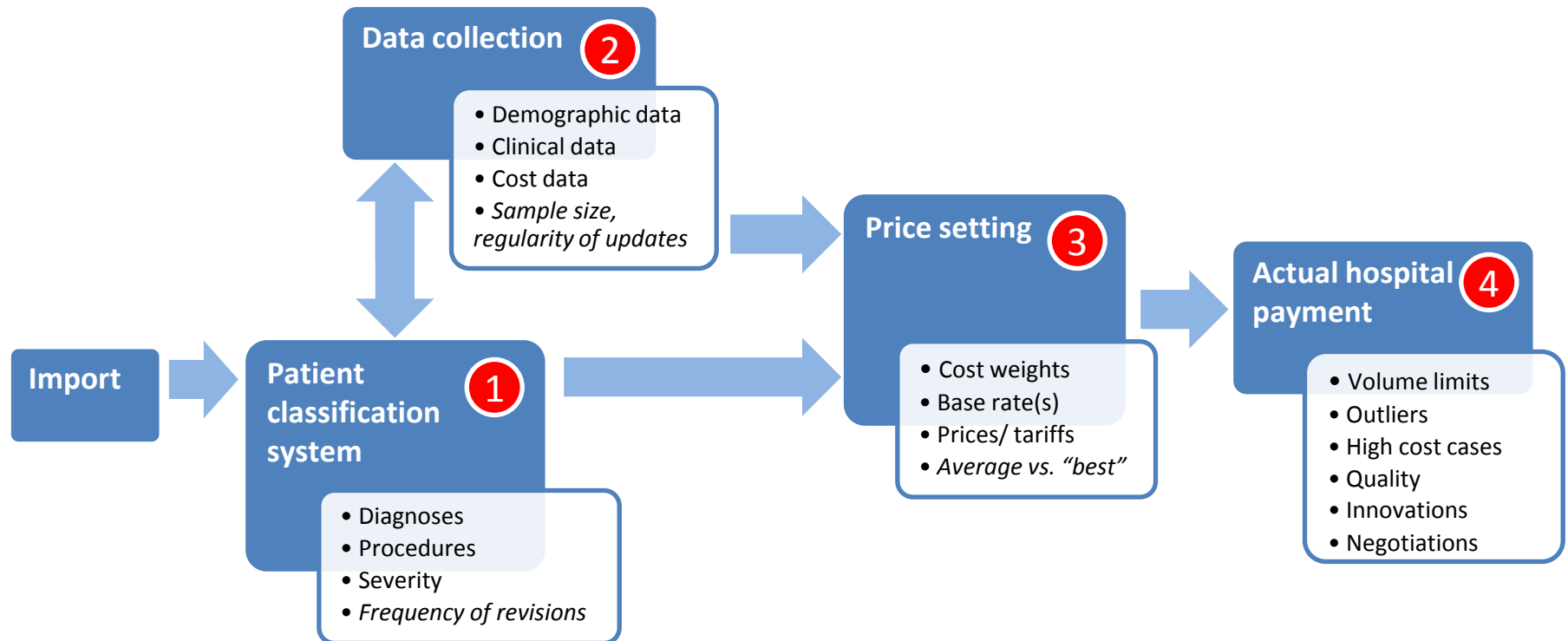
Aims of DRG introduction in Germany

- Facilitating precise and transparent measurement of the case mix and the level of services delivered by hospitals
- Achieving more appropriate and fairer allocation of resources
- Increasing efficiency and quality of service delivery through improved documentation of internal processes and increased managerial capacity
- Containing costs through LOS and bed capacity reductions

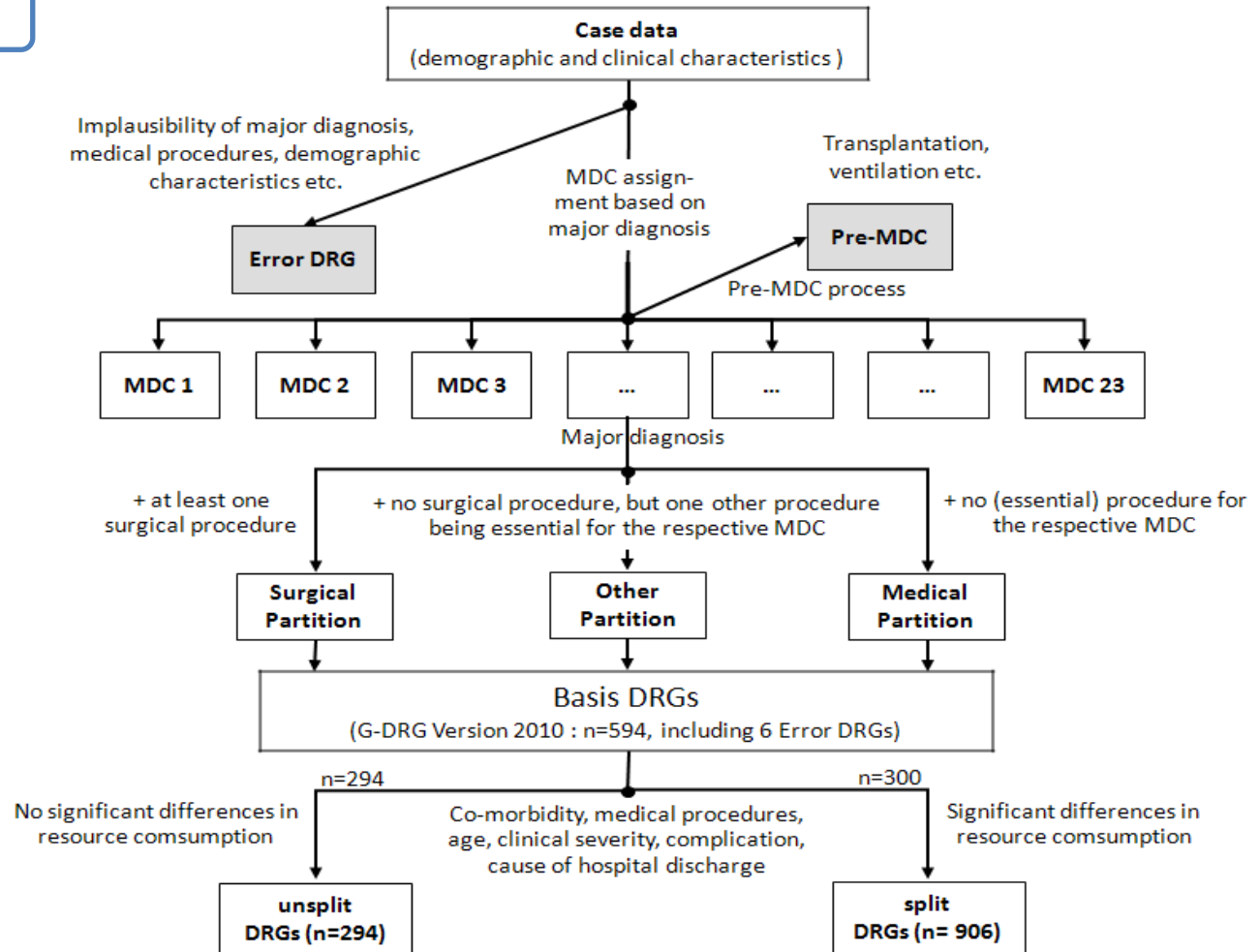
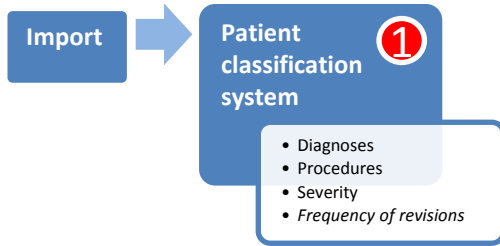
Tasks and stakeholders of G-DRGs



DRG system building blocks



From AR-DRGs to G-DRGs



- Diagnoses
- Procedures
- Severity
- Frequency of revisions

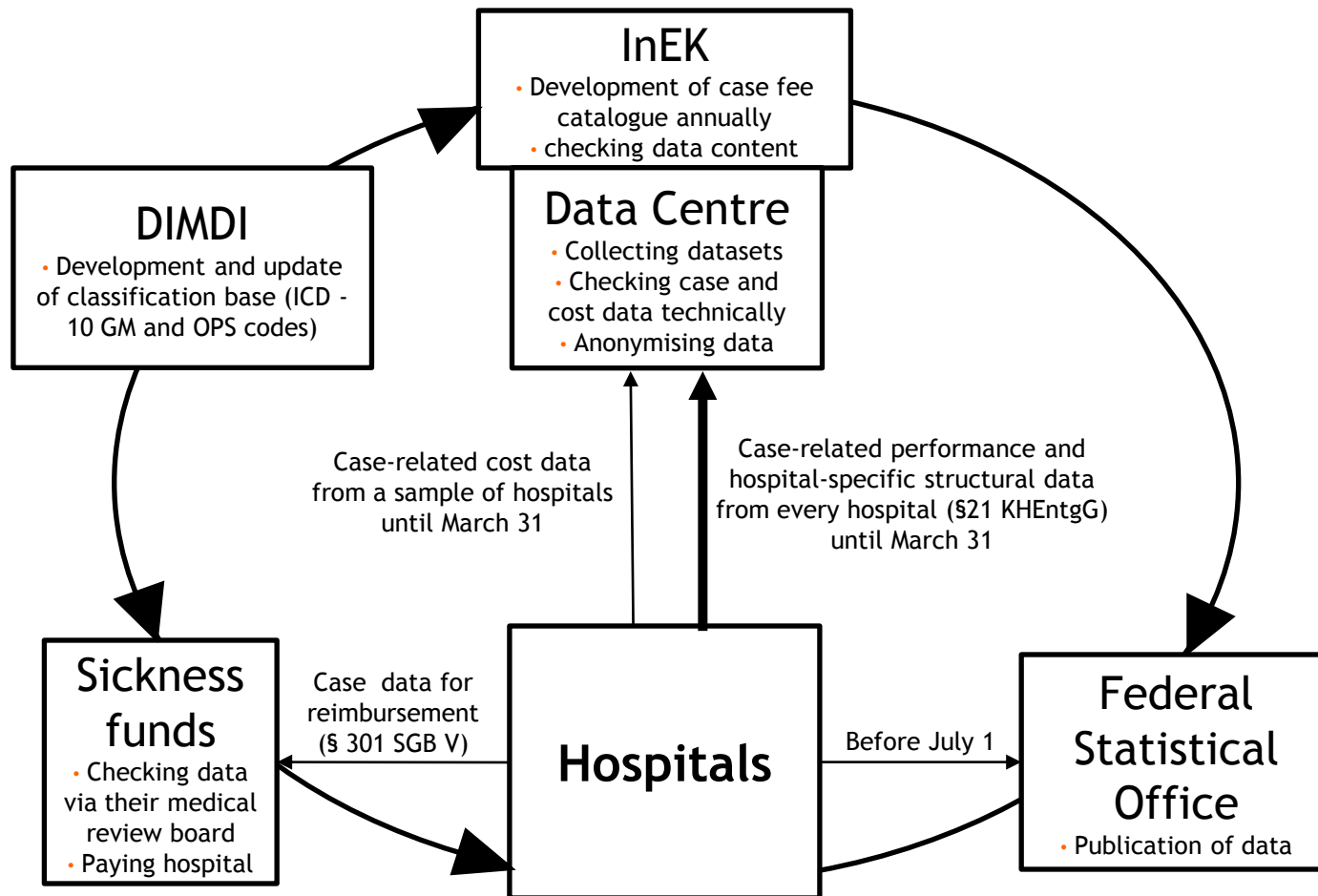
G-DRGs 2003-2014

- Early years: Major revisions to increase precision
- Later years: development has stabilized

Year	2003	2004	2005	2006	2008	2010	2012	2014
DRGs total	664	824	878	954	1137	1200	1193	1.196
Base-DRGs	411	471	614	578	604	609	595	588
Unsplit		236	454	353	318	293	290	287
Severity levels	4	5	7	8	9	9	9	9
Inpatient DRGs total	664	824	878	952	1132	1195	1189	1191
- valuated	642	806	845	912	1089	1154	1149	1148
- unvaluated	22	18	33	40	43	41	40	43
Day care DRGs total	0	0	0	2	5	5	5	5
- valuated	0	0	0	1	1	1	1	2
- unvaluated	0	0	0	1	4	4	4	3
R² all cases	0.4556	0.5577	0.6388	0.6805	0.7209	0.7443	0.754	0.7671
R² inlier	0.6211	0.7022	0.7796	0.7884	0.8166	0.843	0.844	0.8533

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

Data collection process



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

Verifications and controls

- Medical Review Boards
 - Review of about 12% of all cases (hospital bills)
 - In 2010: 45% of these bills exhibited irregularities
 - Audited bills (all audited cases) on average €730 to €940 higher than justified.
- InEK
 - Medical plausibility check
 - Economic plausibility check
 - Medico-economic coherence

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

Cost data collection

- Early years: increase in sample size and representativeness
- Later years: better data quality
- Continuing problem: underrepresentation of certain providers (e.g. private)

Year (G-DRG system)	2003	2004	2005	2006	2008	2010	2012	2014
Hospitals participating in cost data collection	125	144	148	214	249	253	249	247
- excluded for data quality	9	0	0	0	28	28	4	3
- actual	116	144	148	214	221	225	245	244
- included university hospitals	0	12	10	9	8	10	10	12
- number of cases available for calculation	633 577	2 825 650	2 909 784	3 531 760	3 900 098	4 539 763	4 466 493	4 283 577
- number of cases used for calculation after data checks	494 325	2 395 410	2 283 874	2 851 819	2 811 669	3 257 497	3 359 492	3 534 247

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

Cost accounting in hospitals

Patient level costing

- Standardised cost accounting approach in hospitals (voluntarily) participating in the data sample

→ Example: DRG I03A

(Hip revision or replacement with cc)

		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 consumption)	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	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	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

Data collection 2

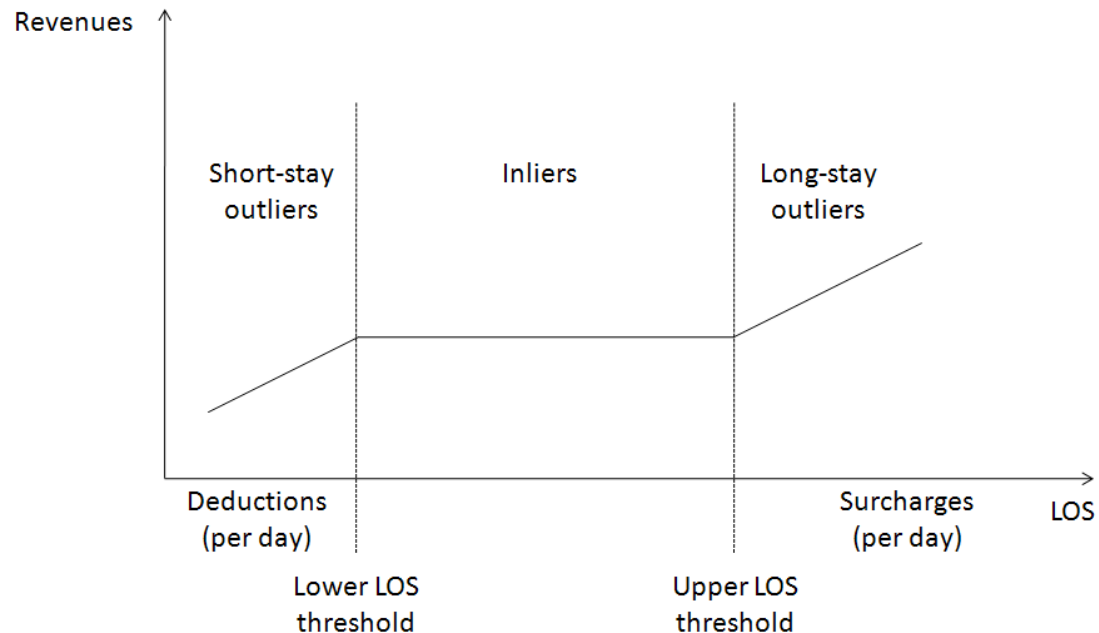
- Demographic data
- Clinical data
- Cost data
- Sample size, regularity of updates

Price setting 3

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

Cost weight calculation

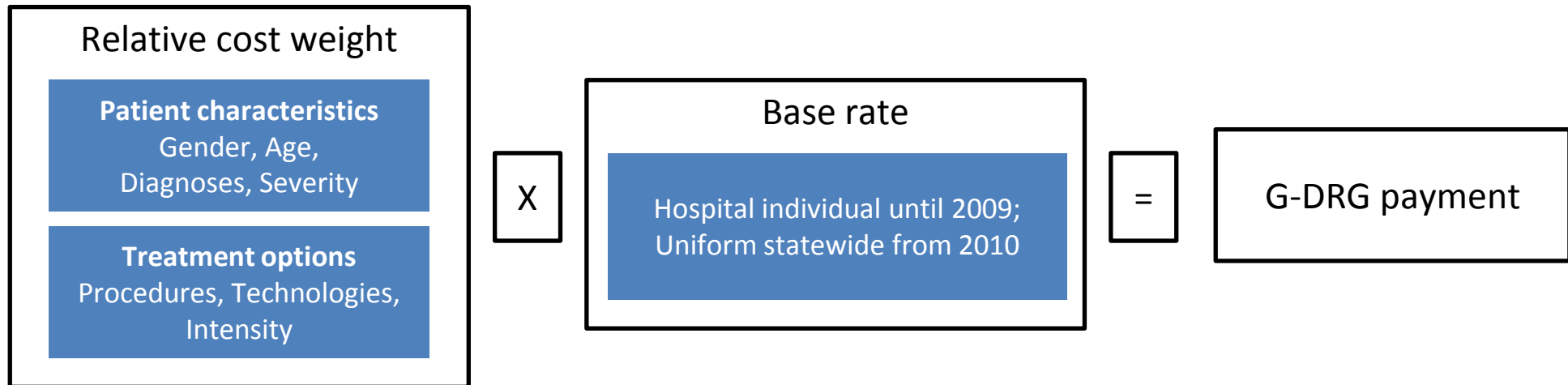
- Calculation of average costs of inlier cases in each DRG
- DRG cost weight = average costs of DRG inlier cases / reference value (i.e. average costs of all inpatients in Germany)
 - Cost weight = 1 → Average costs of all inpatients in Germany



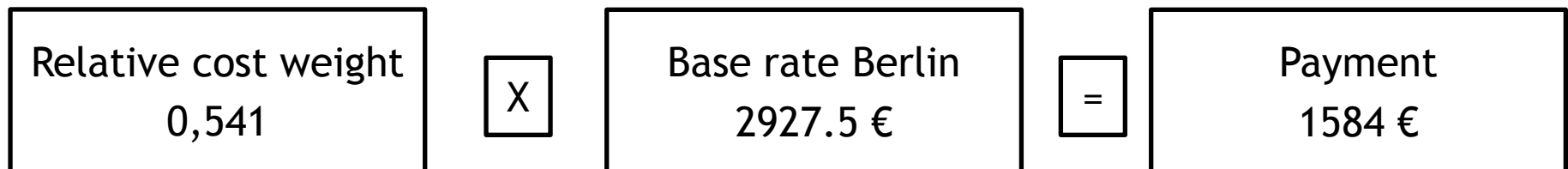
Actual hospital payment ⁴

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

Actual hospital payment I



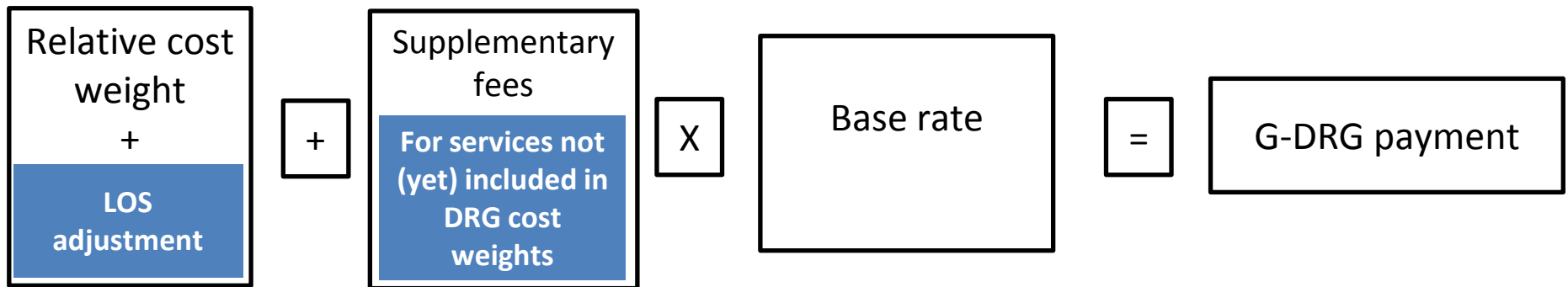
- Payment example: Normal birth without cc in Berlin in 2010



Actual hospital payment ⁴

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

Actual hospital payment II: details



Year	2003	2004	2005	2006	2008	2010	2012	2014
Range of cost weights: min.-max. (rounded)	0.12-29.71	0.11-48.27	0.12-57.63	0.12-65.70	0.11-68.97	0.13-73.76	0.14-65.34	0.14-64.14
Supplementary fees	0	26	71	83	115	143	150	159
- valuated	0	1	35	41	64	81	82	95
- unvaluated	0	25	36	42	51	62	64	64

Ten years of G-DRGs

	2000-2002	2003 - 2004	2005 - 2009	2010 - 2014
1) Phase of preparation		2) Budget-neutral phase	3) Phase of convergence to state-wide base rates	4) Current development and ongoing debates
		<p>Historical Budget (2003)</p> <p>↓</p> <p>Transformation</p> <p>↓</p> <p>DRG-Budget (2004)</p>	<p>Hospital specific base rate</p> <p>↓15 %</p> <p>↓20%</p> <p>↓20%</p> <p>↓20%</p> <p>↓25%</p> <p>State-wide base rate</p> <p>↑25%</p> <p>↑20%</p> <p>↑20%</p> <p>↑20%</p> <p>↑15 %</p> <p>Hospital specific base rate</p>	<ul style="list-style-type: none"> • Impact of DRGs • Managing hospital volumes • Introduction of DRG-like payment for psychiatric hospitals • Dual Financing or Monistic • Payment adjustments based on quality • Selective or uniform negotiations

Impact of G-DRGs

Official DRG impact evaluation (IGES 2013):

- ❑ Very little (if any) measurable impact (and difficulties to attribute effects to DRG introduction)

Dimension	Effect
Bed numbers	Reduction slower than before DRG introduction
Average LOS	7.8 days in 2004; 6.8 days in 2010 → reduction similar as before DRG introduction
Productivity	Relatively strong increase in number of cases (but similar increases were seen in 1990s)
Costs per case	2.5% increase per annum from 2003 to 2010 (2.0% during 1991 to 2003)
Quality	Relatively strong (6.5 to 7.8%) reduction of inpatient mortality.(up to 30, 90 and 365 days post-discharge)

Current developments and debates I

Managing hospital volumes

- The strong growth in the number of cases from an already extremely high level (much higher than in most OECD countries) is reason for concern
- Discussions exist to, for example, limit budget increases, increase deductions for budget overruns, discontinue collective contracting, introduce casemix trading...
- New government plans: introduce patients' right for a second opinion prior to elective interventions

Current developments and debates II

Introduction of DRG-like payment system for psychiatric hospitals

- Originally psychiatric hospitals (587 hospitals in 2012) were exempt from DRG-based hospital payment
- Budget neutral introduction in 2013 based on voluntary participation of hospitals
- Mandatory introduction planned for 2015

Dual or monistic financing of investments:

- Investment lag due to public dept
- Assumption that monistic financing would make investments easier to schedule due to investment surcharges on top of every DRG
- Capital costing model has been developed by InEK but it remains unclear whether it will be used by the states.

Current developments and debates III

Quality adjustments

- New government plans to introduce payment adjustments based on quality of care.
- Plans include to take into account quantity and quality:
 - No payment reductions for budget overruns in the case of high quality
 - Payment reductions in case of low quality

Selective contracting

- New government plans: strengthen selective contracting (based on quality) for certain elective admissions
- Hospitals want to avoid selective contracting, while insurers aim to expand the potential for selective contracting
- Some experiences have been made in pilot projects

G-DRG-based hospital payment: Conclusion

Strengths	Weaknesses
Transparency and improved documentation	No system to reward/penalize hospitals for quality
Fair (uniform) reimbursement	Minimal (only state-based) adjustment for different input prices
Precision of DRG system	Increasing complexity with number of DRGs
Precision of cost weight calculation	Uniform accounting system but no full sample of hospitals
Transparent methodology of developing and updating the system	Weak instruments to manage hospital volumes



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

NFZ
Narodowy Fundusz Zdrowia

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Thank you very much for
your time and attention!

Slides available on:
www.mig.tu-berlin.de

Literature and more information:
www.eurodrg.eu

Dr. med Wilm Quentin, MSc HPPF
Department of Health Care Management (MiG)
Berlin University of Technology
European Observatory on Health Systems and Policies
WHO Collaborating Centre for Health Systems, Research and Management



European
Observatory
on Health Systems and Policies

