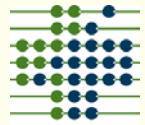


The German National Cost Data Collection – boon or bane of having a 5m-cases-sample per year

Concurrent Session 6: Costing Insights II

Brisbane, May 11th, 2016

Dr Michael Rabenschlag,
Director Department of Economics, InEK, Germany



Agenda

1. **Introduction**
2. Funding of InEK and GNCDC
3. The costing process
4. The data acceptance process
5. Conclusion

German National Cost Data Collection

Introduction

- hospital makes up an invoice for each case with the health insurer of the patient (about 22m invoices per year ([semi] inpatients only), electronic data interchange procedure)
- 123 statutory health insurance funds (about 89% of population)
- 51 private health insurance companies (about 11% of population)

German National Cost Data Collection

Introduction

- statutory National Data Collection established 2002 (§ 21 KHEntgG)
- 2 National Data Collections (activity data & cost data)
- each year between March 1st and April 28th (GNDC: May 24th)
- discharged (semi) inpatients of previous calendar year
 - mandatory for all hospitals: activity data, GNDC
 - voluntary: (additional) cost data, GNCDC

German National Cost Data Collection

Introduction

data set contains in particular **patient related** information

➤ **demographic**

- age, sex, birth weight, postal code of residence,...

➤ **medical**

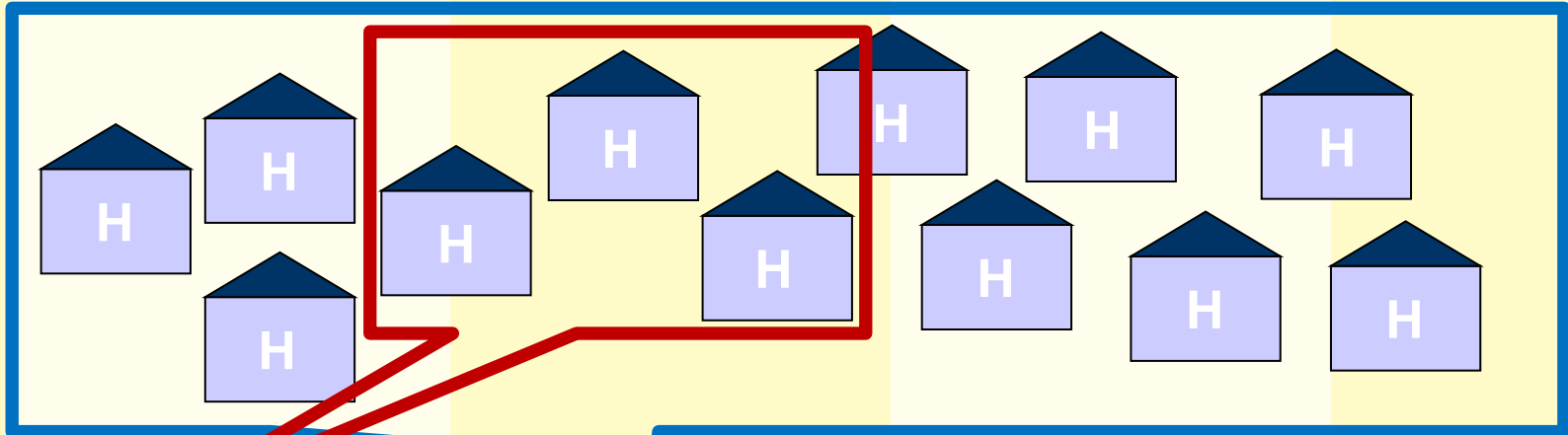
- diagnosis (ICD-10), procedures, hours of mechanical ventilation,...

➤ **structural/administrative**

- departments the patient was admitted to
- admission/discharge dates and reason, reimbursement, ...

German National Cost Data Collection

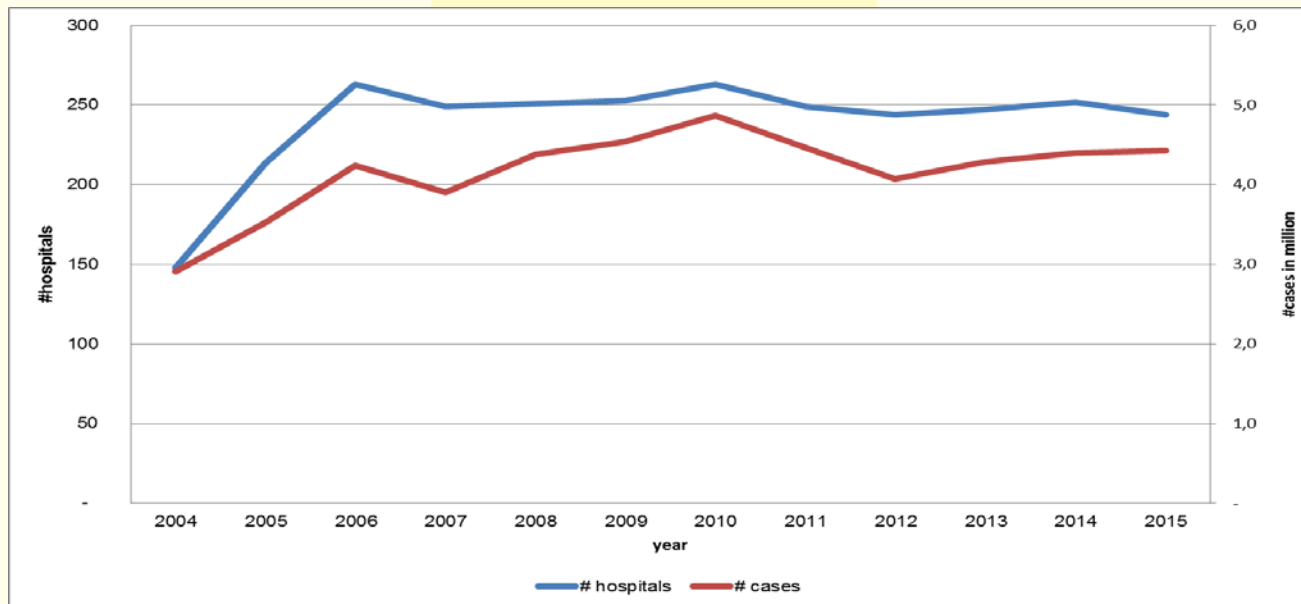
Introduction

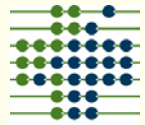


1.541 hospitals, 22.0 m cases with activity data*
244 hospitals, 4.4 m cases with additional cost data*

German National Cost Data Collection

Number of hospitals and cases 2004 - 2015





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German National Cost Data Collection

Funding of InEK and GNCDC

- hospitals add a lump sum of 1,15 €* (1,72 AUD) to each invoice for (semi) inpatient discharges [„DRG-System-Surcharge“]
 - 0,25 €* (0,37 AUD) for funding InEK
= ca. 6,5m AUD in total after taxes
 - 0,90 €* (1,35 AUD) for funding GNCDC
= ca. 24m AUD in total after taxes
- DRG-System-Surcharge recalculated annually
- hospitals transfer collected DRG-System-Surcharges annually to InEK

German National Cost Data Collection

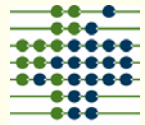
Participation voluntary

- participation in GNCDC voluntary (by agreement InEK – hospital)
- hospitals are not entitled to participate – InEK can decide on participation a priori (check list)
- InEK never decided a priori against participation of a hospital
- but: data sets with poor data quality would not be accepted by InEK – exceptionally that could be all data sets of a hospital

German National Cost Data Collection

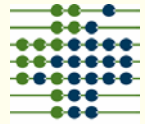
Participation voluntary

- mandatory monetary incentives (since 2005)
 - basic amount per hospital 21.000 AUD
 - „Long Term Quality Bonus“ after years of continuous participation with good quality: 5-10 years 6.000 AUD, > 10 years 10.500 AUD
 - variable amount per case calculated according to data quality 2,8 AUD
 - data sets with good quality = data sets accepted by InEK after plausibility checks (at least 85% of all cases)
 - on average about 67.000 AUD per hospital

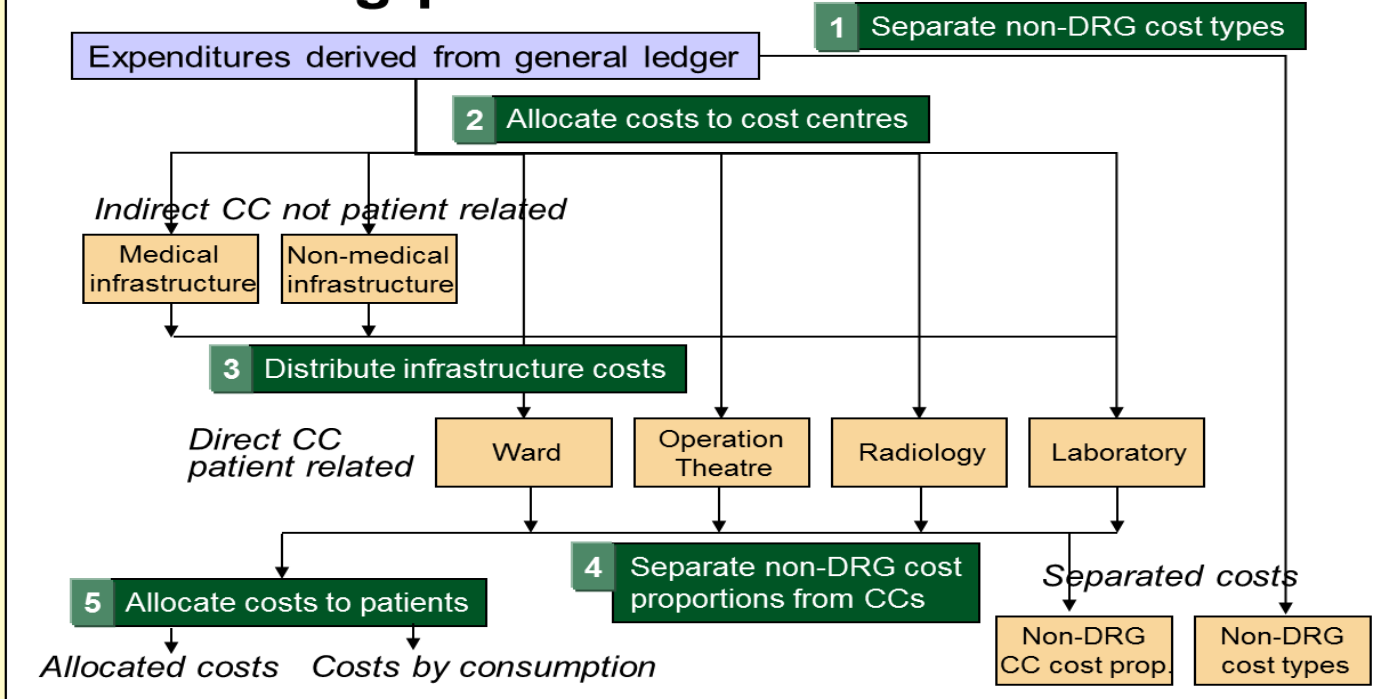


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The costing process



German National Cost Data Collection

The costing process

- top-down approach in actual costing
- calculation base: activity and cost data of previous calendar year
- costs subject to other hospital activities, e.g. outpatients, services for third parties, capital costs = excluded costs
- cost units: discharged inpatient cases
 - hospital level identifier (“case number”), tracking all interactions between a specific patient (“case”) and a provider unit
 - national patient number for tracking patients across all hospitals

German National Cost Data Collection

The costing process

- manual with calculation guidelines and handling of information
- guidelines for cost allocation and allocation keys set by InEK
 - specification for individual cost allocation in appendix 10 (drugs/materials with typical costs of about 450/300 AUD per case)
 - annual update
 - gradual improvements with respect to learning curve of hospitals
 - new guidelines are challenging but manageable

German National Cost Data Collection

Cost data in matrix format on case level

	Cost types	physicians	nursing	medical / technical staff	drugs (general)	drugs (individual)	implants	material (general)	material (individual)	medical infra-structure	non-medical infra-structure
		1	2	3	4a	4b	5	6a	6b	7	8
cost centres											
wards	1	green	green	green	blue	blue	white	blue	blue	orange	orange
intensive care	2	green	green	green	blue	blue	blue	blue	blue	orange	orange
dialysis	3	green	green	green	blue	blue	white	blue	blue	orange	orange
operating rooms	4	green	white	green	blue	blue	white	blue	blue	orange	orange
anaesthesia	5	green	white	green	blue	blue	white	blue	blue	orange	orange
delivery ward	6	green	white	green	blue	blue	white	blue	blue	orange	orange
cardiac diagnostics / therapy	7	green	white	green	blue	blue	blue	blue	blue	orange	orange
endoscopic diagnostics / therapy	8	green	white	green	blue	blue	blue	blue	blue	orange	orange
radiology	9	green	white	green	blue	blue	white	blue	blue	orange	orange
laboratories	10	green	white	green	blue	blue	white	blue	blue	orange	orange
further diagnostics / therapy	11	green	green	green	blue	blue	white	blue	blue	orange	orange

green = personnel costs, blue = material costs, orange = overhead costs, white = vacant
 98 combinations of cost centres and cost types

German National Cost Data Collection

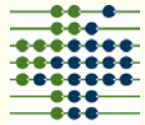
Allocation keys (excerpt)

	Cost types	physicians	nursing	medical / technical staff
cost centres		1	2	3
wards	1	care days	weighted minutes	care days
intensive care	2	weighted hours	weighted hours	weighted hours
dialysis	3	weighted dialysis	weighted dialysis	weighted dialysis
operating rooms	4	surgery and setup time		surgery and setup time
anaesthesia	5	anaesthesia times		anaesthesia times
delivery ward	6	time in delivery ward		time in delivery ward
cardiac diagnostics / therapy	7	point system/duration		point system/duration
endoscopic diagnostics / therapy	8	point system/duration		point system/duration
radiology	9	point system/duration		point system/duration
laboratories	10	point system/duration		point system/duration
further diagnostics / therapy	11	point system/duration	point system/duration	point system/duration

German National Cost Data Collection

The costing process

- activity data used as allocation keys in calculation is more detailed than submitted in GN[C]DC
- detailed activity data mandatory for calculation
- examples for detailed allocation keys on case level
 - attendance time for all physicians involved in operation
 - daily nursing documentation (on nursing scale „PPR“)
 - active ingredient and dosage for drugs in appendix 10



Agenda

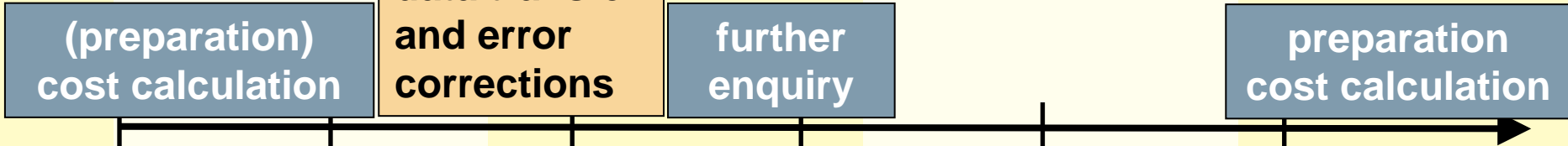
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German National Cost Data Collection

Time frame

hospitals



Jan

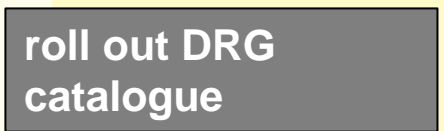
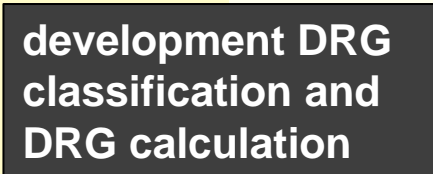
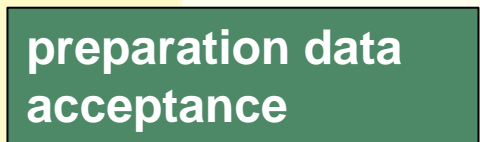
Mar

May

July

Sept

Nov



InEK

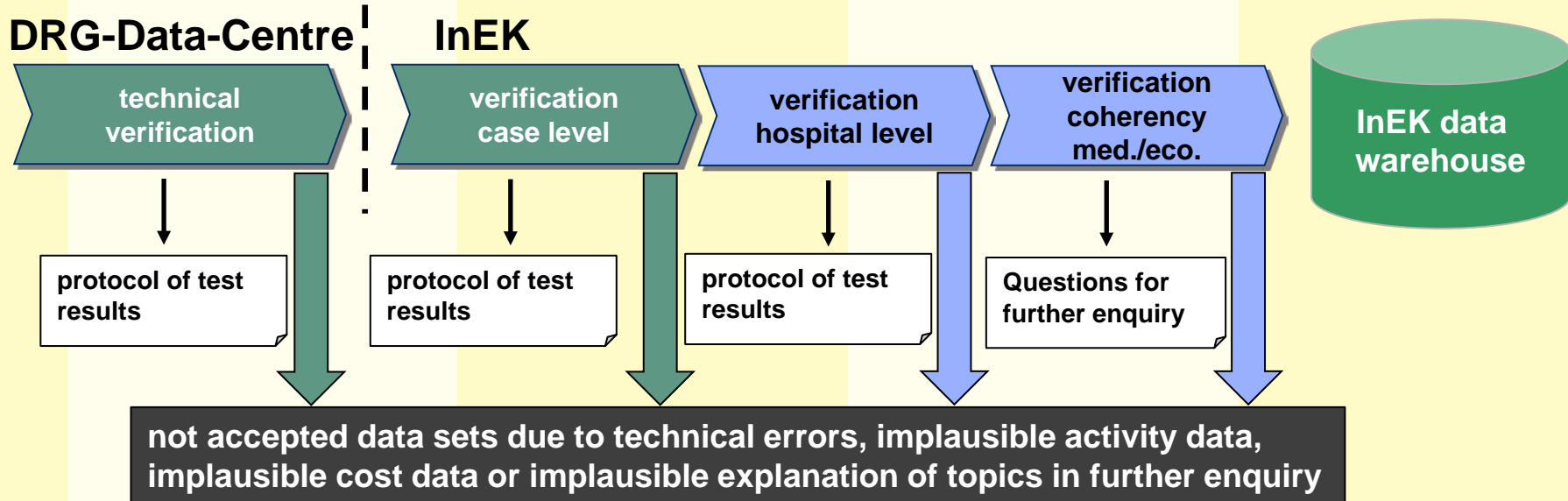
German National Cost Data Collection

Data verification

- main goal: appropriate combination of cost and activity data with respect to calculation of relative weights
- data verification
 - abstracts from individual patient
 - perspective of appropriate resource allocation between hospitals
 - four-level system with about 1.800 (semi) automated checks
 - „evidence-identifiers“

German National Cost Data Collection

Data acceptance process



German National Cost Data Collection

Data verification

- examples for medical-economic coherency checks
 - hip replacement: appropriate costs for hip endoprothesis
 - OR procedure: appropriate costs for physicians in operating room
 - hours of mechanical ventilation: appropriate costs on intensive care unit (ICU)
 - stroke: CT-scan with appropriate costs (within 4 hours after admission)

German National Cost Data Collection

Data verification

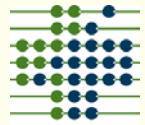
- examples for aggregate checks
 - variation of cost rates for physicians/medical staff in Operating Rooms
 - average costs of physicians/nurses/medical and technical staff in comparison to collective wage agreement
 - appropriate cost allocation with respect to different levels of activity
 - cost allocation on cost centre level with respect to activity (usage)

German National Cost Data Collection

Data verification

hospitals provide **additional information** to support data verification

- on case level (examples)
 - operating times and number of physicians, medical/technical staff attending operation
 - anaesthesia times and number of physicians and medical/technical staff attending anaesthesia
 - time spent on ICU and weighted times used for calculation
 - dosage and individual costs for drugs in appendix 10



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German National Cost Data Collection

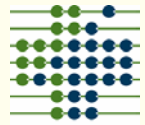
Concluding Remarks

- GNCDC = foundation for
 - transparency in hospital sector (results published on InEK-website)
 - development of G-DRG-system
 - ressource allocation between hospitals
 - objectification of discussion with respect to ressource allocation
 - acceptance of G-DRG-System in Germany

German National Cost Data Collection

Concluding Remarks

- German National Cost Data Collection
 - cost calculation is strenuous but precious
 - transparency is key to development of the G-DRG-system
 - voluntary participation in combination with monetary incentive essential to data quality
 - but: some hospitals don't participate although their activity data would be very helpful to stabilise the cost calculation



Thank you for your kind attention!