Hospital Financing in Germany: The G-DRG System

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(WHO Collaborating Centre for Health Systems Research and Management)
&
European Observatory on Health Systems and Policies
1. Diagnosis Related Groups (DRGs): Introduction
   - Options for hospital reimbursement
   - DRGs: Patient classification + hospital payment

2. DRGs in Germany
   - Three phases of introducing DRGs
   - Current developments and options for the future

3. EuroDRG
Hospital Financing in Germany: The G-DRG System

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3. EuroDRG
## Options for hospital reimbursement (I)

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<thead>
<tr>
<th>Reimbursement</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
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<tbody>
<tr>
<td>Global budgets</td>
<td>- cost containment&lt;br&gt;- administratively simple&lt;br&gt;- planning security for providers</td>
<td>- no incentives for performance / productivity&lt;br&gt;- no incentives for efficiency&lt;br&gt;- incentives to avoid sicker patients</td>
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<td>Per diems</td>
<td>- administratively simple&lt;br&gt;- somewhat related to resource consumption of patients</td>
<td>- incentives to increase length of stay&lt;br&gt;- few incentives for performance / productivity&lt;br&gt;- incentives to avoid sicker patients</td>
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- **Undertreatment**
- **Inappropriate treatment**
## Options for hospital reimbursement (II)

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<td>Global budgets</td>
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<td>- no incentives for performance/overall activity</td>
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<td>Fee-for-service</td>
<td>- incentives to increase provision of services</td>
<td>- incentives for overtreatment</td>
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<td></td>
<td>- incentives to provide all (necessary) care for all patients</td>
<td>- no incentives for efficiency</td>
</tr>
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<td>- allows incentivising specific services</td>
<td>- cost inflation</td>
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**Undertreatment**

**Inappropriate treatment**

**Overtreatment**

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## Options for hospital reimbursement (III)

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<td>DRGs</td>
<td>- reimbursement is related to performance&lt;br&gt;- incentives to increase efficiency</td>
<td>- administratively complex&lt;br&gt;- incentives to avoid sicker patients&lt;br&gt;- undertreatment of patients possible&lt;br&gt;- up/wrong-coding, gaming&lt;br&gt;- tendency to increase admissions</td>
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**Undertreatment**

**Inappropriate treatment**

**Overtreatment**
DRGs: 1st step = patient classification / grouping

- **Patient variables**
  - main diagnosis, gender, age, other diagnoses, severity

- **Medical and management decision variables**
  - mix and intensity of procedures, technologies and human resource use

- Group of patients with homogenous resource consumption
  - = DRG
DRGs 2nd step = Price setting (I)

patient variables
- gender, age, main diagnosis, other diagnoses, severity

medical and management decision variables
- mix and intensity of procedures, technologies and human resource use

\[ \text{DRG reimbursement} = \text{cost weight} \times \text{base rate} \]
DRGs 2nd step = Price setting (II)

Determinants of hospital costs:

- 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

DRG reimbursement = cost weight \times base rate + adjustment factors
1. Diagnosis Related Groups (DRGs): Introduction
   - Options for hospital reimbursement
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2. DRGs in Germany
   - Three phases of introducing DRGs
   - Current developments and options for the future

3. EuroDRG
Background: German hospital sector

• Key figures (2008):
  – 2100 Hospitals (1780 reimbursed through DRGs)
  – 17 mio. inpatient cases
  – 57 bill. € financing sum

• Dualistic way of hospital financing
  – Sickness funds pay running costs
  – States pay investment costs
### DRGs in Germany

<table>
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<tr>
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<tr>
<td>1) Phase of preparation</td>
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<td>4) Current developments and options for the future</td>
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<td>Historical Budget (2003)</td>
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<td>Transformation</td>
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<td>Quality Assurance (adjustments)</td>
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</table>
1) Phase of preparation: Responsibilities

G-DRG System

- Goals and Monitoring
- Forming the Legal Framework
- Contribution of Expertise
- Technical Management

Health Policy
- Health Ministry (federal, state)

Administration
- Self-Administration (DKG, GKV, PKV)
- Other Institutions (HTA, quality)

Variety of Institutions
- Professional medical associations, industry groups)

Consultation

Development
- InEK (German DRG Institute)
- DIMDI (German Institute of Medical Information and Documentation)
1) Phase of preparation: How to construct a system?

Patient classification system
- Diagnoses
- Procedures
- Severity

Data collection
- Clinical data
- Cost data
- Sample size

Price setting
- Average prices
- Cost weights

Reimbursement rate
- Outliers
- High cost cases
1) Phase of preparation: Patient Classification

Patient classification system
- Diagnoses
- Procedures
- Severity

Case data

Error DRG

Major diagnosis

Pre-MDC

MDC 1
MDC 2
MDC 3
...
...
...
MDC 23

Major diagnosis

+ at least one surgical procedure
Surgical Partition

+ no surgical procedure, but one other procedure being essential for the respective MDC
Other Partition

+ no (essential) procedure for the respective MDC
Medical Partition

Basis DRGs
(G-DRG Version 2010: n=594)

n=294

No significant differences in the resource consumption
unsplit DRGs (n=294)

n=300

Co-morbidity, medical procedures, age, clinical severity, complication, cause of hospital discharge
split DRGs (n=906)

Significant differences in the resource consumption
1) Phase of preparation: Data collection

- **Data collection**
  - Clinical data
  - Cost data
  - Sample size

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**DIMDI**
- Development and update of classification base (ICD-10 GM and OPS codes)

**InEK**
- Development of case fee catalogue annually
- Checking data content

**Data Centre**
- Collecting datasets
- Checking case and cost data technically
- Anonymising data

**Sickness funds**
- Checking data via their medical review board
- Paying hospital

**Hospitals**
- Case data for reimbursement (§ 301 SGB V)
- Until July 1

**Federal Statistical Office**
- Publication of data

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Additionally case-related cost data from a sample of hospitals until March 31

Case-related performance and hospital-specific structural data from every hospital (§21 KHEntgG) until March 31
1) Phase of preparation: Price setting mechanism

- Calculation of cost weights: based on average costs of cases
- Data sample:

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals participating in cost data collection</td>
<td>125</td>
<td>148</td>
<td>263</td>
<td>251</td>
<td>253</td>
</tr>
<tr>
<td>- excluded for data quality</td>
<td>9</td>
<td>0</td>
<td>38</td>
<td>33</td>
<td>28</td>
</tr>
<tr>
<td>- actual</td>
<td>116</td>
<td>148</td>
<td>225</td>
<td>218</td>
<td>225</td>
</tr>
<tr>
<td>- included university hospitals</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>- number of cases available for calculation</td>
<td>633,577</td>
<td>2,909,784</td>
<td>4,239,365</td>
<td>4,377,021</td>
<td>4,539,763</td>
</tr>
<tr>
<td>- number of cases used for calculation after data checks</td>
<td>494,325</td>
<td>2,283,874</td>
<td>2,863,115</td>
<td>3,075,378</td>
<td>3,257,497</td>
</tr>
</tbody>
</table>

→ Cost weight of each DRG = Average costs of DRG inliers / Reference Value
1) Phase of preparation: Reimbursement

- Revenues
- Deductions (per day)
- Short-stay outliers
- Inliers
- Long-stay outliers
- Lower LOS threshold
- Upper LOS threshold
- Surcharges (per day)
- LOS
- Reimbursement rate
- Outliers
- High cost cases

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## DRGs in Germany

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<td>Transformation</td>
<td>15%</td>
<td>20%</td>
<td>Dual Financing or Monistic</td>
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<tr>
<td>DRG-Budget (2004)</td>
<td>15%</td>
<td>20%</td>
<td>Introduction of DRG-like</td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>20%</td>
<td>reimbursement for psychiatric hospitals</td>
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<tr>
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<td>25%</td>
<td>25%</td>
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<td>20%</td>
<td>Quality Assurance (adjustments)</td>
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*Hospital Financing in Germany: The G-DRG System*
2) Budget neutral phase: Transfer to DRG budgets

<table>
<thead>
<tr>
<th>Hospital Budget 2002</th>
<th>Hospital Budget 2004</th>
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<tr>
<td><strong>100 Million Euros</strong></td>
<td><strong>100 Million Euros</strong></td>
</tr>
<tr>
<td>Reimbursement unit = per diem</td>
<td>Reimbursement unit = case (DRG)</td>
</tr>
</tbody>
</table>
2) Budget neutral phase: Hospital-specific base rate

Relative cost weight
- Patient characteristics
  - Gender, Age,
  - Diagnoses, Severity
- Treatment options
  - Procedures, Technologies,
  - Intensity

Base rate

\[ \text{Base rate} \times \text{Hospital-specific} = \text{G-DRG reimbursement} \]
# DRGs in Germany

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Phase of Preparation</th>
<th>3) Phase of Convergence to State-wide Base Rates</th>
<th>4) Current Developments and Options for the Future</th>
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<td>2000-2002</td>
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<td></td>
<td></td>
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<tr>
<td>2002-2004</td>
<td>Historical Budget (2003)</td>
<td>15% → 20% → 20% → 20% → 25% → 25%</td>
<td>Nationwide Base Rate</td>
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3) Phase of convergence: Adaptation of base rate

Relative cost weight

- Patient characteristics
  Gender, Age, Diagnoses, Severity
- Treatment options
  Procedures, Technologies, Intensity

Base rate

Hospital-specific → Uniform statewide

= G-DRG reimbursement
3) Phase of convergence: Five year process

- **Hospital-specific base rate**
- **Statewide base rate**
- **Lossers**
  - -15% (of difference)
  - -20% (of difference)
  - -20% (of difference)
  - -20% (of difference)
  - -25% (of difference)
- **Winners**
  - +15%
  - +20%
  - +20%
  - +20%
  - +25%

**Reduction limit** (related to previous year’s budget)
- 2005: 1%
- 2006: 1.5%
- 2007: 2%
- 2008: 2.5%
- 2009: 3%
3) Phase of convergence: Changing cost weights

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<tr>
<td>DRGs total</td>
<td>664</td>
<td>878</td>
<td>1082</td>
<td>1192</td>
<td>1200</td>
</tr>
<tr>
<td>Inpatient DRGs total</td>
<td>664</td>
<td>878</td>
<td>1077</td>
<td>1187</td>
<td>1195</td>
</tr>
<tr>
<td>Range of cost weights: min.-max. (rounded)</td>
<td>0.12 - 29.71</td>
<td>0.12 - 57.63</td>
<td>0.11 - 64.90</td>
<td>0.12 - 78.47</td>
<td>0.13 - 73.76</td>
</tr>
<tr>
<td>Daycare DRGs total</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Supplementary fees</td>
<td>0</td>
<td>71</td>
<td>105</td>
<td>127</td>
<td>143</td>
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Relative cost weight

- **Patient characteristics**
  - Gender, Age, Diagnoses, Severity

- **Treatment options**
  - Procedures, Technologies, Intensity
## DRGs in Germany

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1. Central role of self-governing bodies

2. Data driven system with annual updates

3. Detailed analysis of hospital costs

4. Ten-year process of introduction
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3. EuroDRG
EuroDRG project

- EuroDRG: project partner institutions from 13 countries
- Book on DRGs in Europe
- Mapping of grouping algorithms
- Analyses of determinants of hospital costs

http://www.eurodrg.eu/
Thank you very much!