

HealthBASKET – rationale, key findings and policy implications

Reinhard Busse for the *HealthBASKET* project partners



- **The policy question:** Why do costs of health services differ among EU countries at the micro level?
- **Our research questions:** What is a “health service”? Do prices/ reimbursement rates really differ? Why? Are differences explained by systematic factors (e.g. capital), differences in service intensity or costs per service?



HEALTH BENEFITS AND SERVICE COSTS IN EUROPE

A European Research Project
April 2004 – March 2007



PROJECT PARTNERS ARE...



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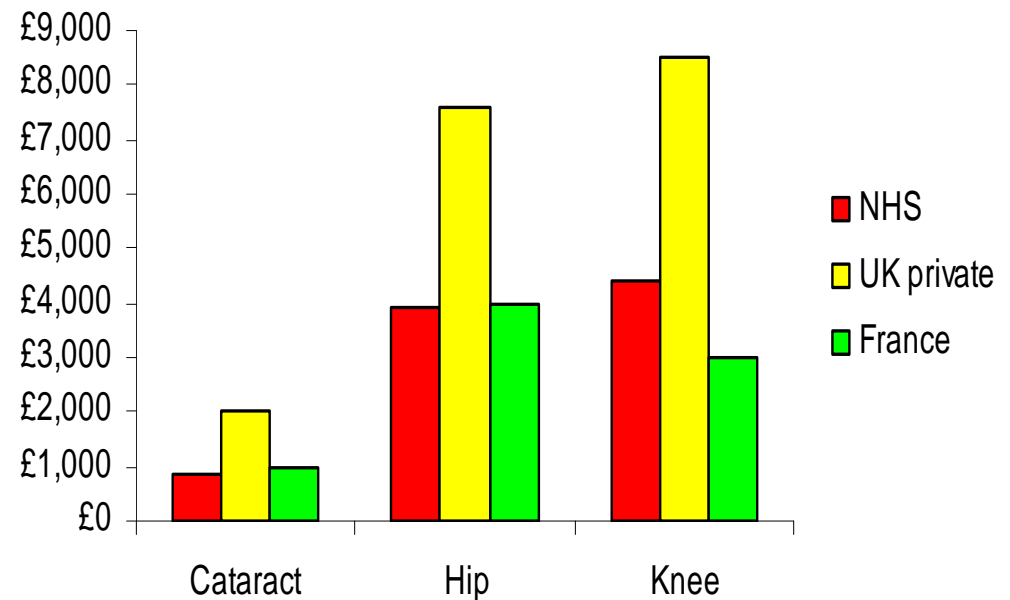
Project Website: www.healthbasket.org

Countries involved in study





The first nine patients sent to France by the English NHS (not shown: the 40 journalists who accompanied them)



**ARE THESE DATA REALISTIC?
ARE THEY REPRESENTATIVE?
HOW CAN THE DIFFERENCE BY EXPLAINED?**

Country A

Benefit Package A using
Service Taxonomy A and
Fee Schedule A

Accessibility A_x

Quality of service A_x

Country B

Benefit Package B using
Service Taxonomy B and
Fee Schedule B

Accessibility B_x

Quality of service B_x

Overall Objectives (1)

- To collect and describe how different countries define the services covered and provided within the system;
- To explore the possibilities of building a European taxonomy of benefits, based on that analysis combined with relevant existing classifications, to enable a common language for cost (and quality) comparisons;

Overall Objectives (2)

- To review methodologies used to assess costs and prices of individual services across EU Member States;
- To identify ‘best practice’ in the analysis of costs at the micro-level with the scope of international comparability;
- To assess costs variations within and between Member States using a selection of both in-patient and out-patient services.

Phase 1 - Service definition:

- Individual Country Analyses
- Synthesis Report
- Exploration of the possibilities of building a European taxonomy of benefits

Phase 2 - A review of methodologies to assess costs

- Country Analyses
- Systematic Review to identify best practice in the analysis of costs

Phase 3: An empirical exercise of cost assessment of a selection of services from the in-patient and from the out-patient setting

- Country Analyses to assess costs of individual health services using a selection of “case-vignettes”
- Synthesis Report

Phase 4: The final synthesis of the results and policy recommendations



Phase I - country case studies

- **Overview on benefit basket in country** On which level are entitlements regulated? For how many different sectors of health care (and/ or how many regions and/ or how many statutory schemes) exist different regulatory regimes? Which is the role of the central government in cases of delegation/ devolution to local and/ or self-regulating actors? Which types of benefit categories are excluded? ...
- **Definitions of entitlements and benefits by sector** Who are the actors responsible for defining benefits for this sector and what is their respective role? Who are the actors responsible? Are the benefits defined explicitly, implicitly or as mixture of both? Is the definition of benefits specific or rather vague? Are they defined in a positive or negative way Are the included benefits simple enumerations of procedures or goods or are they linked to patients' conditions/ indications? How are benefits classified? ...
- **Description of benefit catalogues, involved actors and decision criteria** ...

Taxonomy

theoretical study of classification, including its basic principles, procedures, and rules –
“the science of classification”

Diseases: ICD;
Functional impairments: ICF;
Health care providers: System of Health Accounts;
Health services and goods: ???

Functional Classification

HC.1 Services of curative care

HC.1.1 In-patient curative care

HC.1.2 Day cases of curative care

HC.1.3 Out-patient care

HC.1.3.1 Basic medical and diagnostic services

HC.1.3.2 Out-patient dental care

HC.1.3.3 All other specialised health care

HC.1.3.9 All other out-patient curative care

HC.1.4 Services of curative home care

HC.2 Services of rehabilitative care

HC.2.1 In-patient rehabilitative care

HC.2.2 Day cases of rehabilitative care

HC.2.3 Out-patient rehabilitative care

HC.2.4 Services of rehabilitative home care

HC.3 Services of long-term nursing care

HC.3.1 In-patient long-term nursing care

HC.3.2 Day cases of long-term nursing care

HC.3.3 Long-term nursing care: home care

HC.4 Ancillary services to health care

HC.4.1 Clinical laboratory

HC.4.2 Diagnostic imaging

HC.4.3 Patient transport and emergency rescue

HC.4.9 All other miscellaneous services

HC.5 Medical goods dispensed to out-patients

HC.5.1 Pharmaceuticals and other medical non-durables

HC.5.1.1 Prescribed medicines

HC.5.1.2 Over-the-counter medicines

HC.5.2 Therapeutic appliances and other medical durables

HC.5.2.1 Glasses and vision products

HC.5.2.2 Orthopaedic appliances and other prosthetics

HC.5.2.3 Hearing aids

HC.5.2.4 Medico-technical devices, incl. wheelchairs

HC.5.2.9 All other miscellaneous medical durables

HC.6 Prevention and public health services

HC.6.1 Maternal and child health; family planning ...

HC.6.2 School health services

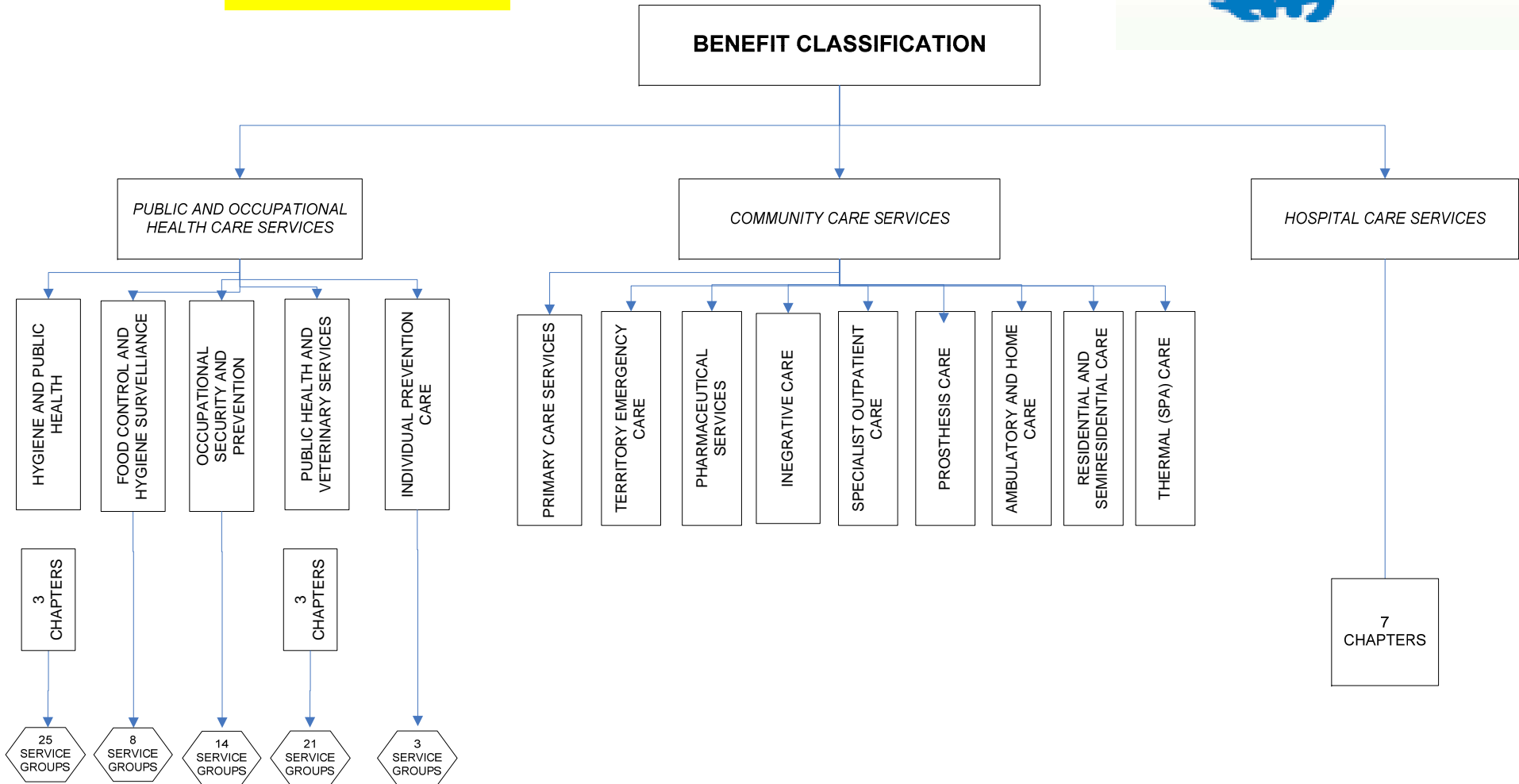
HC.6.3 Prevention of communicable diseases

HC.6.4 Prevention of non-communicable diseases

HC.6.5 Occupational health care

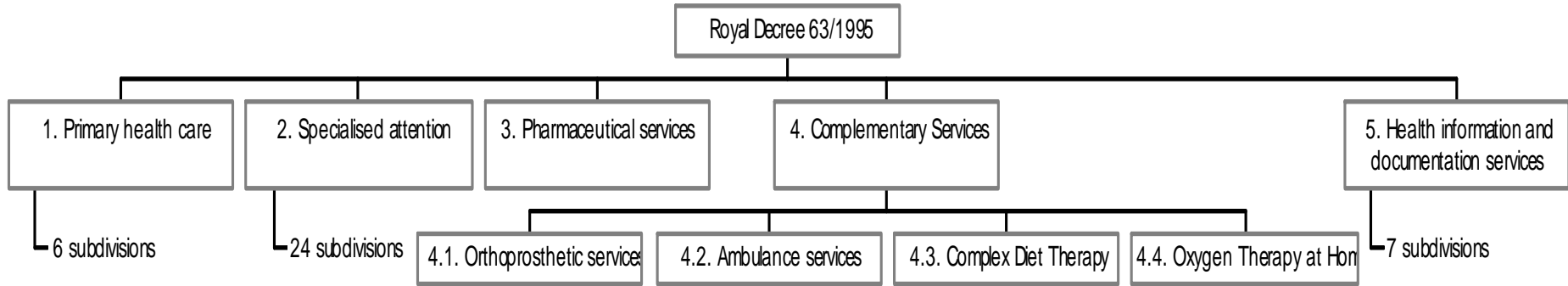
HC.6.9 All other miscellaneous public health services

ITALY



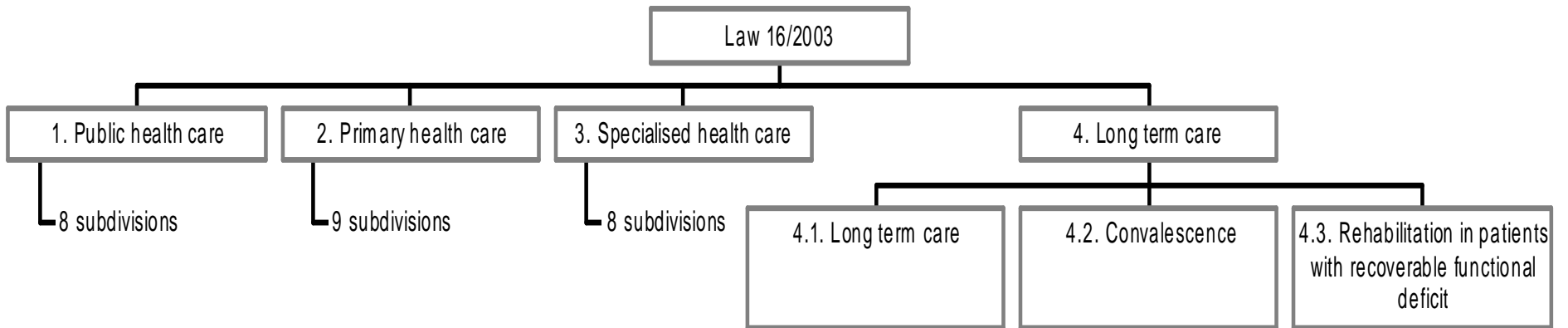
Torbica & Fattore: The “Essential Levels of Care” in Italy: when being explicit serves the devolution of powers. Eur J Health Econ 2005; 6: S46-s52

Figure 1: Taxonomy of the Royal Decree. 63/1995



Source: Own elaboration.

Figure 2: Taxonomy of LAW 16/2003



Source: Own elaboration.

Phase I findings (1)

- clear trend towards a more explicit definition of **benefit baskets** and benefit catalogues in European health care systems.
- only minor variations exist between countries if covered benefits are analysed by categories
- Taxonomy differs largely from country to country – even if most tend to sort **ambulatory care by physician specialty** and **inpatient care by diagnosis and procedure** (DRGs/ HRGs/ DBCs ...)

Phase I findings (2)

- motivation to establish an explicit benefit basket of services is not always cost-containment or rationing but e.g. to assure equity among the regions
- Conclusion: a **uniform taxonomy** (“European Classification of Health Services“) to explore and describe differences (not to standardise the baskets!) **is urgently needed** for both practical and scientific purposes

Phase II - country case studies

Are there official prices or tariffs? What are the main characteristics of price regulation in health care structured by health-care sectors? What is the unit for payment (i.e. level of aggregation)? At which level are prices set or negotiated? Is it possible for a provider to get different prices/payments from different purchasers (health authorities/ sickness funds/ governments)? Is it possible for a purchaser to pay different prices to different providers? Which actors are involved in the establishment of prices?

How are prices updated? Are there fixed update appointments? Do providers or purchaser have the possibility to request update of prices? How accurate are updates done? What is the major drive behind price upgrades?

How are costs of services established in the participant countries? Which units are used to quantify resource consumption? Which sources are used to assess resource consumption? Which sources are used to establish unit monetary value? How accurate are cost assessments? Which actors perform and/or use cost assessment?

Example: The Netherlands

| Healthcare services | Cost assessment | | | | Price setting | | | |
|-----------------------------------|-----------------|--------------------------------------------|--------------------------|---------------------------------|----------------------------|------------------------------------|--------------------------------------------------|-------------------------------------------------|
| | Used? | Units of resource usage | Source of resource usage | Source of monetary value | Unit of price/payment | Level of price setting/negotiation | Variability of prices depend-ing on... | Updating |
| Curative care in hospitals | | | | | | | | |
| * List A DBCs | yes | DBC's and intermediate healthcare services | real data | real data | DBC's | national | fixed prices | annually based on cost assessment |
| * List B DBCs | yes | idem | idem | idem | DBC's | individual healthcare providers | free, negotiable prices | negotiable |
| Outpatient curative care | | | | | | | | |
| * GP care | Incidental | patients and patient contacts | real data | estimations of normative income | patients, patient contacts | national and individual/local | fixed basic tariff; local/ individual allowances | inflation correction and incidental adjustments |
| * dental care | Incidental | technical services/ interventions | estimations | estimations | inter-ventions | national | fixed | inflation correction and incidental adjustments |
| * paramedical care | Incidental | patient contacts | real data | estimations of normative income | patient contacts | national | fixed | inflation correction and incidental adjustments |
| * physiotherapy | Incidental | patient contacts | real data | estimations of normative income | patient contacts | individual/ local | free, negotiable prices | negotiated |
| Curative home care | no | | | | DBC's | national | fixed prices | annually based on cost assessment |

Phase II findings

- Most countries have already installed performance-/activity-based remuneration schemes for in- and outpatient services, while they are often lacking for long-term care, rehabilitation etc.
- There is a clear trend towards the use of micro-costing data (especially for inpatient services) to determine remuneration rates, reflecting the real costs of providers
- problems:
 - insufficient quality of data delivered by providers
 - recommendations in methodological guidelines vary

Phase III

- Do costs (and prices/ reimbursement rates) really differ? If yes, by how much?
- Why?
 - Systematic differences in calculation (e.g. capital costs included/ not included)?
 - Differences in technologies used or service intensity (e.g. time spent with patient)?
 - Cost/ resource unit?

Methodology: Case vignettes

- 10 case vignettes (“service packages”) were designed around episodes of care
 - To ensure homogeneity within case vignettes (*i.e. to avoid risk adjustment*), health status and indication of each patient was defined in detail for each vignette
 - To ensure comparability across vignettes, each was divided into detailed path components e.g. diagnostic procedures, care before operation etc.
 - Partners in each country documented technology use, service intensity and costs (prices) for case vignettes with data from at least 5 representative providers
- > Finally costs (and prices) were compared and differences are analysed

Case vignettes

| <i>Need for care</i> | <i>Age group</i> | <i>Type of Care</i> | | | <i>ECHI*</i> |
|----------------------|------------------|------------------------|----------------|-----------|--------------|
| Appendectomy | 14-25 | In-patient | Surgery | Emergency | - |
| Normal delivery | 25-35 | In-patient | Obstetrics | Elective | + |
| Hip-replacement | 65-75 | In-patient | Surgery | Elective | + |
| Cataract | 70-75 | Out-patient (day case) | Surgery | Elective | + |
| Stroke | 60-70 | In-patient | Medical | Emergency | + |
| AMI (PTCA) | 50-60 | In-patient | Medical | Emergency | + |
| Cough | 2 | Out-patient | Paediatrics/GP | Emergency | - |
| Colonoscopy | 60-70 | Out-patient | Diagnostic | Elective | + |
| Tooth filling | 25-35 | Out-patient | Dental | Emergency | + |
| Physiotherapy (knee) | 12 | Out-patient | Rehabilitative | - | - |

*ECHI: related to European Community Health Indicators set (+ yes/ - no)

An example: Hip replacement

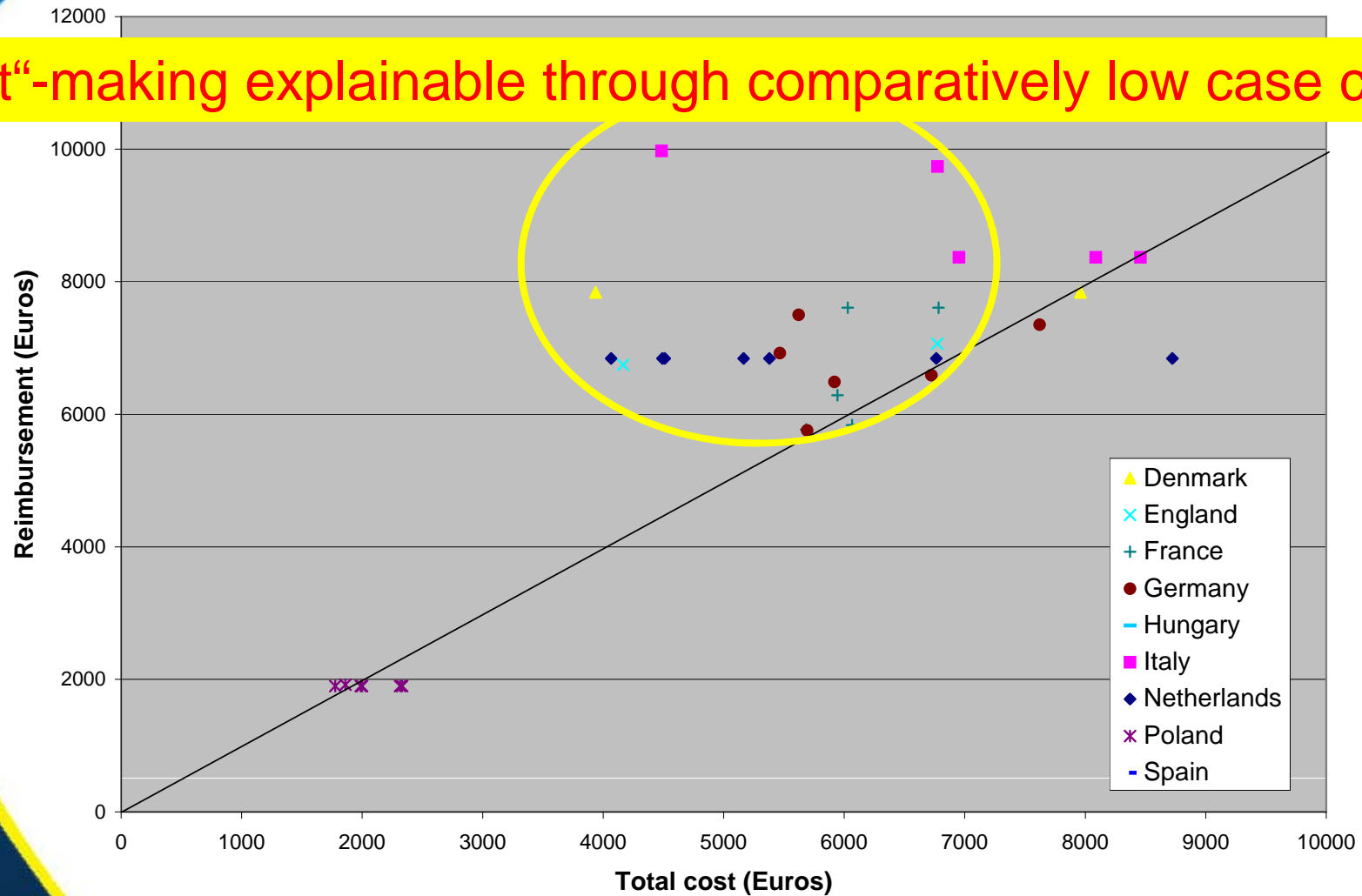
Female, 65-75 years old, with hip osteoarthritis requiring hip replacement because of considerable impairment is finally (after waiting time if normal in the hospital) admitted for her first hip replacement (one side).

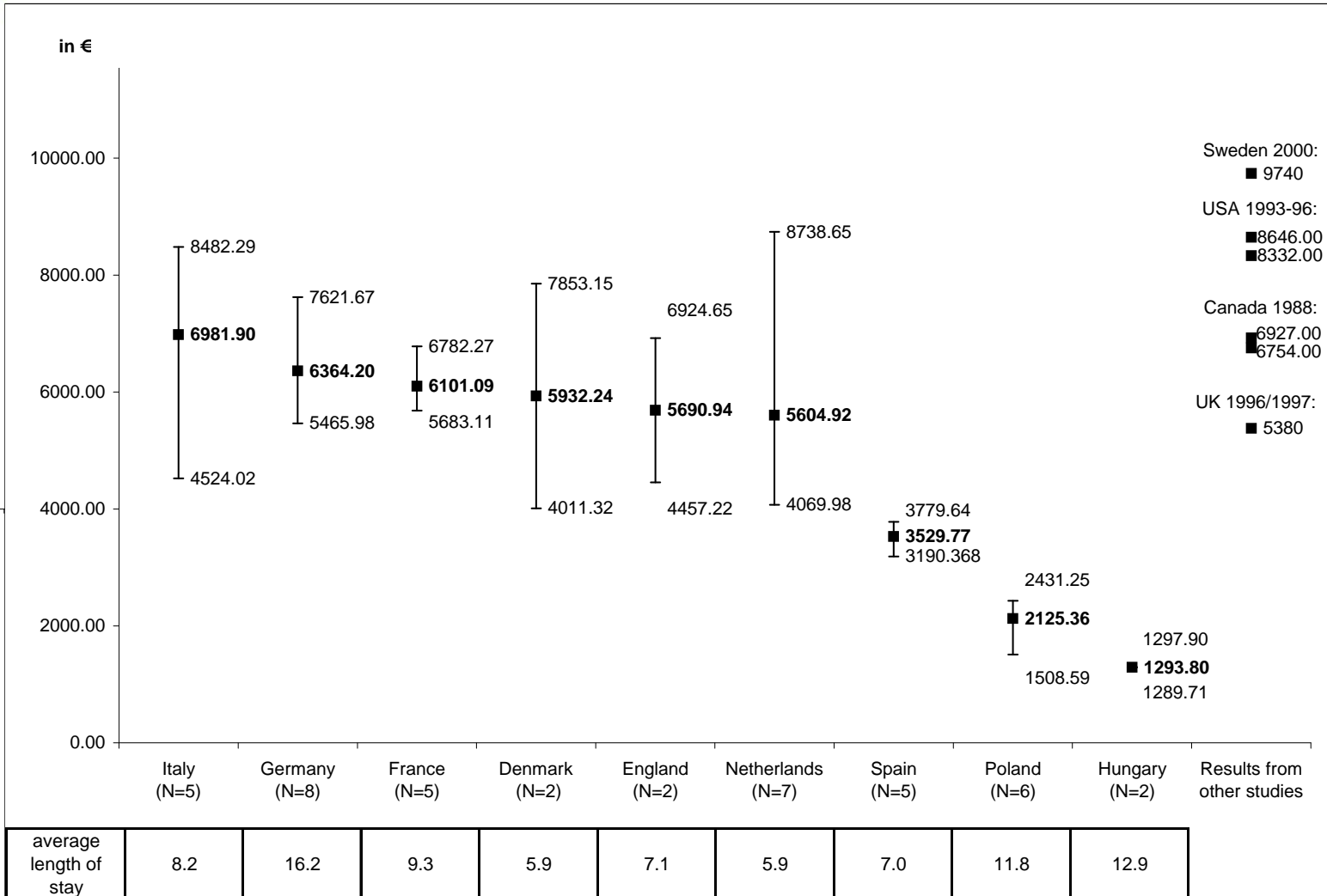
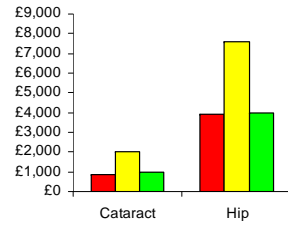
The patient is without co-morbidity (i.e. expensive drugs due to treating co-morbidity should be excluded), the surgeon uses the most frequently used implant for female patients; the operation is without severe complications.

End of case vignette: discharge
(home or *to separate rehabilitation institution*).

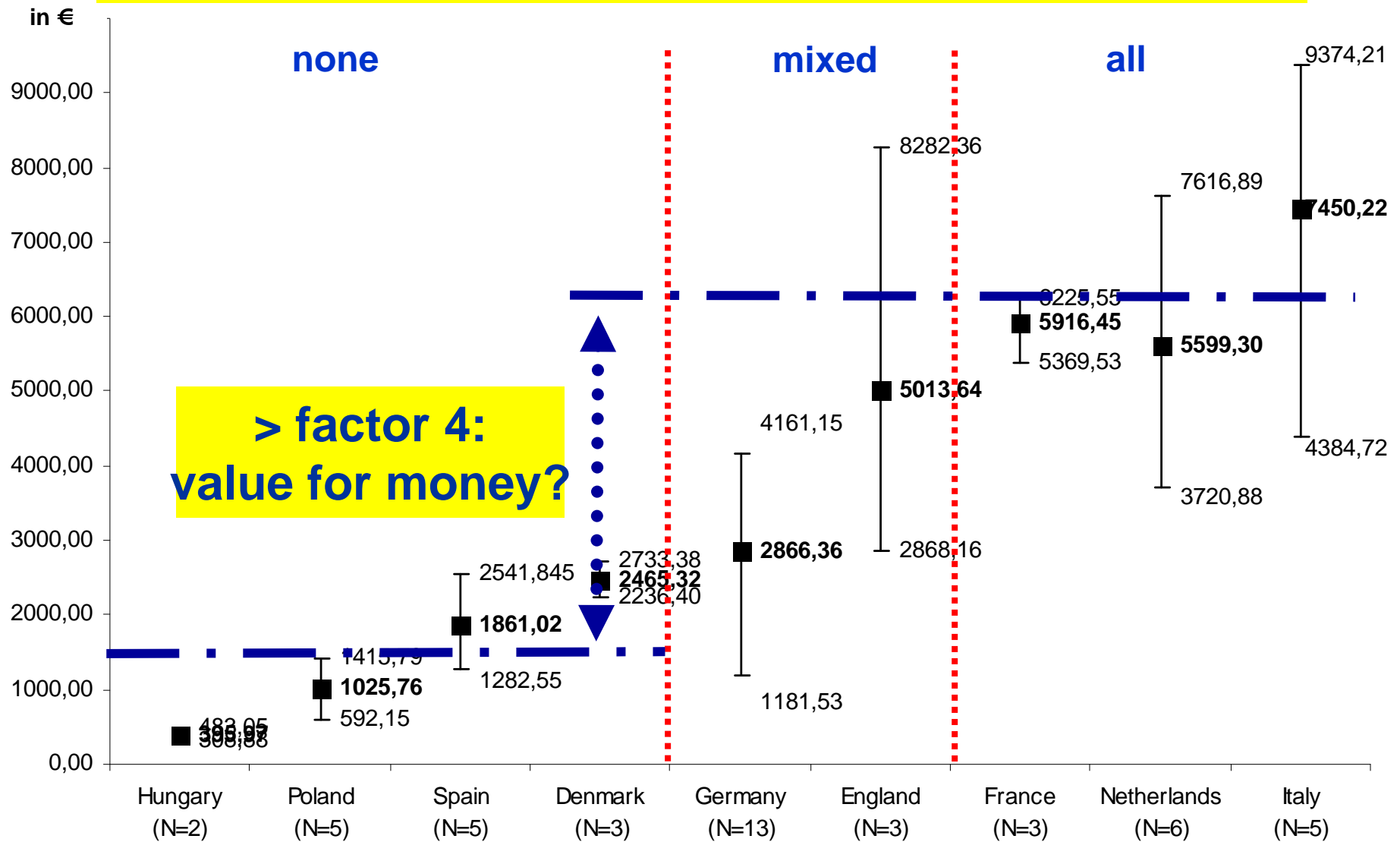
| Phase | Elements | Units | No. of units used/patient | Unit Cost | Total costs |
|-------------------------------------------|----------------------------------------------------------------------------|---------------|---------------------------|-----------|-------------|
| Pre-operative (admission and planning) | <i>Diagnostic Procedures</i> | | | | |
| | Imaging (e.g. X-Ray) | No. | | | |
| | Imaging (e.g. ultrasound) | No. | | | |
| | Imaging (e.g. CT) | No. | | | |
| | Laboratory (e.g. blood count) | No. | | | |
| | Laboratory (e.g. blood coagulation, C-reactive protein (CRP), etc.) | No. | | | |
| | Other (ECG, lung-function, etc.) | No. | | | |
| | <i>Care before OP</i> | | | | |
| | Surgeon/Physician input | Patient days* | | | |
| | Nursing input | Patient days | | | |
| | Other (paramedical) | Patient days | | | |
| | <i>Drugs, infusions, injections, etc. Drug A, Drug B, etc.</i> | DD** | | | |
| Operation | <i>Devices (type of implant, stent, etc.) total price paid by hospital</i> | No. | | | |
| | OP-Team (altogether or separately) | Min. | | | |
| | Surgeon | Min. | | | |
| | Anaesthetist | Min. | | | |
| | OP-nurses etc. | Min. | | | |
| | Drugs (anaesthetics, other?) | DD | | | |
| | OP-Theatre running costs (e.g. sterilisation)*** | Min. | | | |
| Wake-up room**** | | | | | |
| Post-operative | <i>Intensive Care Unit</i> | | | | |
| | Surgeon/Physician | Patient days | | | |
| | Nursing | Patient days | | | |
| | Other | Patient days | | | |
| | Drugs | DD** | | | |
| | Diagnostic Procedures (e.g. imaging, laboratory) | No. | | | |
| | Therapeutic Procedures (e.g. punctures, drainages, special wound dressing) | No. | | | |
| | <i>Normal Ward</i> | | | | |

“Profit“-making explainable through comparatively low case comple





Acute myocardial infarction: Hospitals performing PTCAs, Stenting and/or Lysis



Our current analyses suggest that ...

- use of technology is a major explanation for certain vignettes (hip replacement, acute myocardial infarction, appendectomy ...)
- skills mix and usage intensity may make a difference (delivery ...)
- length of stay plays a role (especially if shortened by early discharge to rehabilitation; e.g. stroke)
- costs per resource unit (especially for human resources) do differ) – depending on vignette as much or more than technology usage (*7th FP project*)
- ...
- difference may be due to unresolved methodological questions (allocation of overheads ...)

Policy recommendations (1)

- International comparison is an important tool for learning from each other and developing best practice. However, service, cost and quality data are currently not routinely available for such comparisons
- Countries should be explicit about what they provide and what not
- Common taxonomy necessary (“European Classification of Health Services“): possibly to be developed as expansion of OECD classification; usefulness of EN 1828 on coding systems in health care and EN 1068 on surgical procedures coding systems to be discussed
- Regular monitoring of benefit baskets and decision criteria on EU level

Policy recommendations (2)

- Issues of adopting common standards to decide about benefits in the baskets of the EU countries and possibly constructing a uniform European benefit basket (possibly initially restricted to certain indications with a clear European value-added, such as Orphan diseases) will appear on the European agenda. Policy-makers are well-advised to anticipate such discussions.
- Cost-effectiveness/ value for money considerations need solid cost data, based on comparable methodology which is currently not available.
- Our approach by using standardised vignettes is feasible.
- Prerequisite of international cost comparison are: mutually accepted methodological guidance (standard costing method) and reasonably good compliance with it.

Policy recommendations (3)

- Harmonisation of methodologies not sufficient to ensure meaningful comparability; accounting systems both at provider level and at national level should be coordinated and standardised -> serious dilemma: standardised “European” accounting methodology right down to provider level might be well-justified and “necessary” but enforcing one methodology conflicts with the principle of subsidiarity.
- Intermediate option: „Benchmarking club“ of hospitals
- Once such comparative data are available, European countries need to honestly revisit their common assumption that their respective health systems work so differently that all different regulation and financing systems are justified.

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HEALTH BASKET

Printer Friendly

Participants

Health Benefits and Service costs in Europe (*HealthBASKET*)

HealthBASKET is a part of the Specific Targeted Research or innovation project in the European Commission's 6th Framework programme (Grant: SP21-CT-2004-501588).

The project was launched in April 2004 and was completed in March 2007. The participating countries included Denmark, France, Germany, Hungary, Italy, Poland, Spain, The Netherlands, and the United Kingdom.

[Click here to download the project brochure.](#)

Project Overview and Objectives

The Kohll/Decker judgments of the European Court of Justice and more recently the Geraets-Smits/Peerbooms cases have demonstrated that health services can no longer be regarded as operating in isolation from other EU Member States. Increasingly there are flows of patients from one Member State to another, sometimes as a matter of individual choice, sometimes organised at national level through Ministries of Health.

For rational decision-making, national and EU policy-makers need reliable comparisons about available health services, how these are defined, what their costs are and which prices they will have to pay for them. The *HealthBASKET* project will address these needs of knowledge in a clear



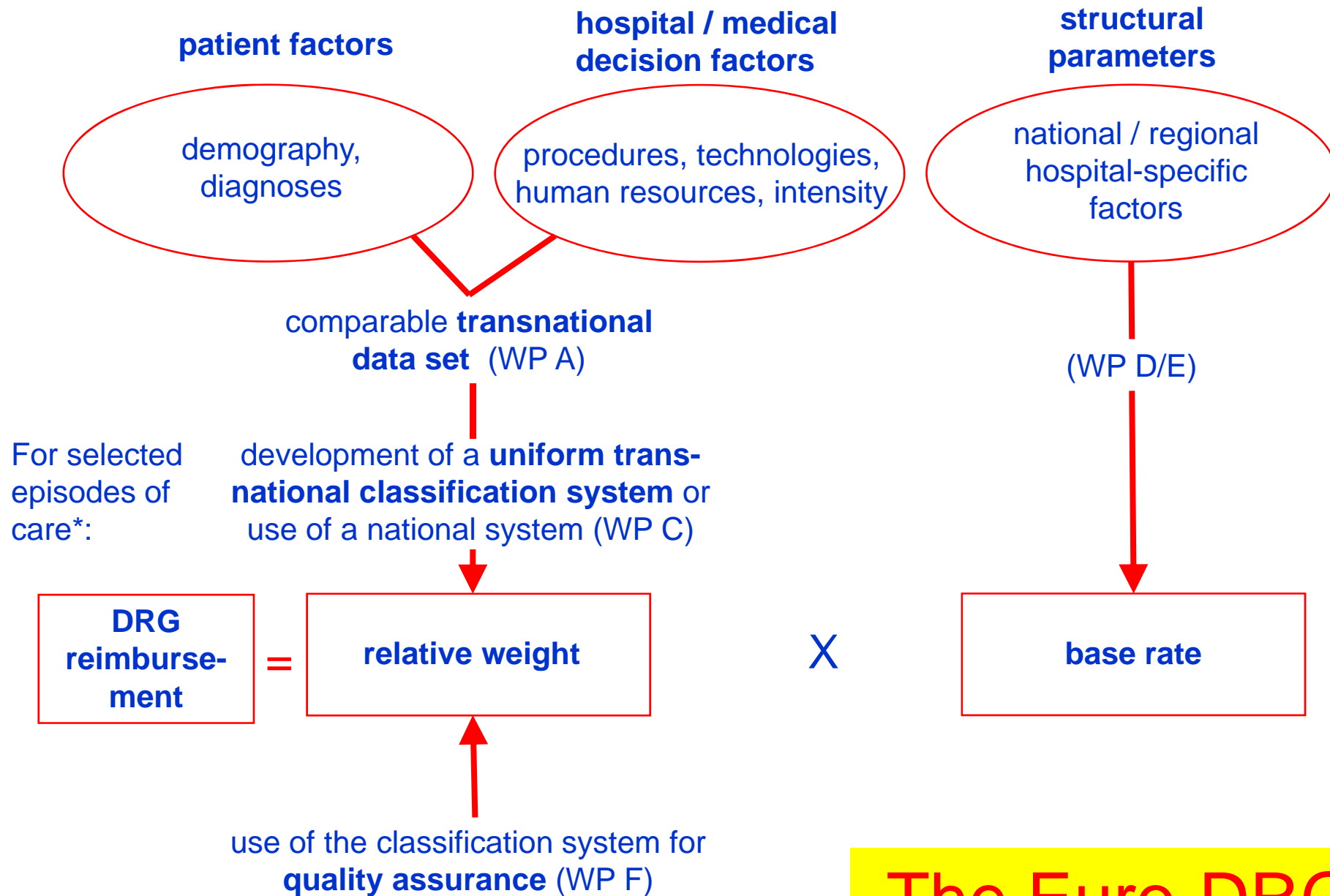
NEWS & EVENTS

- [Joint teaching module delivered by ENSP in Croatia on French DRG payment in hospitals](#)
- [Introducing CREMS \(Centre for Research on Health Economics and Health Care Management\)](#)
- [International Health Conference: Recent Advances in Clinical](#)

European Commission identified the European Diagnosis-related groups system as a future research area to be funded under the 7th FP (HEALTH-2007-3.2-8).

The aim of this proposed research project will be to explore and develop ways to establish a EURO-DRG system that achieves comparability of costs and prices *between* and *within* Member States for in-patient services, considers the structural differences among the Member States as well as the differences in medical practice and different preferences towards the implementation of new technologies.

It also aims to address the possible trade-off between costs and the *quality of care* to ensure that a European DRG system provides the intended incentives.



* Development of full system is beyond scope of project

The Euro-DRG project 2008/2010