



ORGANISATION FOR ECONOMIC
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On spatial deflators for hospital services. A report on the pilot work on PPPs at the OECD

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Contents of the presentation

- Spatial deflators.
- Volume comparison over time and across countries.
- Purchasing Power Parities for hospital services.
- Current status of the OECD hospital PPPs project and some preliminary results.

Spatial deflators

As in volume comparisons over time within a country, volume comparisons at a point in time between countries can be achieved either by:

- directly comparing volumes of health services
- deflating current values with health-specific Purchasing Power Parities (PPPs)

Spatial deflators (cont)

PPPs are spatial deflators and currency converters that eliminate the effects of the differences in price levels between countries.

The PPPs are calculated as geometric averages of relative prices (parities) between pairs of countries for the basket of products which are representative in both countries.

Spatial deflators (cont)

LASPEYRES

$$L_{AB} = \prod_{i \in R_A} \left[\frac{P_{i,B}}{P_{i,A}} \right]^{\frac{1}{n_A}}$$

PAASCHE

$$P_{AB} = \prod_{i \in R_B} \left[\frac{P_{i,B}}{P_{i,A}} \right]^{\frac{1}{n_B}}$$

FISHER

$$F_{A,B} = \sqrt{L_{A,B} P_{A,B}}$$

Volume comparison over time and across countries: similarities and differences

The two types of comparison are consistent:

- both require the same steps in measurement.
- they might also use the same sources of information.



Volume comparison over time and across countries: similarities and differences (cont)

Comparisons of volume over time for a given country require within-country consistency of the choice of health products.

For comparisons across countries, we need consistency in health product definitions between countries. This means that it is necessary to define a common sample of representative health products.

PPPs for hospital services

Current approach for non-market services

- The *input-price approach* requires a breakdown of the expenditure on non-market services by cost component.
- As an example, the average yearly physician costs can be compared across countries.

PPPs for hospital services

New methodological proposal

- The *output-based approach* requires an allocation of the expenditure to products.
- The cost components are the same as for the input-price approach, but they are allocated to cost objects.
- As an example, the average costs of a pacemaker insertion can be compared across countries.

PPPs for hospital services

New methodological proposal (cont)

- *Product identification*: hospital product is defined in terms of the types of services that hospitals produce (called “case types”).
- *Product measurement*: case types quantities are measured through electronic coded information available at hospitalization level.
- *Place a value on products*: a unit (average) quasi price is estimated using available results from cost finding studies or price lists.



Case types identification - examples

<i>Case type number</i>	<i>Case type description</i>	<i>Codes</i>	<i>Rules</i>
IM01	Acute myocardial infarction	I21; I22	No operating room procedure is performed.
IS02	Appendectomy	47.01; 47.09; 47.11; 47.19	Any principal diagnosis code. Includes incidental appendectomy
OS03	Cataract surgery	13.1; 13.2; 13.3; 13.4; 13.5; 13.64; 13.65; 13.66; 13.69; 13.7; 13.8; 13.9	Any principal diagnosis code.



The OECD hospital PPPs Project. Pilot test of the new proposal

Feasibility study

First round (2008): 6 countries

Second round (2009): 14 countries



The OECD hospital PPPs Project.

Example of results

US AUS CAN FRA KOR NOR

Comparative Price Levels
(Group=100)

Inpatient Medical Services	199	81	115	123	30	145
Inpatient Surgical Services	179	91	90	95	57	125
Inpatient services	185	88	97	103	47	131
Outpatient Services	207	122	52	76		
Total hospital services	193	93	90	101	47	131

Total hospital services (PPP 2005 round extrapolated to 2006)	135	86	101	103	64	129
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