The impact of cross-reference-pricing on pharmaceutical prices – manufacturers’ pricing strategies and price regulation

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Setting public reimbursement prices in the EU-15

- Only national aspects are considered when regulating pharmaceutical prices
  - Germany, UK, Spain
- Prices are set or negotiated by governmental agencies using prices in foreign countries as part of their decision-making criteria
  - Belgium, Finland, France, Sweden, Denmark
- Prices are set using an index of foreign prices (‘cross-reference pricing)  
  - Austria, Greece, Ireland, Italy, Luxembourg, the Netherlands, and Portugal
Methods

- Cross-reference pricing schemes were classified
- Analytic model was built to simulate the effect of a marginal price reduction in Germany

- Information derived from:
  - official governmental sources
  - grey literature
  - European Observatory (HIT country profiles)
  - international organisations (World Bank, OECD)

Classification of Cross-reference pricing schemes
Cross-reference pricing

- As a result of cross-reference pricing there are interrelations between regulatory schemes in different countries

\[
NL = \frac{BEL + FRA + GER + UK}{4}
\]

- Some countries are included in cross-reference pricing schemes that use cross-reference pricing themselves

\[
IRL = \min\left[UK, \frac{DEN + FRA + GER + NL + UK}{5}\right]
\]

- Cross-referencing across countries

\[
AT = \frac{BEL + DEN + FIN + FRA + GER + GRE + IRL + ITA + LUX + POR + NL + SPA + SWE + UK}{14}
\]

Interrelations between regulatory schemes

<table>
<thead>
<tr>
<th>Cross-reference pricing schemes</th>
<th>AT</th>
<th>BEL</th>
<th>DEN</th>
<th>FIN</th>
<th>FRA</th>
<th>GER</th>
<th>IRL</th>
<th>ITA</th>
<th>LUX</th>
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Modelling the Impact of a marginal price reduction in Germany on Cross-reference Pricing Schemes (I)

Assumptions:
- the referenced drug is marketed in all EU-15 countries
  - launched in Italy before 1997, thus cross-reference pricing is applied in Italy
  - Greece does not reference to Germany or any country using cross-reference pricing
  - Portugal references to Italy
  - Luxemburg imports drug from France or Belgium (not cross-referencing to Germany)
  - Ireland references to the average price of the five countries
- the prices obtained through cross-reference pricing schemes are binding

Modelling the Impact of a marginal price reduction in Germany on Cross-reference Pricing Schemes (II)

<table>
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<th>direct impact</th>
<th>indirect impact</th>
<th>total impact</th>
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<tr>
<td>Austria</td>
<td>0.07</td>
<td>0.08</td>
<td>0.15</td>
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<td>Italy</td>
<td>0.30 - 0.33</td>
<td>0.03</td>
<td>0.33 - 0.36</td>
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<tr>
<td>Ireland</td>
<td>0.21 - 0.23</td>
<td>0.05-0.06</td>
<td>0.27 - 0.29</td>
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<tr>
<td>Portugal</td>
<td>0.00</td>
<td>0.33-0.36</td>
<td>0.33 - 0.36</td>
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<tr>
<td>Netherlands</td>
<td>0.27 - 0.29</td>
<td>0.00</td>
<td>0.27 - 0.29</td>
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</table>

Variation is due to different wholesaler mark-ups in Germany
Effects of cross-reference pricing

- Increased dependency on pricing decision in some European countries (e.g. France and Germany)
- Relocation of the reimbursement decision
- Burden of a reimbursement decision is shifted
  - Increased incentive for industry to prevent stronger market regulation / ignore market regulation
  - Higher pricing level (increased incentive to avoid price reductions)
  - Incentive to launch high priced dummies in small countries / not to launch a drug in a country with a low pricing level
- Enables Strategic product launches which might exploit differences in price setting

Conclusions

If applying cross-reference pricing:
- As many countries as possible should be included into the scheme
- Countries that use cross-reference pricing themselves should not be included
- Market volumes of the referenced countries should be integrated into the index (e.g. Italy) to prevent the launch of high price dummies and launch delays in countries with small markets