Value & Valuation of Health Technologies
The Swedish Experience

Ulf Persson

IHE, The Swedish Institute for Health Economics
&
Institute of Economic Research, School of Economics and Management, Lund University, Sweden

E-mail: up@ihe.se
Internet: www.ihe.se
Outline

HTA
VBP
TLV

Zurich, November, 2010.
Health Technology Assessment (HTA)

Historically HTA agencies have focused on producing high quality assessment reports to inform decision makers.

Now such organizations are increasingly undertaking or commissioning HTAs, to inform a particular resource allocation decision, i.e. appraisals, such as:

- listing a drug on a national or local formulary,
- defining coverage and insurance plans,
- issuing mandatory guidance on the use of health care technologies.

Zurich, November, 2010.
Value Based Pricing (VBP) of pharmaceuticals

"Value Based Pricing or Value optimized pricing is a business strategy. It sets selling prices on the perceived value to the customer, rather than on the actual cost of the product, the market price, competitors prices, or the historical price.” (Ref. Wikipedia)

The goal of VBP is to align price with value delivered.

VBP is dependent upon an understanding of how customers measure value.
Organizations undertaking or commissioning Health Technology Assessment (HTA) in Health Care in Sweden

- SBU (Swedish Council on Technology Assessment in Health Care)
- SoS (National Board of Health and Welfare)
- TLV (Dental & Pharmaceutical Benefits Agency)
- Regional P&T Committees & Regional Mini-HTA
Health care resources are limited and the government has decided that rationing will be based on three criteria:

• The principle of equal human value
  - respect for the equal human value of all people
• The principle of need and solidarity
  - those in greatest need take precedence) and
• The cost-effectiveness principle where the cost of a drug will be decided through a "value-based pricing" system
Key principles of Value Based Pricing of pharmaceuticals in Sweden

1. A threshold value, e.g. maximum willingness-to-pay for a QALY gained
2. Marginal decreasing utility of treatment, e.g. the benefit varies by indication or by degree of severity
3. Societal perspective in order to consider cost offset in other sectors/budgets than the health care
1. A threshold value

National Institute for Clinical Excellence (NICE) and its value judgments

- Threshold value
  - A = £5,000-£15,000/QALY
  - B = £25,000-£35,000/QALY

Source: Rawlins & Culyer, BMJ 2004

Zurich, November, 2010.
2. Diminishing marginal utility of drug treatment

Benefit of health:

Number of treated patients

Indication 1

Indication 2

Indication 3

Zurich, November, 2010.
A = Consumer surplus, at price $P_2$ and $Q_2$
3. Consequences in a social economic perspective

Other pharmaceuticals
Outpatient care
Inpatient care
Social services (home care, rehabilitation)
Value of lost production

Life expectancy
Quality of life

Relationship between costs and Quality Adjusted Life Years gained (QALYs)
Value based pricing of pharmaceuticals

Advantages expected

Cost-Effective use of health care resources
Cost containment instruments
A sustainable system – access to new treatments and encouraging the developments of new treatments
Cost-effectiveness analysis is not a sufficient and adequate basis for fair and reasonable decision making

Some argument against VBP:

1. VBP drives costs upwards:

   Asymmetry of expenditures within different sectors in health system, e.g. between hospital budgets and treatment interventions, not covering pharmaceuticals are calculated and based on expected costs.

   If we at the same time set the prices and reimbursements of pharmaceuticals based on the principles for VBP it will result in an increase in costs that widely extend the costs for the other health care resources.

Source: Thomas Muller, G-BA, Joint Federal Committee, Germany, €MAUD, Newsletter #1, June 2010
Arguments against VBP (cont.)

2) **VBP results in ”to high prices”**
   
   If the threshold value, i.e. the societies maximum willingness-to pay is known prior to the price and reimbursement negotiation the health care (taxpayers) have to pay maximal price for each QALY
Arguments against VBP (cont.):

3) Orphan drugs could be excluded from reimbursement.
   If price & reimbursement decisions are based solely in the principles of VBP, budget aspects are not included in the decision-making process. The result is that orphan drugs will not be reimbursed.
How does VBP work in reality?

1. Cost increase rapidly?
2. “Too high” prices?
3. A sustainable system – access to new treatments and encouraging the development of innovations?
The development of costs for health care and for pharmaceuticals in Sweden

Index, base year 2002
1. Cost containment?

Increased costs for pharmaceuticals (for humans) in Sweden, Total 2008, € 3,500 million

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990s</td>
<td>10 % annually</td>
</tr>
<tr>
<td>2002</td>
<td>8.5 %</td>
</tr>
<tr>
<td>2003</td>
<td>2.1 %</td>
</tr>
<tr>
<td>2004</td>
<td>2.8 %</td>
</tr>
<tr>
<td>2005</td>
<td>2.9 %</td>
</tr>
<tr>
<td>2006</td>
<td>5.1 %</td>
</tr>
<tr>
<td>2007</td>
<td>6.1 %</td>
</tr>
<tr>
<td>2008</td>
<td>5.2%</td>
</tr>
<tr>
<td>2009</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

TLV appraisals
Cost containment (Cont.)

Life Cycle Management

Sales, SEK

Launch

Time

Patent expire
2. Increase in pharmaceutical prices?

All decisions from reimbursement for new products from October 2002 to October 2007, total 216 decisions

On average the cost/QALY is € 36 000.

For more severe conditions the TLV/LFN has accepted cost per QALY in the area of € 90 000

Note: In October 2008 TLV rejected the breast cancer treatment drug Tyverb because it was considered as too costly per QALY gained, € 120 000.
Value, Based Pricing (VBP), cost-effectiveness and consumer surplus for marginal subgroup
The example of Acomplia – a weight reducing drug


Zurich, November, 2010.
3. Sustainability?

Access to new treatments & uptake of new therapies

The uptake and use of the TNF-inhibitors for rheumatoid arthritis (RA) in Sweden is not very far away from that in the United States.

Patient registries were established early on in RA

Sustainable system? (cont.)

Orphan drugs have difficulties in receiving reimbursement because cost/QALY gained can exceed the accepted threshold value.

In a total of 30 orphan drugs 29 have received reimbursement by TLV (6 with limitations), June 2003 – April 2010*. (Kuvan vid hyperphenylalaninemi vid fenylketonuri (PKU) were not granted reimbursement.

SMC in Skottland have evaluated 28 orphan drugs and "almost half of them" were denied reimbursement**.

Source:  
*TLVs homepage  
** Policies for Rare Diseases and Orphan Drugs, KCE reports 112C

Zurich, November, 2010.
Orphan drugs? (cont.)
Cost-effectiveness for Duodopa at each stage in the reimbursement approval process

Incremental Cost-Effectiveness Ratio
(Duodopa vs. Standard Care)

VBP Discussion

The "Swedish" example for pharmaceuticals does not support the arguments that VBP should:
- Increase costs more rapidly for pharmaceuticals than for other health care costs
- Higher prices on pharmaceuticals when the society’s willingness-to-pay is known

However, VBP may make it difficult to receive reimbursement for orphan drugs
A balance between three goals

1. Cost-effectiveness
2. Cost containment
3. A sustainable system require instruments encouraging innovations