Novel Approaches to Value Assessment, Within the Cost-Effectiveness Framework

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Moving beyond conventional cost-effectiveness analysis?

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Value assessment? Yes, but how?

Value

Which benefits, risks, and costs?
How to combine these?

Benefits

Risks

Costs

Conventional cost-effectiveness analysis

Net Monetary Benefit = QALYs * Willingness-to-pay - Costs

<table>
<thead>
<tr>
<th>Treatment A</th>
<th>Treatment B</th>
<th>Incremental CE ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>QALYs</td>
<td>Costs</td>
<td>NMB</td>
</tr>
<tr>
<td>4</td>
<td>20,000</td>
<td>380,000</td>
</tr>
</tbody>
</table>

Willingness-to-pay for a QALY is 100k
Patient diversity

- Variation in patient characteristics
- Heterogeneous treatment effects
- Heterogeneous preferences

Beyond averages

<table>
<thead>
<tr>
<th>Treatment A</th>
<th>Treatment B</th>
<th>Individualized care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>QALYs</td>
<td>Costs</td>
</tr>
<tr>
<td>Average</td>
<td>4</td>
<td>20,000</td>
</tr>
<tr>
<td>Patient 1</td>
<td>4</td>
<td>20,000</td>
</tr>
<tr>
<td>Patient 2</td>
<td>4</td>
<td>20,000</td>
</tr>
<tr>
<td>Patient 3</td>
<td>4</td>
<td>20,000</td>
</tr>
<tr>
<td>Patient 4</td>
<td>4</td>
<td>20,000</td>
</tr>
</tbody>
</table>

Value that can be obtained by providing patients the treatment that is on average cost-effective: **400,000**

Value that can be obtained by providing patients the treatment that is cost-effective for that particular individual: **440,000**

Value of hope

Treatment A: Mean survival of 10 months

Treatment B: Mean survival of 10 months

Treatment A or B?

Value to the healthy

> Cost-effectiveness analyses typically estimate the value of a treatment to patients.

> However, availability of an efficacious treatment for a specific disease provides some degree of protection against the *physical risk* among healthy individuals at risk for the disease.

> In addition, an efficacious treatment converts an uninsurable physical risk (getting sick) into an insurable *financial risk*.

> Together, these two components—physical risk protection and financial risk protection—constitute the “insurance value”.


How do we implement these concepts in CEA?

What is the impact on estimates of value?

Open Source Value Project (OSVP)
“Open, collaborative, iterative”

> Development of flexible open-source models for value assessment

1. To enable a more constructive dialogue between stakeholders with different beliefs about relevant clinical data, modeling approaches, and value perspectives

2. To provide local decision-makers with means to credible value assessment that reflects the local setting
**IVI-RA model - Attempt to incorporate “value to the healthy”**

http://www.thevalueinitiative.org/ivi-ra-value-model/

**Conclusion**

> Acknowledge patient diversity  
> Novel and potentially relevant concepts of value have been introduced  
> How to incorporate these in CEA?  
> Flexible open-source models to facilitate iterative development, collaboration, and constructive debate can help getting a better understanding how to incorporate novel concepts of value in CEA and evaluate the impact on estimates of value.
Thanks for your attention

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