Economic analysis for health sector in MFF 2021-2027

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Agenda

1) Project preparation steps
2) Inputs - outputs - outcomes
3) Economic analyses
4) Possible simplifications of EA/CBA
Steps applied for project preparation

1. Socio-economic, institutional and political context
2. Definition of objectives
3. Project identification
4. Technical feasibility
5. Financial analysis
6. Economic analysis
7. Environment and climate change
8. Risk assessment
Quantitative vs qualitative analysis

Inputs:
Starting point → Intervention → Outputs → Outcomes

Costs w/o project:
- Health sector
- Patients/Families
- Other sectors
- Production losses

Project costs:
- Health intervention
- Resources saved
- Other values

Benefits:
- Health outcomes
- Intangible costs saved
- Direct costs saved
- Indirect costs saved

Source: Vademecum, adapted from Drummond et al. (2005).
Types of analyses

• **Least-cost analysis (LCA), a well-defined / single result** - different methods to accomplish and associated costs

• **Cost effectiveness analysis (CEA), the same effect** but with different intensities (e.g. number of lives saved), methods to accomplish and associated costs.

• **Cost - utility analysis (CUA), a synthetic measure of health gains** (Disability/Quality Adjusted Live Years) and associated costs.

• **Cost benefits analysis (CBA), different gains** converted into monetary values.
## Outcomes

<table>
<thead>
<tr>
<th>No</th>
<th>Outcomes/benefits/gains</th>
<th>Natural units of measure</th>
<th>Conversion into monetary terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reduced mortality</td>
<td>Avoided deaths</td>
<td>WTP, HCM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Years of life lost/gained</td>
<td></td>
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<tr>
<td>2</td>
<td>Reduced disability and ill health</td>
<td>Number of health services avoided</td>
<td>HCM, costs savings, WTP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time of temporary inability to work</td>
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<td>Time of permanent inability to work</td>
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<tr>
<td>3</td>
<td>Reduced morbidity</td>
<td>Number of health services avoided</td>
<td>HCM, costs savings, WTP</td>
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<td>Time of temporary inability to work</td>
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<td>Time of permanent inability to work</td>
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<tr>
<td>4</td>
<td>Reduced burden of disease</td>
<td>DALY</td>
<td>WTP</td>
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<tr>
<td>5</td>
<td>Reduced adverse effects</td>
<td>Number of health services avoided</td>
<td>WTP, HCM, costs savings</td>
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<td></td>
<td>Time of temporary inability to work</td>
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<td>Time of permanent inability to work</td>
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<tr>
<td>6</td>
<td>Reduced hospitalisations</td>
<td>Number of hospital admissions avoided</td>
<td>costs savings, WTP, HCM</td>
</tr>
<tr>
<td>7</td>
<td>Reduced hospital length of stay</td>
<td>Avoided number of hospital days of stay</td>
<td>costs savings, WTP, HCM</td>
</tr>
<tr>
<td>8</td>
<td>Improved accessibility</td>
<td>Number of health services gained</td>
<td>WTP, HCM, alternative costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Waiting-time reduced</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Improved patients’ satisfaction</td>
<td>Patients with higher level of satisfaction</td>
<td>WTP</td>
</tr>
<tr>
<td>10</td>
<td>Reduced external costs</td>
<td>EUR per tonne of CO₂</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>EUR per vehicle-km</td>
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</tbody>
</table>

Source: Vademecum, 2020
Recent examples of economic benefits

Example 1

- Reduction Co2
- Increase user satisfaction
- Reduced mortality
- Decrease complications
- Space available for health response

Example 2

- The Years of life Lost (YLL) avoided.
- Value of time due to reduced time in transfers and referrals to other inpatient facilities.
- Operating cost of transport for transfers and referrals.
- External costs of transport (externality) due to transfers and referrals (accidents, pollution, climate change, noise, energy production and congestion).

Example 3

- Reduction of costs of stay in femur neck fracture surgeries
- Reduction of hospitalizations + 30 days
- Reduction of the rate of caesarean sections, with impact on the reduction of costs of stay
- Reduction of infection rate
- Reduction TCO2 reduction by patient uptake outside the HESE and by reduction of internal transport
- Reduction of transport costs ARS
- Reduction of the number of years of life lost, by reducing the number of preventable deaths
- Reduction in absenteeism rate
- Improving access to end-of-life care

Calculation of socio-economic gains
What do we look for?

- Reliability of assumptions
- Well-defined *end-point of intervention*
- Targeting identified problems → OBJECTIVES
- Measurability
- Convincing narrative how to attain the objectives
- Infrastructural intervention supported by organisational improvements

Key important: *cause-effect* relation
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More Information

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