Extended Cost Effectiveness Analysis (ECEA)

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Presented at the ‘Workshop of the Costing and Financing Studies of Routine Immunization’
Geneva, 4-6 November 2013
Overview

• Background
  a new perspective on economic evaluation

• Equity
  definitions & examples

• Financial risk protection
  definitions & examples

• Case study
  public finance of TB treatment in India
Background

A new perspective on economic evaluation
• Traditional economic evaluation focus
  Cost-effectiveness of technical interventions targeting specific diseases
  (e.g. antiretroviral therapy for HIV/AIDS)

• Decision-making & priority setting focus
  Resources allocated across different options
  1) Health interventions
  2) Health service delivery platforms
  3) Health policy levers
     (e.g. public finance, conditional cash transfers, taxation)
  Take consideration of several criteria:
     -- burden, costs, equity, medical impoverishment
Economic evaluation of health policy instruments

From:

Cost Effectiveness Analysis (CEA)

To:

Extended Cost Effectiveness Analysis (ECEA)

(1) Distributional consequences across wealth strata of populations
(2) Insurance and financial protection benefits for households
(3) Financial consequences for households
Equity
Principles of equity (2)

- Fairness in the distribution of health coverage (ex: measles vaccine coverage)

- Fairness in the distribution of health outcomes (ex: measles deaths)
Financial risk protection
Medical impoverishment

• When confronted with expensive medical expenditures, poor people can face high out-of-pocket (OOP) payments and fall into poverty
  – Threshold-base approach
  – Forced Asset Sales
  – Money-metric value of insurance
Figure 4: The incidence of catastrophic out-of-pocket payments in 59 countries

Source: Wagstaff, 2010
ECEAs of vaccines

e.g. how do vaccines position themselves?

Health gains & financial protection afforded, per $1M spent

FRP = financial risk protection (prevention of medical impoverishment)
• Design basic insurance packages

FRP = financial risk protection (prevention of medical impoverishment)
Impact of HPV vaccination policy in on distributional and financial risk protection
Summary measures of ECEA

Health policy lever for an intervention
(e.g. HPV vaccination program)

Health gains
(e.g. Cancer deaths averted)

Household expenditures
(e.g. Cancer treatment expenditures averted)

Financial risk protection benefits
(e.g. relative importance of treatment expenditures)

Poorest
2nd Poorest
Middle
2nd Richest
Richest
### Benefits and costs of a publically financed HPV vaccination policy in China (US $ 2009)

<table>
<thead>
<tr>
<th>Quintile</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths averted per million women</td>
<td>2877</td>
<td>2854</td>
<td>2667</td>
<td>2604</td>
<td>2362</td>
</tr>
<tr>
<td>Government costs per million women (Incremental)</td>
<td>$31,417,285</td>
<td>$31,420,191</td>
<td>$31,440,420</td>
<td>$31,446,679</td>
<td>$31,359,970</td>
</tr>
<tr>
<td>Gov't cost/death averted</td>
<td>$3,540</td>
<td>$3,511</td>
<td>$3,312</td>
<td>$3,256</td>
<td>$2,999</td>
</tr>
<tr>
<td>Treatment seeking cases of cancer averted per million women</td>
<td>3540</td>
<td>3511</td>
<td>3312</td>
<td>3256</td>
<td>2999</td>
</tr>
<tr>
<td>Patient cost savings per million women</td>
<td>$1,636,273</td>
<td>$2,249,614</td>
<td>$2,894,017</td>
<td>$4,625,166</td>
<td>$7,655,200</td>
</tr>
<tr>
<td>Savings as a percentage of total income</td>
<td>59%</td>
<td>39%</td>
<td>34%</td>
<td>37%</td>
<td>32%</td>
</tr>
<tr>
<td>Cancer reduction</td>
<td>44%</td>
<td>44%</td>
<td>43%</td>
<td>43%</td>
<td>44%</td>
</tr>
</tbody>
</table>
Savings and Financial Risk Protection

Savings vs. Financial Risk Protection

Savings as a percentage of income

- Patient Cost Savings

Quintile

- Quintile 1
- Quintile 2
- Quintile 3
- Quintile 4
- Quintile 5

Savings as a % of income

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%

Absolut Savings

- $-1,000,000
- $-2,000,000
- $-3,000,000
- $-4,000,000
- $-5,000,000
- $-6,000,000
- $-7,000,000
- $-8,000,000
- $-9,000,000

DCP³ Disease Control Priorities

economic evaluation for health
Thank you

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HPV vaccination ECEA
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