6th Merck Foundation Lecture

The Value of Health:
Why Current Methods Are Wrong and How They Can Be Improved

by

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London School of Economics and Political Science, 10 November 2009
Dialysis

0.5

Minor health problems

10 years with minor health problems

0.5

Major health problems

10 years with major health problems

Transplant

0.9

Survives

12.5 years in good health

0.3

Rejects

10 years, major health problems

0.7

Dies

0 years

Accepts

0.1
Total expenditures on health care per capita in US$ PPP

Year

Dollar
0 1000 2000 3000 4000 5000 6000 7000

US NL
Misguided Criticism

- Cost-cutting device

- Human life is priceless
BUSH: ONE OF THE WORST DISASTERS TO HIT THE U.S.
Misguided Criticism

- Cost-cutting device
- Human life is priceless
- Leave it to politicians
<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Costs/Life-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>$27,000</td>
</tr>
<tr>
<td>Injury Reduction</td>
<td>$68,000</td>
</tr>
<tr>
<td>Environmental</td>
<td>$4,000,000</td>
</tr>
</tbody>
</table>
Dialysis

Minor health problems

Major health problems

Transplant

Survives

Accepts

12.5 years in good health

Rejects

10 years, major health problems

Dies

0 years

10 years with minor health problems

10 years with major health problems

0.5 0.9

0.5 0.1
How to measure quality of life?

major health problems vs. good health

?% death within a week
Standard gamble

major health problems vs. death within a week

90% good health

10%
Expected Utility
Standard gamble

major health problems vs. death within a week

90% good health

10%
Solutions

- Psychological perspective:
  - observed = genuine + response strategy

- Discard standard gamble

- Make the best of it!
Prospect Theory
major health problems vs. 

90% good health

10% death within a week
The value of health under prospect theory

Value health

Probability of good health
The value of health under prospect theory

Probability of good health

Value health
Differences in value under Expected Utility

Health state
Improvement under Prospect Theory

Health state

Difference in value

1 2 3 4 5

-0.15 -0.10 -0.05 0.00 0.05 0.10 0.15 0.20 0.25