

Valuing Nonfatal Health Risk Reductions in Global Benefit-Cost Analysis

Lisa A. Robinson and James K. Hammitt
Harvard T.H. Chan School of Public Health
Center for Risk Analysis and Center for Health Decision Science

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Concepts and Context

- Same conceptual framework as mortality risks.
 - Value per statistical case.
 - WTP for own risk reductions.
 - Revealed and stated preference methods.
 - Use of benefit transfer.
- Issue:
 - High quality WTP studies not available for many health conditions and countries.

Willingness to Pay

- No recent, criteria-driven review of empirical research available.
- Requires case-by-case decision-making.
- Use benefit transfer framework to determine whether high quality, suitable estimates are available.
- Otherwise, consider application of proxy measures.

Proxy Methods

Imperfect approximations:

- Direct and indirect costs of illness (COI).
- Quality-adjusted life years (QALYs) or disability-adjusted life years (DALYs), typically monetized based on:
 - constant value per statistical life year (VSLY) derived from a VSL estimate; or
 - valuation function that adjusts for characteristics such as severity and duration.

*Can add costs incurred by third parties (e.g., insured medical costs) if not counted elsewhere in the analysis.

Averted Costs

- Inconsistent with theory:
 - Incurred costs, not WTP.
 - Certain outcome (ex post), not risk reduction (ex ante).
 - Excludes pain and suffering, quality of life impacts.
- Quality of empirical evidence varies:
 - No established best practices for use in global benefit-cost analysis.
 - Data availability varies across countries and across health effects.
 - Ideally use estimates of marginal opportunity costs per (incident) case.

Monetized QALYs or DALYs

- QALY and DALY estimates are plentiful and widely-used.
- Consistency with theory depends on how monetized.
 - QALYs represent trade-off between alternative health states and longevity, not between health risks and money that can be spent on other things.
- Valuation using a constant VSLY or value per QALY (or DALY) inconsistent with theory.
 - Calculated by dividing the VSL by discounted expected life years or QALYs remaining for average individual.
 - Theory suggests value varies by severity and duration; decreases as gain increases.

Monetized QALYs or DALYs

- Use of a valuation function may better approximate WTP.
 - More work is needed to develop approach to address DALYs as well as QALYs, and to reflect the (diverse) preferences of populations in low- and middle-income countries.
- In the interim, using a constant value provides a rough proxy; the implications of associated uncertainties should be addressed.

Recommendations

- Conduct a criteria-driven review of the WTP literature, applying the benefit transfer framework to determine whether estimates of reasonable quality are available for similar health risks. This review should include four steps.
 - Describe the policy outcome.
 - Search the literature.
 - Review studies for quality and applicability.
 - Transfer the estimate(s).
- Use monetized QALYs or DALYs as a proxy if necessary.
 - Estimate the change in QALYs or DALYs attributable to the policy.
 - Estimate the monetary value.
- Add costs incurred by third parties.
- Address uncertainty.

Recommendations

Over the long term:

- Conduct additional research on WTP for nonfatal risk reductions.
- Further develop valuation function for QALYs and DALYs.
 - Likely to continue to be needed; developing WTP estimates for diverse effects and populations requires investment of substantial time and resources.