

Designing CEAs

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Recommendations of the
Second Panel on Cost-Effectiveness
in Health and Medicine



Designing a Cost-Effectiveness Analysis

- All aspects of the interventions that may affect their cost or effectiveness should be defined for the analysis.
 - Target population
 - The specific technologies
 - Type of personnel delivering the intervention
 - Site of delivery
 - Whether the service is “bundled” with other services, the frequency of the intervention, and its timing
- The scope of a study should be defined broadly enough to encompass the full range of groups of people affected by the intervention and all important consequences



Designing a Cost-Effectiveness Analysis

- Reference Case analyses should consider the full range of available and feasible options, including existing practice (the status quo) and a do- nothing option, as appropriate
- The time horizon adopted in a CEA should be long enough to capture all differences between options in relevant costs and effects



Valuing Costs

Anirban Basu, PhD

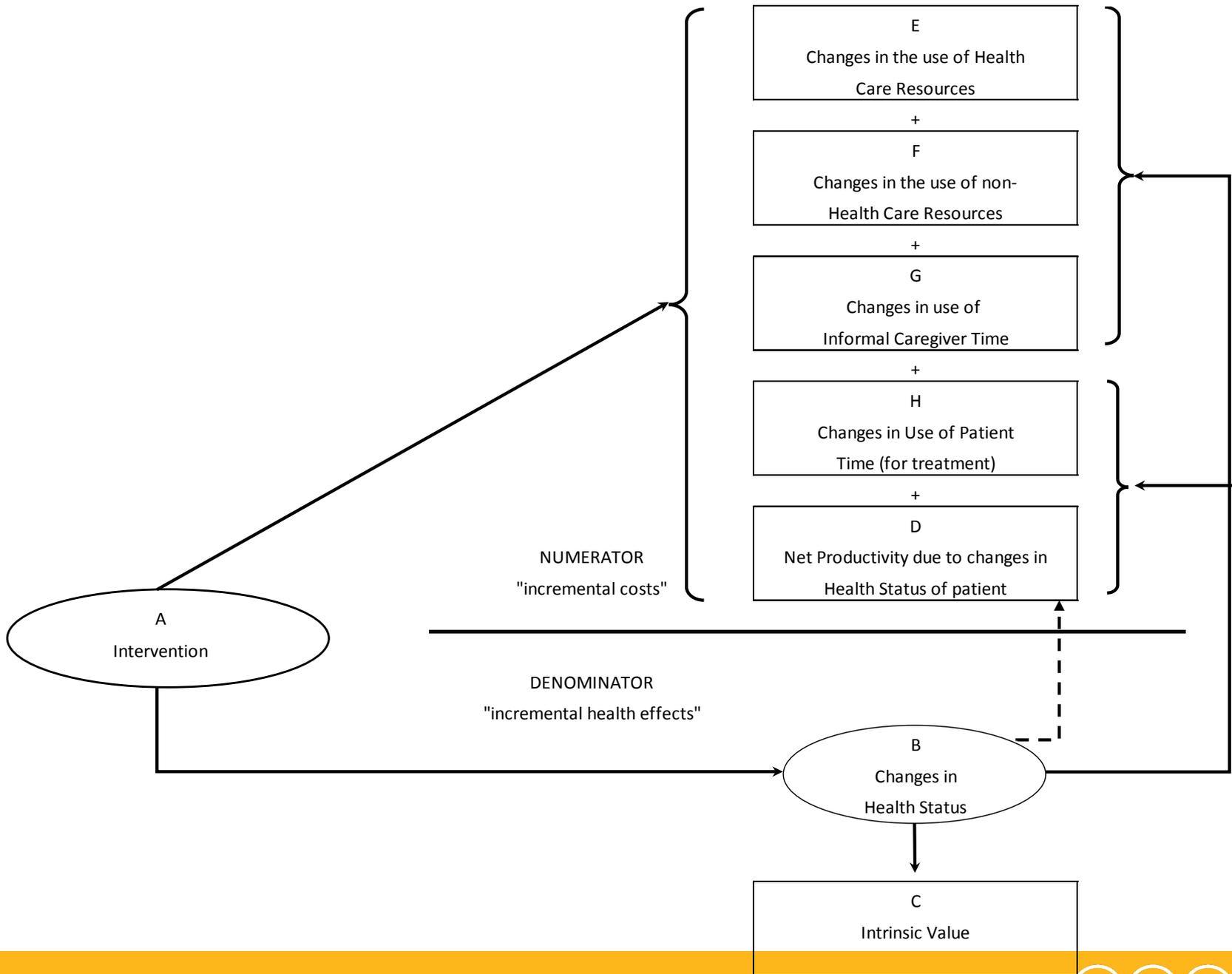
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Valuing Costs: 2nd Panel Reference Cases

- A **societal reference case**
 - medical costs (current and future, related and unrelated) borne by third-party payers and paid for out-of-pocket by patients,
 - time costs of patients in seeking and receiving care,
 - time costs of informal (unpaid) caregivers,
 - transportation costs,
 - effects on future productivity and consumption, and
 - other costs and effects outside the healthcare sector.





Three Main Topics

- Time costs
- Productivity Costs
- Future Costs



Time Costs

- Time costs for patients and caregivers - real changes to the use of resources by the patients and society
 - aligns with First panel recommendations
 - not include any adjustment for the unpleasantness/pleasantness of activities during these times.
- Time spent while seeking health care is usually thought to come from one's leisure time
 - valued at the marginal post-tax wage rate plus fringe benefits
- Time spent by caregivers in providing care to patients considered to be a productive activity
 - marginal pre-tax wage rate plus fringe benefits



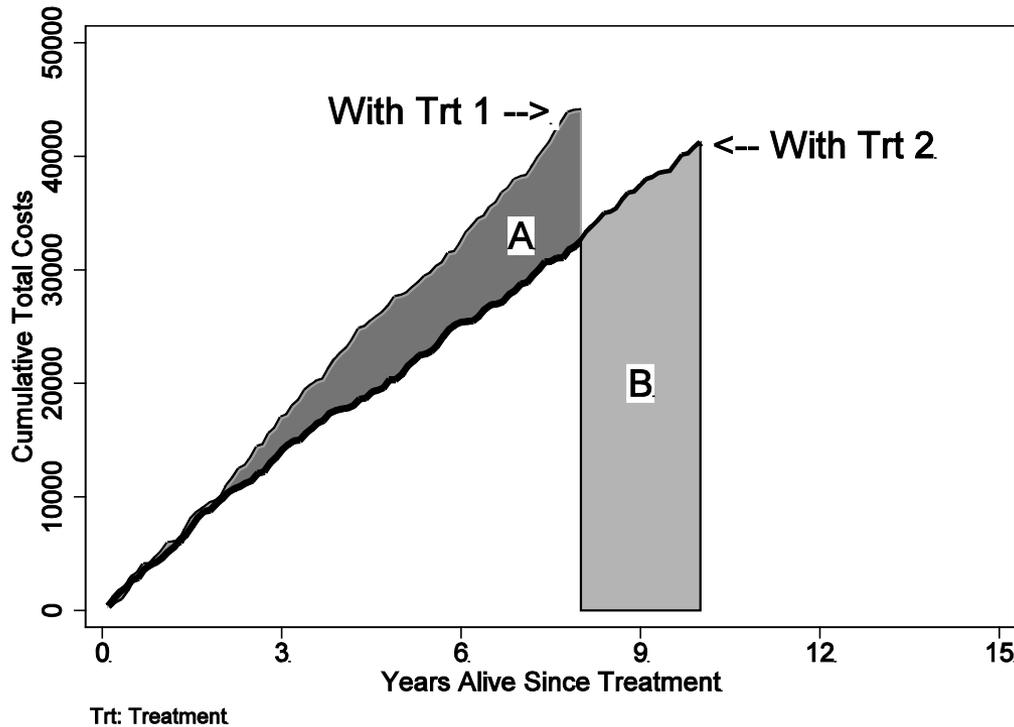
Productivity

- Productivity costs reflect the lost production value due to a patient's health status.
 - Measure productivity costs/benefits explicitly and **NOT** subsume them in QALY measurements
 - Deviates from First panel recommendations
- Three types of productive time
 - (a) time spent in formal labor markets;
 - (b) time spent in informal labor markets; and
 - (c) time spent in household production.
- Productive time valued using the marginal pre-tax wage rate plus fringe benefits

Distributional Issues

- Whose wage to use?
 - Age and gender specific (First panel recommendations)
 - Age specific?
 - Median wage across all age, gender, race?

Future Costs Recommendation



All healthcare costs, related or unrelated, should be considered either when survivals under alternative interventions are not the same or when cost components cannot be readily identified as related to the target condition.

Net Resource Use from societal perspective

- Net resource use can be captured by:
- $[(\text{Healthcare Costs} + \text{Non-Healthcare Consumption Costs}) - \text{Productivity}]$

Recommendation

- In addition to Recommendation 6 (for Healthcare sector), for a Reference Case analysis from a societal perspective, all non-healthcare resources consumed over the lifetime of the patients as part of, or as a result of, an intervention should be valued in monetary terms and included in the numerator of an ICER.



Valuing Health Outcomes

David Feeny, PhD

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Valuing Health Outcomes

- Conceptualization of Health-Related Quality of Life retained from the Original Panel
- Health Consequences should be aggregated into a single measure using QALYs
- Use Community Preferences
- For the Reference Case Recommend the Use of Generic Preference-Based Measures
- We did **not** recommend the use of one particular measure

Acknowledge the Potential Limitations of Generic Preference-Based Measures

In situations in which analysts have **empirical evidence** that relying on generic preference-based measures is less than ideal, or that the direct elicitation of scores for relevant health states from the general population is less than ideal, the analyst should incorporate alternative approaches.

Situations in which this may arise include (but are not limited to) cases/contexts:

1. In which generic preference-based measures are known to lack responsiveness and/or cross-sectional construct validity;
2. There are important spillovers from the intervention such as effects on the health of caregivers and other members of the family;
3. It is difficult for those who have not experienced or observed the health states associated with the condition and/or its treatment to understand them sufficiently well to provide meaningful scores for those health states.

We therefore also recommend that community-derived preference weights be supplemented by preference scores elicited from patients when there are important concerns about the extent to which instruments based on community preferences can represent an informed social judgment about the desirability of a particular condition or outcome.



Methodological Challenges

- States Worse than Dead
- Special Populations: Children; Some Types of Mental Health Problems; Some Types of Cognitive Impairment
- Capturing Spillover Effects on Family Members/Caregiver(s)