MUSINGS ON EQUITY, OPPORTUNITY COST & HEALTH ECONOMIC EVALUATION

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Research Context & Disclaimer

- Academic study conducted as part of graduate course SPH 671 *Economic Evaluation of Health Care* at the U of A delivered by Dr. Mike Paulden.

- The study is **not** conducted in professional capacity related to the Institute of Health Economics (IHE) or the International Network of Agencies for Health Technology Assessment (INAHTA)

- The views and analysis presented are my own.
Objectives & Methods

OBJECTIVE

A comparative analysis of national health economic guidelines in different countries to identify equity and opportunity cost considerations.

METHODS

- Development of a data collection template following the parameter categories listed in the CADTH guideline.
- Review of included guidelines for equity and opportunity cost considerations for each parameter.

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Guidelines included

**CADTH, Canada**

**IQWiG, Germany**

**NICE, UK**

**PBAC, Australia**

**ZIN, The Netherlands**
Zorginstituut Nederland (2016). *Guideline for Economic Evaluations in Healthcare*
Results

a) **Explicit considerations of equity and opportunity cost**

- Where equity or opportunity costs are explicitly or directly discussed in the guideline.
Explicit considerations of equity & opportunity cost

All guidelines but one (ZIN) contain some discussion about equity or opportunity costs. Some examples:

- All QALYs weighted equally in the reference case (CADTH, NICE)
- Vertical and horizontal equity considerations to be the starting point for any HEE that assumes a social decision-making perspective (CADTH)
- Concern for situations of extended dominance where some patients receive a less effective treatment while other patients receive a more effective treatment (IQWiG)
- Noted importance of identifying those who bear the opportunity cost. (CADTH)
- Additional analysis can be conducted separately from the reference case to, e.g.:
  - Examine how the HT might promote (or hinder) patient equity or access (PBAC)
  - Assign equity weightings (e.g., for disadvantaged groups) (CADTH)
Results

b) *Implicit* considerations of equity and opportunity cost

- They are “baked-in” to the parameters used in a particular health economic evaluation (HEE).
Implicit considerations of equity & opportunity cost

- There was variation observed in the parameter categories across the 5 guidelines.

- This variation in parameters would mean differences in how the evidence of the cost-effectiveness of a health technology is captured.

- The different representations of cost-effectiveness could impact on:
  - how the opportunity cost is represented
  - some equity considerations

*Let’s take a look at a few examples…*
**Perspective of the HEE**

For the reference case:

- Public healthcare payer perspective → CADTH & PBAC
- National health system and personal and social care perspective → NICE
- Societal perspective → ZIN
- IQWiG → None specifically prescribed; solely dependent on the relevance to the decision maker
Perspective of the HEE

Implications:

- Perspective determines the range of costs and benefits included in the HEE.
- A more narrow perspective (health system) includes a more focused range of costs and benefits than a more broad perspective (societal).
- Inclusion of more/different costs and benefits produces different assessment results.

i.e., the same health technology assessed in a narrow perspective will likely have a different represented cost-effectiveness than if it is assessed in a broad perspective.
Measurement & Valuation of Health

For reference case:

- CADTH & ZIN $\rightarrow$ CUA
- NICE $\rightarrow$ CUA; other can be used, with justification
- PBAC $\rightarrow$ Any; but if CUA not used, must justify
- IQWiG $\rightarrow$ Any, as justified (CUA, CEA, CCA, etc.)
Measurement & Valuation of Health

Implications:

- The ICER produced in CUA is generally understood as a representation of opportunity cost.
  - This can facilitate equity considerations by the decision maker by allowing for comparison of cost-effectiveness of different HT across different therapeutic areas.

- However, equity may be negatively impacted if CUA fails to reveal outcomes of importance to patient groups, i.e., outcomes beyond what is represented in the EQ-5D instrument.
Discounting

For reference case, beyond Y1:

- CADTH → Costs & outcomes discounted at 1.5% per year
- IQWiG → Costs & outcomes discounted at 3% per year
- PBAC → Costs & outcomes discounted at 5% per year
- ZIN → Costs at 4% per year, outcomes at 1.5% per year
Discounting

Implications:

- Different discount rates mean the costs & benefits accruing in the future are captured differently.

- Changing the discount rate changes the representation of the opportunity cost since the final cost per QALY (and ICER) would be different.

- Also implicit equity considerations with different discount rates = intergenerational fairness?
Conclusions

- Equity and opportunity cost considerations appear in HEE guidelines both:
  - Explicitly (stated plainly in the guideline)
  - Implicitly (‘baked-in’ to the choice of parameters used)

- Where different parameter choices are used, it is observed that:
  - The same health technology can appear more or less cost-effective.
  - Different representation of cost-effectiveness means a different representation of opportunity cost, with potential implications for decision making (e.g., to assign equity weightings or not).
Musings…

**Can we keep HEE free from equity concerns?**

- The argument by some to “leave equity weights out of HEE to keep it free of ethical (equity) concerns within the analysis” or to keep them HEE as “evidence-based” is problematic:
  - Equity issues are implicit in HEE through the choice of parameters used.
  - While this is evidence-based, it is not an absolute measure → contextual, constructed?
Another musing…

What does this mean for the comparability of different HEEs?

“Health technology X was determined to be cost-effective in country/province A but to be not cost-effective in country/province B”

→ Is it acceptable to make such comparison of the conclusions or results of a HEE without considering the parameters used in the HEE?
  ▪ HEE conducted using a societal perspective --- vs. an analysis done on the same technology from the payer perspective?
  ▪ HEE conducted with a 1.5% discount rate --- vs. an analysis done using a 5% discount rate?

→ Does this same complication emerge when comparing ICER thresholds across countries/provinces?
Take-away messages…

- Equity is not only considered in a separate analysis to HEE - it is also implicit in the choice of parameters used.

- The choice of parameters used in an HEE affects the represented cost-effectiveness of a health technology - “value is in the eye of the parameter”

- Suggest greater awareness about the impacts of different parameters used at different times and across jurisdictions on:
  
  → the comparability of HEE conclusions.

  → the equity and opportunity costs borne by patients across different generations and in different jurisdictions.
What are your musings?

Thank you

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