MUSINGS ON EQUITY, OPPORTUNITY COST & HEALTH ECONOMIC EVALUATION

Tara Schuller, MSc

CADTH Symposium

16 April 2019

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.

1. Decision problem
2. Types of Evaluations
3. Target Population
4. Comparators
5. Perspective
6. Time Horizon
7. Discounting
8. Modelling
9. Effectiveness
10. Measurement & Valuation of Health
11. Resource Use and Costs
12. Analysis
13. Uncertainty
14. Equity
15. Reporting

Guidelines included

CADTH, Canada

Canadian Agency for Drugs and Technologies in Health (2017). *Guidelines for the Economic Evaluation of Health Technologies: Canada (4th edition).*

IQWiG, Germany

Institute for Quality and Efficiency in Health Care (2015). *General Methods. Version 4.2.*

NICE, UK

National Institute for Health and Care Excellence (2013). *Guide to the methods of technology appraisal 2013: Process and Methods*.

PBAC, Australia

Australian Government Department of Health (2016*). Guidelines for preparing a submission to the Pharmaceutical Benefits Advisory Committee. Version 5.0*.

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 → CUA
- NICE → CUA; other can be used, with justification
- PBAC → Any; but if CUA not used, must justify
- IQWiG → 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

Tara Schuller, MSc
schuller@ualberta.ca