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HSPC Spotlight on Methods

Distributional Cost-Effectiveness Analysis in Practice: Are We Facing Mountains or Molehills?

MODERATOR
Amanda Cole, Office of Health Economics

SPEAKERS
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Tuesday 19th May: 4:45 - 6:00 pm

HSPC – Spotlight on Methods

The Topic

Distributional Cost-Effectiveness Analysis in Practice

Are We Facing Mountains or Molehills?

The equity imperative in value assessment

- Persistent inequalities in health outcomes
- "A QALY is a QALY" is a value judgement, not a fact
- Public values seem to support change
- Policy is moving
- Trade-offs are not hypothetical
- **Are the methods ahead of the data?**

DCEA in Practice

The Threshold Inequality Aversion Parameter Approach (TIAP)

ScienceDirect

Contents lists available at sciencedirect.com
Journal homepage: www.elsevier.com/locate/jval

Themed Section

A Threshold Inequality Aversion Parameter Approach to Interpret Distributional Cost-Effectiveness Analysis Results

Ankur Pandya, PhD, Jinyi Zhu, PhD, Andrea Luviano, MD, MPH, Lyndon P. James, MBBS, PhD, George Goshua, MD, MSc

Objectives: Distributional cost-effectiveness analysis (DCEA) requires an inequality aversion parameter to calculate the equally distributed equivalent (EDE). The DCEA decision rule is to choose the strategy with the highest EDE. However, the exact value of the inequality aversion parameter is unknown for most health disparities and settings, hindering the use of DCEA in practice. We therefore propose calculating threshold inequality aversion parameter (TIAP) values in DCEAs that can be interpreted using existing data and conventions.

Results: In a pairwise DCEA, a TIAP that is lower than the LBIAR can be interpreted as favoring the equity-improving strategy, whereas a TIAP that is higher than the UBIAR would favor the more cost-effective strategy. TIAPs between the LBIAR and UBIAR require additional context to determine the optimal strategy.

Conclusions: The interpretation of TIAPs is analogous in some ways to how incremental cost-effectiveness ratios are used in conventional cost-effectiveness analysis; incremental cost-effectiveness ratios can be calculated without knowing the specific cost-effectiveness threshold and are then interpreted using empirical estimates or conventions for the setting-specific cost-effectiveness threshold. Although further empirical data and attention toward inequality aversion parameters are needed, reporting TIAPs could enable widespread use of DCEA.

Highlights

- Distributional cost-effectiveness analysis (DCEA) quantitatively incorporates distributional equity considerations into conventional CEA. DCEA requires an inequality aversion parameter value, however, this is often not known in practice for a given setting or health disparity.
- We propose a method to calculate and interpret threshold inequality aversion parameters (TIAPs), which can be estimated by finding the inequality aversion parameters that set the equally distributed equivalents, the metric maximized in DCEA, of 2 competing strategies equal to each other.
- Researchers can report TIAPs as a primary result for their DCEA in a similar way that incremental cost-effectiveness ratios are reported in conventional CEAs. TIAPs can be interpreted based on existing information and conventions around inequality aversion, which can be setting and disparity specific.

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Julia F. Slejko, PhD
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Maastricht University
Maastricht, The Netherlands

Susan Griffin, PhD
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Papers in the Themed Section

- Validity, Reliability, and Framing Effects in Equity-Efficiency Trade-Off Studies
- Dominance-Based DCEA of Cardiovascular Disease Risk Screening in Sri Lanka
- Incorporating Equity and Financial Protection Criteria Into Essential Benefits Package Design
- A Threshold Inequality Aversion Parameter Approach to Interpret DCEA Results
- A Systematic Literature Review of Elicitation Methods for Distributional Preferences in Healthcare Regarding the Concentration and Dispersion of Health Benefits
- Why Object to Inequalities in Health and Well-Being? A Mixed-Methods Exploration of Inequality Aversion With Members of the General Public
- Value-Based Pricing of Health Services With Health Equity Considerations
- Strengthening Methods and International Evidence on Health Inequality Aversion
- The Social Distribution of Quality Adjusted Life Expectancy Among Social Deprivation Subgroups in China
- The Inequality-Adjusted Incremental Cost-Effectiveness Ratio

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