

# No Half Measures: Health Inequalities in Technology Appraisal

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## BACKGROUND AND OBJECTIVES

Health inequalities in the UK are often described as unfair and avoidable differences in health between different groups within society [1]. The impact of new health technologies on health inequalities is one of multiple aspects of value that should be considered during the health technology assessment (HTA) process. HTA bodies, such as the National Institute for Health and Care Excellence (NICE), are taking steps to address the impact on health inequalities in relation to the decisions that they make [2].

However, during the technology appraisal process, it is not clearly defined exactly how health inequalities should be valued or how much weight it should be given in the decision-making process [3]. In some cases, it is not clear if health inequalities have impacted the final decision in any way. There is no current NICE guidance for presenting any quantitative or qualitative evidence on the impact of a new health technology on health inequalities. Although, NICE does make modifications for some aspects it considers to be of value.

The objective of this study was to:

- Describe and evaluate potential methods to capture impacts of health inequalities that could be used in HTAs in the UK.
- Summarise a range of stakeholder views on health inequalities in HTA.
- Make recommendations for current and future policy or research objectives relating to health inequalities in HTAs in the UK.

## METHODS

**Part One:** We conducted a pragmatic literature search to gain an understanding of the various approaches to considering health inequalities, including from HTA bodies outside the UK.

**Part Two:** In the second pragmatic search we focussed on the available methods that can be used to incorporate health inequalities into health economic evaluations. Benefits and limitations of the methods were also collected.

**Part Three:** We conducted stakeholder interviews and a stakeholder workshop. Stakeholders were recruited from various organisations related to health care systems or decision making, including NICE, government organisations, charity representatives and academics.

## RESULTS

For the most common technology appraisal process, HTA bodies state that they weigh an additional quality-adjusted life year (QALY) the same regardless of the characteristics of the individual receiving the QALY. There are examples of HTA bodies accounting for disease severity or rare diseases through QALY modifiers or alternative appraisal pathways with a higher willingness to pay (cost-effectiveness thresholds). However, HTA bodies generally do not explicitly quantify health inequalities in the technology appraisal process (Figure 1).

5 methods beyond a deliberative approach were identified in the pragmatic literature review, each having various strengths and limitations. These are briefly summarised in Table 1. Equity based weighting (EBW), aggregate distributional cost-effectiveness analysis (DCEA) and a more qualitative multi-criteria decision analysis (MCDA) were likely to be most applicable to the UK setting [4,5].

Engagement with HTA stakeholders from key organisations was noted as a limitation of previously published work. Figure 2 summarises the key themes and takeaways from stakeholder engagement.

## Figure 1: HTA approaches for health inequalities

12 countries with English language methods guides were identified

3 countries

showed no clear approach to health inequalities in HTA

7 countries

use a deliberative process to account for health inequality impacts

2 countries

were open to quantitative analysis or scenarios to capture health inequalities

Table 1: Methods to analyse health inequalities

Aspect	EBW	ECEA	DCEA (aggregate or conventional)	MCDA	MP
Approach to inequality fully incorporated into CEA?	Yes	No	No	No	Yes
Can explicitly measure extent to which healthcare outcomes distributed across groups?	No	Yes	Yes	Yes (if included as MCDA criteria)	No
Method for incorporating inequality	Weights outcomes by derived factor	Derives distributional financial risk protection outcomes	Derives distributional cost-effectiveness and inequality impact	Weightings assigned to every decision aspect, with each given a score to rank multiple strategies Can also be done more qualitatively	Constraints included as part of the analysis to optimise
Need to modify CEA?	Only to apply new weighting	Yes	Yes, if aggregate	No	Yes
Impact on CEA outcomes?	Re-weighted for adjustment factor	Distribution of cost assessed across subgroups	Distribution of costs, QALY and QALE assessed across relevant subgroups	Unchanged	Change dependent on constraint included
Inequality adjusted evaluation outcome?	ICER	ICER & extended criteria outcomes, usually financial risk protection	ICER, inequality measure and/or SWF	Score or rank overall and for each criteria	ICER or specific optimisation objective
Criteria for decision making	WTP threshold	WTP threshold	WTP threshold given inequality aversion parameter	Highest rank or score out of available interventions	WTP threshold or optimisation objective

CEA – Cost effectiveness analysis, EBW – Equity based weighting, ECEA – Extended cost effectiveness analysis, DCEA – Distributional cost effectiveness analysis, MCDA – Multi-criteria decision analysis, MP – Mathematical programming, ICER – Incremental cost effectiveness ratio, WTP – Willingness to pay, QALE – Quality adjusted life expectancy, QALY – Quality adjusted life year, SWF – Social welfare function

## Figure 2: Key themes from stakeholder



Deliberative process should remain fundamental to decision-making, with quantitative analysis used to supplement deliberation.



Generalisability and comparability of quantitative methods is one of the most important factors, although ease of interpretability is also important.



It is important to understand the extent that society values health gain in disadvantaged groups. Such insights can inform any method for evaluating health inequalities.



Health inequalities do not always get fair attention in committee deliberations.

## KEY RECOMMENDATIONS FOR NICE

Clarity	Engagement	Consistency
Make clear how health inequalities are valued in decision making. Appraisal template should be updated to indicate which type of analysis would be useful to provide in the context of health inequalities	Engage with companies on the feasibility of DCEA. Research societal preferences for health gain in disadvantaged populations, to inform either EBW or DCEA.	Offer training to decision makers to improve understanding health inequalities. Implement qualitative aspects of MCDA to better guide the deliberative process. Apply EBW consistently.

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