

Health Equity Considerations in Economic Evaluation: Comparative Acceptability and Application Across European HTA Bodies

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HTA171

Introduction

Health equity is increasingly recognised as an important factor in healthcare decision-making, reflecting the principle that access to and outcomes from health technologies should be distributed fairly across populations.^{1,2,3} European HTA agencies have historically prioritised economic evaluations focusing solely on cost-effectiveness or cost-utility, however there is growing emphasis that health equity must also inform value-based decisions.^{4,5,6}

Methodologies exist to address equity, including equity weighting, distributional cost-effectiveness analysis (DCEA), proportional and absolute shortfall (severity-based weighting), extended cost-effectiveness analysis (ECEA), social welfare functions (SWFs), and multi-criteria decision analysis (MCDA). Each method offers distinct advantages and challenges (Table 1), but despite the existence of these methodologies, adoption remains inconsistent across Europe.

This review examined the acceptability of methodologies across five European HTA agencies: France (HAS), Germany (IQWiG), the Netherlands (ZIN), Italy (AIFA), and Spain (AETS). By reviewing official guidance, published HTA assessments, and relevant published literature, this review aimed to identify how health equity is integrated into economic evaluations.

Table 1. Definitions and challenges of health equity methodology included in this review

Equity Methodologies	Definition	Main Application in Economic Evaluation/HTA	Potential Challenges
Equity Weights⁷	Numerical weights applied to health gains (e.g. QALYs and DALYs) based on recipient characteristics (e.g., severity, age, SES).	Adjusts results to reflect preferences for prioritizing disadvantaged groups.	Determining appropriate weights is ethically and politically complex; limited empirical data on societal preferences; risk of subjectivity.
Distributional Cost-Effectiveness Analysis (DCEA)³	Quantifies both total health gains and their distribution across population subgroups.	Enables explicit trade-off analysis between overall health and equity.	Requires detailed subgroup data; complex modeling requirements; results may be difficult to interpret for decision-makers.
Proportional Shortfall⁸	Measures the proportion of expected remaining lifetime health lost due to a condition.	Prioritizes those with the most to lose; often used in severity-based frameworks.	May oversimplify severity; does not account for baseline differences; interpretation can be context dependent.
Absolute Shortfall	Measures the absolute difference in expected lifetime health between patients and the general population.	Highlights total shortfall in expected lifetime horizon supports prioritization for more severe cases.	Sensitive to choice of reference population; may undervalue improvements in less severe groups.
Extended Cost-Effectiveness Analysis (ECEA)⁹	Expands CEA to include non-health benefits (e.g., financial protection, poverty reduction).	Captures wider societal impacts, relevant in public health and universal coverage, particularly in low- to middle-income countries.	Requires broader data collection; attribution of value to non-health benefits can be methodologically challenging.
Social Welfare Functions (SWFs)	Mathematical functions aggregating individual utilities or benefits into a societal welfare measure, accounting for equity preferences.	Formalizes trade-offs between equity and efficiency in decision-making.	Selection and parameterization of the function can be subjective; results can vary widely based on societal value assumptions.
Multi-Criteria Decision Analysis (MCDA)¹⁰	Considers multiple criteria (quantitative and qualitative) including equity, in a structured decision-making framework.	Incorporates diverse values, allowing systematic inclusion of equity.	Complex to design and implement; potential for double-counting criteria; weight assignment can be subjective.

Abbreviations: CEA, Cost-effectiveness analysis; DALY, Disability-adjusted life year; DCEA, Distributional cost-effectiveness analysis; ECEA, Extended cost-effectiveness analysis; HTA, Health technology assessment; MCDA, Multi-criteria decision analysis; SWF, Social welfare functions; QALY, Quality adjusted life year

Methods

> A targeted literature review was conducted to summarise the acceptability of health equity methodology into health economic evaluation for HTA assessment as outlined in relevant guidance manuals below. In addition, relevant published literature and selected published HTA assessments were searched.

> Data were extracted by a single reviewer using pre-defined criteria to identify how equity methods are accepted within HTA guidance.



HAS (2020)¹¹



AIFA (2023)¹²



ZIN (2024)¹³



AETS (2024)¹⁴



IQWiG (2023)¹⁵
draft (2025)¹⁶

Results

Table 2 summarises each HTA body's acceptance of health equity methodologies based upon the published guidance documents.

Table 2. Acceptability of each health equity methodologies in EU5 countries

HTA body	Equity weights	DCEA	Proportional/ absolute shortfall	ECEA	Social welfare function	MCDA
Germany (IQWiG)	x	x	x	x	x	x
Spain (AETS)	x	x	x	x	x	x
Italy (AIFA)	x	x	x	x	x	x
Netherlands (ZIN)	x	x	✓	x	x	x
France (HAS)	x	x	x	x	x	x

✓ - Accepted
x - Not included or no evidence of use in guidance manuals

Cross-Country Synthesis

- > Across Europe, formal incorporation of equity methodologies in economic evaluation guidance remains limited. Health equity is discussed in all HTA guidance, but the extent to which it is discussed varies.
- > The Netherlands (ZIN) uses proportional shortfall to inform cost-effectiveness thresholds for more severe conditions.¹³
- > Spain encourages qualitative inclusion of equity, ethical and social implications of therapies that are relevant to decision making. For example, the guidance suggests describing access based on subgroups, transferability across regions and explaining equity considerations that may influence payer interpretation of cost-effectiveness thresholds. However, AETS guidance lacks a quantitative framework for equity.¹⁴
- > In contrast, France (HAS), Italy (AIFA), and Germany (IQWiG) acknowledge equity as an important consideration but do not provide formal analytical requirements for incorporating equity into economic evaluation, instead focusing on traditional methods such as cost-effectiveness.^{11,12,15,16}



The Netherlands: Proportional Shortfall in Practice

The Netherlands uses proportional shortfall to determine disease severity to inform cost-effectiveness thresholds in more severe conditions, as outlined in recent assessments.¹³

Tecvayli

In the Tecvayli (teclistamab) reassessment appraisal for relapsed multiple myeloma,¹⁷ proportional shortfall was incorporated leading to justification of a higher reference cost-effectiveness threshold of €80,000 per QALY due to the high disease burden of 0.94 and limited therapeutic alternatives.

Yescarta

The Yescarta (axicabtagene ciloleucel) appraisal for the treatment of relapsed or refractory large B-cell lymphoma incorporated proportional shortfall, with a value of 0.55, to justify the reference cost-effectiveness threshold of €50,000 per QALY.¹⁸

In both cases proportional shortfall was deemed an appropriate method for demonstrating severity of disease in the context of reimbursement decisions. The ICERs were significantly above the threshold applied, leading to recommendations for pricing negotiation, however, the importance of transparency in describing how disease severity is measured was noted.^{19,20}

Conclusions

- > European HTA bodies continue to lack application of health equity in economic evaluation.
- > The Netherlands (ZIN) has operationalised proportional shortfall to adjust cost-effectiveness thresholds based on disease severity, as applied in recent health technology appraisals.
- > Germany, France, and Italy acknowledge health equity but do not formally incorporate analytical health equity measures into economic evaluation, and Spain primarily acknowledge equity qualitatively.
- > To advance fairness in decision making, HTA bodies must recognise the importance of health equity by providing guidance to manufacturers on the most appropriate way of incorporating such methodologies into economic evaluation.

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