

# Conceptualization of cost-effectiveness thresholds



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Good resource allocation decisions are those that best meet agreed social objectives within available resources. In healthcare, where a principal objective is 'improvement in population health', a good decision should involve comparing the additional health benefits of an intervention with the health likely to be lost elsewhere as a consequence of any additional costs (i.e. health opportunity costs). To be consistent with actions likely to lead to population health improvement, cost-effectiveness analysis and other forms of economic evaluation should help to inform whether additional health benefits of the new investments exceed their health opportunity costs.

Centre for Health Economics researchers have explored and clarified alternative conceptual bases underlying the choice of cost-effectiveness thresholds. In particular, cost-effectiveness thresholds reflecting health opportunity costs, resulting from 'supply side' constraints in the ability of a healthcare system to generate health improvement, have been sharply contrasted with various 'demand side' expressions of the value of health – by some party (individuals, international organizations; though often undefined). The danger of thresholds conceived only from the demand-side is there is no guarantee they will reflect health opportunity costs and their therefore use risks reducing, rather than improving, population health.

As central measures of value in healthcare systems, cost-effectiveness thresholds conceived from the supply side can inform a wide range of health sector investment decisions – related to the choice of clinical interventions, procedures or programmes; and also other activities with ultimate propensity to affect population health (e.g. investing in research and health systems strengthening efforts, such as demand-side measures and provider payment mechanisms). Moreover, thresholds based upon the reality of resource constraints facilitate understanding of the value of committing resources to healthcare as compared to other sectoral priorities. As such, they may contribute to holding global and local decision-makers to account by enabling informed reflection on the adequacy and justice of current healthcare funding arrangements.

Relevant publications from CHE researchers:

[Informing Decisions in Global Health: Cost Per DALY Thresholds and Health Opportunity Costs](#)  
- Policy and Research Briefing, CHE (2016)

#### Publication and Short description of findings

[Using cost-effectiveness thresholds to determine value for money in low-and middle-income country healthcare systems: Are current international norms fit for purpose?](#) Using examples from HIV/AIDS, this article argues that judgements about whether interventions and programmes should be regarded as cost-effective and prioritised over others should be based on an assessment of the health benefits that will be lost because the resources required will not be available to implement other effective interventions and programmes, which would benefit other patients in the same or different disease areas. Unfortunately, frequently adopted international norms are not founded on this type of assessment. Consequently current judgements about which interventions and programmes are cost-effective are often aspirational and do not reflect the reality of resource constraints.

**CHE Research Paper 98.** Paul Revill, Simon Walker, Jason Madan, Andrea Ciaranello, Takondwa Mwase, Diana M Gibb, Karl Claxton and Mark J Sculpher. 2014

[WHO decides what is fair? International HIV treatment guidelines, social value judgements and equitable provision of lifesaving antiretroviral therapy.](#) This study considers the value judgements that appear to underpin the 2013 WHO Consolidated Guidelines on the Use of Antiretroviral Therapy (ART). The authors argue that these guidelines make aspirational recommendations for ART delivery in low and middle income countries. Comprehensive assessments of available evidence were undertaken and the recommendations made are likely to improve individual health outcomes. However feasibility was downplayed, the Guidelines represent high-cost policy options not all of which are compatible with the core public health principles of decentralization; task-shifting; and a commitment to universality. Critically, their impact on equity and the population-level distribution of health outcomes were not fully considered.

**CHE Research Paper 99.** Paul Revill, Miqdad Asaria, Andrew Phillips, Diana M Gibb and Charles F Gilks. 2014

[Cost-effectiveness thresholds: guiding health care spending for population health improvement](#)

In order to support users of the iDSI Reference Case, this report informs policy-makers and analysts/economic evaluation practitioners on alternative conceptualizations for cost-effectiveness thresholds (CETs), the assumptions underpinning them and implications of these conceptualizations, and provides estimates of CETs that can be used in applied studies in a wide range of jurisdictions, for different kinds of decisions. Recommendations for policymakers and analysts/practitioners on the interpretation and presentation of findings from CEA studies are also presented.

**iDSI Working Group Report on Thresholds.** Revill P, Ochalek J, Lomas J, Nakamura R, Woods B, Rollinger A, Suhrcke M, Sculpher M, Claxton K. 2016

[iDSI Workshop on Cost-Effectiveness Thresholds: Conceptualisation and Estimation – Summary report](#)

On 26 June 2015, a group of 50 researchers and international policymakers interested in resource allocation and cost-effectiveness thresholds (CETs) came together in London to present different perspectives on the conceptualisation of thresholds; to present empirical research; to estimate thresholds; and to agree appropriate guidance on the use of thresholds. This report summarises the main outcomes of the meeting. Among a number of discussion findings, it was noted that the term ‘threshold’ can convey various meanings for different types of metrics and purposes. It was proposed that in future, a more descriptive terminology could help to improve understanding and dissemination of ‘cost-effectiveness threshold’ research.

Centre for Health Economics, University of York. 2015

[Cost-Effectiveness Thresholds in Health Care: A Bookshelf Guide to their Meaning and Use](#)

This article explains the essential meaning of a cost-effectiveness threshold, using the simple metaphor of a bookshelf. Implications of its use, misuse and non-use are explored. These matters are discussed in the context of decisions by governments and agencies concerning the inclusion or exclusion of healthcare technologies in public programmes. To keep matters simple, the assumptions made throughout are that insured persons have access to technologies free of charge and that the principal objective of such schemes is to promote population health. The assumption is maintained throughout that “effectiveness” relates to the impact of an intervention on people’s health. This is not to deny that health care systems may have objectives other than health maximisation but to focus on what is undoubtedly a major objective<sup>1</sup>. The analysis is considered in the context of countries of varying degrees of economic development but the main focus is on LMICs considering how best to advance universal health coverage (UHC) by introducing a public health insurance scheme (PHI).

**CHE Research Paper 121.** Anthony J Culyer. 2015