# WHAT COUNTS IN ECONOMIC EVALUATIONS IN HEALTH?

BENEFIT-COST ANALYSIS COMPARED TO OTHER FORMS OF ECONOMIC EVALUATIONS



Jeremy A. Lauer Alec Morton Anthony J. Culyer Kalipso Chalkidou



The first business of every theory is to clear up conceptions and ideas which have been jumbled together, and, we may say, entangled and confused; and only when a right understanding is established as to names and conceptions can we hope to progress with clearness and facility, and be certain that author and reader will always see things from the same point of view. (von Clausewitz)

HEALTH FINANCING WORKING PAPER NO 18

## WHAT COUNTS IN ECONOMIC EVALUATIONS IN HEALTH?

BENEFIT-COST ANALYSIS COMPARED TO OTHER FORMS OF ECONOMIC EVALUATIONS

Jeremy A. Lauer Alec Morton Anthony J. Culyer Kalipso Chalkidou



What counts in economic evaluations in health? Benefit-cost analysis compared to other forms of economic evaluations/ Jeremy A. Lauer, Alec Morton, Anthony J. Culyer, Kalipso Chalkidou (Health systems financing and governance, working paper no. 18)

ISBN 978-92-4-000887-8 (electronic version) ISBN 978-92-4-000888-5 (print version)

#### © World Health Organization 2020

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <a href="https://creativecommons.org/licenses/by-nc-sa/3.0/igo">https://creativecommons.org/licenses/by-nc-sa/3.0/igo</a>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization (<a href="http://www.wipo.int/amc/en/mediation/rules/">http://www.wipo.int/amc/en/mediation/rules/</a>).

**Suggested citation**. Lauer JA, Morton A, Culyer AJ, Chalkidou K. What counts in economic evaluations in health? Benefit-cost analysis compared to other forms of economic evaluations. Geneva: World Health Organization; 2020 (Health systems financing and governance, working paper no. 18). Licence: <u>CC BY-NC-SA 3.0 IGO</u>.

Cataloguing-in-Publication (CIP) data. CIP data are available at <a href="http://apps.who.int/iris">http://apps.who.int/iris</a>.

**Sales, rights and licensing.** To purchase WHO publications, see <a href="http://apps.who.int/bookorders">http://apps.who.int/bookorders</a>. To submit requests for commercial use and queries on rights and licensing, see <a href="http://www.who.int/about/licensing">http://www.who.int/about/licensing</a>.

**Third-party materials**. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

**General disclaimers.** The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

The named authors alone are responsible for the views expressed in this publication.

Production: Phoenix Design Aid A/S, Denmark

### **CONTENTS**

The	authors	V
Exe	cutive Summary	vi
1.	Background	1
••	Introduction	
	Context	
	Excluded types of analysis	
	MCDA and procedural decision aids	
	Value frameworks and value propositions	
	Outline	
2.	Defining terms	6
	The logical framework and the causal story	7
	The table of accounts	9
	Units of account	10
3.	A framework for thinking about economic evaluations in health	12
	Effectiveness studies	12
	Costing studies	13
	Cost-effectiveness studies	14
	Distributional cost-effectiveness study	14
	Extended cost-effectiveness analysis	15
	Aggregation in EEHs	16
	Benefit-cost analysis	16
	The status of prices in an EEH	
	Cost-of-illness studies	18
	Disease-focused studies	19
	The investment case in health	
	Causal inference in EEHs	
	CEAs in investment-case clothing	22
4.	A detailed look at benefit-cost analysis	
	4.1. Welfare economics	
	Introduction	
	Decentralized decision-making: efficiency, optimality and liberty	
	Interpersonal comparisons and Arrow's impossibility theorem	
	The post-war context for welfare economics	
	The features of market outcomes	
	The post-war context and the birth of health economics	
	4.2. Differing accounts of benefit-cost analysis	
	The first implicit assumption of BCA – perfect and complete markets  The second implicit assumption of BCA – monetary-equivalent utilitarian	30
	social welfare	31

6.	References	38
5.	Conclusions	37
	4.5. The table of values in a BCA	
	4.4. Overall conclusions about prices in BCAs and other EEHs	35
	Third approach – preference measurement	34
	Second approach – transpose down	33
	First approach – transpose over	
	4.3. Benefit-cost analysis in practice	

iv

#### THE AUTHORS

**Jeremy A. Lauer**. (formerly) Economist, Department of Health Systems Governance and Financing, World Health Organization, Geneva, Switzerland; (currently) Professor and Director of Research, Department of Management Science, University of Strathclyde, Glasgow, Scotland.

**Alec Morton**. Professor and Head of Department, Department of Management Science, University of Strathclyde, Glasgow, Scotland.

Anthony J. Culyer. Emeritus Professor of Economics, University of York, York, England.

**Kalipso Chalkidou**. Director of Global Health Policy and Senior Fellow, The Center for Global Development, London, England.

The authors acknowledge the generous contributions and feedback of numerous reviewers and users of this material, which was developed at WHO in the department of Health Systems Governance and Financing between 2016 and 2019 while being tested with staff in a number of WHO programmes.

### **EXECUTIVE SUMMARY**

Economic evaluations in health (EEHs) take many forms. However, they generally involve a comparison of inputs and outcomes, either of which may or may not be market-traded goods.

We call a particular choice of inputs and outcomes a 'table of accounts'. We argue that the notion of a table of accounts provides a useful way to understand the methodological diversity of EEHs, which subsumes more established but also more restrictive terminology (e.g. the notion of 'study perspective').

Our concept of a table of accounts can also be thought of as a more structured

and theoretically grounded instance of the currently popular notion of 'value frameworks'. We present tables of account for a number of commonly used EEHs, then we discuss at length benefit-cost analysis (BCA), a distinctive form of EEH that has recently attracted substantial attention.

In addition to the table of accounts, a BCA also relies on a table of values: understanding the table of values is key to understanding both the appeal of BCA and also its vulnerabilities.

We conclude with reflections on when and for whom BCA may be an attractive form of analysis compared with other forms of EEH, such as cost-effectiveness analysis.

预览已结束,完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5 24378

