

# Tailoring Opportunity Costs to State Budgets and Cost-Effectiveness Thresholds: How to Broaden the Impact of Value Assessment in the U.S. With State and Commercial Payers

1



## Introduction

Mark Sculpher, PhD

Professor

*Centre for Health Economics*

*University of York, UK*



2

## Conflicts of interest disclosure

- I have provided consultancy services to a number of pharmaceutical companies and health authorities in a number of countries
- The Centre for Health Economics at the University of York receives funding to provide assessments of new drugs and other technologies for the National Institute of Health and Care Excellence in the United Kingdom
- I have no financial or any other conflicts relating to specific products mentioned in my presentation

3

## Opportunity costs 101

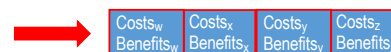
New funding constrained

Costs <sub>1</sub> Benefits <sub>1</sub>	Costs <sub>2</sub> Benefits <sub>2</sub>	Costs <sub>3</sub> Benefits <sub>3</sub>
Costs <sub>4</sub> Benefits <sub>4</sub>		
Costs <sub>5</sub> Benefits <sub>5</sub>	Costs <sub>6</sub> Benefits <sub>6</sub>	
Costs <sub>7</sub> Benefits <sub>7</sub>	Costs <sub>8</sub> Benefits <sub>8</sub>	Costs <sub>9</sub> Benefits <sub>9</sub>
Costs <sub>10</sub> Benefits <sub>10</sub>	Costs <sub>11</sub> Benefits <sub>11</sub>	Costs <sub>12</sub> Benefits <sub>12</sub>
Costs <sub>13</sub> Benefits <sub>13</sub>		
Costs <sub>14</sub> Benefits <sub>14</sub>	Costs <sub>15</sub> Benefits <sub>15</sub>	
Costs <sub>16</sub> Benefits <sub>16</sub>	Costs <sub>17</sub> Benefits <sub>17</sub>	Costs <sub>18</sub> Benefits <sub>18</sub>
Costs <sub>19</sub> Benefits <sub>19</sub>		
Costs <sub>n</sub> Benefits <sub>n</sub>		

New intervention



Forgone intervention(s)



**Do the benefits gained outweigh the opportunity costs?**

4

## Implications for decision-making

Opportunity cost is an estimable quantity



- System's marginal productivity
- Marginal rate of translating expenditure in health
- Can be expanded to broader range of benefits
- Estimable from routine datasets
- Not just relevant to fixed budgets
- Impacted by productivity, prices, total expenditure

Opportunity cost is a benchmark of value



- Understand value of a new interventions
- Maximum price before net health becomes negative
- Indicator of value of increasing total expenditure
- Strong signal to technology developers

5

## Estimating opportunity cost

### HEALTH TECHNOLOGY ASSESSMENT

VOLUME 19 ISSUE 14 FEBRUARY 2015  
ISSN 1366-5278

Methods for the estimation of the National Institute for Health and Care Excellence cost-effectiveness threshold

Karl Claxton, Steve Martin, Marta Soares, Nigel Rice, Eldon Spackman, Sebastian Hinde, Nancy Devlin, Peter C Smith and Mark Sculpher

Pharmacoeconomics (2018) 36:239–252  
<https://doi.org/10.1007/s40273-017-0585-2>



ORIGINAL RESEARCH ARTICLE

Estimating the Reference Incremental Cost-Effectiveness Ratio for the Australian Health System

Laura Catherine Edney<sup>1</sup> · Hossein Haji Ali Afzali<sup>1</sup> · Terence Chai Cheng<sup>2</sup> · Jonathan Karnon<sup>1</sup>

Published online: 22 December 2017  
© Springer International Publishing AG 2017

Received: 27 October 2016 | Revised: 31 October 2017 | Accepted: 28 November 2017  
DOI: 10.1002/hec.3633

RESEARCH ARTICLE

WILEY Health Economics

Estimating a cost-effectiveness threshold for the Spanish NHS

Laura Vallejo-Torres<sup>1,2,3</sup> | Borja García-Lorenzo<sup>1,4</sup> | Pedro Serrano-Aguilar<sup>1,3,5</sup>

6

## International estimates of opportunity costs

VALUE IN HEALTH 19 (2016) 929–935

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**ScienceDirect**

journal homepage: [www.elsevier.com/locate/jval](http://www.elsevier.com/locate/jval)

**ELSEVIER**

**Value Health**

**Country-Level Cost-Effectiveness Thresholds: Initial Estimates and the Need for Further Research**

Beth Woods, MSc<sup>a</sup>, Paul Revill, MSc, Mark Sculpher, PhD, Karl Claxton, PhD

<sup>a</sup>Centre for Health Economics, University of York, Heslington, York, North Yorkshire, UK

CrossMark

**BMJ Global Health**

### Estimating health opportunity costs in low-income and middle-income countries: a novel approach and evidence from cross-country data

Jessica Ochalek,<sup>1</sup> James Lomas,<sup>1</sup> Karl Claxton<sup>1,2</sup>

BMJ Glob Health 2018;3:e000964. doi:10.1136/bmjgh-2018-000964

7

## Is the US different?

- No universal healthcare system in the US
  - Numerous payers and decision makers
- Not all systems are budget constrained?
- Different systems have different levels of funding and productivity
  - By 'system'
  - By region

8

## ICER's Health-Benefit Price Benchmarks

“... a price range suggesting the highest price a manufacturer should charge for a treatment, based on the amount of improvement in overall health patients receive from that treatment, when a higher price would cause disproportionately greater losses in health among other patients in the health system due to rising overall costs of health care and health insurance. In short, it is the top price range at which a health system can reward innovation and better health for patients without doing more harm than good.”

ICER. *Modulator Treatments for Cystic Fibrosis: Effectiveness and Value*, April 2020

9

## Speakers

### **Bill Padula, PhD**

Pharmaceutical & Health  
Economics, University of Southern  
California, Los Angeles, CA, USA

### **David J Vanness, PhD**

Department of Health Policy and  
Administration, College of Health and Human  
Development, Pennsylvania State University,  
University Park, PA, USA

### **Rena Conti, PhD**

Markets, Public Policy and Law Questrom  
School of Business, Boston University, Boston,  
MA, USA

10