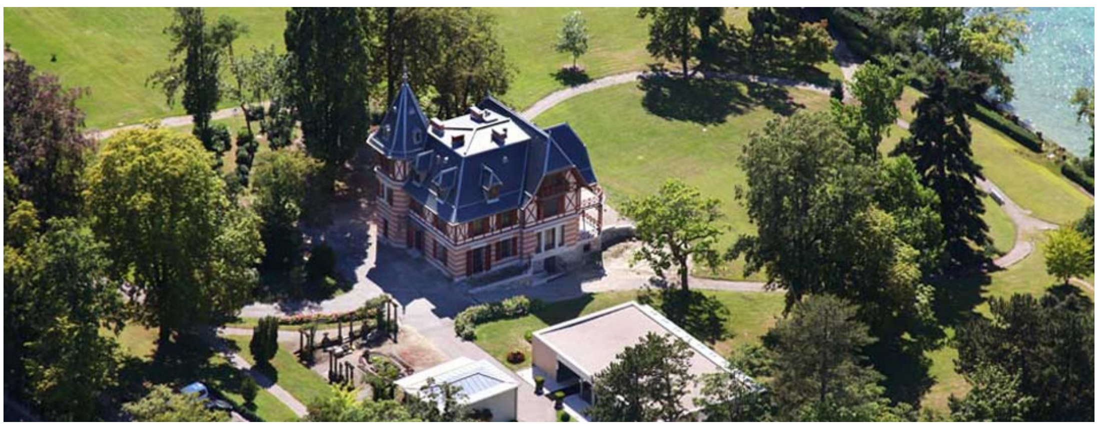
Brocher Summer Academy
in Global Population Health

Healthy, Wealthy, and Wise: The Ethics of Health Valuation



Fondation Brocher, Hermance, Switzerland
27 June – 1 July 2022

Organizers: Lisa A. Robinson, Nir Eyal, Samia Hurst, and Dan Wikler

Draft: Subject to Change
21 June 2022

Table of Contents

Introduction

Welcome!

The Brocher Summer Academy in Global Population Health is a 5-day invitation-only working conference held biannually at the Brocher Foundation villa in Hermance, Switzerland, on the shore of Lake Geneva. The 2022 Academy, "Healthy, Wealthy, and Wise: The Ethics of Health Valuation," addresses ethical issues that arise when choosing among metrics for evaluating the benefits and costs of interventions that substantially affect public health. We will consider both conventional and innovative approaches that estimate costs and benefits using the same metric, including monetary and nonmonetary measures. Our goal is to achieve an understanding of the ethical trade-offs that accompany the choice among these measures.

Our focus is on evaluating interventions implemented both within and outside of the healthcare system. These include medical interventions designed to prevent and treat health impairments and government regulations and other programs designed to address the root causes of these impairments along with other aspects of welfare. Examples of the latter include interventions that aim to control pollution, promote transportation or food safety, or provide education or other social services.

Benefit-cost analysis is commonly used to compare the improvements and harms associated with alternative policies implemented outside of the healthcare system, and increasingly also used to assess healthcare interventions as well as to compare policy options across sectors. In its conventional form, benefit-cost analysis measures changes in health and longevity and other impacts in monetary terms. This use of monetary metrics is often challenged on ethical grounds. One set of questions relates to how welfare is defined. For example, should we focus on satisfying individual preferences? On maximizing other measures of wellbeing? Give priority to health over other attributes of welfare? In addition, there are worries that conventional benefit-cost analysis underweights improvements that accrue to the poor, ignores distributional impacts, relies on self-regarding rather than other-regarding (e.g., altruistic) values, and does not adequately distinguish between morally desirable and undesirable preferences. Outcomes that are difficult to quantify or to value in monetary terms, such as respect for human dignity, also cannot be easily accommodated within this framework.

Innovative approaches that translate both costs and benefits into a common nonmonetary metric may, for example, rely on subjective wellbeing ("happiness" or "life satisfaction") units, social welfare functions, or equivalent incomes or healthy life years. Variants may give extra weight to outcomes for the worse off. One or more of these innovative approaches may ultimately avoid some of the (real or imagined) concerns about conventional benefit-cost analysis or raise other concerns. Alternative approaches may also lead to additional ethical or practical complications, such as the availability of needed data and the fit with common usage.

We look forward to an engaging and productive discussion that explores these advantages and disadvantages, ethical and otherwise, weighing the desirability of these approaches.

Best,

Lisa Robinson
Harvard University

Samia Hurst
University of Geneva

Nir Eyal
Rutgers University

Daniel Wikler
Harvard University

Organizers, Brocher 2022 Summer Academy

Agenda Overview

Preliminary, Subject to Change

<table>
<tr><th></th><th>Monday, June 27</th><th>Tuesday, June 28</th><th>Wednesday, June 29</th><th>Thursday, June 30</th><th>Friday, July 1</th></tr>
<tr><td>8:30</td><td rowspan="2">Optional introductory lecture in population bioethics:
50 Pills (Eyal)</td><td rowspan="2">Optional introductory lecture in population bioethics:
Pandemic Ethics (Hurst)</td><td rowspan="2">Optional introductory lecture in population bioethics: Health Policy Trials (MacKay)</td><td rowspan="2">Optional introductory lecture in population bioethics: Comparing and Measuring Health States (Hausman)</td><td rowspan="2">Optional introductory lecture in population bioethics: Equity and Universal Health Coverage (Norheim)</td></tr>
<tr><td>9:00</td></tr>
<tr><td>9:30</td><td>break</td><td>break</td><td>break</td><td>break</td><td>break</td></tr>
<tr><td>10:00</td><td>Welcome (Eyal, Hurst, Robinson, Wikler)</td><td rowspan="3">WELLBYS (Krekel)</td><td rowspan="3">Equivalent Income (Fleurbaey)</td><td rowspan="2">Lightning talks II (TBD)</td><td rowspan="2">What have we learned? Comparison of approaches (roundtable/facilitated discussion)</td></tr>
<tr><td>10:30</td><td rowspan="3">Conventional Benefit-Cost Analysis and the Value of Life and Health (Robinson)</td></tr>
<tr><td>11:00</td><td>break</td><td>break</td></tr>
<tr><td>11:30</td><td>break</td><td>break</td><td rowspan="2">Multidimensional Wellbeing QALYs (Cookson)</td><td>What next? Research and other priorities (roundtable/facilitated discussion)</td></tr>
<tr><td>12:00</td><td rowspan="2">lunch</td><td rowspan="2">Multi-domain Wellbeing and Inequality Aversion (Tsuchiya)</td><td rowspan="2">Life Years as a Unit of Value (Canning)</td><td rowspan="2">lunch
(Conclusions and Farewells)</td></tr>
<tr><td>12:30</td><td rowspan="2">lunch</td></tr>
<tr><td>13:00</td><td rowspan="2">Democratizing Value Elicitation (Chilton)</td><td rowspan="2">lunch</td><td rowspan="2">lunch</td><td rowspan="8">KEY:
Yellow = optional introductory lecture
Dark blue = presentation/discussion
Orange = meals and breaks
Green = lightning talks (TBD)
Light blue = roundtable/facilitated discussion</td></tr>
<tr><td>13:30</td><td rowspan="3">Choice of Wellbeing Measure for Disease Control Priorities, 4th Edition (Norheim)</td></tr>
<tr><td>14:00</td><td>break</td><td rowspan="3">Social Welfare Functions (Adler)</td><td rowspan="3">Lightning talks I (TBD)</td></tr>
<tr><td>14:30</td><td rowspan="2">Who Wins? You Decide! Public Values in Economic Evaluation (Baker)</td></tr>
<tr><td>15:00</td><td rowspan="2">break</td></tr>
<tr><td>15:30</td><td rowspan="2">The Value of Longevity and Temporal Separability (Broome)</td><td>break</td><td rowspan="3"></td></tr>
<tr><td>16:00</td><td rowspan="2">Measuring Children’s Health and Wellbeing (Hausman)</td><td rowspan="2">How to Value a Person’s Life (Brocher Lecture) (Broome)
18:00</td></tr>
<tr><td>16:30</td><td></td></tr>
</table>

Abstracts and Readings

On the following pages, we list the abstracts and suggested readings from each speaker in the same order as listed on the agenda. The reading lists include suggestions for optional, pre-conference readings as well as references that participants may find useful after the conference. We include links to each reference, indicating which are open access with an asterisk (*). Participants will be sent a link to a Dropbox folder that includes all of the open access readings, so that they do not need to download each individually.

Before the conference, we hope all participants will (at minimum) read three very brief and basic introductory summaries of the application of some of the approaches we will be discussing. These include:

- Robinson, L.A. et al. (2019). *Reference Case Guidelines for Benefit-Cost Analysis in Global Health and Development*, funded by the Bill & Melinda Gates Foundation, *especially* Section 1.3, Theoretical Foundations (pp. 7-10) and Section 2.3 Estimating Monetary Values (pp. 18-22). https://sites.sph.harvard.edu/bcaguidelines/guidelines/ *
- Fujiwara, D., & Campbell, R. (2011). *Stated Preference, Revealed Preference and Subjective Well-Being Approaches: A Discussion of the Current Issues*. HM Treasury, Department for Work and Pensions, *especially* Chapter 5, "Practical Application of the Life Satisfaction Approach (pp. 40-47). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/209107/greenbook_valuationtechniques.pdf *
- Adler, M. D. (2019). *Measuring Social Welfare: An Introduction*. Oxford, *especially* Section 1.1, The SWF Framework: A Synopsis (pp. 7-20) and Section 3.1, Five Leading SWFs (pp. 84-95) (these pages are included in the Dropbox for those who do not have access to the book). https://doi.org/10.1093/oso/9780190643027.001.0001

Conventional Benefit-Cost Analysis and the Value of Life and Health (Lisa A. Robinson)

Abstract

The starting point for this Summer Academy is conventional benefit-cost analysis, as commonly used to address regulatory and other policies that substantially affect public health but are often implemented outside the healthcare system. I will provide an overview of the conceptual framework and standard practices, with a focus on approaches for valuing changes in mortality and morbidity risks. I will also discuss the limitations of this framework from a normative perspective, including challenges related to assessing the distribution of costs and benefits across advantaged and disadvantaged populations; incorporating other-regarding (rather than solely self-regarding) preferences; addressing outcomes that are difficult to quantify or to value; and correcting for the impact of heuristics and biases on preferences, values, and choice.

Readings and References

Suggested Preconference Readings

- Robinson, L. A. et al. (2019). Section 1.3, Theoretical Foundations, and Section 2.3 Estimating Monetary Values, in *Reference Case Guidelines for Benefit-Cost Analysis in Global Health and Development*, funded by the Bill & Melinda Gates Foundation. https://sites.sph.harvard.edu/bcaguidelines/guidelines/ *

Additional References

- U.S. Department of Health and Human Services. (2016). *Guidelines for Regulatory Impact Analysis.* https://aspe.hhs.gov/pdf-report/guidelines-regulatory-impact-analysis *
- Robert, C. & Zeckhauser, R. (2011). The methodology of normative policy analysis. *Journal of Policy Analysis and Management*, *30,* 613-643. https://doi.org/10.1002/pam.20578
- Hammitt, J. K. (2013). Positive vs. normative justifications for benefit-cost analysis: Implications for interpretation and policy. *Review of Environmental Economics and Policy, 7*(2), 199-218. http://doi.org/10.1093/reep/ret009
- Boardman, A. E., Greenberg, D. H., Vining, A. R., & Weimer, D. L. (2022). Standing in cost-benefit analysis: Where, who, what (counts)? *Journal of Policy Analysis and Management*. https://doi.org/10.1002/pam.22397
- Hammitt, J. K. (2020). Accounting for the distribution of benefits and costs in benefit-cost analysis. *Journal of Benefit-Cost Analysis 1*, 64-84. https://doi.org/10.1017/bca.2020.29
- Robinson, L. A., Hammitt, J. K., & Zeckhauser, R.J. (2016). Attention to distribution in U.S. regulatory analyses. *Review of Environmental Economics and Policy, 10*(2), 308-328. https://doi.org/10.1093/reep/rew011
- Foglia, A. T. & Jennings, A. K. (2013). Forty-third annual administrative law issue: A happiness approach to cost-benefit analysis. *Duke Law Journal, 62(*8). https://dlj.law.duke.edu/archive/volume-62-number-8-may-2013/ *
- Robinson, L. A. (2016). [Ir]rationality, happiness, and benefit-cost analysis: Introduction to the special issue. *Journal of Benefit-Cost Analysis*, *7*(1), 1-11. https://doi.org/10.1017/bca.2016.10 *
- Robinson, L. A. & Hammitt, J.K. (2011). Behavioral economics and the conduct of benefit-cost analysis: Towards principles and standards. *Journal of Benefit-Cost Analysis*, *2*(2),1-51. https://doi.org/10.2202/2152-2812.1059 *

Collections

- Harvard T.H. Chan School of Public Health. Resource pack: Introduction to benefit-cost analysis. Center for Health Decision Science. https://repository.chds.hsph.harvard.edu/repository/collection/resource-pack-introduction-benefit-cost-analysis/

- Harvard T.H. Chan School of Public Health. Resource pack: Benefit-cost analysis in low- and middle-income countries. Center for Health Decision Science. https://repository.chds.hsph.harvard.edu/repository/collection/bca-low-and-middle-income-countries/
- Harvard T.H. Chan School of Public Health. Resource pack: Valuing health and longevity. Center for Health Decision Science, https://repository.chds.hsph.harvard.edu/repository/collection/resource-pack-valuing-health-and-longevity-bca/
- Cambridge University Press. *Journal of Benefit-Cost Analysis*. https://www.cambridge.org/core/journals/journal-of-benefit-cost-analysis

Democratizing Value Elicitation (Susan Chilton)

Abstract

We use recent research to stimulate discussion about potential approaches to internalize distributive concerns at the point of individual value elicitation as opposed to “later on” in the BCA process, e.g., the use of externally-defined distributional weights to adjust willingness-to-pay (WTP) values. Stated preference surveys often require respondents to adopt an individual-based frame. If respondents include their value for others, then “double counting” may occur during aggregation. To address this, we have developed a WTP elicitation tool based on hypothetical choice behind a “veil of ignorance” (VoI). As opposed to requiring a spectator standpoint, our approach aligns with the welfare economics proposition that social welfare is dependent on the affected individuals and, further, respects consumer sovereignty. Due to the uncertainty created by the VoI, individual and group interests are aligned, mediating double-counting. As individuals know the distributional impact of the policy in question, equity concerns remain internalized in their values.

Readings and References

Suggested Preconference Readings

- Bergstrom, T. C. (2006). Benefit-cost in a benevolent society. *American Economic Review, 96*(1), 339– 351. http://doi.org/10.1257/000282806776157623
- Harsanyi, J. C. (1955). Cardinal welfare, individualistic ethics, and interpersonal comparisons of utility. *Journal of Political Economy, 66*(4), 309-321. https://www.jstor.org/stable/1827128
- Orr, S. W. (2007). Values, preferences, and the citizen-consumer distinction in cost-benefit analysis. *Politics, Philosophy & Economics, 6*(1), 107-130. https://doi.org/10.1177/1470594X07068306

Additional References

- Johannesson, M., Johansson, P-O, & O'Conor, R. (1996). The value of private safety versus the value of public safety. *Journal of Risk and Uncertainty, 13*(3), 263-275. https://doi.org/10.1007/BF00056156
- Jones-Lee, M. W. (1991). Altruism and the value of other people's safety. *Journal of Risk and Uncertainty, 4*(2), 213-219. https://doi.org/10.1007/BF00056126
- Messer, K. D., Poe, G. L., & Schulze, W. D. (2013). The value of private versus public risk and pure altruism: An experimental economics test. *Applied Economics, 45*(9), 1089-1097. https://doi.org/10.1080/00036846.2011.608645
- Sagoff, M. (1988). *The economy of the earth.* Cambridge University Press. http://doi.org/10.2307/1962439

Who Wins? You Decide! Public Values in (Public Health) Economic Evaluation (Rachel Baker)

Abstract

There are two value judgements central to economic evaluation when health and safety outcomes are at stake. First the value placed on preventing a fatality or on (quality-adjusted) life years; and second the value of different distributions of health benefits. Value judgements might be resolved by expert deliberation, elected officials and the systems of representative democracy, or public deliberation or preference elicitation. Despite decades of evidence on health inequalities and the social determinants of health, gaps in life expectancy persist between rich and poor. Evaluation of public health policies often requires estimation of health benefits set against impacts on health inequalities. Disentangling some of the issues (and challenges) in valuing life, health, and the distribution of health in economic evaluation, we argue that public values are relevant to those judgements of value and distribution and ought to be invoked in cases of intractable (wicked) social problems.

Readings and References

- Baker, R., Mason, H., McHugh, N., & Donaldson, C. (2021). Public values and plurality in health priority setting: What to do when people disagree and why we should care about reasons as well as choices. *Social Science Medicine, 277.* https://doi.org/10.1016/j.socscimed.2021.113892 *
- McHugh, N. (2021). Eliciting public values on health inequalities: Missing evidence for policy windows? *Evidence & Policy*, 1-13. https://doi.org/10.1332/174426421X16286783870175
- Donaldson, C. (1999). Valuing the benefits of publicly-provided health care: Does "ability to pay" preclude the use of "willingness to pay"? *Social Science and Medicine, 49,* 551-563. https://doi.org/10.1016/S0277-9536(99)00173-2
- Donaldson C., Baker R.M., et al. (2011). The social value of a QALY: Raising the bar or barring the raise? *BMC Health Services Research, 11*(8). https://doi.org/10.1186/1472-6963-11-8 *

The Value of Longevity and Temporal Separability (John Broome)

Abstract

Throughout the world, life expectancies have been increasing, and we naturally think this is a good thing. But at the same time birth rates have been declining. This sets a puzzle if we think, as we generally do, that the value of the world is temporally separable – that its value is some sort of an aggregate of its value at each date. I shall look for ways of resolving this puzzle. Can we preserve temporal separability whilst giving value to longevity?

Readings and References

Suggested Preconference Reading

- Broome, J. (2004). Chapter 1. In *Weighing lives.* Oxford University Press. http://doi.org/10.1093/019924376X.001.0001

Additional References

- Hirose, I. (2015). Separability. In I. Hirose and A. Reisner, eds., *Weighing and Reasoning* (pp. 61-71). Oxford University Press. http://doi.org/10.1007/s10677-015-9657-6
- Blackorby, C., & Donaldson, D. (1984). Social criteria for evaluating population change. *Journal of Public Economics*, *25*(1-2), 13-33. https://doi.org/10.1016/0047-2727(84)90042-2
- Broome, J. (2019). The badness of dying early. In E. Gamlund and C. T. Solberg, eds., *Saving People from the Harm of Death* (pp. 105-115). Oxford University Press. http://doi.org/10.1093/oso/9780190921415.001.0001

WELLBYS (Christian Krekel)

Abstract

I introduce the concept of subjective wellbeing (wellbeing for short), including its different dimensions. I show how to measure wellbeing, presenting its main causes and consequences. A focus is laid on self-reported life satisfaction, an evaluative dimension: we will see what matters to people's lives, such as their health, social relations, and jobs, and that people get used to changing circumstances and find it difficult to predict these. They care a great deal about their relative position in society. Such "behavioral factors" motivate the use of wellbeing in cost-benefit analyses. A one-point increase in life satisfaction (on a zero-to-ten scale) for one person for one year (a "WELLBY") is the most common unit of account used. I show how WELLBYs can be translated into money, and vice versa. Finally, I introduce wellbeing cost-benefit analyses (where both benefits and costs are expressed in WELLBYs), including advantages and disadvantages, as well as ethical considerations.

Readings and References

- Fujiwara, D., & Campbell, R. (2011). Practical application of the life satisfaction approach. In Valuation Techniques for Social Cost-Benefit Analysis: Stated Preference, Revealed Preference and Subjective Well-Being Approaches: A Discussion of the Current Issues (pp. 40-47). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/209107/greenbook_valuationtechniques.pdf *
- Frijters, P. (2021). WELLBYs, cost-benefit analyses and the Easterlin Discount. *Vienna Yearbook of Population Research, 19*, 39-64. https://doi.org/10.1553/populationyearbook2021.deb04 *

Multi-domain Wellbeing and Inequality Aversion (Aki Tsuchiya)

Abstract

Decisions involve collapsing multi-domain outcomes into a single index. And policy decisions involve aggregating across individuals, either by first aggregating across the domains of wellbeing (e.g. health and income) for each individual and then across individuals (the "individualist approach": e.g. hypothetical compensation test); or by first aggregating across individuals by domain and then across the domains (the "domain-specific approach": e.g. cost-effectiveness analyses). If the objective functions are additive, the two approaches are the same. But we may be inequality averse so that the objective functions are concave. People who support progressive income taxation may not want to level down the health of the better off to reduce health inequality: their inequality aversion is domain-specific. Domain-specific inequality aversion can, in theory, be elicited for each domain. And, if inequality aversion is found to depend on the domain, the individualistic approach cannot capture it.

Readings and References

- Broome, J. (1982). Equity in risk bearing. *Operations Research, 30*(2), 412-414. https://doi.org/10.1287/opre.30.2.412 *
- Hurley, J., Mentzakis, E., & Walli-Attaei, M. (2020). Inequality aversion in income, health, and income-related health. *Journal of Health Economics, 70,* 102276. https://doi.org/10.1016/j.jhealeco.2019.102276
- Tobin, J. (1970). On limiting the domain of inequality. *The Journal of Law and Economics, 13*(2), 263-277. https://doi.org/10.1086/466693
- Tsuchiya, A., & Watson, V. (2017). Re-thinking 'The different perspectives that can be used when eliciting preferences in health.' *Health Economics, 26*(12), e103-e107. https://doi.org/10.1002/hec.3480

Social Welfare Functions (Matt Adler)

Abstract

The social welfare function (SWF) framework is a powerful tool for evaluating governmental policies in light of human wellbeing. It originates in theoretical welfare economics and is widely used in various economic literatures, including optimal-tax theory and climate economics. While cost-benefit analysis

quantifies well-being impacts in monetary units, the SWF framework does so using an interpersonally comparable wellbeing measure. The SWF proper is a rule for ranking outcomes and policies understood as patterns of individual wellbeing. "Prioritarian" SWFs give extra weight to wellbeing changes affecting individuals at lower levels of wellbeing—by contrast with the utilitarian SWF, which simply adds up wellbeing numbers. This talk will provide an overview of the SWF methodology and then discuss its application to health policy.

Readings and References

Suggested Preconference Readings

- Adler, M. D. (2019). Section 1.1, The SWF Framework: A Synopsis and Section 3.1, Five Leading SWFs, in *Measuring Social Welfare: An Introduction*. Oxford (these pages are included in the conference Dropbox for those who do not have access to the book). https://doi.org/10.1093/oso/9780190643027.001.0001
- Adler, M. D. (2022). Theory of prioritarianism. In M. D. Adler & O. Norheim, eds., *Prioritarianism in Practice* (pp. 37-127, especially pp. 37-93). Cambridge. Free access from June 20 to July 4 available here: https://www.cambridge.org/core/browse-subjects/economics/prioritarianism-in-practice

Additional References

- Adler, M. D., Ferranna, M., Hammitt, J. K., & Treich, N. (2021). Fair innings? The utilitarian and prioritarian value of risk reduction over a whole lifetime. *Journal of Health Economics*, *75*. https://doi.org/10.1016/j.jhealeco.2020.102412 *
- Cookson, R., Norheim, O. F., & Skarda, I. (2022). Prioritarianism and health policy. In M. D. Adler & O. Norheim, eds., *Prioritarianism in Practice* (pp. 260-316). Cambridge. Free access from June 20 to July 4 available here: https://www.cambridge.org/core/browse-subjects/economics/prioritarianism-in-practice
- Hammitt, J. K. & Treich, N. (2022). Prioritarianism and fatality risk regulation. In M. D. Adler & O. Norheim, eds., *Prioritarianism in Practice* (pp. 317-59). Cambridge.
- Adler, M. D. & Fleurbaey, M., eds. (2016). *Oxford Handbook of Well-Being and Public Policy.* Oxford. http://doi.org/10.1093/oxfordhb/9780199325818.001.0001

Measuring Children's Health and Well-Being (Daniel M. Hausman)

Abstract

To promote the wellbeing of a population, policymakers need some measure of improvements in population wellbeing. The overwhelming consensus among health economists regards preference satisfaction as the appropriate measure. However, preference satisfaction is not an appropriate measure of wellbeing for young children. They lack the affective abilities and the knowledge needed even to form preferences among many alternatives. The preferences that they do have, which are, for example, expressed by loud protests at having their diapers changed, are limited by their unsophisticated emotional capacities, their limited knowledge of cause and effect, and their failure to understand how current alternatives bear upon their acquisition of more sophisticated physical, mental

and emotional capabilities. A measure of the wellbeing of young children must be based on something other than eliciting their preferences. Identifying that basis may in turn suggest an alternative way to measure adult wellbeing.

Readings and References

Suggested Preconference Reading

- Skelton, A. (2018). Children and well-being. In *The Routledge Handbook of the Philosophy of Childhood and Children.* https://doi.org/10.4324/9781351055987-9

Additional References

- Hausman, D. & McPherson, M. (1994). Preference, belief and welfare. *American Economic Review, Papers and Proceedings, 84(2)*, 396-400. http://www.jstor.org/stable/2117866.
- Kreimeier, S., & Greiner, W. (2019). EQ-5D-Y as a health-related quality of life instrument for children and adolescents: The instrument's characteristics, development, current use, and challenges of developing its value set. *Value in Health*, *22*(1), 31-37. https://doi.org/10.1016/j.jval.2018.11.001 *
- Lipman, S. A., Reckers-Droog, V. T., & Kreimeier, S. (2021). Think of the children: A discussion of the rationale for and implications of the perspective used for EQ-5D-Y health state valuation. *Value in Health*, *24*(7), 976-982. https://doi.org/10.1016/j.jval.2021.01.011 *
- Robinson, L. A., Raich, W. J., Hammitt, J. K., & O'Keeffe, L. (2019). Valuing children's fatality risk reductions. *Journal of Benefit-Cost Analysis*, *10*(2), 156-177. https://doi.org/10.1017/bca.2019.10
- Tomlin, P. (2016). Saplings or caterpillars? Trying to understand children's wellbeing. *Journal of Applied Philosophy*, *35*(S1), 29-46. https://doi.org/10.1111/japp.12204
- Raghavan, R., & Alexandrova, A. (2014). Toward a theory of child well-being. *Social Indicators Research*, *121*(3), 887-902. https://doi.org/10.1007/s11205-014-0665-z

Equivalent Income (Marc Fleurbaey)

Abstract

Equivalent income is one of the preference-based approaches that can be used for an equity-sensitive benefit-cost analysis (BCA). The following points will be discussed: 0) equity weights, social welfare, and BCA; 1) situating preference-based approaches between objective and subjective measures of well-being; 2) the class of equivalence approaches; 3) specificities of the equivalent income approach; 4) variants, extensions, and related approaches; 5) behavioral issues and the question of unreliable preferences; and 6) dealing with lives not worth living.

Readings and References

Suggested Preconference Readings

- Fleurbaey, M. & Ponthiere, G. (2022). Measuring well-being and lives worth living. (Working paper) (included in the conference Dropbox).
- Adler, M. D. & Fleurbaey, M., eds. (2016). Ch. 11, 16-19, 21. In *Oxford Handbook of Well-Being and Public Policy.* Oxford. http://doi.org/10.1093/oxfordhb/9780199325818.001.0001
- Decancq, K., Fleurbaey, M., & Schokkaert, E. (2015). Inequality, income, and well-being. In A.B. Atkinson and F. Bourguignon (eds.), *Handbook of Income Distribution.* Elsevier. https://www.sciencedirect.com/handbook/handbook-of-income-distribution
- Fleurbaey, M. (2015). Beyond income and wealth. *Review of Income and Wealth, 61*(2), 199–219. https://doi.org/10.1111/roiw.12187

Additional References

- Samson, A.-L., Schokkaert, E., Thébaut, C., Dormont, B., Fleurbaey, M., Luchini, S., & Van de Voorde, C. (2017). Fairness in cost-benefit analysis: A methodology for health technology assessment. *Health Economics*, *27*(1), 102-114. https://doi.org/10.1002/hec.3515
- Fleurbaey, M., Luchini, S., Muller, C., & Schokkaert, E. (2012). Equivalent income and fair evaluation of health care. *Health Economics*, *22*(6), 711-729. https://doi.org/10.1002/hec.2859
- Fleurbaey, M., & Schokkaert, E. (2013). Behavioral welfare economics and redistribution. *American Economic Journal: Microeconomics*, *5*(3), 180-205. https://doi.org/10.1257/mic.5.3.180

Life Years as a Unit of Value (David Canning)

Abstract

A full welfare analysis requires a unit of value for measurement so that all alternatives can be ranked on a single scale. Economics usually uses a money metric. The choice of numeraire for welfare purposes has ethical implications and effects on rankings. I propose using a life year lived in good health as a measurement unit. The welfare of any alternative can then be ranked in terms of life year equivalents. Ethically this implies we are indifferent to redistribution of life years rather than redistribution of money. Cost-benefit analysis can be carried out in terms of willingness to pay life years. Costs in cost-effectiveness analysis depend on who is paying for health since different people have different values of money. All life years are valued equally across people, existing value of life studies can be used to find the value of money (life year equivalent of a dollar).

Readings and References

Suggested Preconference Readings

- Canning, D. (2013). Axiomatic foundations for cost-effectiveness analysis. *Health Economics*, *22*(12), 1405–1416. https://doi.org/10.1002/hec.2889

Additional References

- Riumallo-Herl, C., Canning, D., & Salomon, J. A. (2018). Measuring health and economic wellbeing in the Sustainable Development Goals era: Development of a poverty-free life expectancy metric and estimates for 90 countries. *The Lancet Global Health*, *6*(8). https://doi.org/10.1016/s2214-109x(18)30277-8 *

Multidimensional Wellbeing QALYs (Richard Cookson)

Abstract

I will discuss how multidimensional wellbeing indices can be constructed and used for cross-sectoral economic evaluation. I will introduce the concept of a Wellbeing QALY (a year of life at a good level of wellbeing) as a wellbeing unit that can simply be added up across people, time periods and uncertain states of nature, and how this relates to the WELLBY (a one-point improvement in life satisfaction for one year). I will discuss how to construct Wellbeing QALYs using data on consumption and health-related quality of life, using a multi-dimensional quality of life instrument (EQ-HWB), and using life satisfaction. I will also discuss how to use Wellbeing QALYs for distributional analysis, the role of "supply-side" monetary values of a Wellbeing QALY based on the marginal productivity of public expenditure, and parallels between wellbeing cost-effectiveness analysis and the marginal value of public funds.

Readings and References

- Cookson, R., Skarda, I., Cotton-Barratt, O., Adler, M., Asaria, M., & Ord, T. (2021). Quality adjusted life years based on health and consumption: A summary wellbeing measure for cross-sectoral economic evaluation. *Health Economics, 30,* 70-85. https://doi.org/10.1002/hec.4177 *
- Brazier, J., Peasgood, T., Mukuria, C., Marten, O., Kreimeier, S., Luo, N., . . . Rejon-Parrilla, J. C. (2022). The EQ-HWB: Overview of the development of a measure of health and wellbeing and key results. *Value in Health, 25*(4), 482-491. https://doi.org/10.1016/j.jval.2022.01.009 *
- Robinson, L. A. (2016). [Ir]rationality, happiness, and benefit-cost analysis: Introduction to the special issue. *Journal of Benefit-Cost Analysis, 7*(1), 1-11. https://doi.org/10.1017/bca.2016.10 *
- Hendren, N. & Sprung-Keyser, B. (2022). The case for using the MVPF in empirical welfare analysis. (NBER Working Paper). https://www.nber.org/papers/w30029. See also https://policyimpacts.org/ *
- Skarda, I., Asaria, M., & Cookson, R. (2022). Evaluating childhood policy impacts on lifetime health, wellbeing and inequality: Lifecourse distributional economic evaluation. *Social Science and Medicine, 302,* 114960. https://doi.org/10.1016/j.socscimed.2022.114960 *

Choice of Wellbeing Measure for BCAs in DCP4 (Ole Frithjof Norheim)

Abstract

The Disease Control Priorities (DCP) project aims to develop lists of recommended interventions to improve public health in low- and middle-income countries. In the 4th Edition, we plan to update and revise DCP3 essential benefit packages and intersectoral policies with new evidence, new analysis, and

improved ways of reporting and interacting with country-led initiatives. DCP4 will be published by the World Bank in four volumes and Volume 3 will include benefit-cost analyses (BCAs) for a range of intersectoral policies reducing environmental and behavioral risks. We also aim to include BCAs that include evaluation of the distribution of costs and benefits. In this talk I will present potential summary measures of wellbeing that capture health and consumption (such as equivalent Income, wellbeing QALYs and others) and identify data needs for distributional BCAs, based on the previous sessions, and will note some criteria for selecting among these measures for DCP4.

Readings and References

- Watkins, D., Nugent, R., Yamey, G., Saxenian, H., Mock, C. N. , et. al. (n.d.). Intersectoral policy priorities for health. In D. T. Jamison, H. Gelband, S. Horton, P. Jha, R. Laxminarayan, C. N. Mock, & R. Nugent, eds., *Disease Control Priorities (Third Edition): Volume 9, Disease Control Priorities.* World Bank. https://dcp-3.org/chapter/2550/essential-intersectoral-policies-health *
- Chang, A., Horton, S., & Jamison, D. T. (n.d.). Benefit-cost analysis in disease control priorities, third edition. In D. T. Jamison, H. Gelband, S. Horton, P. Jha, R. Laxminarayan, C. N. Mock, & R. Nugent, eds., *Disease Control Priorities (Third Edition): Volume 9, Disease Control Priorities.* World Bank. https://dcp-3.org/chapter/2564/benefit-cost-analysis *

How to Value a Person’s Life (John Broome) [Brocher Lecture]

Abstract:
I shall review the idea of the value of a statistical life, and examine whether it can be made consistent with expected utility theory. Fairness is at issue in this question. Then I shall consider how, starting from the first principles of value theory, we may move towards a practicable measure of the value of a person’s life. This will involve making a number of inevitably contentious ethical assumptions.

Readings and References

Suggested Preconference Readings

- Broome, J. (2004). Chapter 1 and Section 18.3. In *Weighing Lives.* Oxford University Press. http://doi.org/10.1093/019924376X.001.0001
- Blackorby, C., & Donaldson, D. (1990). A review article: The case against the use of the sum of compensating variations in cost-benefit analysis. *Canadian Journal of Economics*, *23*, 471-494. https://doi.org/10.1016/0047-2727(84)90042-2

Additional References

- Diamond, P. A. (1967). Cardinal welfare, individualistic ethics, and interpersonal comparison of utility: Comment. Journal of Political Economy, 75(5), 765-766. https://doi.org/10.1086/259353
- Hicks, J. R. (1939). The foundations of welfare economics. *The Economic Journal*, *49*(196), 697-712. https://doi.org/10.2307/2225023
- Broome, J. (2004). Section 5.3. In *Weighing lives.* Oxford University Press. http://doi.org/10.1093/019924376X.001.0001

Speaker Biographies

Matthew Adler

Matthew D. Adler [https://law.duke.edu/fac/adler/] is the Richard A. Horvitz Professor of Law and Professor of Economics, Philosophy and Public Policy at Duke University. He is an editor of the journal *Economics and Philosophy*. Adler's current research agenda focuses on "prioritarianism"—a refinement to utilitarianism that gives extra weight ("priority") to the worse off. Adler is the author of numerous articles and several monographs, including *New Foundations of Cost-Benefit Analysis* (HUP, 2006; co-authored with Eric Posner); *Well-Being and Fair Distribution: Beyond Cost-Benefit Analysis* (OUP, 2012); and *Measuring Social Welfare: An Introduction* (OUP, 2019), an overview of the social-welfare function approach. He is the co-editor (with Marc Fleurbaey) of the *Oxford Handbook of Well-Being and Public Policy* (2016) and (with Ole Norheim) of *Prioritarianism in Practice* (CUP, 2022). He is currently writing a monograph on the ethical foundations of fatality risk regulation for the OUP book series on Population-Level Bioethics.

Rachel Baker

Rachel Baker [https://www.gcu.ac.uk/yunuscentre/staff/academicandresearchstaff/rachelbaker/] is Professor of Health Economics, Assistant Vice Principal (Research Excellence) and Director of the Yunus Centre for Social Business and Health at Glasgow Caledonian University. Baker focuses on two main areas of research: societal values and resource allocation in health; and social innovation and health inequalities. She is an expert in Q methodology and research combining qualitative methods with health economic approaches to valuation and preference elicitation. Between 2004 and 2011, Baker was involved in UK and European studies investigating the social value of quality-adjusted life years (QALYs). With funding from the UK Medical Research Council, 2011-2014, she led research to explore societal perspectives on the relative value of life-extending treatments for people with terminal illnesses. She is Principal Investigator of the Common Health Assets research project, investigating community-led organizations and their impact on health and wellbeing, funded by the National Institute for Health Research.

John Broome

John Broome [https://users.ox.ac.uk/~sfop0060/] is Emeritus White's Professor of Moral Philosophy at the University of Oxford and an Honorary Professor at the Australian National University. Previously, he was a professor of Economics at the University of Bristol. He is interested in rationality and normativity and in value theory. Through his life, he has worked on the value of human life from a theoretical point of view and on its practical applications to health and to climate change. Among his books are *Weighing Goods*, *Ethics Out of Economics*, *Weighing Lives*, *Climate Matters*, and *Rationality Through Reasoning*. He was a lead author on the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. He is a member of the British Academy, the Royal Society of Edinburgh, the Royal Swedish Academy of Sciences, the American Academy of Arts and Sciences, and the Australian Academy of the Humanities.

David Canning

David Canning [https://projects.iq.harvard.edu/ppiud/people/david-canning] is Richard Saltonstall Professor of Population Sciences and Professor of Economics and International Health at the Harvard T.H. Chan School of Public Health. Canning has served as a consultant to the World Health Organization, the World Bank, and the Asian Development Bank. His research on demographic change focuses on the effect of changes in age structure on aggregate economic activity and the effect of changes in longevity on economic behavior. He is the author of "Measuring health and economic wellbeing in the Sustainable Development Goals era: development of a poverty-free life expectancy metric and estimates for 90 countries," C Riumallo-Herl, D Canning, JA Salomon - *The Lancet Global Health*, 2018.

Sue Chilton

Sue Chilton [https://www.ncl.ac.uk/business/people/profile/susanchilton.html] is Professor of Economics in the Business School at Newcastle University. Her research has a strong policy focus, particularly concerning the theory and practice of the monetary valuation of risks to life, resulting in numerous influential reports and peer-reviewed journal articles over the past 30 years. She has been the PI of several research grants which have significantly contributed to UK public spending and regulatory analysis, including Department for Transport and Health and Safety Executive (HSE) guidance (HM Treasury, 2022) and life expectancy gains from air pollution reduction (HM Treasury, 2013). She is a member of three Department for Environment, Farming and Rural Affairs (DEFRA) Advisory Panels (Joint Air Quality Delivery and Impact Review Panel; the Economic Advisory; and the Hazardous Substances Advisory Committee) and is an elected Board Member of the Society for Benefit-Cost Analysis.

Richard Cookson

Richard Cookson [https://www.york.ac.uk/che/staff/research/richard-cookson/] is a professor at the Centre for Health Economics, University of York, and an honorary public health academic, Public Health England. He has helped to pioneer "equity-informative" methods of health policy analysis including methods of distributional cost-effectiveness analysis; methods of health equity monitoring for healthcare quality assurance; and methods for investigating public concern for reducing health inequality. He has co-chaired various international working groups on equity, and his UK public service includes working in the Prime Minister's Delivery Unit and serving on NICE advisory committees and the NHS Advisory Committee for Resource Allocation. He currently leads a program of research on life course microsimulation for economic evaluation which will allow the use of various multidimensional measures of wellbeing in applied economic evaluation studies.

Nir Eyal

Nir Eyal [https://cplb.rutgers.edu/people/nir-eyal] is the inaugural Henry Rutgers Professor of Bioethics at Rutgers University. He founded and directs Rutgers's Center for Population-Level Bioethics, with appointments at the School of Public Health and the Department of Philosophy. Earlier, Eyal worked or trained at Harvard, Princeton, NIH, Oxford, HUJI, and Tel Aviv University. Eyal's work covers many areas of population-level bioethics and research ethics, including ethical resource allocation, using economic ordeals as an allocation tool, and health-state evaluation. Eyal's work has appeared in Science, PNAS, NEJM, Lancet, BMJ, Noûs, and the leading bioethics venues. He is a coauthor of a WHO report, and has co-edited eight volumes and journal symposia, as well as the Oxford UP series Population Level Bioethics. Eyal is the recipient of multiple awards from NIH, Wellcome, NSF, Open Philanthropy, and other sources.

Marc Fleurbaey
Marc Fleurbaey [https://www.parisschoolofeconomics.eu/en/fleurbaey-marc/] is CNRS Senior Researcher, Professor at Paris School of Economics, and Associate Professor at ENS-Ulm, and, up to 2020, was Robert E. Kuenne Professor at Princeton University. Author of *Beyond GDP* (with Didier Blanchet, OUP 2013), *A Theory of Fairness and Social Welfare* (with François Maniquet, CUP 2011), and *Fairness, Responsibility and Welfare* (OUP, 2008), he is a former editor of *Social Choice and Welfare* and *Economics and Philosophy* and is currently an associate editor of *Philosophy and Public Affairs* as well as *Politics, Philosophy and Economics*. He is one of the initiators of the International Panel on Social Progress and lead author of its Manifesto for Social Progress (CUP 2018). He was a coordinating lead author for the IPCC 5th Report, a member of the United Nations Committee for Development Policy from 2016 to 2021, and has co-chaired task forces of the T20 in recent years.

Daniel Hausman
Daniel Hausman [https://ifh.rutgers.edu/faculty_staff/daniel-m-hausman/] taught at the University of Maryland, Carnegie Mellon and at the University of Wisconsin-Madison before joining the Center for Population-Level Bioethics at Rutgers University in 2020 as a research professor. His research addresses methodological, metaphysical, and ethical issues at the boundaries between economics and philosophy, and it currently focuses on the measurement of health and the allocation of health care. In 1985, Hausman co-founded the journal *Economics and Philosophy* with Michael McPherson, and in 2009, he was elected to the American Academy of Arts and Sciences.

Samia Hurst
Samia Hurst-Majno [https://www.unige.ch/medecine/ieh2/welcome/staff/samia-hurst-majno/] is professor of Biomedical Ethics at the Faculty of Medicine of the University of Geneva, where she chairs the Institute for Ethics, History, Humanity and the Department of Community Health and Medicine. She is a member of the Senate at the Swiss Academy of Medical Sciences and of the Swiss National Advisory Commission on Biomedical Ethics. She was vice-chair, and chair of the ELSI group, of the Swiss COVID19 Science Task Force.

Christian Krekel
Christian Krekel [https://www.lse.ac.uk/PBS/People/Dr-Christian-Krekel] is an Assistant Professor in Behavioural Science in the Department of Psychological and Behavioural Science, London School of Economics (LSE), as well as a Research Associate at the Centre for Economic Performance (CEP), LSE, and at the Wellbeing Research Centre, University of Oxford. He is an applied economist: his research fields are behavioral economics and wellbeing, behavioral welfare economics, and policy appraisal and evaluation. He holds a PhD in Economics from the Paris School of Economics. In his work, Krekel uses methods for causal inference to monetarily value (mostly) intangibles (recently, time savings in various activities) in order to provide robust inputs into cost-benefit or cost-effectiveness analyses. He is an

advocate of wellbeing (in particular WELLBYs, i.e. one unit of life satisfaction for one person for one year) as a measure of benefit, and has recently co-authored a handbook for wellbeing policymaking as well as several guideline documents that are now part of UK Treasury guidance on policy appraisal and evaluation.

Ole Norheim

Ole F. Norheim [https://www.uib.no/en/persons/Ole.Frithjof.Norheim] is a physician and Professor of Medical Ethics, Department of Global Public Health and Primary Care, University of Bergen and Director of Bergen Center for Ethics and Priority Setting (BCEPS) at UiB. He is also Adjunct Professor of Global Health at the Department of Global Health and Population, Harvard T.H. Chan School of Public Health (2015-2025) and Head of the Norwegian Biotechnology Advisory Board (2019-2023). Norheim's wide-ranging research interests include theories of distributive justice, inequality in health, priority setting in health systems, and how to achieve universal health coverage and the Sustainable Development Goal for health. He chaired WHO's Technical Advisory Group on Health Benefit Packages (2019-21). His latest book is Adler and Norheim (Eds), *Prioritarianism in Practice*, CUP 2022.

Lisa Robinson

Lisa A. Robinson [https://www.hsph.harvard.edu/profile/lisa-robinson/] is Deputy Director, Center for Health Decision Science, and Senior Research Scientist, Center for Health Decision Science and Center for Risk Analysis, Harvard T.H. Chan School of Public Health. She focuses on the conduct of benefit-cost analysis and on approaches for valuing changes in health and longevity. She was a lead author of the National Academies book, *Valuing Health for Regulatory Cost-Effectiveness Analysis*, and of benefit-cost analysis guidelines for the U.S. Department of Health and Human Services and for the Bill & Melinda Gates Foundation. She developed the approaches used by several government agencies and other organizations to estimate the value of mortality risk reductions (the value per statistical life, VSL) and of morbidity risk reductions. She is a past President of the Society for Benefit-Cost Analysis, a former Councilor of the Society for Risk Analysis, and a recipient of several awards recognizing her achievements from each organization.

Aki Tsuchiya

Aki Tsuchiya [https://www.sheffield.ac.uk/economics/staff/academic/aki-tsuchiya] is a Professor of Health Economics at the University of Sheffield, with a joint appointment between the Department of Economics and the School of Health and Related Research. Tsuchiya's research interests span three areas. (1) Measuring, valuing, and modelling health; this involves the quantification of the relative value of things such as different dimensions of health against survival. (2) Elicitation of inequality aversion; this aims to quantify how members of the public and decision makers value the reduction of inequalities in health or wellbeing against improving averages in the same. (3) Normative economics of health and wellbeing; this is about incorporating inequality aversion into an overall social objective function for health and wellbeing. Most of her work is methodological and typically involves eliciting preferences from members of the public from a social perspective – how they would like public resources to be allocated to improve social welfare.

Daniel Wikler

Daniel Wikler [https://www.hsph.harvard.edu/daniel-wikler/] has been Mary B. Saltonstall Professor of Ethics and Population Health at the Harvard School of Public Health since 2002. He served as "staff philosopher" for the President's Commission for the Study of Ethical Problems in Medicine (USA), and as the first "Staff Ethicist" for the World Health Organization. Wikler's published work in recent years has been concerned primarily with bioethical issues arising at the population and global levels. Among Wikler's recent works, in collaboration with colleagues at Harvard and worldwide, are WHO's *Handbook in Ethical Issues in International Health Research* and volumes in the Oxford series Population-Level Bioethics (co-edited with Nir Eyal) including *Inequalities in Health: Concepts, Measures, Ethics* and *Measuring the Global Burden of Disease: Philosophical Dimensions*.