

Att mäta individers preferenser

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Val mellan alternativ med samma förväntade antal levnadsår men med olika risk

- Vad väljer du?
- Go to www.menti.com and use the code 7893 1356 or scan QR-code.



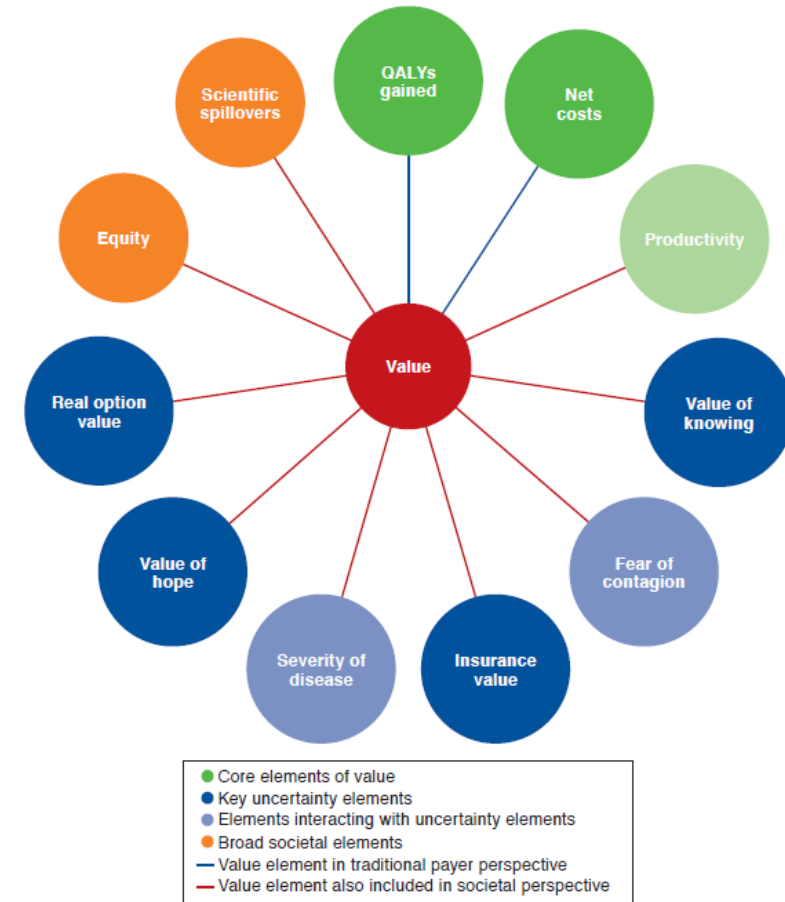
| | Alternativ 1 | Alternativ 2 |
|---------------------------|--------------------|--|
| | 10 år med säkerhet | 50 % chans 20 år 50 % risk 0 år |
| Förväntat antal levnadsår | 10 år | 10 år (20 år x 50 % + 0 år x 50 %) |

Resultat

- <https://www.mentimeter.com/app/presentation/alwc5iesq8p3bndreop3bjnyqizqxvpn>

Individer har preferenser för risk (BLÅ CIRKLAR)...

...men detta bortses ifrån i dagens modell (GRÖNA CIRKLAR)



Ref: Garrison et al. “Augmenting Cost-Effectiveness Analysis for Uncertainty: The Implications for Value Assessment—Rationale and Empirical Support” J Manag Care Spec Pharm. 2020;26(4):400-06.

Risk är en central komponent i all hälso- och sjukvård...


...och individers preferenser för risk blir allt viktigare:

- Precisionsmedicin & Avancerade terapiläkemedel (ATMP)- har potential att bota -eliminera risk
- Säriläkemedel - Svåra hälsotillstånd kan vara värt upp till fyra gånger så mycket att behandla-lindriga tillstånd ges för högt värde
- Diagnostik -val av brytpunkten sensitivitet/specificitet beror på bedömning av risk - individers preferenser viktiga
- Biverkningar -individers preferenser kan avgöra vilka risker som ska tolereras
- Antibiotika - försäkringsvärde = värdet av att det finns en behandling tillgänglig om det skulle behövas
- Vacciner - värden kopplade till lock-down -samhällsekonomi, livskvalitet är preferensbaserade
- Värdet av hopp - man kan tillhöra den patientgrupp som svarar bäst - värdet avviker från det förväntade medelvärdet -värdet förekommer för individer i svåra tillstånd

Hur kan vi inkludera individers preferenser för risk?

- Jämföra individers preferenser med bedömning av beslutsfattare och/eller medicinsk expertis - många gånger stora skillnader
- Studier där individer/patienter får välja i hypotetiska valsituationer - t ex Risk-Benefit Assessment (RBA) eller Betalningsvilja (Willingness to pay, WTP)
- Riskjusterade kvalitetsjusterade levnadsår - pågående forskning ”Generalized Risk-Adjusted Cost Effectiveness Analysis (GRACE)”

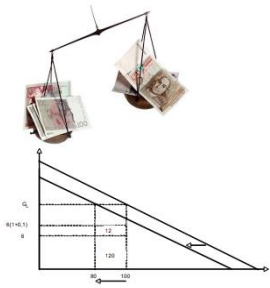
För den som vill få mer kunskap om individers preferenser och riskvärden

 TRAFIKVERKET

Version 2023-02-01

Analysmetod och samhällsekonomiska kalkylvärden för transportsektorn: ASEK 7.1

Kapitel 9 Trafiksäkerhet och olyckskostnader




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Working Paper Series

THREE ECONOMIC APPROACHES TO VALUING BENEFITS OF TRAFFIC SAFETY MEASURES

APPENDIX
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15/1992




Department of Economics
School of Economics and Management
University of Lund
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Sweden ISSN 1101-8062

Bulletin 222

Valuing Reductions in the Risk of Traffic Accidents Based on Empirical Studies in Sweden


Ulf Persson
2004



Lund Institute of Technology
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SARA OLOFSSON
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För den som vill få mer kunskap om individers preferenser och riskvärden, fortsättning



Methodology

Health Technology Assessment With Diminishing Returns to Health: The Generalized Risk-Adjusted Cost-Effectiveness (GRACE) Approach

Darius N. Lakdawalla, PhD, Charles E. Phelps, PhD

ABSTRACT

Objectives: Cost-effectiveness analysis (CEA) embeds an assumption at odds with most economic analysis—that of constant returns to health in the creation of happiness (utility). We aim to reconcile it with the bulk of economic theory.

Methods: We generalize the traditional CEA approach, allow diminishing returns to health, and align CEA with the rest of the health economics literature.

Results: This simple change has far-reaching implications for the practice of CEA. First, optimal cost-effectiveness thresholds should systematically rise for more severe diseases and fall for milder ones. We provide formulae for estimating how these thresholds vary with health-related quality of life (QoL) in the sick state. Practitioners can also use our approach to account for treatment outcome uncertainty. Holding average benefits fixed, risk-averse consumers value interventions more when they reduce outcome uncertainty ("insurance value") and/or when they provide a chance at positively skewed outcomes ("value of hope"). Finally, we provide a coherent way to combine improvements in QoL and life expectancy (LE) when people have diminishing returns to QoL.

Conclusion: This new approach obviates the need for increasingly prevalent and ad hoc exceptions to CEA for end-of-life care, rare disease, and very severe disease (eg, cancer). Our methods also show that the value of improving QoL for disabled people is greater than for comparable non-disabled people, thus resolving an ongoing and mathematically legitimate objection to CEA raised by advocates for disabled people. Our Generalized Risk-Adjusted Cost-Effectiveness (GRACE) approach helps align HTA practice with realistic preferences for health and risk.

Keywords: CEA for disabled persons, value of hope, value of insurance, optimal CE decision threshold, severity of illness.

VALUE HEALTH. 2021; 24(2):244–249

Introduction

Cost-effectiveness analysis (CEA) is widely used to evaluate new medical technologies—for example, by the UK's National Institute for Health and Care Excellence or by the Institute for Clinical and Economic Review. Standard methods calculate the average increase in treatment cost per average quality-adjusted life-year (QALY) gained, also known as the incremental cost-effectiveness ratio (ICER). In this standard approach, an intervention improves economic welfare if $ICER = \frac{\Delta C}{\Delta Q} < K$, where K is the cost-per-QALY decision threshold adopted by the decision-making authority.

Existing theory implies that decision thresholds should not vary with disease. The Institute for Clinical and Economic Review recommends using a range of thresholds, now set from \$50 000 to \$200 000 per QALY, depending on disease characteristics.¹ The National Institute for Health and Care Excellence uses an official threshold of $K = £20 000$ to $£30 000$ per QALY, perhaps operationally using as low as $£13 000$ per QALY.² However, the National

Institute for Health and Care Excellence regularly makes exceptions for rare diseases (up to $£300 000$, based on the extent of health improvement) and end-of-life care (up to $£50 000$) and in 2011 established a separate "cancer fund" for new cancer drugs, most of which did not meet the required $£30 000$ QALY limit.³

In parallel, researchers have raised concern that traditional CEA discriminates against the severely ill or disabled.^{4,5} The US Affordable Care Act forbids using CEA that discriminates against persons with disabilities, both by the Patient-Centered Outcomes Research Institute and in determining Medicare coverage and reimbursement. To address this concern, the Institute for Clinical and Economic Review now calculates the equal value of life-years gained in parallel with standard CEA analyses,⁶ and other departures from CEA have been proposed as ad hoc ways to repair this problem.⁷

These exceptions, exclusions, and prohibitions call for deeper examination of CEA's theoretical foundations. In a new analysis,⁸ we develop a generalization of standard CEA methods that resolves many of these issues. We begin with one of the simplest

NHESG 2023 Discussion Paper - Work in progress - Please do not share without permission

An experimental approach to setting optimal diagnostic thresholds

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Abstract

Background and objective

Accurately detecting the presence of disease leads to earlier treatment with better patient outcomes. However, diagnostic tests have less than perfect sensitivity and specificity leading to false negative and false positive test results. For tests that generate a test indicator on a continuous scale, a threshold level of the indicator must be chosen which separates individuals into 'positive' and 'negative' test result categories. Any given threshold choice determines the levels of sensitivity and specificity for the test, and changes in the threshold will increase one of these at the expense of the other. Plotting the possible sensitivity-specificity combinations produces the receiver-operator curve (ROC) which acts like a concave production possibility frontier for a given test and thereby shows what is feasible. To find the optimal threshold based on individuals' preferences, empirical evidence on how individuals trade-off sensitivity and specificity is needed and therefore which point on a given ROC they would prefer. Finding optimal diagnostic thresholds could increase uptake of screening and diagnostic testing and guide the development of future tests leading to improved health outcomes. Previous literature has studied the trade-off between sensitivity and specificity in stated preference settings. However, this paper presents a novel experimental approach to setting optimal diagnostic thresholds in an incentivised setting.

Methods

We designed a laboratory decision-making experiment to mirror the diagnostic test. Subjects are endowed with £10 but face a loss determined by randomly drawing from an urn containing 100 balls that are a mix of orange (low loss) and purple (high loss) balls. Each ball is wrapped in either an orange or a purple wrapper. The money loss depends on the colour combination of ball and wrapper. There are four outcomes: true negative and true positive test results

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Are Adult Patients More Tolerant of Treatment Risks Than Parents of Juvenile Patients?

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²Department of Environmental Science and Engineering, School of Public Health, University of North Carolina at Chapel Hill, NC, USA. Work conducted while an employee at Research Triangle Institute, Research Triangle Park, NC, USA.

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Abstract

Understanding patient-specific differences in risk tolerance for new treatments that offer improved efficacy can assist in making difficult regulatory and clinical decisions for new treatments that offer both the potential for greater effectiveness in relieving disease symptoms, but also risks of disabling or fatal side effects. The aim of this study is to elicit benefit-risk trade-off preferences for hypothetical treatments with varying efficacy and risk levels using a stated-choice (SC) survey. We derive estimates of "maximum acceptable risk" (MAR) that can help decisionmakers identify welfare-enhancing alternatives. In the case of children, parent caregivers are responsible for treatment decisions and their risk tolerance may be quite different than adult patients' own tolerance for treatment-related risks. We estimated and compared the willingness of Crohn's disease (CD) patients and parents of juvenile CD patients to accept serious adverse event (SAE) risks in exchange for symptom relief. The analyzed data were from 345 patients over the age of 18 and 150 parents of children under the age of 18. The estimation results provide strong evidence that adult patients and parents of juvenile patients are willing to accept tradeoffs between treatment efficacy and risks of SAEs. Parents of juvenile CD patients are about as risk tolerant for their children as adult CD patients are for themselves for improved treatment efficacy. SC surveys provide a systematic method for eliciting preferences for benefit-risk tradeoffs. Understanding patients' own risk perceptions and their willingness to accept risks in return for treatment benefits can help inform risk management decision making.

Keywords

Benefit-risk analysis; Crohn's disease; maximum acceptable risk; stated-choice survey

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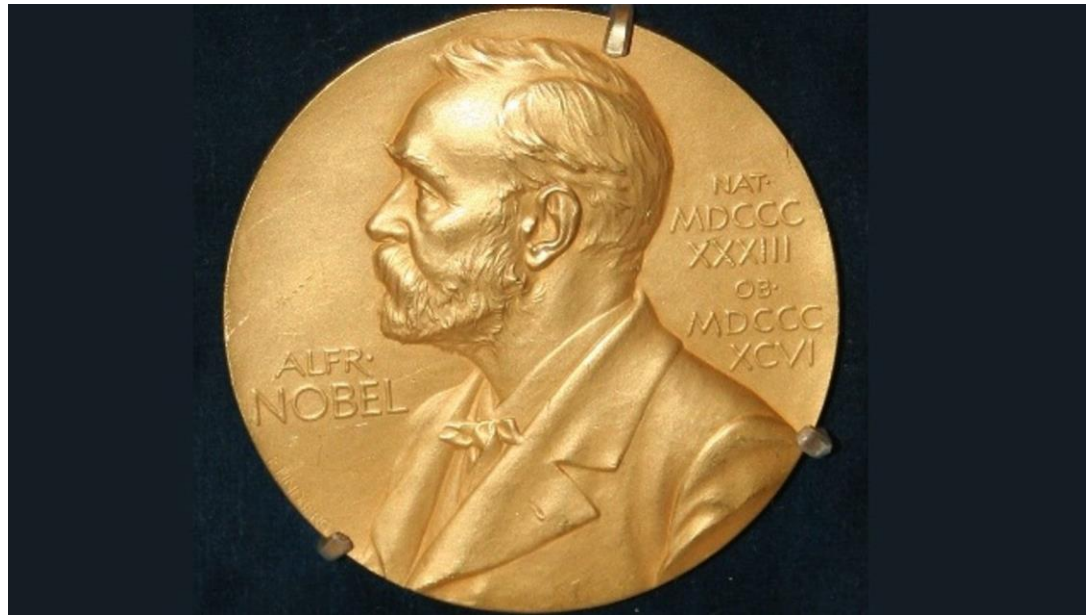
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Kenneth Arrow's **1963** article, "**Uncertainty and the Welfare Economics of Medical Care**," has become a seminal essay in the field of health economics.



Kenneth Arrow, 1921-2017, var en amerikansk nationalekonom som tillsammans med John Hicks belönades med Sveriges Riksbanks pris i ekonomisk vetenskap till Alfred Nobels minne 1972.

Tack!