

Modifying QALY

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Introduction

Health interventions can prolong life, improve the quality of life, or both. To evaluate and compare health interventions, they undergo cost-effectiveness analysis to measure the impact of health interventions on the length and the quality of life (QoL). A Quality Adjusted Life Year (QALY) is the product of the length and QoL. The QALY is commonly used in health economic evaluations to quantify the health effect of a health intervention to support decision-making on the allocation of healthcare resources. Recently, some health technology assessment (HTA) agencies started using disease severity modifier to place more weight on severe health states with respect to QALY, although there is little evidence indicating that such modifier aligns with societal preferences. The aim of this paper is to bridge the gap in providing empirical justification for the use of disease severity modifiers in HTA.

Methods

A discrete choice experiment (DCE) has been conducted with a representative (by age, gender, and NUTS-3 region) sample of 250 subjects from Slovenia. The DCE was interviewer administered in an on-line (BrevisVelox.com) survey. The subjects were asked to express their preferences concerning the provision of health intervention to hypothetical patients experiencing deterioration in health due to a disease. A concept of QALY and QALYs gained was explained to each participant. The experiment followed the EQ-5D-5L valuation study tasks (10 cTTO tasks and 7 DCE tasks). Each task (out of five) presented two hypothetical patients that differed in the age at onset of the disease, age at death with and without health intervention, reduction of Health Related QoL (HRQoL) without health intervention or increase of HRQoL due to health intervention. All information was given in an easy-to-understand format with additionally highlighted information regarding the QALYs gained. The subjects were asked to choose which of the two hypothetical patients was more eligible for health intervention. Analysis was performed using a mixed logit model in R.

Results

After controlling for the QALYs gained, statistically significant coefficients were observed in all variables. Patient's age at the onset of the disease was negatively associated with health intervention preferences. Reduction in HRQoL without health intervention had a statistically significant, negative, and larger (in absolute terms) coefficient compared to the increase in HRQoL due to health intervention. Furthermore, extending life due to health intervention had a positive and statistically significant effect.

Conclusion

A fixed cost-effectiveness threshold is not in line with Slovenian general population preferences. The respondents were more willing for (equally effective) health intervention to be provided for younger, more severely ill patients, and for health interventions that prolong life more than the conventional HTA would assume. A modifier that takes into account societal preferences should be used by the national HTA agency.

