CHAPTER 20

COST-UTILITY ANALYSIS

Research and practical applications

MOJCA Z. DERNOVSEK\textsuperscript{1,2}, VALENTINA PREVOLNIK-RUPEL\textsuperscript{3} AND ROK TAVCAR\textsuperscript{1,4}

\textsuperscript{1}University Psychiatric Hospital, Studenec 48, SI-1260 Ljubljana-Polje, Slovenia
\textsuperscript{2}Institute of Public Health of Republic of Slovenia, Ljubljana, Slovenia
\textsuperscript{3}Ministry of Health of Republic of Slovenia, Ljubljana, Slovenia
\textsuperscript{4}University of Ljubljana, School of Medicine, Chair of Psychiatry, Ljubljana, Slovenia

Abstract: Cost-utility analysis is a method which is most often used when benefits cannot be expressed in monetary (profit) or metric values (days of sick leave). The utilities in cost-utility analyses are in fact preferences of each person, a selected group, or the whole population. Since quality of life is one of the preferences, estimation of quality of life is frequently used in health economics. The results of cost-utility analyses are expressed in QALY – quality adjusted life years. QALY indicates the average number of years of quality life which a person with a defined health status will be able to live in a case that a certain intervention is carried out. This indicator therefore shows the cost of intervention with regard to a specific outcome, life in quality. In psychiatry the measurements of health outcome like survival, disability, sick leave, quality of life, satisfaction of clients, etc., were traditionally important but in the recent years the awareness of costs associated with any health intervention has grown. In studying mental disorders the situation seems somewhat specific since traditional outcome indicators do not always reflect the many (complex) faces of mental disorder. Although the methodology is appropriate to compare health economic issues of different mental disorders these studies are scarce, probably due to a complicated design. It is much easier to conduct an outcome study with a single diagnostic category. On the other hand there were many studies that were comparing costs and other outcomes of different preventive and therapeutic interventions in a single diagnostic category. The results of cost-utility analyses are useful in many situations: planning of service development, resource allocations, to find out the best available intervention for persons with a certain health status, etc.

This chapter provides a short introduction to economic analysis giving a special emphasis to a cost-utility analysis and defining its place among other methods in health economics. Beside theoretical considerations, several practical applications of cost-utility analysis using QALYs are discussed

Keywords: Cost-utility analysis, effectiveness, QALY, health states
INTRODUCTION

Health related quality of life represents an important measure of therapeutic effectiveness and has hence become an important element in the economic evaluations. Economic evaluations are important to facilitate the choices which must be made concerning the deployment of the resources. Therefore each type of economic analysis compares the costs and the outcome of the therapeutic procedure. Costs are relatively easy to estimate, whereas many debates are going on at the outcome side. In order to be able to compare the different options for the use of common resources the quantification of health outcomes using a common measurement unit is required. Cost-utility analysis was developed to address the problem of comparing interventions with different measures of primary effectiveness. It provides a method through which the various disparate outcomes can be combined into a single composite summary outcome, allowing broad comparisons across widely differing interventions. Besides, cost-utility analysis is based on people’s utilities or preferences, through which a higher value is attached to the better or higher-quality (HRQoL) outcomes. The utility of QoL in clinical psychiatric research, drug trials, and economic analyses could be enhanced by appropriate conceptual models which endorse subject’s perception of the outcome of an interaction between severity of clinical symptoms, side effects including subjective responses to psychoactive drugs, and the level of psychosocial performance.

COST-UTILITY ANALYSIS

Decades ago as economics entered medicine, it was perceived as a threat likely to lead threat to dehumanization of health care. Insistence on quality of life, its measurement and making its improvements as a desirable outcome of health care lifts health care from the market place to the level of equity, where it belongs.

So what do Economic Evaluation and Quality of Life have in Common?

Economic analyses have become a requirement in some countries as a result of the introduction of spending limits which prompted a search for higher efficiency. Treatments or drugs for which the highest benefit per unit of costs is proven has become a priority. This latter does not mean that only positive effects of a particular treatment should be considered in QoL analyses, but one must be aware also of possible negative effects of treatment like adverse events.

Though cost measurement seems to be similar among studies – it is the measurement of benefits, which takes many approaches. Most prospective treatment studies include several determinants of outcome such as (health-related QoL, clinical outcome, medical costs, adverse events which then are used to perform) cost-effectiveness analysis. However, it is not clear why most authors stop at this point and do not perform cost-utility analyses. The reasons for this are not clear but