

EQ-5D Value Sets:
Inventory, Comparative Review and User Guide

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Edited by

AGOTA SZENDE

Covance Market Access Services, Leeds, U.K.

MARK OPPE

*Institute for Medical Technology Assessment,
Erasmus MC, Rotterdam, The Netherlands*

and

NANCY DEVLIN

City University, London, U.K.

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For Alan Williams,
whose intellect and wisdom continues to inspire us,
and to whom each of the authors are deeply indebted.

EuroQol Group

- The EuroQol Group is a network of international multidisciplinary researchers committed to the measurement of health-related quality of life. The EuroQol Group originally consisted of researchers from Europe, but nowadays includes members from North America, Asia, Africa, and Australasia. The Group is responsible for the development of EQ-5D, a preference-based measure of health-related quality of life.
- The EQ-5D self-report questionnaire consists of the EQ-5D descriptive system that measures health-related quality of life on 5 dimensions (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression) and the EQ VAS – a 20 cm vertical visual analogue scale that generates a self-rating of health-related quality of life. EQ-5D is widely used in clinical trials, observational studies, and other health surveys.
- The EuroQol Group has two primary research interests. One focuses on empirical work using EQ-5D, and the other focuses on methodological work to develop EQ-5D.
- The EuroQol Group is a “living” organization that, through its members, continuously conducts research using EQ-5D. Research areas include valuation and population studies, experimenting with the EQ-5D descriptive system, computerized applications, interpretation of EQ-5D ratings, and social inequalities in health status measurement.
- The EuroQol Group’s website (www.euroqol.org) contains information about the EuroQol Group, membership and research activities, details of EQ-5D development and current status.

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LIST OF CONTRIBUTORS

Frank de Charro

Erasmus University Rotterdam, The Netherlands

Nancy Devlin

City University, London, United Kingdom

Mark Oppe

Institute for Medical Technology Assessment, Erasmus MC, Rotterdam, The Netherlands

David Parkin

City University, London, United Kingdom

Rosalind Rabin

EuroQoI Executive Office, Rotterdam, The Netherlands

Agota Szende

Covance Market Access Services, Leeds, U.K.

Introduction

Rosalind Rabin, Frank de Charro, Agota Szende

1.1 Purpose of this booklet

Governments and healthcare funders worldwide are making increasing use of economic evaluation to inform priority setting in health care. For various reasons, cost benefit analysis is usually rejected in favour of cost-effectiveness or cost-utility analyses, often involving the estimation of the incremental cost per Quality Adjusted Life Year (QALY) gained (Drummond et al, 2005). The estimation of QALYs gained requires valuations for all relevant health states on a scale anchored at 1 = Full health and 0 = Dead.

The EQ-5D is widely used in this context and a number of value sets are available for all the health states generated by the EQ-5D descriptive system. These can be readily applied to health outcomes measured as EQ-5D profiles. EQ-5D has become one of the valuation approaches recommended by several reimbursement authorities and academic bodies in European countries (e.g. The Netherlands, Norway, Italy, Hungary, Poland, Portugal, UK), North America (e.g. Canada), and elsewhere (e.g. New Zealand).

The EuroQol Group frequently receives requests for advice regarding EQ-5D valuation data. Those seeking to apply EQ-5D valuations in economic evaluation want to know about the availability of EQ-5D value sets and how they can obtain them. They also seek specific guidance about *which* of the available value sets they should use for their purposes.

The Group has recently published a book devoted to the EQ-net project. Funded by the European Union under the Biomed II scheme, the project aimed to further develop the EQ-5D in the key areas of valuation, application, translation, and communication.

A considerable portion of the book focused on harmonising and integrating the results of the various EuroQol European valuation projects during the last 10 years (Brooks et al, 2003).

The purpose of the current booklet is to build on the work of the EQ-net project by drawing together and presenting, in a manner accessible to potential users of EQ-5D, the results of international research efforts to value EQ-5D states. Unlike the EQ-net book, this booklet focuses on both European and non-European valuation work. More specifically, our aims are: (1) to provide a comprehensive inventory of existing EQ-5D value sets, together with documentation and a comparative commentary on how these have been elicited and estimated; (2) to provide a basis for 'best practice' guidance to potential users of these value sets regarding the choice of value set for their particular application.

The EuroQol Group first met in 1987 with the aim of developing a standardized, non-disease-specific instrument for describing and valuing health-related quality of life (EuroQol Group, 1990). Originally a 6-dimensional questionnaire, the current 5-dimensional format was developed in 1991. Nowadays the EQ-5D self-report questionnaire (commonly known as EQ-5D), consists of 2 pages comprising the EQ-5D descriptive system (page 2) and a visual analogue scale - the EQ VAS (page 3). The descriptive system comprises 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 3 levels: no problems, some problems, extreme problems. The respondent is asked to indicate his/her health state by marking the box against the most appropriate statement in each of the 5 dimensions. This decision results in a 1-digit number expressing the level selected for that dimension. The digits for 5 dimensions can be combined in a 5-digit number describing the respondent's health state.

The EQ VAS records the respondent's self-rated health on a vertical, 20 cm visual analogue scale where the endpoints are labelled 'best imaginable health state' and 'worst imaginable health state'. This information can be used as a quantitative measure of health outcome as judged by the individual respondents.

The EQ-5D self-report questionnaire is designed for self-completion by respondents and is ideally suited for use in postal surveys, in clinics, and in face-to-face interviews. It is cognitively undemanding, taking only a few minutes to complete. Instructions to respondents are included in the questionnaire. Applicable to a wide range of health conditions and treatments, the EQ-5D provides a descriptive profile and a single index value for health status that can be used in the clinical and economic evaluation of health care as well as in population health surveys (Figure 1).

A distinction should be made between the EQ-5D self-report questionnaire for measuring health outcome and the EQ-5D valuation questionnaire (designed to collect valuations for health states defined by the EQ-5D descriptive system). The latter contains a technique for valuing health states using the EQ-5D VAS rating scale - a vertical 20 cm visual analogue scale with the end points labelled 'best imaginable health state' at the top and 'worst imaginable health state' at the bottom having numeric values of 100 and 0 respectively. The EuroQol Group decided on a subset of health states for valuation in 1990 and values have been elicited from general population samples and from patients in several countries. For various reasons however, valuation studies have not always adhered to the standard approach – for example many valuation studies carried out by EuroQol Group members also used the Time Trade-Off (TTO) technique.