

## ***Contemporary Issues***

### **Medical Outcomes Study Short Form 36: A Possible Source of Utilities?**

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#### **ABSTRACT**

General health-status questionnaires such as the Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) are frequently used to measure health-related quality of life. The SF-36, in its current form, cannot be used to measure individuals' utilities or preferences for their health state. Recently, several investigators have explored the possibility of obtaining utilities from the SF-36. This article reviews the SF-36 survey, selected measures of utility, and the differences between health-status and utility measures, with an emphasis on use of SF-36 results to derive utility scores. We searched the literature from January 1966 to July 1999 using MEDLINE® and HEALTHSTAR®. The terms *SF-36*, *health-status instruments*,

*utilities*, and *preferences* were searched to identify studies that had used both the SF-36 and a utility-based instrument. We first discuss studies that were specifically designed to find a predictive equation to obtain utilities from SF-36 scores. We then discuss studies that examined the correlation between the SF-36 and a utility-based instrument but that were not intended to develop a predictive equation as their primary objective. The studies that have tried to derive utilities from the SF-36 using a predictive equation have used different methodologies; to date, no reliable method has been appropriately validated. The poor correlation reported in most of the studies attests to the complex relationship between utility-based instruments and the SF-36. More work is needed to elucidate if utilities can be obtained from the SF-36. **Key words:** Medical Outcomes Study 36-Item Short Form Health Survey, SF-36, health-related quality of life, health-status instruments, utility scores.

*Accepted for publication October 1, 1999.*

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## INTRODUCTION

Quality-adjusted life years (QALYs) are the most widely accepted measure of health effectiveness used in cost-utility analysis (CUA).<sup>1</sup> QALYs have the ability to combine health improvements from changes in both the quality and quantity of life. To calculate the gain or loss of QALYs associated with a medical intervention, it is necessary to obtain the individual's utility for a particular health state. Utilities represent a measurement of the individual's preference for a health state and can be obtained from health questionnaires specifically designed for this purpose, namely utility-based instruments. However, because these surveys can be time-consuming, they may impose a burden on respondents. In clinical studies, instruments intended to capture an individual's preferences or utilities are seldom administered, thus limiting the ability to perform CUAs. A generic health-status survey, such as the Medical Outcomes Study 36-Item Short Form Health Survey (SF-36),<sup>2</sup> is often used in a clinical study to collect health-related quality-of-life (HRQL) information. This type of health-status survey is not suitable for CUA in its present form.<sup>3</sup>

Even though the SF-36 was not designed to capture utilities, some researchers have attempted to translate its scores into utilities.<sup>4,5</sup> Although this approach remains controversial, it would identify a new set of applications for the SF-36 survey if confirmed to be valid and reliable. By using just 1 instrument, both health-status and utility scores could be obtained. Patients would thus complete only 1 questionnaire, and only 1 questionnaire would be analyzed. Moreover, the ability to obtain utilities from SF-36 scores would allow researchers to con-

duct formal CUAs using data from the numerous studies in which the SF-36 questionnaire has been used. This appealing concept stimulated us to explore the various methods that have been proposed to estimate utility scores from the SF-36.

This article provides a general review of the SF-36, selected measures of utility, and the differences between health-status and utility measures. The main topic of discussion is the use of SF-36 results to derive utility scores. We assess the available evidence supporting or refuting this technique and discuss theoretical and practical considerations.

## MEDICAL OUTCOMES STUDY SF-36

The SF-36 is a 36-item generic questionnaire that measures HRQL by profiling patients' general health status.<sup>2</sup> Developed to fill "the gap between much more lengthy surveys and relatively coarse single-item measures,"<sup>6</sup> it measures 8 different health dimensions or domains: (1) physical functioning; (2) role limitations due to physical health problems; (3) bodily pain; (4) general health; (5) vitality; (6) social functioning; (7) role limitations due to emotional problems; and (8) mental health.<sup>2</sup> Each health dimension contains several items that are scored, summed, and converted to a scale from 0 to 100, where 0 represents the worst possible health state and 100 represents perfect health. Two summary measures—physical and mental component scores—can be derived from the 8 dimension scores.<sup>7</sup>

The SF-36 is a comprehensive yet concise alternative to longer, more time-consuming questionnaires. It (1) is reliable, (2) is easy to administer, (3) has been validated extensively,<sup>2,7</sup> (4) can be completed

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