Determinants of Health Economic Decisions in Actual Practice: The Role of Behavioral Economics

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Decision Utility versus Experience Utility

The concept of utility has had two quite different meanings in its history. Originally, Jeremy Bentham [1] introduced the concept of utility as the measure of pain and pleasure as the sovereign masters that can govern our conduct. This meaning of the term utility was used through the 19th century. Around the beginning of the 20th century, the development of certain philosophies of science known as positivism began. In psychology, positivism took the form of behaviorism, and the concept of utility as the experience of pain and pleasure was discredited because experience is private and therefore not amenable (so it was argued) to scientific study. What was substituted was a concept of utility as expressed in decisions. It is no longer what you experience or what you enjoy, it is what you want. Wants are much more observable directly than enjoyment. They are observable because choices are observable.

Utility became the degree to which one wants something. This concept has dominated economic and decision theory. Economists then derived from this concept their view of well-being. For economists, well-being of societies is measured by gross domestic product (GDP) or GDP per capita. The theory is that the more choices you have, the better off you are. If you have more opportunities to choose, then you cannot be worse off. Thus, to economists, income is a good proxy to the number of choices you have. In that sense, GDP is a measure of social welfare. Nevertheless, many people (including economists) are dissatisfied with this concept of utility. Now, there is a trend to return to the “Jeremy Bentham” concept of utility.

Decision utility is what is studied when we observe choices, and in the theoretical context, decision utilities infer some choices and are used to explain choices. Experienced utility is the utility that people experience. It is what makes life in its various aspects good and bad. In the early 20th century, when utility became decision utility, the standard model of economics assumed a rational agent. If a rational agent does what is best for him/her, then the quality of the outcomes of that agent does not have to be measured, because the outcomes are as good as they could be. So if the agent is a maximizing agent, and the wants of the agent are known, there is no need to investigate whether the agent enjoys the consequences of her choices. But behavioral economists now believe that people are not necessarily always rational and if people are not rational, they do not necessarily always choose what is best for them. And in that case, it becomes useful to measure consequences, independently of people's wants. So interest in the experienced utility grows.

Error in Quality-Adjusted Life-Year (QALY) Measurement

Quality-adjusted life-years are about decision utility. They are inferred from choices and preferences that people make, not from a study of actual experience. The QALY assigns to each period of time, a weight, ranging from zero to one, corresponding to the health-related quality of life during that period, with one as optimal health and zero equivalent to death. QALYs are frequently obtained, not from the patients themselves, but from the public. QALYs are affective forecasts (i.e., forecasts of an experience that someone will have under given conditions). Because affective forecasting is a task that people do not perform very well, QALYs obtained from the public are also susceptible to biases. In particular, QALYs obtained from patients and the QALYs obtained from the public are going to be radically different. This is because the public and the patients have different reference points. For a time trade-off or standard gamble exercise obtained from the public, the perspective is that of a healthy person considering losing his health. The healthy person is in the situation of selling health. Patients confront a choice between the same states, but in that case, as buyers of health. Many experiments have shown that buyers and sellers do not attach the same price to goods, contrary to standard economic theory. The effect is known as an endowment effect: people assign a substantially higher price to any good when they sell it than when they buy it, contrary to the standard theory in which buying price and selling price only differ by an income effect. A major difficulty with QALYs is the difference between the patients and the public. The difference is an error that the public makes in their forecasting of patient utilities. A substitute or at least a complement to QALYs and various related measures is a direct measurement of people's well-being.
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the following phenomena. Although the standard of
To understand health states one needs to understand
• Quality of sleep is also a significant predictor of
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• Being with friends is a major source of happiness.
• Happiness correlates with specific measures in
• Happiness is primarily a personality trait. Individ-
• Happiness has substantial physiological
brain correlates of positive emotional states [3].
• Happiness is correlated with fewer illnesses and
faster healing (immune system functions better).
• Happiness correlates with specific measures in
brain activity. In particular, the happy side of the
brain (left side) is specialized in processing
approach (which includes both pleasure and
anger), whereas the unhappy right side is special-
ized in processing avoidance (things that make us miser-
able or afraid).
• Happiness increases in the course of the day,
depending on the activities in which people engage
and the people with whom they interact. The
effects of local circumstances are not quite as big
as the effects of individual differences, but they are
larger than the effects of general life circumstances
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The Hedonic Treadmill
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living in the United States between 1946 and 1996
increased significantly, people's satisfaction with their
life and self-reported happiness remained about the
same. In Japan over the same period, although real
income increased fivefold, satisfaction with life
remained constant. There are other surprises of this
kind. In particular, the effects of health, although sig-
ificant, are in many cases surprisingly small. Like-
wise, the effects of age are small (the correlation is

References
1 Bentham J. An Introduction to the Principle of Morals
published in 1789).
