

the concept of the HYE represents a step in the right direction.

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## References

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# HYEs: Rejoinder

Gafni's reaction<sup>1</sup> to my criticism<sup>1</sup> of HYEsis constructive. While our differences of views will continue to exist, Gafni concentrates on positive future directions for the study of outcome measurement and mentions points of agreement. Primarily, Gafni and I agree that, at least for the purpose of communication with non-decision theorists, it is more useful to describe the value of a choice alternative in terms of an equivalent number of healthy years than in terms of a theoretical quantity such as "number of utils." Whether this equivalent number of healthy years is better obtained by empirical measurements from subjects or by normative calculations is a topic for future concern.

Gafni and I also agree that for the pros and cons of an index of value or utility, one has to trade off the increased flexibility of a generalization (such as ex-ante HYEs that generalize QALYs) against the less-specific predictions and prescriptions and the greater effort the generalization requires for elicitation. I<sup>2</sup> have already pointed out that ex-ante HYEs,

2. Mehrez A, Gafni A. Quality-adjusted life-years, utility theory and healthy-years equivalents. *Med Decis Making*. 1989;9:142-9.
3. Gafni A, Birch S, Mehrez A. Economics, health and health economics: HYE versus QALYs. *J Health Econ*. 1993;11:325-39.
4. Gafni A. Time in health: can we measure individuals' pure time preferences? *Med Decis Making*. 1995;15:31-7.
5. Johannesson M. The ranking properties of healthy-years equivalents and quality-adjusted life years under certainty and uncertainty. *Int J Technol Assess Health Care*. 1995;11:40-8.
6. Loewenstein G, Prelect D. Negative time preference. *Am Econ Rev*. 1991;81:347-52.
7. Broome J. QALYs. *J Public Econ*. 1993;50:149-67.
8. Johannesson M, Pliskin JS, Weinstein MC. A note on QALYs, time trade-off and discounting. *Med Decis Making*. 1994;14:188-92.

which seem to be the subject of Gafni's reply, achieve complete generality in permitting every kind of transitive behavior. As a price to pay, they do not provide any predictive or prescriptive power beyond transitivity. In particular, they allow for all transitive utility theories different from vNM utility theory.

I hope and think that the debates on HYEs have increased our awareness of problems in outcome measurement in health care.

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2. Wakker PP. A criticism of healthy-years equivalents. *Med Decis Making*. 1996;16:207-14.