

## EDITORIAL

## Discounting the value of life

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Congress, in passing the US Patient Protection and Affordable Care Act (2010),<sup>1</sup> created a Patient-Centred Outcomes Research Institute but prohibited it from using cost-per-QALY (quality-adjusted life year) thresholds.

The Act states that ‘the Secretary shall not use evidence or findings from comparative clinical effectiveness research ... in determining coverage, reimbursement, or incentive programs ... in a manner that treats extending the life of an elderly, disabled, or terminally ill individual as of lower value than extending the life of an individual who is younger, nondisabled, or not terminally ill.’

The Act forbids determining the cost of a medical intervention in terms of the cost per *quality-adjusted* year of life gained, not per year of life gained. This is an important distinction. The Act appropriately makes explicit that it is not right to discount the value of a life because of an individual’s disability. If an individual is, for example, paraplegic but wants to live, he or she is entitled to the same ‘value’ as someone who can walk.

Neumann and Weinstein<sup>2</sup> have recently argued that the Act signifies rejection of a quantitative approach to assessing the cost-effectiveness of different treatments. It does not. What it signifies is that the value of a year of life is not to be reduced in the case of someone with a disability. A disabled person’s wish to live another year should be respected in precisely the same way as an able person’s wish to live another year. The Act correctly rejects QALYs gained, but not life years (LYs) gained.

Discounting LYs gained in the future should also be rejected. This form of discounting aims to calculate a ‘present value’ similar to that of future business revenues when an investment decision is being considered. If the discount rate is 3.5%, £100 of income received in 10 years’ time will have a present value of £70. If this £100 were the only envisaged return from the contemplated investment, the latter would have to cost less than £70 to be profitable.

While such an approach may also be valid for a single individual who is making a personal choice between his present

and his future, it is not applicable to decisions affecting whole categories of people who differ only by existing at different points in time. For example, a year of life gained in a 50-year-old person in the present should be assigned a value no greater than a similar year of life gained in another 50-year-old person 10 or 20 years later.

In formulating public health policy a year of life saved today, tomorrow, or in 10 years should have equal weight – otherwise, interventions that would secure health gains in future are liable to be rejected because the cost per year of life gained is made to appear exorbitant merely as a result of improperly discounting many of the years in question. The cost per year could appear to be magnified by a factor of four if the health gains were to occur in 20 years’ time. This would discourage investment in preventive medicine and, incidentally, policies designed to stabilize climate or to promote ecological sustainability.

Cost-effectiveness assessments based on LYs gained from a medical or public health intervention are useful but need to be undertaken without discounting any of the LYs in question, whether on the basis of some formulaic ‘quality’ adjustment, or on account of timing. Rejecting these commonly performed discounting adjustments is of special importance in the evaluation of medical screening and public health initiatives where the expected health gain can arise many years in the future.

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- 2 Neumann PJ, Weinstein MC. Legislating against use of cost-effectiveness information. *N Engl J Med* 2010;**363**:16