

# Be Wary of the Thorny QALY

We have arrived at a new era for health care, one that will be dominated by the BIG question - can we afford it? Currently in Ireland, the Health Information and Quality Authority (HIQA) promotes the use of QALYs in cost effective analysis of Health Technology Assessments (HTAs), which it then presents to the Health Service Executive (HSE). The QALY is also used in the UK by the NHS to determine cost effectiveness and uses a £/QALY ratio with thresholds to determine funding, meanwhile the United States recently passed the Affordable Care Act (ACA) under President Obama, which prevents the use of QALY thresholds for determining funding. The danger with the use of the QALY is that it becomes the decision maker rather than facilitating decisions. Attempting to achieve cost effectiveness without a full appreciation of its limitations could result in the QALY being used as a cost cutting exercise at the expense of the patient. While there is little legal requirement for the HSE to implement HIQA's HTAs there can be little doubt of the strong influence on funding they will have. I have no reservations of the potential of the QALY, actually considering it the best out of a bad bunch when compared to the other options, however it is important decision makers realise the limitations of the QALY and the impact their misuse could have.

## The QALY basics

The idea of the QALY is simple, yet its creation is complex in nature. The QALY takes into account the quality of life as well as quantity of life generated from a healthcare intervention. They are calculated by assigning a value or weight (often called utility) to each health state experienced by a person. These utilities are measured from 0 (death) to 1 (full health). Summing of the different utilities enables a QALY to be calculated, and then compared like a common currency. For example, below shows intervention X to be more effective than Y:

Intervention X: 4 years in health state 0.75 = 3 QALYs  
Intervention Y: 4 years in health state 0.5 = 2 QALYs  
Addition number of QALYs generated by X = 1 QALYs

## Problems with the QALY

One of the major problems with the QALY, and what I believe to be its biggest drawback is that it fails to take into account societal values. The assumption that each QALY is of an equal value no matter who gains them or their occurrence in a life span (also referred to as disruptive neutrality) actually goes against both empirical research and intuition. Let's take a simple example; if you have three groups of patients A, B and C; group A initially having a health state worse than B and C. When examining an intervention, group A does not produce the same number of QALYs as B and C and subsequently may not be considered cost-effective and therefore funded. This goes against the particular feelings of the public in terms of giving priority to the worst off, that been to give the intervention to A, despite it not having the same benefit. This has been shown in empirical research carried out in many countries such as Australia, Sweden, Norway, United States and even the UK that suggest that the initial severity-of-illness carries its own value despite treatment effect prospects. The QALY fails to account for this. Further, the fact that morbid and mortal outcomes are aggregated within the QALY, and there is a failure to separate life-threatening treatments as conceptually different to health improving outcomes is also at odds with societal views. It is therefore vital that the decision maker considers and adjusts for the lack of societal value with the QALY calculation. However it must be recognized that the ability to measure and define key societal values can be equally as challenging if not subjective.

When assessing the health states for the calculation of quality of life in the QALY many methodological issues are raised. There is particular rhetoric about whose values of health states we should be assessing. Do we take the health values of the people who have the disease, the taxpayer, or the population in general? HIQA encourages the use of the patients for the health states and then comparing this with the population. It would seem reasonable to use the health values based on the people with the disease as they are experiencing that particular health state. However, the BIG issue in the use of a diseased persons value on health states is the issue of adaption, coping and adjustment. For example, a person in a wheelchair may have adapted to the wheelchair and rank their health as equal to a non-disabled person. Another example; in a study of men looking at the increase in utility attributed to sildenafil (also known as Viagra), they said the reduction of utility they would experience with impotence would be 0.26. However, when their wives estimated this, the result was amazingly different at 0.02. This is a particular thorny issue, as it would result in significantly different cost per QALY calculations.

Lastly, QALYs fail to capture the important value of non-health outcomes. For example, if you were looking at the priority of an alcohol program, non-health outcomes might include reductions in criminal offences, accidents, truancy, unprotected sex and increases in future employment and earnings prospects all of which would not appear in the use of a QALY based approach and subsequently could be misused against such interventions. It is clear that the QALY has limitations and potential for misuse. It is important that we allow the QALY to guide our decisions rather than determine our decisions. It is imperative that the clinical decision makers are aware of societal values, especially giving priority to those who are worse off. Methodical limitations with the QALY need to be considered, as well as the potential benefits of non-health outcomes. The QALY will grow and flourish; we just need to be wary of its thorns.

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