The rationale for Healthy Life Years as a Structural Indicator for the European Commission

Jean Marie Robine[1] and Carol Jagger[2]

[1]Institut National de la Santé et de la Recherche Médicale, Montpellier, France
[2]Department of Health Sciences, University of Leicester, England

The European Union decided to select a health expectancy (HE) as an indicator of the number of **Healthy Life Years** (HLY) lived within total life expectancy (LE). The health questions introduced in the Survey of Income and Living Conditions (SILC) will offer three possibilities for the final choice of HE as an indicator of Healthy Life Years: life expectancy in good perceived health, life expectancy without chronic morbidity or life expectancy without activity limitation, at birth or at age 65 years.

This document states the case for including health expectancy as a core indicator on health status rather than other possible indicators such as Disability Adjusted Life Years (DALY) or Health Adjusted Life Expectancies (HALE). First we briefly define health expectancy and the DALY and HALE class of indicators. Then we draw out their strengths and weaknesses and the issues pertinent to health policy within the EU.

Definition of Healthy Life Years

The European indicator of the number of **Healthy Life Years** (HLY) is a health expectancy, that it to say it combines information on mortality and morbidity and partitions the total years lived at any age into those spent in different 'health' states, however 'health' is defined.[1] The common way that the number of Healthy Life Years would be presented is as a value at key ages (birth, age 65), so we might say that the number of Healthy Life Years is 70 years at birth for males in France, or 93% of total life expectancy (assuming a life expectancy at birth of 75 years).

Definition of Disability Adjusted Life Years (DALYS)

DALYs belong to a class of indicators including Quality Adjusted Life Years (QALYs) and the more recent Healthy life-years (HeaLY).[2] All are composite indicators expressed as years of life lived but adjusted for the quality of years lived. For instance DALYs count the total years lost through disease after the years lived have been adjusted for quality (or in this case disability).[3]

Comparison of HLYs and DALYs

Viewing health positively: The number of Healthy Life Years offer a positive assessment of the time spent in different health states through life expectancy in good perceived health, life expectancy without chronic morbidity or life expectancy without activity limitation, as an adjunct to increases in longevity. On the contrary, DALYs report years of life lost and are therefore negatively oriented.

Ease of communication: The number of Healthy Life Years is transparent; being at age 65 the remaining years lived from age 65 in good health. DALYs correspond to the total

number of years of life lost within a population to both mortality and disability, with years lived with disability being weighted as less than full years. This implicit weighting and their synthetic nature (see later point on observed data) make DALYs less easy to communicate, particularly when considering differences over time.

Arithmetic manipulation: Since health expectancies derive from the partitioning of life expectancy, they can be added to each other; for example the sum of life expectancy with moderate activity limitation and life expectancy with severe limitation is life expectancy with moderate or severe limitation. Health expectancies can also be divided: in the earlier example 93% of male life expectancy is spent healthy (assuming the number of Healthy Life Years for males at birth in France is 70 years and total life expectancy at birth of 75 years). This is a regularly reported statistic in the context of health expectancies.

Explicit comparison of different health domains: The measure of health to be taken as the indicator of the number of Healthy Life Years is crucial, since there are as many possible health expectancies as health concepts. Several levels can be introduced for a single health concept, for instance distinguishing none, some or severe limitation. In this case separate calculations would be made for life expectancy without each level. In contrast, in the DALY class of indicators, different severity levels and different health domains are weighted to form a single indicator.

The single number available in DALYs is attractive but is limiting to explain trends. Calculation of the number of Healthy Life Years for a few major domains, for example perceived health and activity limitation provides an unambiguous understanding of the evolution of trends over time and whether progress is made in certain health domains but not in others. However, if required, two or more domains may be combined to get a more composite indicator.

Longstanding theoretical basis: The first paper developing the calculation of health expectancies appeared in 1971[4] but numerous articles have been published in peer-reviewed scientific journals since, elaborating the theory underlying health expectancies and on values calculated. By 1999, 49 countries worldwide had estimates of health expectancy, with a number of countries having chronological series.[1] Moreover the countries themselves were responsible for the estimates, rather than a global ranking by one group, attesting to the widespread use and understanding of health expectancies. The DALY is a much more recent phenomenon and its methodology is less well understood or documented in the major scientific literature.

Monitoring of health inequalities similarly between and within countries: Being independent of the size of populations and their age structure, health expectancies allow direct comparison of different population subgroups - sexes, socio-economic groups, regions or indeed EU Member States.

Based on observed data: Health expectancies use standard life tables together with the prevalence of health states from national surveys. To ensure unbiased comparisons across the EU, health measures need to be collected equivalently by each MS. DALYs use synthetic data including the expert opinion of the total burden of disease from all the important diseases combined, a process that has been found to vary significantly depending on the expert consulted.[5]

Conclusion

Health expectancy is a well-known, widely understood indicator to monitor trends in health across the EU and are an obvious complement to life expectancy. It is already extensively calculated within the EU-15 and it has a strong research group within the Euro-REVES network to underpin it. Although the basic choice of health measure as the indicator of the number of Healthy Life Years will be required, other indicators can also be calculated using the Survey of Income and Living Conditions or eventually the European Health Interview Survey. This means that, as we gain understanding of the evolution of health with the ageing of our populations, the most appropriate indicator can be chosen.

References

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