

Life-table equations

Transition matrix

At each time interval the distribution of patients over the disability categories changes through a transition matrix A_0 : A fraction λ_{ij} ($i=1...4$ and $j=1...4$) moves to a more disability category, while other remain in the same category, except in the worst mRS5 category in which people can only die.

$$A_0 = \begin{bmatrix} 1 - \lambda_{1,2} - \lambda_{1,3} - \lambda_{1,4} & 0 & 0 & 0 \\ \lambda_{1,2} & 1 - \lambda_{2,3} - \lambda_{2,4} & 0 & 0 \\ \lambda_{1,3} & \lambda_{2,3} & 1 - \lambda_{3,4} & 0 \\ \lambda_{1,4} & \lambda_{2,4} & \lambda_{3,4} & 1 \end{bmatrix}$$

Here, i and j represent the disability categories mRS 0-1 through – mRS 5. The disability-stratification is also reflected in the columns (i), which is the disability category at period t and the rows (j) which is the disability category in period t+1.

Quality of life and costs equations

Average quality adjusted life expectancy per 1,000 patients

$$= \frac{\sum_{mRS=0}^6 \sum_{t=60}^{t=100} EQ_{mRS,t} * N_{mRS,t}}{1000}$$

Average lifetime costs after stroke per 1,000 patients

$$= \frac{\sum_{mRS=0}^6 \sum_{t=60}^{t=100} EQ_{mRS,t} * C_{mRS,t}}{1000}$$

Where: mRS = stroke disability category

t = age patient

EQ = EuroQol-5D utility weight

C = medical costs

N = 1000. Number of people in the life-table