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Changing mortality and average cohort life expectancy

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Abstract

Period life expectancy varies with changes in mortality, and should not be confused with the life expectancy of those alive during that period. Given past and likely future mortality changes, a recent debate has arisen on the usefulness of the period life expectancy as the leading measure of survivorship. An alternative aggregate measure of period mortality which has been seen as less sensitive to period changes, the cross-sectional average length of life (CAL) has been proposed as an alternative, but has received only limited empirical or analytical examination. Here, we introduce a new measure, the average cohort life expectancy (ACLE), to provide a precise measure of the average length of life of cohorts alive at a given time. To compare the performance of ACLE with CAL and with period and cohort life expectancy, we first use population models with changing mortality. Then the four aggregate measures of mortality are calculated for England and Wales, Norway, and Switzerland for the years 1880 to 2000. CAL is found to be sensitive to past and present changes in death rates. ACLE requires the most data, but gives the best representation of the survivorship of cohorts present at a given time.

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