GLOSSARY

Report written by Bianca Cox

European
health expectancy
monitoring unit

Ehemu

Observatoire
européen des
espérances de santé

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1. Abridged life table: A life table in which values of the life table functions are presented for certain age groups only, rather than for every single year of age.

2. Age interval: The period of life between two ages stated in years. For example, 10-14 is the 5-year age interval between the 10th and 15th birthdays.

3. Central death rate, mx: The mortality rate at age x, calculated by using the mid-year population as denominator.

4. Confidence interval: The computed interval with a given probability, e.g., 95%, that the true value of a variable such as a mean, proportion, or rate is contained within the interval.

5. Cross-sectional survey: A study that aims to describe the relationship between diseases (or other health-related states or variables) and other factors of interest as they exist in a specified population at one particular time.

6. Curvature of the survival curve over the age interval, ax: Measurement of how fast the survival curve is changing direction (how much it is bending) within the age interval.

7. Death count: The number of deaths during a given period in a specified population.

8. Disability-free life expectancy: The average number of years an individual is expected to live free of disability if current patterns of mortality and disability continue to apply. A statistical abstraction based on existing age-specific death rates and either age-specific disability prevalences or age-specific disability transition rates.

9. Health expectancy: The average number of years an individual is expected to live in a given health state if current patterns of mortality and health states continue to apply. Health expectancy is a general term, referring to any one of a class of indicators. Specific health expectancies are based on health states defined by concepts of health, morbidity or disability (i.e. impairment, disability and handicap).

10. Hypothesis test: A statistical procedure for discriminating between the null hypothesis (H_0) and the alternative hypothesis (H_1). Hypothesis testing rests on the presumption of validity of the null hypothesis: the null hypothesis is accepted unless the data at hand testify strongly enough against it.

11. Incidence: The number of new events, e.g., new cases of a disease in a defined population, within a specified period of time.

12. Institutionalized population: People under formally authorized, supervised care or custody in institutions (e.g. prisons, nursing homes, elderly care homes, hospitals).

13. Life expectancy, ex: The average number of years an individual of age x is expected to live if current mortality rates continue to apply. A statistical abstraction based on existing age-specific death rates.

14. Longitudinal survey: A research study that involves observing a group of people two or more times during a period of time, often several years. Unlike cross-sectional studies, longitudinal studies collect data from the same people at different points in time, and therefore provide an understanding of the direction of causality between two factors.

15. Mid-year population estimate: The observed total population at mid-year, or the average of the population present at the start and end of the year; often employed as the denominator for demographic rates.

16. Mortality rate: An estimate of the proportion of a population that dies during a specified period. The numerator is the number of persons dying during the period; the denominator is the number in the population exposed to the risk of dying, usually estimated as the midyear population.

17. Multistate method: A life table method which is based on a division of the population by age and sex into any number of health states and which takes into account transition rates between these health states. The advantage over Sullivan's method is that health expectancy estimates are based on current incidence rates rather than historical prevalence rates, a possible disadvantage is the need for longitudinal data.

18. Non-response rate: The proportion of the survey sample aimed at, for which one fails to obtain information for any reason (death, absence or refusal to reply).

19. Number of person years lived, Lx: The total number of years lived at age x by all members of the cohort who are still alive at age x. Cohort members surviving to the next age contribute 1 person year, those dying at age x contribute less than 1 person year.

20. Number surviving to each age, lx: The number of members of the cohort that reach age x. The size of the cohort at birth is arbitrary and is usually set to 100000.

21. Period life table: A summary of mortality experience over a brief period (one to three years), for which the population data relate to the middle of that period (usually close to the date of a census), also called current life table.

22. Prevalence: The number of cases, e.g., instances of a given disease or other condition, in a given population at a particular time. Prevalence is often used to mean prevalence rate, which is the ratio of the number of cases to the number of units at risk.

23. Probability of death, qx: The proportion of the cohort that dies at age x.

24. p-value: The probability of getting a value of the test statistic as extreme as or more extreme than that observed by chance alone, if the null hypothesis is true. It is the probability of wrongly rejecting the null hypothesis if it is in fact true.

25. Radix: The hypothetical size of the birth cohort in a life table, commonly 1000 or 100000.

26. Random variation: The tendency for the estimated magnitude of a parameter (e.g., based upon the average of a sample of observations) to deviate randomly from the true magnitude of that parameter. Random variation is independent of the effects of systematic biases.

27. Standard error: The standard deviation of the distribution of a sample statistic.

28. Standard normal distribution: The normal distribution is a theoretical frequency distribution for a set of variable data, usually represented by a bell-shaped curve symmetrical about the mean, also called Gaussian distribution. The standard normal distribution is a normal distribution with a mean of zero and a variance of one.

29. Sullivan's method: A life table method which combines mortality data with health state prevalence data to generate estimates of expected years of life in various health states. The advantage over the multistate method is its simplicity and the availability of its basic (cross-sectional) data, the disadvantage is the use of prevalence rates which are dependent on past history.

30. Transition rates: cohort-specific probabilities of moving between different health states, including death.

31. Unabridged life table: A life table in which values of the life table functions are presented for every single year of age, also known as a complete life table.

32. Variance: A measure of the variation from the average shown by a set of observations, defined by the sum of the squares of deviations from the mean, divided by the number of degrees of freedom in the set of observations.

33. Weighted prevalence: the ratio (for a given time period) of the number of occurrences of a disease or cases to the number of units at risk, multiplied by a coefficient ("weight") to adjust for differences between the survey sample and the source population.

34. Z-statistic: A quantity found by subtracting the sample mean from the value assumed in the null hypothesis and then dividing the difference by the sample standard deviation. The quantity z represents the number of standard deviations between the observed mean and the null hypothesis. When the value of Z exceeds 1.96 then the null hypothesis is rejected at the 5% significance level.