

GLOSSARY

Absolute difference – difference expressed in absolute terms (that is, in the original units in which the observations were made, such as number of deaths per 1000 population). Usually obtained by subtracting the values of different observations. See also: **relative differences; rate difference**.

Aggregate level study – study in which the observations relate to groups (such as within specific geographical units) instead of to individuals. Synonym: **ecological study**.

Bias – deviation from the truth.

Cohort study – see **longitudinal study**.

Confidence interval – a range of values for a variable of interest (such as the mortality rate or a relative risk) that has a specified probability (usually 95%) including the true value of the variable. Way of quantifying the uncertainty of observations related to random error.

Confounding – a situation in which the association between a factor under investigation (such as socioeconomic status) and a health outcome (such as mortality) is biased, because there is a third variable (such as age) that is not part of the causal pathway between the factor under investigation and the health outcome, is not equally distributed across the factor under investigation and influences the health outcome. Such a third variable is called a **confounder** or **confounding variable**.

Cross-sectional study – a study that examines the relationship between a factor under investigation (such as socioeconomic status) and a health outcome (such as morbidity) at one particular time. The temporal sequence of cause and effect cannot be determined in a cross-sectional study. See also: **longitudinal study**.

Ecological study – see **aggregate-level study**.

Incidence – the number of new events (such as new cases of disease) occurring in a defined population during a specified period of time. See also: **prevalence; rate**.

Index – a quantitative measure that is derived from, and summarizes, a series of separate observations.

Indicator – a measure that quantitatively approximates a characteristic or event under investigation.

Life expectancy – the average number of years an individual of a given age is expected to live if current age-specific mortality rates continue to apply. Usually given as life expectancy at birth. See also: **life table**.

Life table – a technique used to describe and summarize the age-patterns of death and survival in populations. Describes the survival experience of a (real or hypothetical) group of people followed from birth to death or between other points in their lifetime. Can be used to calculate life expectancy at birth (or at other ages) and various other life table-based measures (such as the probability of dying between two ages).

Longitudinal study – a study that examines the relationship between a factor under investigation (such as socioeconomic status) and a health outcome (such as morbidity) over time, in such a way that the observations of the factor under investigation relate to an earlier point in time than the observations on the health outcome. This permits the determination of the temporal sequence of cause and effect. Synonym: **cohort study**. See also: **cross-sectional study**.

Morbidity – any departure, subjective or objective, from a state of physiological or psychological wellbeing.

Odds – the ratio of the probability of occurrence of an event to that of nonoccurrence.

Person-years at risk – the sum of the individual numbers of years that the people involved in a study have been observed. Used as the denominator in incidence rates.

Population-attributable risk – the proportion of the number of cases of disease, disability or death in a population attributable to the fact that some members of that population are exposed to a certain factor (such as smoking or low socioeconomic status).

Precision – lack of random error.

Prevalence – the number of cases of a disease or other health condition in a defined population at a designated time. See also: **incidence**; **rate**.

Random error – error in observations caused by chance variations.

Rate – the frequency with which an event occurs. The incidence rate is the frequency with which new cases of disease occur (numerator) during a certain number of person-years at risk (denominator). The prevalence rate is the frequency with which (existing) cases of the disease are present (numerator) in a certain number of people (denominator).

Rate ratio – the ratio of two rates. Used to measure relative differences. See also: **relative differences**; **relative risk**.

Rate difference – the (absolute) difference between two rates. Used to measure absolute differences. See also: **absolute difference**.

Regression analysis – a statistical technique used to quantify the association between a dependent variable (such as the mortality rate) and one or more independent variables (such as socioeconomic status and age) by finding the best-fitting model describing this association (such as a straight line with a certain slope). Regression analysis yields one or more regression coefficients that characterize the form and strength of the association (such as the slope of the line).

Relative difference – difference expressed in relative terms (that is, as a proportion of the value obtained for a reference category). Usually obtained by calculating the ratio of two figures. See also: **rate ratio**, **absolute difference**.

Relative risk – the ratio of the risk of disease, disability or death in those exposed to a factor under investigation (such as low socioeconomic status) and the risk in those not exposed. If the risk is measured as a rate, the relative risk is calculated as a rate ratio.

Social stratification – a concept describing the phenomenon that societies are perceived as consisting of strata in a hierarchy, with the more favoured at the top and the less privileged at the bottom. In modern societies, social stratification principally occurs on the basis of socioeconomic characteristics, such as occupation.

Socioeconomic status – a person's relative position in the social stratification of a society. Frequently used indicators of socioeconomic status are income level, level of education and occupational class or occupational prestige.

Socioeconomic inequalities in health – differences in the prevalence or incidence of health problems between individual people of higher and lower socioeconomic status.

Standardization – statistical technique used to remove confounding by a third variable when the association between a factor under investigation and a health outcome is studied. The most frequently used form of standardization is age standardization, which removes confounding by age when the two or more populations to be compared (such as different socioeconomic groups) have different age compositions.

Statistical significance – estimate of the probability that a phenomenon under study is not caused by random error.

Validity (external) – the results of a study are externally valid (synonym: generalizable) if estimates of the phenomenon under study as obtained in the study population can be

generalized to a target population (usually a larger, more comprehensive population beyond the subjects in the study).

Validity (internal) – the results of a study are internally valid if they give unbiased estimates of the phenomenon under study in the study population.

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