

## Age and Age Standardisation

Ages relate to the age at the last birthday.

Average ages (such as the average age at death, and the average age of mothers at childbirth) are calculated by adding 0.5 years to the age at the last birthday. For example, for the purpose of calculating an overall average age at death, it is assumed that the average age of 77-year-olds who died was 77 years and 6 months.

### Age Standardisation

A straight comparison of crude (say) birth or death rates between areas may present a misleading picture because of differences in the age- and sex-structure of the respective populations. There are a number of standardisation techniques which may be used to remedy this, three of which are described below. The first two of the following methods involve a comparison of the actual number of events occurring in an area with the aggregate number which would be expected if the age/sex specific rates in the standard population were applied to the age/sex groups of the observed population.

#### Standardised rates

- these are calculated by multiplying the overall rate for the standard population by the ratio of the area's actual number to its expected number, so that, if the actual number is 10% more than the expected number, the standardised rate will be 10% more than the overall rate for the standard population.
- such rates can be found in (e.g.) Vital Events Reference Tables 1.3 and 1.4

#### Standardised Mortality Ratios (SMRs)

- these are calculated by expressing the area's actual number as a percentage of its expected number, so that, if the actual number is 10% more than the expected number, the SMR will be 110.
- the value of the SMR for the standard population is 100. Note that the standard population might be Scotland (for a comparison of the figures for different local authorities) or might be the United Kingdom (for a comparison of the figures for its constituent countries).
- such rates can be found in (e.g.) Vital Events Reference Table 1.5 and part [e] of Table 1.7.

#### Age-standardised death / mortality rates calculated using the European Standard Population

- these do not involve an 'expected' number of deaths. Instead, they are calculated as the weighted average of the area's age-specific mortality rates, where the weights are the proportions of persons in the corresponding age-groups of the European Standard Population.
- more detailed information is given in two documents (described as 'Introduction' and 'Background') which are available via links on this page of the National Records of Scotland (NRS) website: <http://www.gro-scotland.gov.uk/statistics/theme/vital-events/deaths/age-standardised-rates.html>.
- such rates can be found via that same page, and in part [f] of Vital Events Reference Table 1.7.