

# 用語の説明

## Explanation of terms

### (1) 年齢調整死亡率 Age-adjusted death rate

$$\text{年齢調整死亡率(旧訂正死亡率)} = \frac{\left\{ \left[ \begin{array}{l} \text{観察集団の各年齢} \\ \text{(年齢階級)の死亡率} \end{array} \right] \times \left[ \begin{array}{l} \text{基準人口集団のその年齢} \\ \text{(年齢階級)の人口} \end{array} \right] \right\} \text{の各年齢(年齢階級)の総和}}{\text{基準人口集団の総人口}}$$

年齢構成が著しく異なる人口集団の間での死亡率や、特定の年齢層に偏在する死因別死亡率などについて、その年齢構成の差を取り除いて比較する場合に用いる。これを標準化死亡率という場合もある。基準人口としては昭和60年モデル人口(昭和60年人口をベースに作られた仮想人口モデル)を用いている。死因別死亡率は、通常人口100,000当たりで表現する。

$$\text{Age-adjusted death rate} = \frac{\sum_i [\text{Observed DR in } i \text{ th age category}] \times [\text{Population of } i \text{ th age category in SP}]}{[\text{Total Population in SP}]}$$

where DR and SP denote death rate and standard population, respectively.

The age-adjusted death rate is a weighted average of age-specific death rates in the observed population. The weight for each age category is the proportion of people in the age category in the standard population. The 1985 model population of Japan is used as the standard population throughout this book (See table below). The age adjustment is used to adjust the difference in age distribution in comparing death rates of two or more populations. By convention, the death rate is expressed per 100,000 per year.

基準人口(昭和60年モデル人口)  
Standard Population (1985)

年齢 (Age)	基準人口	年齢 (Age)	基準人口	年齢 (Age)	基準人口
0 ~ 4	8,180,000	35 ~ 39	9,289,000	70 ~ 74	3,476,000
5 ~ 9	8,338,000	40 ~ 44	9,400,000	75 ~ 79	2,441,000
10 ~ 14	8,497,000	45 ~ 49	8,651,000	80 ~ 84	1,406,000
15 ~ 19	8,655,000	50 ~ 54	7,616,000	85 ~	784,000
20 ~ 24	8,814,000	55 ~ 59	6,581,000	総数 (Total)	120,287,000
25 ~ 29	8,972,000	60 ~ 64	5,546,000		
30 ~ 34	9,130,000	65 ~ 69	4,511,000		

## (2) 標準化死亡比 Standardized mortality ratio (SMR)

$$\text{SMR} = \frac{\text{観察集団の現実の死亡数}}{(\text{基準となる人口集団の年齢別死亡率} \times \text{観察集団の年齢別人口})の総和} \times 100$$

年齢構成の差異を基準の死亡率で調整し、調整した値の現実の死亡率に対する比である。

$$\text{SMR} = \frac{[\text{Observed number of deaths}]}{\sum_i [\text{DR in } i \text{ th age category of SP}] \times [\text{Population of } i \text{ th age category in OP}]}$$

where DR, SP, and OP denote death rate, standard population and observed population, respectively.

The standardized mortality ratio (SMR) is a ratio of the observed to the expected number of deaths. The expected number of deaths is calculated by summing over all age categories of age-category-specific numbers of deaths expected under age-category-specific death rates in the standard population.

## (3) 累積罹患率 Cumulative incidence rate (CIR)

累積罹患率 = 各歳の罹患率を65歳あるいは75歳まで加えた総和

ある年齢（65歳または75歳）までの年齢別の罹患率を加えた数値。がんのように罹患率が小さい場合は、他の死因で死亡しないと仮定した場合の、その年齢までの罹患確率と近似的に等しい。年齢分布の異なる2つ以上の地域の罹患率を比較する際に用いられる。

$$\text{CIR} = \sum_{\text{up to age 65 or 75}}^3 [\text{Age-specific incidence rate}]$$

The cumulative incidence rate (CIR) can be obtained by summing age-specific incidence rates up to age 65 or 75. If CIR is small, as in the case of cancer, it approximates the probability of incidence up to the chosen age, conditional on not dying of other causes. The CIR is used to compare cancer incidence in two or more regions with different age distributions.