ASMR (Age-Standardized Mortality Rate)

ASMR stands for **Age-Standardized Mortality Rate**, a statistical measure that adjusts mortality rates to a **standard age distribution**, allowing **fair comparisons** between populations with different age structures.

Purpose

- To remove the effect of differing age distributions between populations.
- To enable comparisons of mortality across:
  - Countries or regions
  - Time periods
  - Demographic groups
- Widely used in **Global Burden of Disease (GBD)** studies and public health surveillance.

Calculation

- Weighted sum of age-specific mortality rates, using a **standard population** (e.g., WHO or GBD reference population).
- Expressed as: **deaths per 100,000 population (age-standardized)**

Interpretation

- A **higher ASMR** indicates a **greater risk of death** independent of population age structure.
- A **decline in ASMR over time** reflects improved survival or effective prevention, not just demographic change.

Example

- If Country A has an older population than Country B, its crude mortality rate may be higher.
- ASMR adjusts for age, so we can compare the **underlying risk of dying** across countries or over time.

Applications

- Global comparisons of disease-specific mortality (e.g., ICH, cardiovascular disease, cancer)
- Monitoring trends in population health
- Evaluating impact of interventions

Related Terms

- Crude mortality rate
- Age-standardized rate (ASR)
- Disability-Adjusted Life Year (DALY)

- Global burden modeling

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