

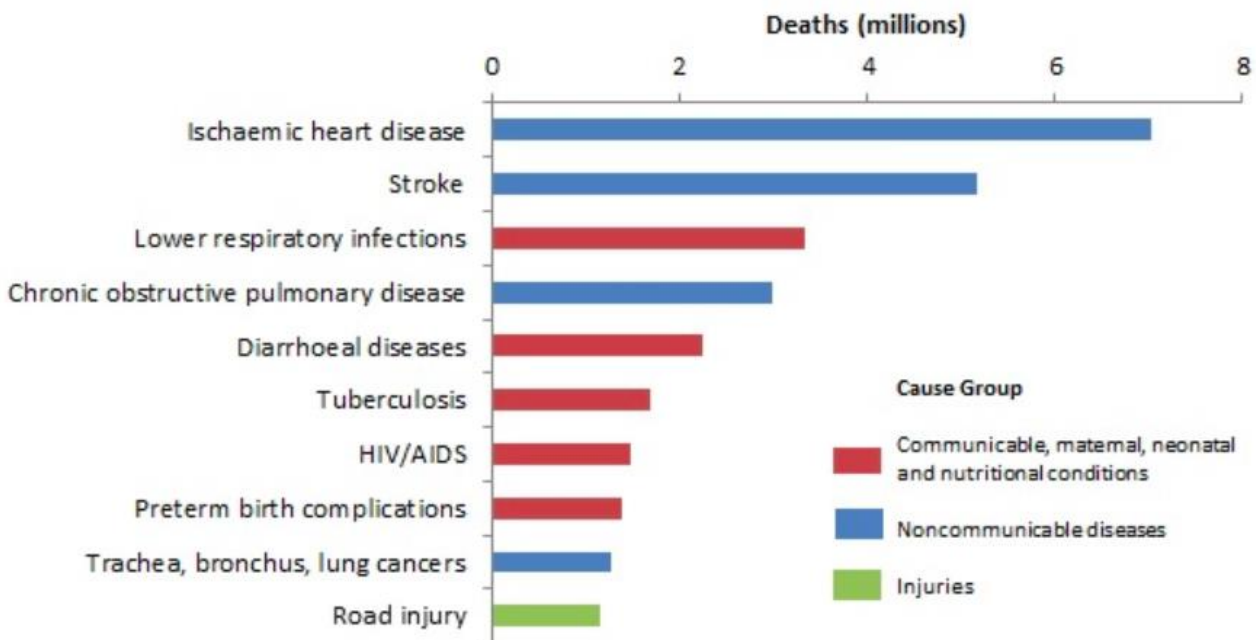


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Causes of Death

Data analysis and Report writing workshop for Civil registration and vital statistics data.

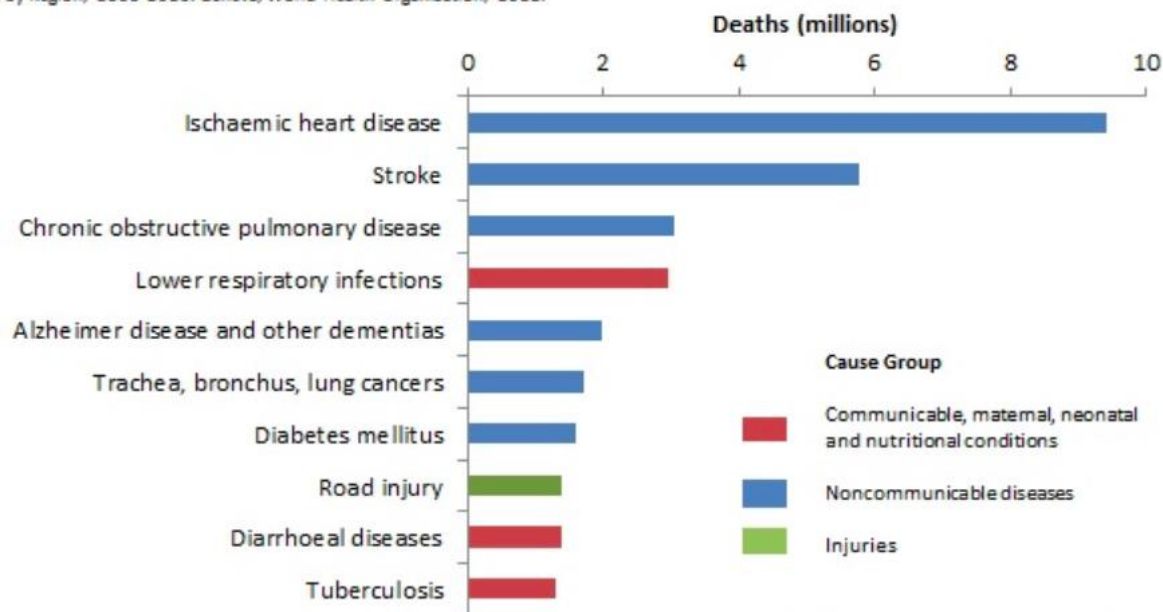
Top 10 global causes of deaths, 2000



Source: Global Health Estimates 2016: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2016. Geneva, World Health Organization; 2018.

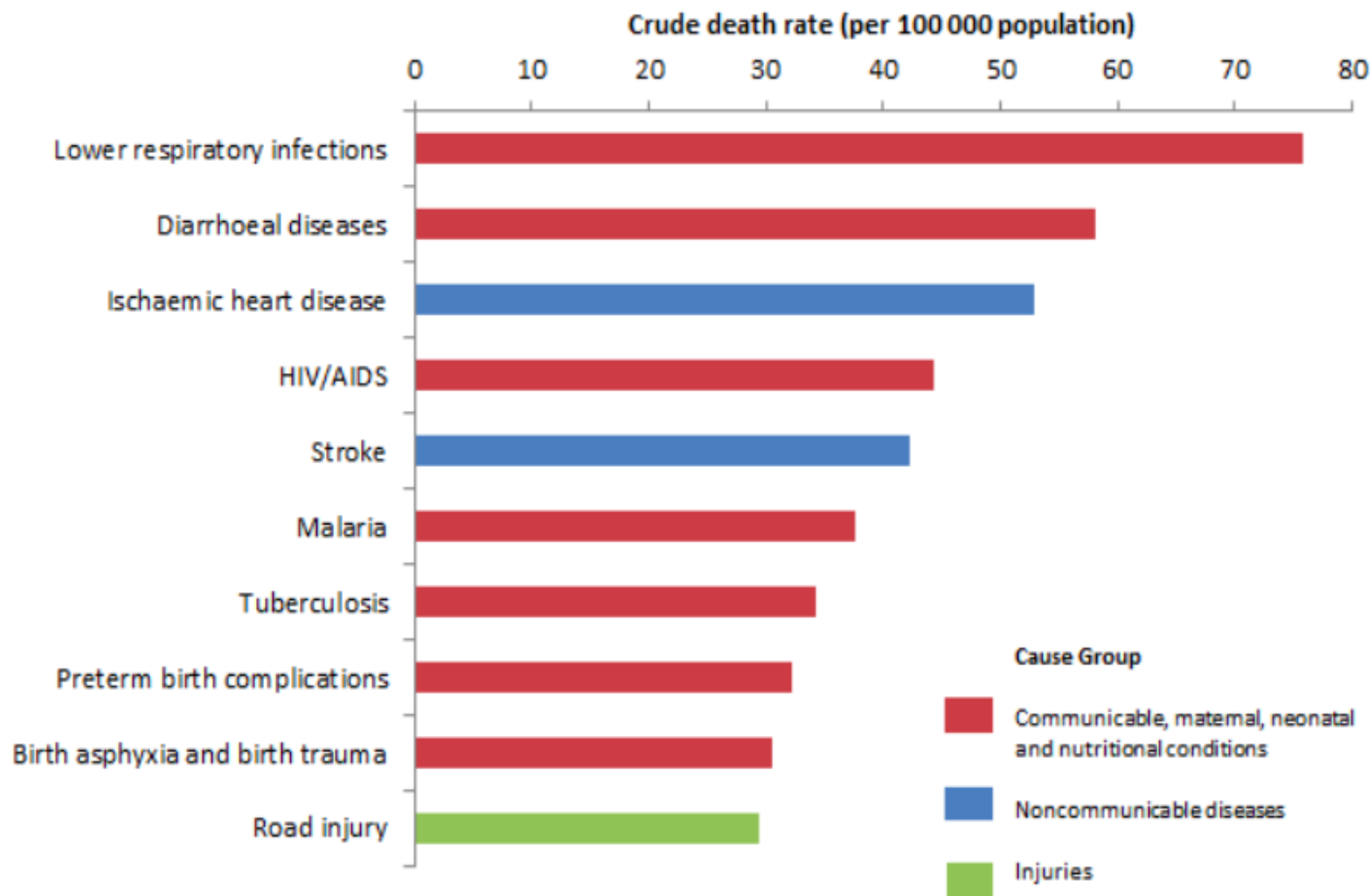
WHO. Global estimates of disease

Top 10 global causes of deaths, 2016

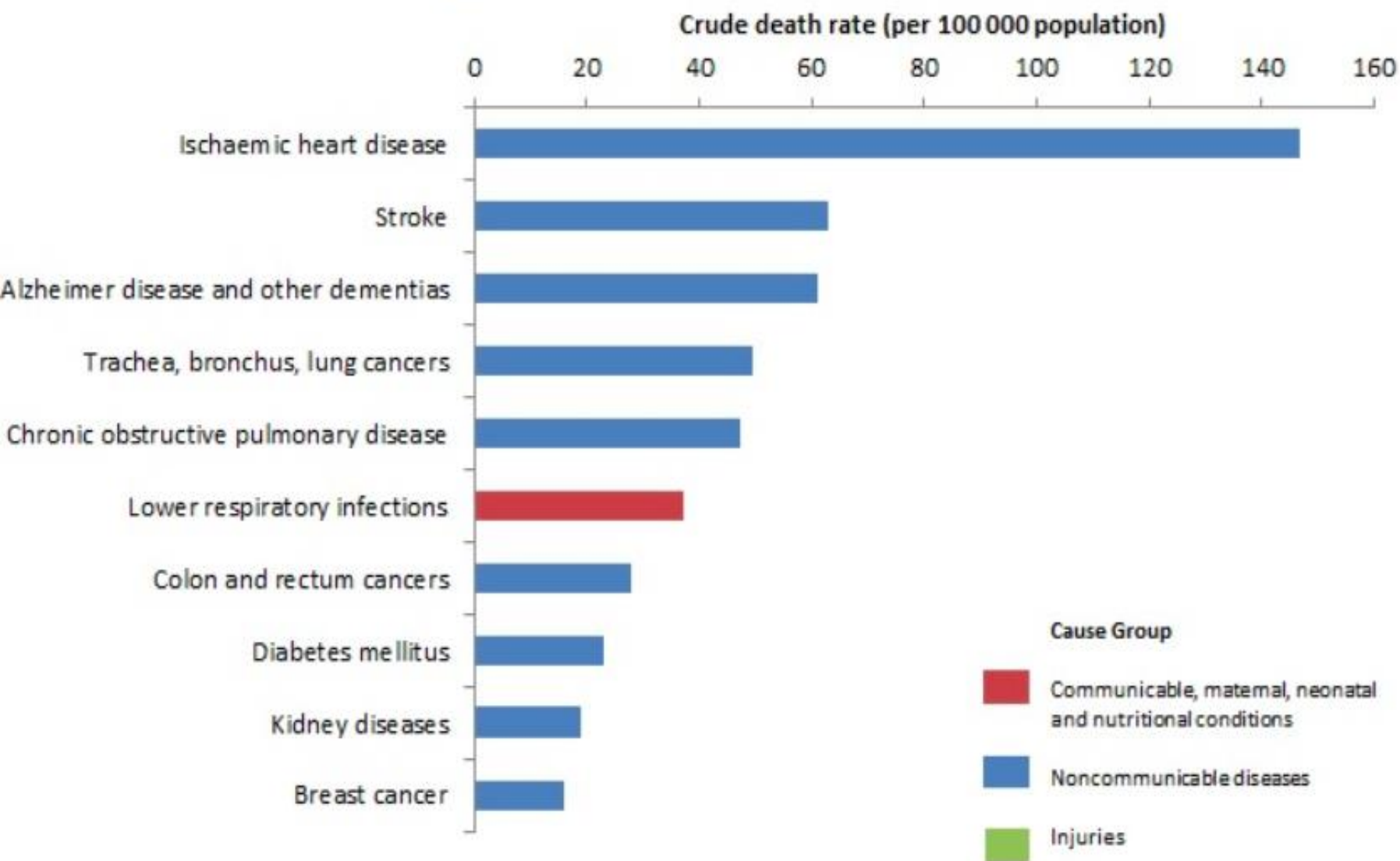


Source: Global Health Estimates 2016: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2016. Geneva, World Health Organization; 2018.

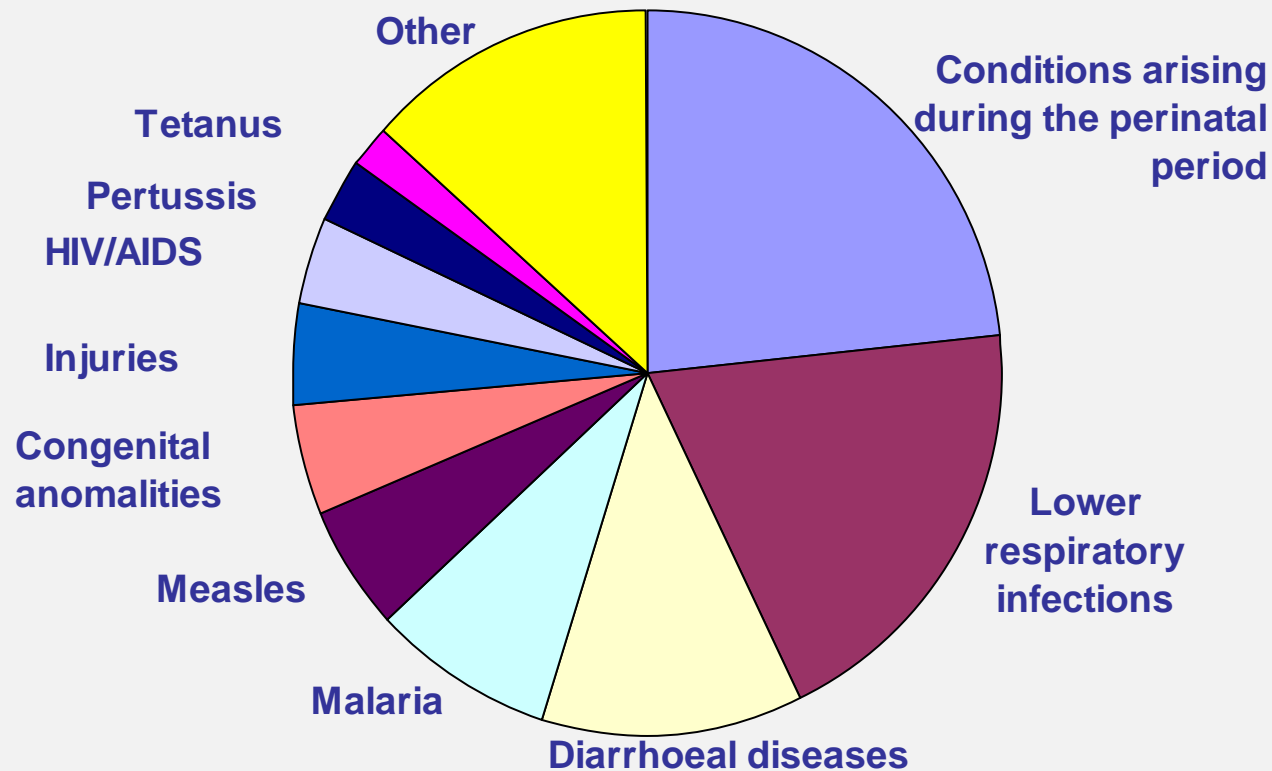
Top 10 causes of deaths in low-income countries in 2016



Top 10 causes of deaths in high-income countries in 2016



Main causes of mortality in children under 5 worldwide



Why cause of death is important

- ◆ Need to be able to target interventions to prevent or reduce premature mortality
- ◆ Different causes of death predominate in different ages

Uses of cause of death data

Who Needs CoDD?	What Kinds of CoDD Are Needed?	Why Are These CoDD Needed?
WHO and national/international bodies	Global and national cause-specific mortality estimates; ICD coding	Standardised, comparable estimates over time and place
Local public health managers	Top-ranking causes of death and public health priorities	Monitoring trends over time and evaluating public health interventions
Epidemiologists and health services researchers	Relating to specific populations and subgroups	Interpreting particular situations in terms of mortality patterns
Institutional managers and clinical auditors	Patterns of deaths within institutions and health care systems	Monitoring trends over time and within departments
Medical and legal practitioners	Individual causes for particular cases	Following up consequences of individual deaths

CoDD, cause-of-death data.

Source(11): Byass P. Who needs cause of death data? PLoS medicine. 2007;4(11):1715



Uses of cause of death data

- ◆ To study and explain trends / differentials in overall mortality (plague)
- ◆ To guide priorities for resource allocation for intervention programs, biomedical and sociomedical research (smoking)
- ◆ To monitor public health programs (immunization), health risks, and health interventions
- ◆ To provide clues for epidemiological research
- ◆ **MORTALITY STATISTICS MORE EASY TO ACQUIRE THAN MORBIDITY DATA**, since death is a unique, clearly defined event

Cause of death data needs

- ◆ Need to be comparable
 - ◆ Over time
 - ◆ Between countries
- ◆ Should provide an overview of total mortality burden
- ◆ Should identify vulnerable populations
- ◆ Be disaggregated by age and sex
- ◆ Measures used include
 - ◆ Numbers (# deaths from specific cause i.e. traffic accidents)
 - ◆ Rates (number of traffic accidents per 100,000 adults aged 15-24)
 - ◆ Proportional mortality (% of deaths due to traffic accidents)

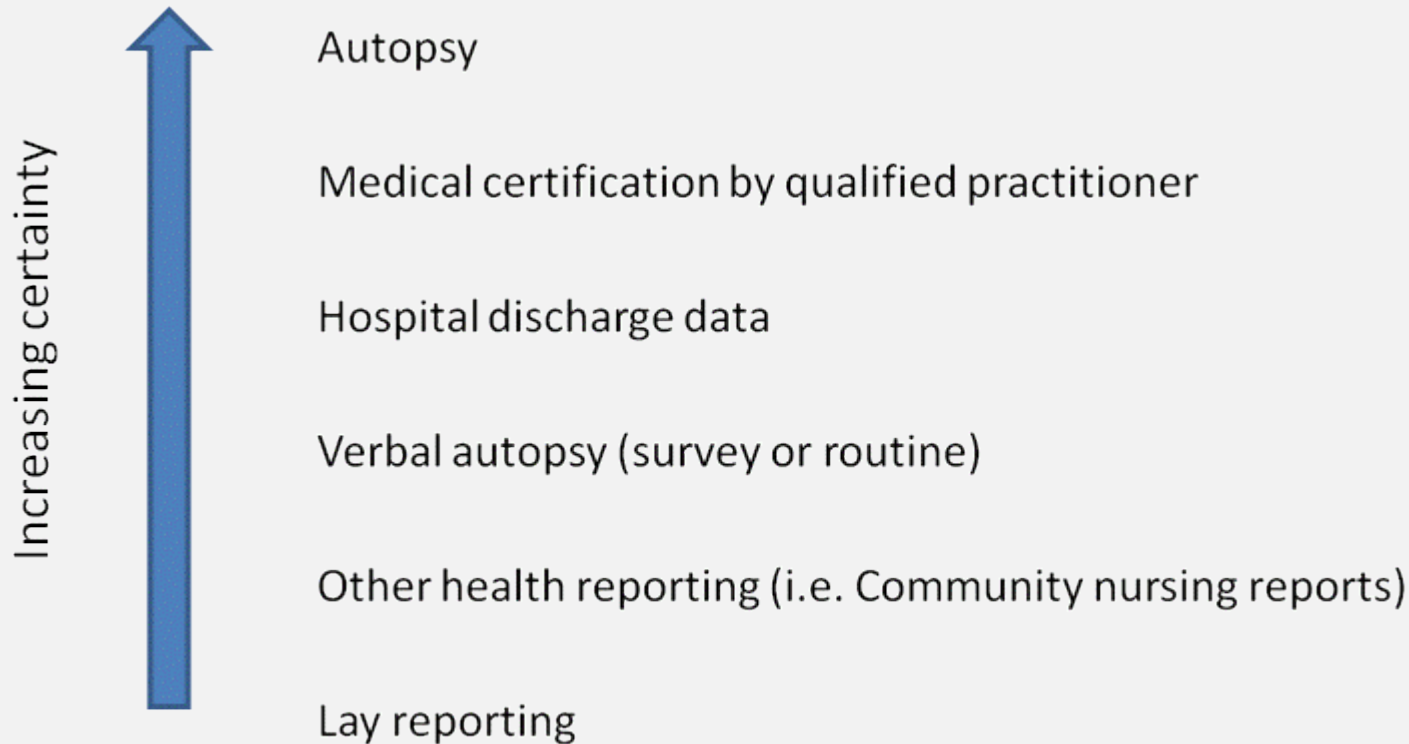
Key measures of causes of death

Measure	Definition
Proportional mortality by cause	The proportion of deaths (as a percent) attributed to a specific underlying CoD (as defined by the International Classification of Diseases version 10, ICDv10). Can be for all ages and sexes or within a specific age group by sex.
Cause-specific mortality rate	Number of deaths in a specific sex and age group for a defined period attributed to a specific underlying CoD (as defined by ICDv10) divided by the total (mid-period) population in that sex and age group. Usually reported per 100,000 population.

Sources for cause of death in registration data

- ◆ Medical certification in health facilities/at home/ in absentia
- ◆ Coroner's / police records
- ◆ Verbal autopsy
- ◆ Lay reporting
- ◆ No cause

Level of certainty of underlying cause of death by data source



Gold Standard for Cause of Death Statistics

Complete Registration of Births and Death

Each death has medically assigned
“Underlying cause of death”

Deaths certified using the WHO
standard Cause of Death Certificate

Cause of death is coded using ICD-
10 classification

Civil registration and COD

- ◆ In a perfect world all deaths:
 - ◆ 1. are registered
 - ◆ 2. include a medically certified cause of death assigned by a physician
 - ◆ 3. using the WHO International standard death certificate, and are
 - ◆ 4. coded using the ICD-10.
- ◆ However, this is much more likely to be true for deaths that occurred in hospital and much less common for community deaths.

Why can't we rely on hospital data alone?

- ◆ The population that dies in hospital is not representative of the broader community
- ◆ Injuries and infectious diseases more likely to be missed
 - ◆ Are there other causes of death that would be affected?

Integrating different sources of COD data

