

## About the Data: Premature Mortality

### Introduction

The following information was derived from these documents:

- Association of Public Health Epidemiologist of Ontario (APHEO) Core Indicators and Resource List (<http://www.apheo.ca/index.php?pid=55>)
- Ministry of Health and Long Term Care, Vital Statistics User's Guide version 1.3.
- Health System Intelligence Project (HSIP), The Health Analyst's Toolkit.
- Standardization of Rates authored by: Namrata Bains, March 2009

The death data for the premature mortality indicators were from the Office of the Registrar General of Ontario (ORG) Mortality database. The Mortality database is distributed by the Ministry of Health and Long Term Care (MOHLTC) accessed through Intellihealth Ontario. Mortality database is one of the databases contained in the Vital Statistics Data Tables in the Provincial Health Planning Database (PHPDB). Data on the number of deaths are based on death certificate information and provides data regarding the most significant health conditions affecting the population.

Population counts by age and sex were from Statistics Canada, 2006 Census of Canada.

Mortality data were extracted from Intellihealth Ontario in November 2010.

### Definitions and Limitations

Premature Mortality refers to deaths at age less than 75 years. The premature mortality rate (PMR) is the number of deaths/100,000 persons, age-adjusted to the 1991 Canada Standard population.

*Limitations:* Statistics Canada completes a series of data quality checks (checks for outliers, internal consistency and comparisons to previous years) on the national death database and verifies the data with the provinces. Due to legal reporting requirements registration of death is virtually complete; however deaths among Canadian residents occurring outside of Canada and the US may be missing. Under-coverage may occur because of late registration, deaths of unidentified persons and deaths among serving members of the Canadian military (not registered by the provincial registrars). Demographic variables including age, date of birth, sex, and county of residence are complete for 99 – 100% of records in the national death database. Recording of postal codes of the deceased has improved recently from 69% of deaths in 1997 to 89% of deaths in 2000; however this missing information may lead to errors associated with the municipality of residence and results in larger numbers of deaths with an unclassified or unknown residence. Co-morbidity contributes uncertainty to classifying the underlying cause of death. Determining true cause of death may be

influenced by the social or legal conditions surrounding the death and by the level of medical investigation, e.g. AIDS, suicide. The underlying cause of death was available for 99.3% of deaths in the national database in 2000.

Age Standardized Mortality Rate (ASMR) refers to the number of deaths that would occur for a given population if that population had the same age distribution as the 1991 Canadian population. The rate is calculated as number of deaths per 100,000 population.

Standardization adjusts or controls for differences in population structure and provides a single summary measure for the comparison of populations. The resulting **adjusted rate** is an artificial rate that allows for comparisons over time and place. Standardization can be used to adjust for any one underlying factor (e.g., age, sex, race, SES level), or simultaneously for two or more factors. Although multiple-adjustment is possible, age is the one factor that is most commonly adjusted for because it is strongly related to illness and death, is likely to vary across time and place, and, unlike some other factors that are strongly associated with health, it is consistently available for analysis.