

## **Data accuracy**

### **Vital Statistics – Death Database**

(Survey number 3233)

#### **Coverage**

Since the registration of deaths is a legal requirement in each Canadian province and territory, reporting is virtually complete. Under-coverage is thought to be minimal, but is being monitored. Under-coverage may occur because of late registration, but this is much less common than in birth registration. Death registration is necessary for the legal burial or disposal of a body, as well as for settling estate matters, so there is a strong incentive for relatives or officials to complete a registration in a timely manner. Some deaths are registered by local authorities, but the paperwork is not forwarded to provincial or territorial registrars before a cut-off date. These cases for 2000 represent approximately 200 deaths, 7 years after the year of death (accumulated late records), or less than one-tenth of one percent of the total records.

Other late or missing registrations may occur with unidentified bodies, or for Canadians who die outside of Canada. By long-standing practice, the date of death for unidentified remains is defined as the date of discovery. These deaths of unidentified persons typically represent less than ten cases per year. For out-of-country deaths, only deaths in the United States are regularly reported to Statistics Canada, and of these, Statistics Canada receives abstracted death records from approximately 20 American states. The National Center for Health Statistics (NCHS) in the United States reveals that in 2004 there were 572 deaths of Canadian residents in the United States, compared with 259 death records received by Statistics Canada via the state registrars. Health Statistics Division is working with provincial, territorial, and state registrars to increase the inter-jurisdictional exchanges of records for statistical and administrative purposes.

Under-coverage is also present for deaths of serving members of the Canadian military. Deaths of Canadians who died overseas while serving in the Armed Forces are not included in the Statistics Canada databases because they are not registered by the provinces and territories. Health Statistics Division is working with officials from the Department of National Defence to develop a death registration form for that department, based upon the model form developed by the Vital Statistics Council for Canada.

Over-coverage is minimal. Deaths of non-residents of Canada are registered but are excluded from most tabulations. Duplicate death registrations are identified as part of the regular processing operations on each provincial and territorial subset, as well as by additional inter-provincial checks. Possible duplicate registrations are verified against microfilmed registrations or optical images, or by consulting with the provinces and territories.

## **Response rates**

### **Item response**

For 2000 to 2005, the response rates were 99% to 100% for most of the demographic and geographic variables on the death database (age, date of birth, sex, province and census division of residence). The birthplace of deceased and marital status have response rates around 95% to 97% nationally except Quebec (81% for the birth place of deceased and 91% for the marital status). Underlying cause of death response rates have generally been stable for 2000 to 2004 at 99% and 99.2% in 2005. The reporting of postal codes has improved to 94% in 2005. The birthplace of the decedent's mother and father remain poorly reported, at only 35% of deaths nationally. Both Quebec and Ontario collect the information on the registration forms, but do not include the variable in the electronic files forwarded to Statistics Canada.

### **Other Accuracy Issues**

#### **Age at death of persons over 100 years old**

The demographers Bourbeau and Lebel have compared Canadian mortality and census data with other countries, and determined that the number of centenarians appears quite high in relation to other industrialized countries. In the absence of civil registration in Canada before 1921 and high levels of immigration to Canada, it is difficult to determine if the number of persons aged 100 and older is overestimated. On the death file, age and date of birth outliers are annually reviewed for capture errors. Where possible, obituaries are found for the oldest of the old. Reconciliation with other data sources is difficult, especially in the case of immigrants. Where birth certificates are unavailable, the overestimated age may have been used consistently on other documents such as health care registration, income tax, and census.

#### **Cause of death certification**

When a person dies, the medical certificate of cause of death is completed by the medical doctor in attendance, or the coroner, or medical examiner or other certifier. The certificate elicits the direct antecedent and underlying causes of death, other significant conditions, manner of death (for example, natural, accidental, suicide, homicide), and further information on injuries.