



Message From The Chairperson

The Medical Certificate of Death is an important legal document detailing the fact and circumstance of death or stillbirth. It is the source of information used in Canada and most other countries for the preparation of statistics on causes of death and stillbirth. This information is also used to calculate death rates, life expectancy, disease-specific death rates, and burden of disease, etc. These statistics are essential locally, nationally and internationally and are used by bodies such as the World Health Organization and federal/provincial/state agencies in conducting public health surveillance, health promotion, medical research, and health planning.

Physicians and medical examiners are responsible for completing the Medical Certificate of Death. The Medical Certificate of Death is the portion of the Death Registration form which is completed by a physician or coroner; it provides the date and cause of death, as well as information related to the manner of death, the circumstances related to the death in the case of an injury, whether an autopsy was performed, whether the death involved a woman who was pregnant, etc. This certificate thus plays an important role in the death certification process. In order for the cause-of-death data to be useful for purposes of epidemiological and health research, program planning, and evaluation, the certification of death must be as accurate as possible. The quality and value of statistical data obtained from the Medical Certificate of Death, particularly with respect to cause-of-death, depend on the certifier's care and judgement in providing complete and accurate information.

Recent studies have identified that a major area where the quality of mortality data could be improved is the certification of death. Most physicians and coroners do not receive formal education in the death certification process. A report by the Working Group of the Advisory Committee on Population Health suggested that a formal education program would improve the certification of death process. Therefore, in our efforts to ensure quality data the Vital Statistics Council for Canada developed an initiative to provide education to physicians and coroners. On January 17, 2001, the first of three pilot workshops

was held in Kingston, Ontario. The workshop—"The Coroner's Act and the Process of Death Certification, The Physician's Role"—was presented by Dr. Kathryn Myers, an assistant professor at Queen's University, and Dr. David Eden, a regional coroner in southern Ontario. Twenty-four medical professionals attended the workshop.

The workshop had four objectives, two involving discussions and two dealing with skills to be imparted by the end of the session. The discussions included the multiple uses and importance of Canada's mortality data, and also focused on the physician's role in maintaining accurate mortality statistics. In practical terms, participants learned how to apply the Coroner's Act to their own practice, and how to complete the Medical Certificate of Death accurately. Dr Myers also had participants complete a pre-test that covered all aspects of the objectives; these results will be compared against a follow-up test scheduled for three months after the workshop.

Representatives from Statistics Canada also attended the workshop as observers. They reported that the workshop was well organized and provided an excellent opportunity for physicians to gain valuable information. Physicians were also asked to complete an evaluation form on the course, which provided positive feedback on the usefulness of the workshop.

Another initiative to improve the Medical Certificate of Death is also underway in Manitoba. Manitoba Vital Statistics and Dr. Peter Markesteyn have completed the initial development of a Web-based resource site to support physicians and other medical personnel who are responsible for the certification of cause of death. The Web site will

In this issue:	
Message From The Chairperson	1
Meet The Registrar: Judi Hartman of Ontario	2
Vital Statistics in Action: Analyzing Infant Deaths in Saskatchewan	3
'Vital' Award Won by British Columbia	4
Death — Shifting Trends	4
Vital Statistics Council Develops an Information and Systems Plan for 1999-2004	5
Council Member Listing	6

provide a complete set of training materials for certification of cause of death for all personnel involved in this process. It can be used as a mechanism for practising health professionals or for training programs, for individuals to complete the certification of cause of death process. As well, the site will contain information on the various provincial legislation that governs the certification of cause-of-death and will detail each province's procedures; an extensive database of questions and answers on how to determine cause of death will also be featured. ♦

*Thelma Johnston, Chairperson
Vital Statistics Council for Canada*

Meet The Registrar: Judi Hartman of Ontario

As the director of Vital Statistics for Canada's most populous province, Judi Hartman oversees the registration of approximately 135,000 births, 80,000 deaths, 66,000 marriages and the processing of about 500,000 requests for service annually. "That keeps us pretty busy," notes Hartman, whose official title is Deputy Registrar General.



Although most Vital Statistics departments in Canada are a Health Ministry responsibility, Hartman is part of the Ministry of Consumer and Business Services. The Ontario program has a Toronto office responsible for the overall governance of Vital Statistics, while the vital event processing is done 1,000 miles away in Thunder Bay, thanks to a decentralizing initiative 10 years ago.

Hartman, who works with a staff of 140, spends two-thirds of her time in Toronto and the rest in Thunder Bay. The thought of those half-day commutes just elicits a wry shrug-possibly because she still has a 90-minute bus ride into Toronto every day anyway.

Hartman's most daunting challenge these days is the implementation of a comprehensive revitalization of Ontario's vital event registration system. The Ontario Vital Statistics Improvement Project involves incorporating the newest information technology in concert with wholesale changes to regulations, legislation, policies, and procedures. "We're changing *everything*," asserts Hartman crisply. "Our program was designed decades ago and hasn't kept up with the many changes in our society such as the changing role of municipalities, same-sex marriages and adoptions."

There is also a renewed commitment to strengthen the department's role as steward of sensitive information. Hartman says this has two thrusts: protecting personal privacy, and guaranteeing the physical security of the information they collect and the documents they produce. "We are working with law enforcement agencies on some of these issues," she adds. "It's a combination of using appropriate technology, processes and clarifying who is entitled to what information."

Hartman, who started her professional life as a journalist in the private sector, worked for Ontario's department of Vital Statistics between 1992-'98. After a two-year tour in two other departments, she returned as head of Vital Statistics one year ago-and is thrilled to be back. "I missed the direct contact with the public," she explains. "Vital Stats touches the lives of the people we serve people in a very real, practical way," she adds. "I get tremendous satisfaction from that."

When she's not on the road commuting from one end of the province to the other, Hartman has no trouble filling up the few moments of her spare time as an "amateur" gardener and occasional traveller-one who prefers the roads less travelled because they offer "a great way to see the countryside." ♦

Please note: "Meet The Registrar" is a new feature; over the next several issues we will be profiling all registrars of Canada's Vital Statistics system.

Vital Statistics in Action: Analyzing Infant Deaths in Saskatchewan

*Felecia Watson, William Osei, Trish Livingstone, Sharon Miller, Lisa Lix
Saskatchewan Health*

Saskatchewan Health recently released a comprehensive report on infant mortality in Saskatchewan. The main intent of this report was to describe trends in the numbers and causes of infant deaths in Saskatchewan for the 15-year period from 1982 to 1996. To this end, data were compiled from the vital statistics registry maintained by the province of Saskatchewan. Both death and birth records were used in preparing the report.

Data was requested from Saskatchewan Vital Statistics and received in a timely manner. Before 1998, Vital Statistics had housed this database in a mainframe application. In 1998, the Corporate Information and Technology Branch of Saskatchewan Health assumed responsibility for managing this database; the data were subsequently converted into a user-friendlier microcomputer application. The data were received in an ASCII file that was easily imported for analysis into various programs such as Excel, Statistical Analysis System (SAS), and EpiInfo.

Descriptive and inferential statistical techniques were used to describe trends, explore differences, and assess statistical association among variables associated with infant deaths. Infant mortality rates were calculated for each year in the study for the province, and for each health district in the province.

The vital statistics registry contains information on a number of variables that are important for analyzing variations in infant deaths, including sex of infant, infant's age at the time of death, season of death, cause of death, birth weight, maternal age, length of gestation, type of birth, and residence location. Information on Registered Indian status, as recorded on the death registration, was also used in these analyses. However, it is also clear from the analyses conducted that the data fields maintained in the registry do not afford the ability to completely describe variations in the numbers and causes of infant deaths occurring in Saskatchewan. For example, other potential risk factors that might be studied in the context of infant mortality include socio-economic status, assisted reproduction, environmental factors, maternal prenatal health, and characteristics of labour and delivery.

In Saskatchewan, each individual is assigned a unique health service number (HSN) at birth.

However, the HSN of the child is not recorded on the birth registration; only the HSN of the mother is recorded. Therefore, the merging of birth and death registrations could not be achieved using the HSN, but required the development of an SAS algorithm. The development of a methodology for merging Saskatchewan birth and death registrations was an important contribution of this study. The use of birth information to describe and compare infant deaths facilitates an understanding of the characteristics of infant deaths in Saskatchewan. Other linkages to birth registrations would also require a similar algorithm because of the absence of the child's HSN information.

Infant deaths were defined for this study as a death of a child less than one year of age in Saskatchewan whose normal place of residence was also in the province. Thus, the study excluded infant deaths occurring outside of the province to residents of Saskatchewan, as well as those occurring within the province to non-residents of Saskatchewan. The first exclusion was undertaken to reduce the amount of missing data in the study; death registrations in other provinces may not include the same data fields as those in Saskatchewan. The second exclusion was made to reduce the inflation of infant mortality rates that may occur by including out-of-province deaths.

In the 15-year period from 1982-1996, there were 2,113 deaths of a live-born infant under one year of age. The number of infant deaths has decreased by over 39 percent during the study period. Infant mortality rates in Saskatchewan have also decreased by over 12 percent since 1982. However, the rate of decline has slowed, and Saskatchewan presently has the highest rate among all of the Canadian provinces. Important observations were also made about infant deaths in Saskatchewan and significant differences among variables associated with infant mortality were noted.

The use of vital statistics data has facilitated a comprehensive analysis of data on infant deaths in Saskatchewan. This analysis is an important step towards an increased awareness of the complexity of factors that contribute to infant health and the need to continue efforts to monitor those programs and initiatives that may impact on infant health. The availability of the registry data also allows for continued surveillance, using basic infant, maternal, and geographic information to describe numbers and types of infant deaths. Research and surveillance are needed to help draw attention to the opportunities for prevention that do exist within the province. ♦

'Vital' Award Won by British Columbia

Andrew McBride
British Columbia Vital Statistics Agency

The British Columbia Vital Statistics Agency (BCVSA) won a silver medal at the Distinction Awards 2000 ceremony, held on October 2 at the National Museum of Civilization in Hull, Quebec. The Agency earned the award for its VISION computer system, which received the following description in the event program:

VISION is a successful, data-driven, client-server system for processing registrations and certifications of vital events (birth, death, marriage) records, and other statistical services. It was developed in order to reduce processing and maintenance costs, and enable the integration of new technologies which would allow for the provision of vital records services over the Web. VISION is recognized by many as the leading use of technology in the vital statistics field.

The Distinction 2000 Awards are sponsored by information technology industry leaders as part of Technology in Government Week; they are meant to celebrate excellence in the management of information and technology in the public sector. BCVSA's award is one of seven (totalling three gold, two silver, and two bronze) that went to projects created by various provincial government organizations across Canada. Lori MacMullen, CIO of Corporate Information Management Services, Supply and Services for New Brunswick, was a presenter in the provincial category. Andrew McBride, Deputy Director/SFO of BCVSA, accepted the award on behalf of the Agency and the project team. (British Columbia has previously recognized VISION, first through an ERP Award in October 1999 and again the following year at the BC Public Service Awards.) ♦

Death — Shifting Trends

A recent report from Statistics Canada and the Canadian Institute for Health Information examined differences between men and women with respect to health. Vital Statistics data provided some key information for this analysis.

During the last half of the 20th century, mortality rates among women for all causes combined declined 52%, considerably surpassing the 39% decrease for men. From 1990 to 1997, however, the death rate fell 8% for men, twice the 4% drop for women.

Men have a higher risk than women of earlier death for most major causes. These include conditions such as heart disease, as well as external events such as motor vehicle accidents. For both men and women, the top 10 causes accounted for about 83% of deaths in 1997. The top two causes were reversed: slightly more men died of cancer than heart disease, while the opposite was true for women. For both sexes, cerebrovascular diseases, primarily stroke, were the third leading cause.

The concept of "potential years of life lost" is an indicator of premature mortality, calculated in this report by subtracting the age at which death actually occurs from age 75. For instance, death at age three would result in 72 years of potential life lost, and at age 69, six years. The risk of premature death from heart diseases is three times as high for men as for women; from suicide, four times as high; and from motor vehicle accidents, twice as high. Potential years of life lost are also higher among men for cancer, congenital anomalies, stroke and chronic obstructive lung disease, but the difference is less pronounced.

Life expectancy and disability-free life expectancy, 1995 to 1997

	Life expectancy	Disability-free life expectancy	Difference	
	Years	Years	Years	%
Both sexes	78.4	67.1	11.3	14
Male	75.4	65.5	9.9	13
Female	81.2	68.7	12.5	15

Data sources: Canadian Vital Statistics Database; 1996 Census of Population

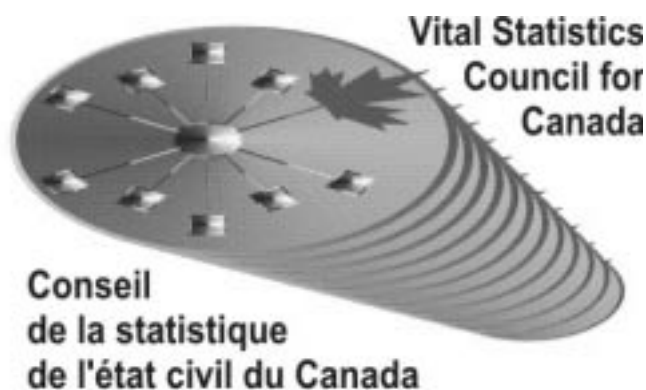
Another measure, "disability-free life expectancy," combines data on mortality rates and activity limitation to estimate the number of years of life that will be lived with a disability. Estimates for 1995 to 1997 indicate that women could expect to spend just over 12 years, or 15% of their lives, with a disability, compared with about 10 years, or 13%, for men. Clearly, women's longer total life expectancy does not mean that they have an equivalent advantage in disability-free years.

The full version of this report is available for free on the Statistics Canada's web site at www.statcan.ca ♦

Vital Statistics Council Develops an Information and Systems Plan for 1999-2004

*Shelley Ann Gibson
Director, Saskatchewan Vital Statistics
Past-Chairperson, Vital Statistics Council for Canada*

As part of its mandate the Vital Statistics Council for Canada (the Council) produced a strategic business plan for the period 1999-2004. This plan identified six strategic objectives, part of which formed the basis for an information and systems vision for Vital Statistics registrars in Canada. In 2000 the Council identified the need to develop an Information and Systems Plan that complements and supports the strategic business plan and which has the same planning horizon as the strategic business plan, ending in 2004.



Information and Systems Plan 1999-2004

In developing the information and systems plan there are a number of environmental factors, both internal and external to the vital statistics business, that the Council needed to consider. External environmental factors include:

- An insatiable demand for high quality, timely and relevant information;
- The growing use of the Internet as an information tool;
- The interoperability of systems creating a transparency of information that can be located anywhere;

- The ability to collect and access information at the point of care;
- The limited use of the electronic health record until privacy and security issues can be resolved; and
- The consolidation of technical standards.

The environmental factors internal to the Canadian Vital Statistics System include:

- Government reform processes that focus on deregulation, downsizing and privatization;
- Initiation of health information system initiatives that are directed at supporting an empowered public, an integrated service delivery system, and the creation of health information resources;
- The enactment of new jurisdictional health information legislation to support a more integrated health service delivery system; and
- The global and national development and adoption of health information and technology standards.

Keeping in mind the environmental factors and the global strategic business direction, the Council identified six areas for the development of information and system objectives including business, information and data, application, technology, standards, and privacy and data protection. Although the following is not a complete list of all the objectives, some of them include:

Business Objectives

- √ To provide for the online registration and certification of vital events in all jurisdictions in Canada.
- √ To publish and disseminate online vital statistics information that will assist the public, health professionals and others with their respective decision-making.

Information Objectives

- √ To support the linkage of vital event information with other health care information (e.g., hospital records) to determine the health of Canadians, as well as the efficiency, effectiveness and responsiveness of the health care system.
- √ To identify data quality priorities, improvements to data quality, and instances where special projects are needed to improve data quality.

- √ To improve the accuracy, timeliness and quality of vital event data in the development of health outcome information.

Application Objectives

- √ To provide vital event collection applications in a manner that ensures data quality and integrity.
- √ To provide application interfaces between vital statistics information systems and information systems of other organizations.

Technology Objectives

- √ To provide the necessary open systems infrastructure, hardware and software, to enable vital statistics information systems interoperability.
- √ To provide an information-systems approach that permits national vital statistics to be shared for the purposes of supporting inter-jurisdictional registration and certification, as well as national and regional vital statistics analysis and reporting.

Standards Objectives

- √ To become actively involved with the development and adoption of global and national vital event data standards.
- √ To support the implementation of technology standards that contribute to the interoperability of vital statistics information systems.

Privacy and Data Protection Objective

- √ To plan, develop, and implement principles, policies, practices, and documentation related to privacy and data collection, use, and disclosure

that are applicable to the Canadian Vital Statistics System.

In order to achieve the objectives of the plan, the Council needs to address some key information and system issues in each of the six areas. For instance, vital event information is not always available in a timely manner, which limits its usefulness within the health care system in Canada. As well, the new requirements to provide vital event data to support the continuum of care-outcomes management, and clinical decision support places new demands on the type and quality of vital event data collected. Significant disparities exist between jurisdictions with respect to hardware, software and computer literacy that inhibits interoperability and data access. Leaders within the vital statistics system in Canada have yet to become well connected to the new national and international health information and standards development efforts. And lastly, the principles, policies, practices and documentation related to privacy and data collection, use and disclosure that are applicable to the Canadian Vital Statistics System have yet to be fully developed and harmonized across Canada.

In summary, the key issues point to the opportunity to improve the effective use of vital event information, both for registration and certification, but especially for vital statistics analysis and reporting.

For more detailed information regarding the Council's *Information and Systems Plan 1999-2004*, please contact your respective provincial/territorial Vital Statistics Council member or visit the Council's website at www.vscouncil.ca. ♦

VITAL STATISTICS COUNCIL FOR CANADA

Thelma Johnston, Prince Edward Island - Chairperson
 Gary Catlin, Statistics Canada, Ottawa - Co-Chairperson
 Caroline Kaus, Manitoba - Chairperson Elect
 Josée Ménard, Statistics Canada, Ottawa - Secretary
 Shelley Ann Gibson, Saskatchewan - Past Chairperson

Members:

Barry Haugrud	Alberta
Ron Danderfer	British Columbia
Kim Blinco	New Brunswick
Brenda Andrews	Newfoundland
Diane Baxter	Northwest Territories
Elizabeth Crowley Meagher	Nova Scotia
Annamarie Hedley	Nunavut
Judi Hartman	Ontario
Jean Lachapelle	Québec
Sylvia Kitching	Yukon

Vital News is a publication of the Vital Statistics Council for Canada and is printed quarterly. Opinions expressed in the articles are those of the author and do not necessarily represent the views of the Council. The Editorial Board reserves the right to refuse any article for publication that does not conform to the principles and guidelines of the Council.

To submit articles or request information, contact Robert Moyes, telephone and fax: (250) 385-0876; address: 128 Superior Street, Victoria, BC V8V 1T1; or e-mail: robert.moyes@moh.hnet.bc.ca.