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Rising deaths among infants stun scientists

Unexpectedly high mortality rate may be signal, demographers warn

BY ALANNA MITCHELL
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For the first time, Statistics Canada has recorded a far higher number of deaths among Canadians than it expected, including the first rise in 31 years in the infant mortality rate.

The figures, published yesterday, left those who follow population trends flabbergasted, so contrary are they to what had been predicted.

"One wonders whether this is kind of like the canary they used to let loose in the mine," said Bob Glossop, co-ordinator of programs and research at the Vanier Institute of the Family in Ottawa. "Could this be the first indication that the environment is becoming increasingly toxic?"

The jump in deaths between 1992 and 1993 has pushed the percentage increase to the highest level on record. In fact, it is the greatest increase, comparing one year to the next, since the devastation of the Second World War.

According to Statscan's predictions, based on the age and sex structure of the population, the number of deaths ought to have risen 3 per cent between 1992 and 1993. Instead, it rose 4.3 per cent. To people who follow population trends, this is an enormous difference.

In all, about 600 more men and 1,900 more women died in 1993 than expected, said Statscan, for a total number of 204,912 deaths. In 1992, the number was 196,535.

Statscan analyst Kathryn Wilkins said that some of the unexpected deaths among women were the result of smoking-related diseases. Among men, some stemmed from HIV-AIDS, diabetes, lung disease and stroke. The year 1993 was also a bad year for influenza in March and April, which may also have caused the jump in deaths.

The infant mortality rate rose to 6.3 deaths for every 1,000 live births in 1993 from 6.1 deaths in 1992. The rate, considered the quintessential indicator of a nation's social health, last rose in 1962, Ms. Wilkins said. She said the rise was largely due to deaths of babies in the first week of life.

Partly as a result of this rise, the life expectancy of someone born in 1993 was actually lower than that of someone born the year before. For males, the figure stood at 74.8 years, 0.03 of a year less than in 1992. For females, it was 81.0 years, a loss of 0.18.

"It caught our attention," Ms. Wilkins said of the infant mortality rate. She added that Statscan will not know whether this is a blip or the beginning of a new trend until data for the next few years are in.

Reversals in such long-standing trends are rare in population studies. Even rarer is when they are also unexpected, as this one was. Although demographers said they cannot predict trends, and these figures might be an anomaly, the fact that such crude indicators as rate of infant mortality and numbers of deaths were being affected was cause for alarm.

"The overall fact of the increase is an indication that the delivery of health and social programs is really in trouble," said Ellen Gee, chairwoman of the sociology and anthropology department at Simon Fraser University in Burnaby, B.C.

Roderic Beaujot, a sociologist at the University of Western Ontario in London, said it is very unusual in First World countries to see an increase in the infant mortality rate and a decline in life expectancy. He noted that when this happened in the former Soviet Union – although to a much more pronounced degree – it was thought to be a sign of the social disarray there.

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Dr. Gee noted that infant mortality is tied to two main factors: access to health care and nutrition in the pregnant woman. Since access to health care is good for most non-aboriginal women, the answer to the rise may lie in poor nutrition for would-be mothers.

Lawrence Nestman, director of the School of Health Services Administration at Dalhousie University in Halifax and the author of a book on the delivery of health care in Canada, said he doubts the rise in deaths is the result of health care, which is still what he called a "Cadillac" service.

Rather, he said, it may be the fallout from several years of economic uncertainty. The link between unwanted unemployment and poor health has long been established, he said.

"I think the chickens are coming home to roost," he said.

⚀ In the fifth paragraph of the article EM9524 reprinted above, it is stated that Statscan *predicted* a rise in the total number of deaths in Canada of 3 per cent between 1992 and 1993 but the *actual* rise was 4.3 per cent. In light of this (and other) information in the article, discuss critically, from a *statistical* perspective, the statement: *The difference between the predicted and actual number of deaths in Canada in 1993 is so small proportionately (1.3 percentage points) that it is not statistically significant and is most likely due to chance.*

⚁ In the sixth paragraph of the article EM9524 reprinted above, the total numbers of deaths in Canada in 1992 and 1993 are given. Outline, in point form, the *measuring* issues raised by these two numbers.

⚂ List the explanations given in the article EM9524 for the unexpected rise in the total number of deaths in Canada in 1993; include with each explanation the name and affiliation of the person who suggested it.

- On the basis of the information given in the article, rank the three explanations in order of plausibility; justify your ranking briefly.