

Older and healthier... we're living it up

By [Martin Johnston](#)

Death takes us all in the end, but improvements in lifestyle and medical care are postponing the day for the average New Zealander. Health reporter Martin Johnston looks at what kills us and the lengthening of life for many

For every day we survive on this earth, we in New Zealand can expect our lives on average to extend by six hours.

That's just over 90 days for every year. Two and a half years for every decade.

While strictly only a statistical construct that applies to the whole population and not individuals, it illustrates a remarkable trend.

"Life expectancy in New Zealand, and many other countries, has just kept on increasing at a steady, some would say phenomenal, rate for decades - actually a century or two," said public health specialist Professor Tony Blakely, of Otago University at Wellington.

Based on New Zealand's 2010-12 death rates, life expectancy at birth was 83 years for females and 79.3 years for males, according to Statistics NZ.

In 1876, life expectancy for non-Maori was less than 55 years and for Maori less than 20, according to a graph to be published this year in a book by Professor Blakely and his Auckland University colleague Professor Alistair Woodward, *The Healthy Country? A history of life and death in New Zealand*.

The graph - spanning the great advances in sanitation, diet and medical care, as well as two world wars - depicts the progressive extension of the average lifespan. It also shows a steady narrowing of the disparity between Maori and non-Maori, which was a 7.3-year deficit for the average Maori lifespan in 2012.

The Ministry of Health analyses death data in an annual report on mortality. In 2010, the latest year studied, 28,641 deaths were registered. Cancer caused the most deaths, 8593, followed by coronary heart disease, with 5389 deaths, and stroke, which took 2467 lives.

Among other causes, 768 were attributed to diabetes, 535 to suicide, 478 to influenza and pneumonia, 416 to motor-vehicle accidents, 630 to obesity, 16 to HIV and 5 to diseases of the appendix, 5.

Mortality rates from the five main causes of death all decreased by more than half since 1980. The greatest decrease, of 69.5 per cent, was in coronary heart disease, closely followed by stroke on 68.6 per cent. The smallest, of 22.9 per cent, was in cancer.

Coronary heart disease was the main cause of death until 1989, when its steep descent crossed through the cancer graph, which had plateaued.

Professor Blakely said New Zealanders' increasing life expectancy - statistically modelled from mortality rates - was due to many linked causes, including better surgery, more-effective medicines, falling smoking rates, and increasing wealth and education over the long term.

The ministry report shows that in 2010, the health districts with statistically higher-than-average death rates included Northland, Waikato, Lakes and Tairāwhiti, while Waitemata was among those with a lower-than-average rate.

But although the rates were weighted up or down to account for variations from a standard age structure, they were not adjusted for various factors known to affect mortality rates.

These included ethnicity, deprivation and smoking.

Medical advances, social changes have two killers on the run

Disease experts remain astounded by the steep fall in the death rate from strokes and diseased heart arteries.

"Heart disease and stroke mortality rates have plummeted since about 1970, by roughly 4 per cent a year. Staggering," said Professor Tony Blakely.

Coronary heart disease results from fatty deposits building up in the linings of the heart's arteries, causing them to narrow and harden. This can damage the heart by restricting its oxygen supply, leading to a heart attack.

Strokes are caused by the blockage or rupture of an artery in the brain. Both conditions are linked to high blood pressure and smoking. Coronary heart disease is also linked to saturated fat consumption because of its effects on cholesterol.

In 1980, 7459 people died from coronary heart disease, compared with 5389 in 2010. The reduction in stroke deaths was similarly large, from 3153, to 2467.

But because of population growth, per capita death rates tell the story more accurately, revealing a near-70 per cent reduction in the mortality rates for both causes of death. These vast improvements reflect a mix of changes in lifestyle and better medical care.

Statins are an important modern drug now in widespread use to help improve cholesterol levels. Aspirin is used to reduce the risk of blood clots forming, and medicines reduce blood pressure.

Clot-busting drug therapy took off as a hospital treatment for heart attack in the 1990s. Coronary artery bypass grafting began overseas in the 1960s and became established in New Zealand hospitals. Heart artery angioplasty began in the 1970s and has developed enormously since, with the creation of sophisticated mesh stents to keep arteries open.

Auckland University epidemiologist Professor Rod Jackson attributes three-quarters of the long-term reduction in the coronary death rate to lifestyle changes and one-quarter to medical advances, but notes others put it at half and half.

He said the death rate rose from the 1950s to a peak in 1967, and been declining since. Stroke deaths started reducing earlier.

"The reason stroke mortality has been declining for much longer is that blood pressure levels have been coming down probably since the 1940s, whereas saturated fat consumption, probably the major driver for coronary disease, didn't start declining until the late 1960s."

He suspected the economic boom after World War II fuelled increases in smoking and consumption of saturated fat from dairy products and meat. In the 1960s, only full-fat milk was available, whereas in the 1970s, a "revolution in our food supply" brought low-fat milk and other improvements.

Smoking's harm became widely known in the 1960s. The male smoking rate fell from more than 50 per cent in the 1950s to 40 per cent by 1971, while the female rate, initially lower at around 35 per cent, stayed above 30 per cent until 1986. The national rate now for adults is 15 per cent.

The long-term decline in smoking is considered a significant factor in the drop in coronary disease mortality

"We know from studies that the day you stop smoking your coronary disease risk goes down," Professor Jackson said.

"The one thing that's going in the wrong direction is that we are getting fatter. Fatness is a second-line risk factor. It's not good, but it's not as bad as smoking. What's more important than being fat is how you get fat."

In the past, being overweight in New Zealand probably meant you were eating lots of saturated fat, but now "you can get fat eating great olive oil - you can be fat yet still have a pretty good cardiovascular risk profile".

Other researchers point to emerging evidence of a rise in blood pressure linked to New Zealand's rapid rise in obesity, suggesting it may lead to a reversal in the declining heart disease death rate.

But Professor Jackson is sceptical, saying there has been no increase in the heart disease death rate yet.

Cancer leads cause-of-death list though rates are falling

Cancer is New Zealand's leading cause of death, a position it has held since 1989 when it overtook coronary heart disease.

A wide collection of diseases characterised by the abnormal growth of cells, cancer was registered as the cause of 8593 deaths in 2010.

The per-capita incidence of new cases of cancer illness registered each year peaked in about 2000, although cancer death rates peaked earlier and have been on a downward path, with several upward blips, since the mid-1980s for men and around 1990 for women.

The cancer mortality rate fell by 27 per cent for men and 20 per cent for women between 1980

and 2010. Before their peaks, these rates had been riding for decades.

The leading type of cancer death in 2010 was lung cancer, accounting for 1650 deaths. It was followed by bowel cancer, 1208 deaths, female breast cancer, which killed 641 women and prostate cancer, which caused 589 male deaths.

Professor Tony Blakely, of Otago University at Wellington, said the lung cancer epidemic mirrored the smoking epidemic, with a time-lag of about 20 years.

The men's lung cancer death rate rose steeply from 1950 to the mid-1980s peak. It fell almost as quickly, but by 2010 was still about one-third higher than the women's rate. That rate rose more slowly, from a lower base, and in 2010 remained almost unchanged since 1990.

The men's smoking rate was historically much higher, but dropped to meet the relatively static women's rate in the 1980s, before both fell further together.

The female breast cancer death rate rose gradually over 40 years to a peak in 1988 and 1989, and has fallen by a third since then.

The Health Ministry's 2010 mortality report notes that the national breast cancer screening programme began in 1998 for women aged 50 to 69 and the minimum age was reduced to 45 in 2008.

But Professor Blakely said the effect of breast screening was controversial.

"The best estimates are still something like a 20 to 30 per cent decline in breast cancer mortality among the screened population - after many years to allow for the flow through.

"But this is not the only driver of trends. First, incidence has steadily gone up due to falling fertility [which results in more lifetime] oestrogen exposure.

"Second, treatments really have improved lots - be it surgery, drugs or radiotherapy. So survival has steadily improved."

For bowel cancer, ministry figures back to 2000 show a fall of around 10 per cent in the population rate of new cases per year, and 20.5 per cent in the mortality rate. New Zealand has one of the highest death rates from this disease in the developed world.

Professor Blakely said bowel cancer screening "definitely works, reducing mortality by perhaps 20 per cent or so. Thus assuming the current [screening] pilot in Waitemata is rolled out nationally, we can expect further reductions in mortality in the future".

The prostate cancer death rate rose slightly in the 1990s and then down in the 2000s. GPs' screening for prostate cancer has been increasingly common since the late 1990s, despite medical debate over the benefits and harm and successive governments' choosing not to set up an organised screening programme.

Professor Blakely said he doubted the falling death rate was due largely to screening.

It was probably mainly because of improved treatment, plus earlier presentation of some cases and trends - poorly understood - in preventive factors.

- [NZ Herald](#)