

Technical Report

To Medical and Allied Professions

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Cardiovascular Disease In New Zealand, 2004

A Summary of Recent Statistical Information

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Introduction

From January 1, 2000 the New Zealand Ministry of Health commenced using the new health classification system ICD-10-AM (International Statistical Classification of Diseases and Related Health Problems, 10th revision, Australian Modification, 1st Edition) to record mortality data instead of ICD-9-CMA-11, the 9th revision. Morbidity data were coded using the new system from July 1, 1999. In the new system there are approximately 8,000 categories compared to about 5,000 in ICD-9-CMA-11 and some changes in terminology have been introduced.

The changes mean that figures in this report may not be comparable with those from earlier reports. In a preliminary study from the United States, use of the new revision resulted in a 1.5 per cent decrease in the allocation of heart disease as the underlying cause of death and a 6 per cent increase in the allocation to cerebrovascular diseases, many within the latter category having been previously classified as pneumonia.¹

Another change is that the World Health Organisation no longer publishes international age-standardised mortality rates for various diseases. This is because of differences in coding practices across countries, and differences in the completeness of mortality data.

The population used to calculate all rates was taken from Demographic Trends 2003, Statistics New Zealand, 2004.

The abbreviation ICD in this report refers to the 10th revision (ICD-10-AM) unless otherwise stated.

Reference

1 Anderson RN, Miniño AM, Hoyert DL, Rosenberg HM. Comparability of causes of death between ICD-9 and ICD-10: Preliminary estimates. National vital statistics reports: vol 49 No. 2. Hyattsville, Maryland. National Centre for Health Statistics, 2001.

1. Leading causes of death

Table 1: Leading causes of death in New Zealand, 2000.
Total population (% rounded).

	Males	Females	Total
Coronary heart disease	24	21	22
Other diseases of the heart and circulation	7	10	8
Cerebrovascular disease	8	13	10
Cancer (all forms)	30	27	29
Chronic obstructive pulmonary disease	6	4	5
Pneumonia and influenza	1	2	1
Transport accidents	3	1	2
All other causes	22	23	22

Notes

- 1 Percentages may not add up to 100 due to rounding.
- 2 Coronary heart disease (CHD) in this report includes ischaemic heart diseases (ICD 120-125).
- 3 Other diseases of the heart and circulation include acute rheumatic fever (ICD 100-102), chronic rheumatic heart diseases (ICD 105-109), hypertensive diseases (ICD 110-115), pulmonary heart disease and diseases of the pulmonary circulation (ICD 126-128), other forms of heart disease (ICD 130-152), diseases of the arteries, arterioles and capillaries (ICD 170-179) and congenital malformations of the circulatory system (ICD Q20-26).
- 4 Cerebrovascular disease includes ICD 160-169.
- 5 Chronic obstructive pulmonary disease includes ICD J44.

Source

Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Comments

- 1 Cardiovascular disease (i.e. coronary heart disease (CHD), other diseases of the heart and circulation and cerebrovascular disease) is the leading cause of death (40%) in New Zealand.
- 2 Heart disease (i.e. CHD and other diseases of the heart and circulation) accounts for 30% of all deaths.
- 3 Deaths from all forms of cancer (29%) exceed those from CHD (22%).
- 4 These figures are similar to those for 1998 despite the use of the new classification system.

2. Selected causes of death

Table 2: Selected causes of death in New Zealand, 2000.
Total population: numbers and age-standardised rates per 100,000 (rounded).

Cause of death	Males		Females		Total	
	No.	Rate	No.	Rate	No.	Rate
Coronary heart disease	3,269	114	2,704	56	5,973	82
Hypertensive disease	85	3	134	3	219	3
Cerebrovascular disease	1,048	35	1,620	32	2,668	33
All forms of cancer	4,120	151	3,500	108	7,620	126
• Lung cancer	860	32	546	17	1,406	24
• Colorectal cancer	571	21	563	16	1,134	18
• Female breast cancer	-	-	622	21	622	11
• Prostate cancer	594	20	-	-	594	8
• Stomach cancer	186	7	123	3	309	5
Chronic rheumatic heart disease	67	2	104	3	171	3
Chronic obstructive pulmonary disease	769	25	571	14	1,340	18
Pneumonia and influenza	147	5	200	4	347	4
Diabetes mellitus	408	15	394	10	802	12
HIV	19	1	3	0.1	22	1
Intentional self-harm	375	19	83	4	458	11
Transport accidents	403	21	170	8	573	14
All causes of death	13,817	512	12,906	330	26,723	412

Notes

- 1 The mortality rates are age-standardised according to Segi's World Population. The rates include all age groups.
- 2 Colorectal cancer includes cancer of the colon, rectosigmoid junction and rectum.

Source

Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Comments

- 1 The death rate from CHD is more than twice as high in men as in women.
- 2 In contrast, death rates from cerebrovascular disease are similar in men and women.
- 3 Lung cancer remains the leading form of cancer death in men, but the standardised mortality rate is 30% lower than it was 15 years ago in 1985.
- 4 Breast cancer is the leading form of cancer death in women. Lung cancer causes 546 deaths in women.
- 5 The mortality rates for all causes of death have declined by 34% in men and by 32% in women in the past 15 years since 1985.
- 6 Of the 347 deaths classified as due to pneumonia and influenza, only 13 were attributed to influenza.

3. Selected causes of death according to ethnic origin

Table 3: Death rates from selected causes of death in Māori and non-Māori populations, 2000. Age-standardised rates per 100,000 (rounded).

Cause of death	Māori		Pacific people		Others (non-Māori or non-Pacific people)	
	Males	Females	Males	Females	Males	Females
Coronary heart disease	201	114	201	67	104	51
Hypertensive disease	14	6	15	12	2	2
Cerebrovascular disease	36	47	95	64	33	29
Chronic rheumatic heart disease	8	16	7	11	2	2
Cardiomyopathy	21	6	27	3	4	2
All forms of cancer	220	186	261	135	143	100
• Lung cancer	65	64	61	14	28	14
• Breast cancer	-	25	-	27	-	20
• Colorectal cancer	17	13	14	9	22	17
• Prostate cancer	23	-	38	-	19	-
• Stomach cancer	13	8	17	4	20	46
Chronic obstructive pulmonary disease	43	38	53	17	23	12
Pneumonia and influenza	10	3	11	7	5	3
Diabetes	70	45	61	60	10	7
Intentional self-harm	23	4	9	2	18	4
Transport accidents	31	16	16	8	19	7
All causes of death	842	614	962	515	469	297

Notes

- 1 The mortality rates are age-standardised according to Segi's World Population and include all ages.
- 2 Since 1996, the classification of Māori is based on the concept of self-identification.
- 3 Colorectal cancer includes cancer of the colon, rectosigmoid junction and rectum.

Source

Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Comments

- 1 In all the categories selected, except colorectal and stomach cancer, death rates in Māori are higher than those of non-Māori or non-Pacific people.
- 2 In Pacific people, death rates are higher than in Māori in hypertensive disease, cerebrovascular disease, cardiomyopathy (males), all forms of cancer (males), breast cancer, prostate cancer, stomach cancer (males), chronic obstructive pulmonary disease (males) and diabetes (females).

- 3 Death rates for rheumatic heart disease and cardiomyopathy are much higher in Māori and Pacific people than in Others.
- 4 Death rates for coronary heart disease for Māori males are the same as for Pacific males but almost twice as high as in Others.
- 5 The CHD death rate in Māori men has fallen since 1996, but risen in women while rates in Pacific people have increased in both men and women.
- 6 Lung cancer death rates are the same in Māori males and females with Pacific males almost as high. The Māori rates have fallen by 13% since 1998 in males and females.
- 7 Death rates from diabetes are six to seven times higher in Māori and Pacific people than in Others. The very high death rate among Pacific women is probably related to the high prevalence of obesity and being overweight.
- 8 For all causes of death, the death rate is highest among Pacific males (14% higher than Māori males and 105% higher than Others males) while the Māori female death rate is 19% higher than the Pacific female death rate and twice that of Others females.

4. Deaths from selected cardiovascular diseases

Table 4: Number of persons in New Zealand who died from selected cardiovascular diseases according to ethnic origin, 2000.

ICD	Disease	Māori		Pacific people		Others (non-Māori or non-Pacific people)	
		Males	Females	Males	Females	Males	Females
120-125	Coronary heart disease	308	195	103	43	2,858	2,466
110-115	Hypertensive disease	17	12	7	7	61	115
105-109	Chronic rheumatic heart disease	17	30	5	8	45	66
134-138	Other diseases of endocardium	10	8	3	7	146	180
133	Acute and subacute endocarditis	0	0	0	1	6	2
140	Acute myocarditis	1	2	2	2	8	4
142	Cardiomyopathy	38	12	12	2	74	40
147-149	Cardiac dysrhythmias	7	6	2	1	85	142
150	Heart failure	9	13	4	3	95	248
171	Aortic aneurysm and dissection	8	18	5	6	235	142
126	Pulmonary embolism	0	5	0	0	11	14
127	Other pulmonary heart disease	3	0	0	0	5	11
160	Subarachnoid haemorrhage	8	20	3	3	53	88
161-169	Other forms of cerebrovascular disease	46	62	31	38	971	1,520
Q20-Q24	Congenital heart disease	6	5	6	3	23	22

Source

Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Comments

- 1 The number of deaths from cardiomyopathy remains high in Māori men.
- 2 Of the 178 deaths attributed to cardiomyopathy, 31 were classified as alcoholic cardiomyopathy, 28 in Others men and 3 in Others women. There were no Māori or Pacific people among those whose cause of death was alcoholic cardiomyopathy.
- 3 More Māori women died from CHD in 2000 compared with 1998.
- 4 Other diseases of endocardium (that is, non-rheumatic valvular disease) and aortic aneurysm and dissection are both important contributors to deaths from cardiovascular disease.

5. Deaths from coronary heart disease

Table 5: Death rates from coronary heart disease in New Zealand according to ethnic origin, 2000. Age-specific rates per 100,000 (rounded).

		25-44	45-64	65-74	75+
Others (non-Māori or non-Pacific people)	Males	10	116	614	2,310
	Females	2	34	258	1,686
	Total	6	75	431	1,924
Māori	Males	31	386	1,124	2,687
	Females	9	147	713	2,202
	Total	20	264	905	2,398
Pacific people	Males	23	364	1,438	2,014
	Females	9	78	327	1,563
	Total	16	219	823	1,722
Total population	Males	14	149	658	2,319
	Females	3	46	287	1,699
	Total	9	97	466	1,935

Source

Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Table 6: Numbers of persons who died from coronary heart disease in New Zealand according to age and ethnic origin, 2000.

		0-24	25-44	45-64	65-74	75+	All ages
Others (non-Māori or non-Pacific people)	Males	1	46	417	683	1,711	2,858
	Females	0	7	122	305	2,032	2,466
	Total	1	53	539	988	3,743	5,324
Māori	Males	0	26	145	76	61	308
	Females	0	8	58	55	74	195
	Total	0	34	203	131	135	503
Pacific people	Males	0	7	50	32	14	103
	Females	0	3	11	9	20	43
	Total	0	10	61	41	34	146
Total population	Males	1	79	612	791	1,786	3,269
	Females	0	18	191	369	2,126	2,704
	Total	1	97	803	1,160	3,912	5,973

Source

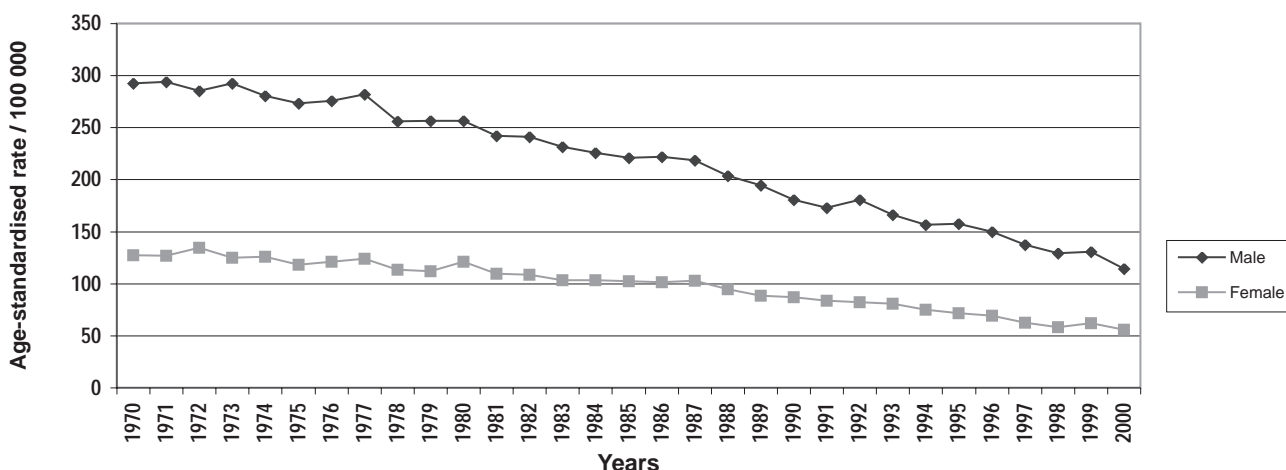
Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Comments

- 1 In all categories male death rates are higher than female rates.
- 2 In all age groups CHD death rates are highest for Māori, followed by Pacific people and lowest for those of neither Māori nor Pacific origin.
- 3 In Māori under 65 years, death rates are three to four times higher than in those of neither Māori nor Pacific origin.
- 4 In the Māori population, 56% of all the male CHD deaths and 34% of the female deaths occur in those under 65 years. Similar figures apply for the Pacific people (55% males and 33% females). In contrast, for those of neither Māori nor Pacific origin, 16% of male deaths and 5% of female deaths occur in those under 65 years.
- 5 85% of all CHD deaths occur in those over 65 years.
- 6 79% of all female CHD deaths occur in those over 75 years compared with 55% of male deaths.
- 7 Sixteen New Zealanders die each day, or one person every 90 minutes, as a result of CHD.

6. Trends in death rates from coronary heart disease

Figure 1: Coronary heart disease in New Zealand: age-standardised mortality rates per 100,000. Total population, 1970-2000.



Notes

- 1 The rates are age-standardised according to Segi's World Population.
- 2 The 2000 figures have been classified according to ICD-10-AM.

Source

New Zealand Health Information Service, 2003.

Comments

- 1 Since 1970, CHD age-standardised death rates have fallen by 61% in men and by 56% in women.
- 2 In the decade since 1990, the rate of decline has been 3.7% per year in men and women.

Figure 2: Coronary heart disease in New Zealand: age-specific mortality rates per 100,000 for ages 45-64. Total population, 1970-2000.

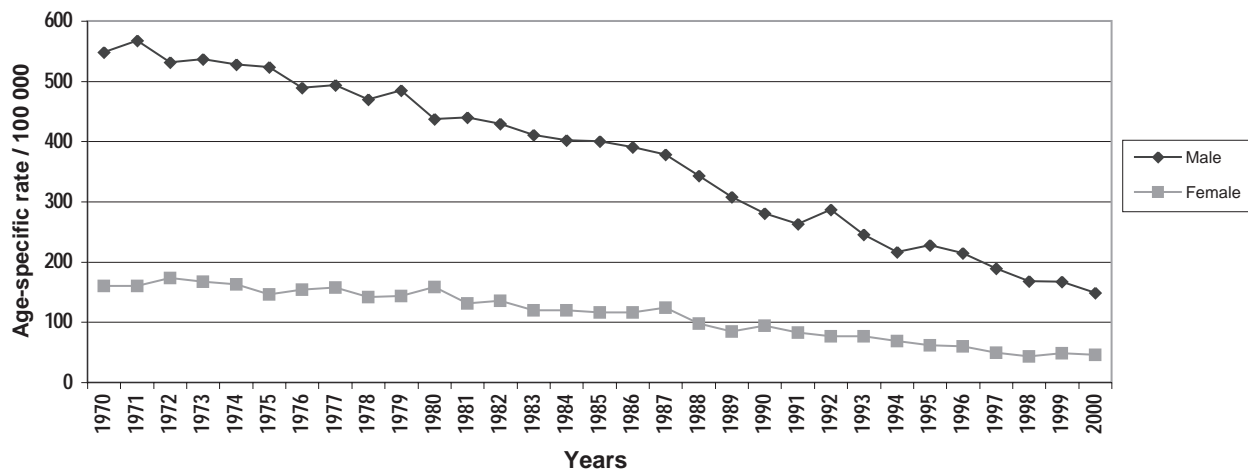
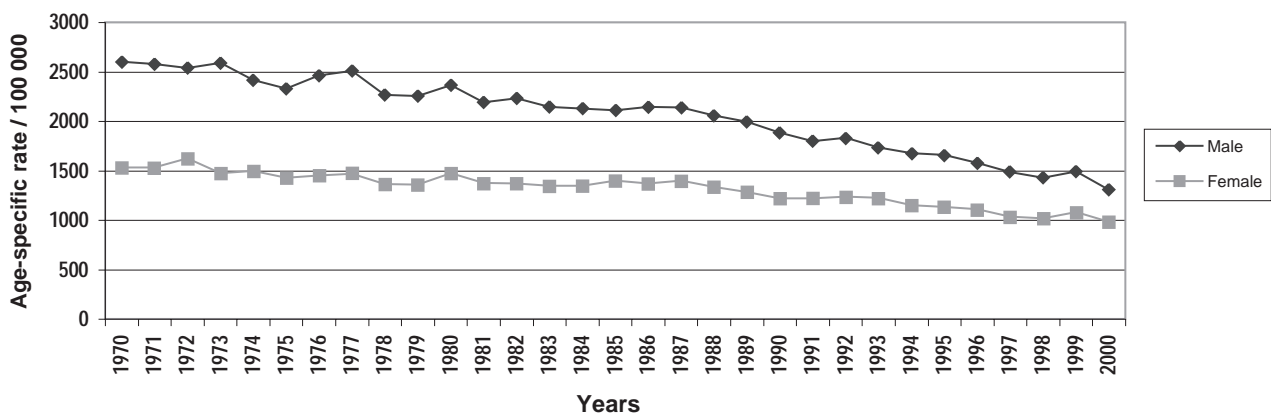


Figure 3: Coronary heart disease in New Zealand: age-specific mortality rates per 100,000 for ages 65 years and over. Total population, 1970-2000.



Note

The 2000 figures have been classified according to ICD-10-AM.

Source

New Zealand Health Information Service, 2003.

Comments

- 1 Between 1970 and 2000, the death rates in persons aged 45-64 years declined by 73% in men and by 71% in women.
- 2 In the over 65 years age group, in which most CHD deaths occur, the decline since 1970 has been 50% in men and 36% in women.

Table 7: Recent trends in numbers and death rates from coronary heart disease in Māori and non-Māori, 1997-2000. Age-standardised rates per 100,000 (rounded).

		1997		1998		1999		2000	
		No.	Rate	No.	Rate	No.	Rate	No.	Rate
Māori	Males	288	209	306	221	347	234	308	201
	Females	190	129	152	97	207	129	195	114
Non-Māori	Males	3,326	131	3,173	122	3,299	122	2,961	107
	Females	2,565	58	2,572	55	2,718	57	2,509	52
Total	Males	3,614	138	3,479	129	3,646	131	3,269	114
	Females	2,755	63	2,724	58	2,925	62	2,704	56

Note

The Māori rates are comparable as they refer to years since the concept of self-identification was introduced in 1996.

Sources

- 1 Mortality and Demographic Data 1999, New Zealand Health Information Service, 2003.
- 2 Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Comments

- 1 In the year 2000, death rates from CHD in Māori males were 88% higher than in non-Māori, while female Māori rates were 119% higher than non-Māori.
- 2 Māori CHD death rates tend to fluctuate more because of smaller numbers but in the four years since 1997 there has been a 4% fall in males and 12% fall in females. The comparable reduction in non-Māori males has been 18% and in females 12%.

7. Admissions to public hospitals for coronary and cerebrovascular disease (fatal and non-fatal), 2000-2001

Table 8: Mean stay and number of patients discharged from or dying in publicly funded hospitals for all causes, coronary heart disease (ICD 120-125) and cerebrovascular disease (ICD 160-169). Total population, 2000-2001.

	Mean stay (days)		Numbers	
	Inpatients		Inpatients	Day patients
All causes	Males	7.9	241,065	108,828
	Females	8.6	322,829	127,251
	Total	8.3	563,894	236,079
Coronary heart disease	Males	5.4	15,039	2,555
	Females	7.2	10,653	1,209
	Total	6.1	25,692	3,764
Cerebrovascular disease	Males	26.5	4,099	171
	Females	50.3	4,463	126
	Total	38.9	8,562	297

Source

Selected Morbidity Data for Publicly Funded Hospitals 2000-2001, Ministry of Health 2004.

Comments

- 1 The mean stay in hospitals for patients with CHD (all forms) remains unchanged since 1998-99 at approximately one week or less (for men).
- 2 59% of CHD inpatient admissions were men and 41% were women.
- 3 The number of inpatients treated for CHD has increased by 9% since 1998 and the day patients by 23%.
- 4 The mean stay for inpatients with cerebrovascular disease has risen since 1998 by ten days. The mean stay for men has risen from 22.5 to 26.5 days and for women from 33.7 to 50.3 days.

Table 9: Mean stay (days) and number of patients discharged from or dying in publicly funded hospitals for selected heart diseases. Total and Māori population, 1999-2000.

		Total population		Māori population	
		Numbers	Mean stay	Numbers	Mean stay
Acute myocardial infarction (ICD 121)	Males	4,757	7.5	285	5.5
	Females	2,900	8.2	209	5.9
	Total	7,657	7.8	494	5.7
Heart failure (ICD 150)	Males	3,815	9.9	626	7.1
	Females	3,563	26.2	391	6.4
	Total	7,378	17.8	1,017	6.8
Cardiomyopathy (ICD 142)	Males	226	6.5	65	5.3
	Females	96	6.2	17	6.9
	Total	322	6.4	82	5.6
Acute rheumatic fever (ICD 100-102)	Males	113	14.6	52	20.8
	Females	77	10.5	33	17.3
	Total	190	13.0	85	19.5

Note

The Māori rheumatic fever figures refer to ICD 101 only (acute rheumatic fever with heart involvement).

Source

Selected Morbidity Data for Publicly Funded Hospitals 1999-2000, Ministry of Health, 2003.

Comments

- 1 The mean stay for inpatients treated for acute myocardial infarction is between seven and eight days (total population). Māori patients stay about two days less.
- 2 Admissions for acute myocardial infarction represent 28% of the total admissions for all manifestations of CHD.
- 3 Females treated for heart failure have a much longer hospital stay than males. This may reflect the age of women assigned to this category.
- 4 The mean stay for those with acute rheumatic fever is approximately two weeks (total population). The numbers of Māori patients admitted is relatively high and they remain in hospital longer (mean 19.5 days).

8. International death rates from coronary heart disease

As noted before, the World Health Organisation no longer produces tables which enable standardised mortality rates between countries to be compared.

In 2001, the crude CHD death rate per 100,000 in England was 228 for males and 175 for females. Age-standardised rates were not available. The NZ crude CHD death rate in 2000 was 173 for males and 139 for females. The English figures use the ICD 9th edition while the New Zealand figures use ICD-10-AM.

The US CHD mortality figures are age-adjusted rates according to a US standard population and not separated into male and female categories. They are therefore not comparable with NZ figures.

Age-standardised mortality rates for CHD and cerebrovascular disease in Australia are presented in Table 10.

Table 10: Mortality rates from coronary heart disease and cerebrovascular disease in Australia, 2001 and 2002. Age-standardised rates per 100,000.

Disease	ICD-10 Code	Standardisation population	Year	Males	Females	Persons
Coronary heart disease	120-125	Segi's World Population	2001	86.4	43.8	63.6
			2002	82.2	41.5	60.4
		WHO World Population	2001	106.8	56.8	79.7
			2002	101.9	53.8	75.8
Cerebrovascular disease	160-169	Segi's World Population	2001	28.1	24.7	26.5
			2002	27.6	24.4	26.1
		WHO World Population	2001	36.5	32.5	34.6
			2002	35.7	32.2	34.1

Source

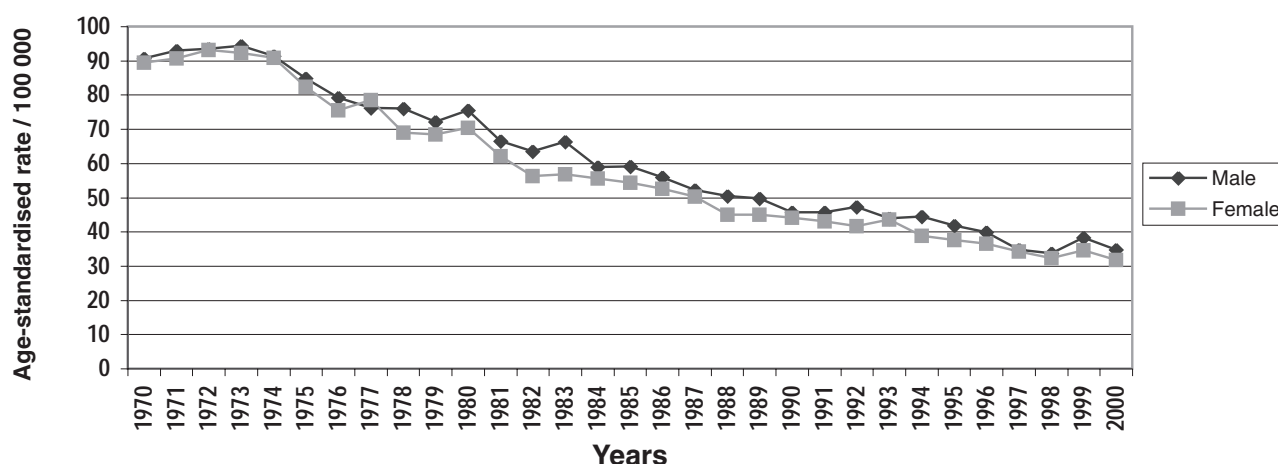
Australian Institute of Health and Welfare, National Mortality Database, 2004.

Comments

- 1 The 2000 New Zealand CHD mortality rate for men is 28% higher than the 2002 Australian rate (Segi's World Population) and 24% higher in women.
- 2 The 2000 New Zealand cerebrovascular disease mortality rate for men is 20% higher than the 2002 Australian rate (Segi's World Population) and 23% higher in women.
- 3 The Australian CHD age-standardised mortality rate for men has fallen by 75% between 1970 and 2002 and by 72% in women.

9. Cerebrovascular disease

Figure 4: Cerebrovascular disease in New Zealand: age-standardised mortality rates per 100,000. Total population, 1970-2000.



Notes

- 1 The rates are standardised according to Segi's World Population and include all ages.
- 2 The 2000 figures have been classified according to ICD-10-AM.

Source

New Zealand Health Information Service, 2003.

Comments

- 1 Mortality rates rose in 1999 but in 2000 were similar to those in 1998.
- 2 Between 1970 and 2000, the death rates fell by 62% in men and 64% in women.
- 3 Death rates in men have always been slightly higher than in women.

Table 11: Numbers and mortality rates for cerebrovascular disease according to ethnic origin, 1997-2000. Age-standardised rates per 100,000 (rounded).

		1997		1998		1999		2000	
		No.	Rate	No.	Rate	No.	Rate	No.	Rate
Māori	Males	54	47	54	41	62	47	54	36
	Females	79	54	62	39	72	45	82	47
Non-Māori	Males	912	34	906	33	1,067	38	994	34
	Females	1,521	33	1,470	31	1,634	34	1,538	30
Total	Males	966	35	960	34	1,129	38	1,048	35
	Females	1,600	34	1,532	32	1,706	35	1,620	32

Note

Since 1996 the classification of Māori is based on the concept of self-identification.

Sources

- 1 Mortality and Demographic Data 1999, New Zealand Health Information Service, 2003.
- 2 Mortality and Demographic Data 2000, New Zealand Health Information Service, 2004.

Comments

- 1 Māori male mortality rates have fallen in the last four years and are close to the non-Māori rate. The Māori female rate is also lower in 2000 than in 1997, but is 57% higher than the non-Māori female rate.
- 2 In the total population, the number of women dying from cerebrovascular disease is 55% higher than men. This probably reflects the greater life expectancy of women and the fact that the incidence of stroke increases with age.

10. Information about selected risk factors

10.1 Cigarette smoking

Table 12: Prevalence of cigarette smoking in New Zealand by age, gender and ethnic origin, 1983-2002 (% rounded).

	Age (years)	Survey year					
		1983	1989	1993	1997	2000	2002
Males (Total population)	15-24	34	28	28	27	28	32
	25-34	38	30	35	30	35	31
	35-54	37	28	30	28	27	27
	55+	29	20	19	16	12	14
	Total 15+	35	27	28	26	25	25
Females (Total population)	15-24	40	37	30	35	31	33
	25-34	35	33	34	36	37	32
	35-54	31	25	26	26	25	25
	55+	21	16	16	14	13	11
	Total 15+	31	27	26	27	25	24
		1990	1993	1997	2000	2002	
Both genders (15+)							
Māori			51	54	51	49	49
Pacific people			32	33	34	34	35
European/Others			25	24	23	22	21
Total			28	27	26	25	25

Notes

- 1 The AC Nielsen (NZ) surveys have been conducted for the Ministry of Health since 1983 and are based on interviews of 1100-1300 persons.
- 2 Cigarette smokers include those who smoke any ready-made or roll-your-own tobacco cigarettes and include those who smoke on average less than one cigarette a day, as well as daily smokers (those who smoke one or more per day).
- 3 Full prevalence data is available in Tobacco Facts, 2003.
- 4 The classification of ethnicity changed from 1997 onwards. Ethnic-specific data before and after 1997 may not be comparable.
- 5 Tobacco Facts does not include age-specific smoking prevalence according to ethnicity.
- 6 The Total (15+) figures are not age-standardised. Māori and Pacific people prevalence may appear higher because these populations include more younger persons who are more likely to be smokers.

Sources

- 1 AC Nielsen (NZ) Ltd, 2002.
- 2 Tobacco Facts, 2003. Public Health Intelligence Occasional Report No. 20. Ministry of Health, 2003. Available at www.moh.govt.nz/phi

Comments

- 1 In 2002, one quarter of adult New Zealanders were cigarette smokers. Conversely, three out of four New Zealanders do not smoke cigarettes.
- 2 This figure is similar to that in 2000; only slight decreases in smoking prevalence have occurred in the 1990s.
- 3 Since 1983 smoking prevalence in those over 55 years has declined by 52% in men in the total population and by 48% in women.
- 4 While smoking among younger persons aged 15-24 and 25-34 is less than it was in 1983, there has been no sustained decrease in recent years. In men and women aged 15-24 years, prevalence was higher in 2002 than in 2000.
- 5 In men and women (total population) the highest smoking prevalence is in the 15-24 age group. Previously, the highest was in those aged 25-34 years in which there has been a decline since 2000 in men and women.
- 6 Among those under 34 years, smoking is slightly more common in women than men.
- 7 Adult smokers smoke an average of 12 cigarettes per day. Fifteen per cent of cigarette smokers (18% men, 11% women) smoke 20 cigarettes or more per day.
- 8 In 2002, 0.2% of adults were pipe smokers and 0.8% cigar smokers.
- 9 In 1998, New Zealand men smoked more commonly than males in the United States, Australia, Canada and Sweden. The smoking rates for NZ women were higher than for women in Japan, United States, Australia, Finland and Canada. In a selected group of OECD countries the highest and lowest smoking rates were in Japanese men (55%) and women (13%) respectively.

Table 13: Prevalence of cigarette smoking in persons aged 15 years and over according to ethnic origin, 2002 (% rounded).

	Males	Females	Total
Māori	43	55	49
Pacific people	37	34	35
European/Others	23	19	21
Total population	25	24	25

Note

The totals are not age-standardised.

Sources

- 1 AC Nielsen (NZ) Ltd, 2002.
- 2 Tobacco Facts, 2003. Public Health Intelligence Occasional Report No. 20. Ministry of Health, 2003. Available at www.moh.govt.nz/phi

Comments

- 1 One in five NZ European/Others are cigarette smokers, one in two Māori and one in three Pacific people.
- 2 Smoking prevalence among Māori (males and females combined) has not changed since 1997.
- 3 Māori women continue to have the highest smoking prevalence (55% or 52% age-standardised).
- 4 The smoking prevalence among Pacific people (35%) in 2002 was higher than in any previous survey year since 1990.

Table 14: Tobacco products released for consumption in New Zealand in selected years since 1970 (cigarette equivalents per adult aged 15+ years).

Year	Manufactured cigarettes	Loose tobacco	Total tobacco products
1970	2,581	534	3,114
1980	2,617	239	2,856
1990	1,738	233	1,971
2000	1,058	281	1,352
2001	875	262	1,136
2002	922	265	1,187

Notes

- 1 One cigarette equivalent equals one manufactured cigarette or one gram of loose tobacco.
- 2 Calculations of cigarette equivalents are based on excise data on manufactured cigarettes and loose tobacco released for sale. Loose tobacco is mainly cigarette tobacco but includes a small amount of pipe tobacco. Cigars are not included.

Source

Tobacco Facts, 2003. Public Health Intelligence Occasional Report No. 20. Ministry of Health, 2003. Available at www.moh.govt.nz/phi

Comments

- 1 Tobacco consumption increased slightly between 2001 and 2002.
- 2 Since 1970, consumption of tobacco products has declined by 62%.
- 3 New Zealand's tobacco consumption per adult ranked third lowest out of 13 selected OECD countries, similar to that of Australia but higher than Finland.

10.2 Selected provisional results from the New Zealand Health Survey, 2002/03

Source

A Snapshot of Health: Provisional results of the 2002/03 New Zealand Health Survey. Wellington: Ministry of Health, 2003. Available at www.moh.govt.nz/phi

Notes

- 1 The survey targeted New Zealanders aged 15 years and over, living in permanent private dwellings. Areas, dwellings and people were chosen randomly.
- 2 The data was collected through face-to-face interviewing. Body weight was measured by the interviewer.
- 3 The provisional report included information from 6,270 European/Others, 3,990 Māori, 790 Pacific people and 940 Asian people. Each person has been assigned to a single ethnic group with priority for ethnicity given in the following order: Maori, Pacific people, Asian people, Others and European.

Results

Table 15: Prevalence of adults who are overweight (including obese), by gender and ethnicity (% rounded).

	Males	Females
European/Others	57	45
Māori	69	59
Pacific people	81	82
Total population	60	49

Comments

- 1 Obese is defined as Body Mass Index (BMI) greater than or equal to:
 - 30 for European, Asian and Others
 - 32 for Māori and Pacific people
- 2 Overweight is BMI greater than or equal to:
 - 25 for European, Asian and Others
 - 26 for Māori and Pacific people
 - Overweight includes people who are obese
- 3 BMI is weight in kilograms divided by height in metres squared (kg/m²).

Table 16: Prevalence of obesity in adults by gender and ethnicity (% rounded).

	Males	Females
European/Others	17	19
Māori	32	27
Pacific people	34	46
Total population	19	21

Source

A Snapshot of Health: Provisional results of the 2002/03 New Zealand Health Survey. Wellington: Ministry of Health, 2003. Available at www.moh.govt.nz/phi

Comments

- 1 More than half of all adults are overweight (including obese).
- 2 Men are significantly more likely to be overweight than women, but women have slightly higher levels of obesity than men.
- 3 Pacific people are most likely to be overweight (including obese) followed by Māori.
- 4 Over 80% of Pacific men and women are overweight. Nearly half (46%) of Pacific women are obese.
- 5 One in five New Zealand adults are obese.

Other Survey Findings

- 1 Half of all adults (57% males, 48% females) do the recommended 30 minutes or more of physical activity a day, on five or more days of the week.
- 2 Three out of four adults (79% males, 70% females) take part in more than 2.5 hours of physical activity each week.
- 3 Overall, men are significantly more active than women.
- 4 Asian people, particularly Asian women, were the least physically active.
- 5 Two out of three adults (68%) eat the recommended three or more servings of vegetables each day.
- 6 Over half of all adults (55%) eat the recommended two or more servings of fruit each day.
- 7 Twenty-four per cent of men and 22% of women are current smokers.
- 8 One in five adults (18% males, 19% females) reported that they have high blood pressure.
- 9 One in seven adults (15% males, 13% females) reported that they have high blood cholesterol.
- 10 One in five adults over 45 years reported that they have been diagnosed with heart disease.

10.3 Selected results from the 2002 National Children's Nutrition Survey

Source

NZ Food NZ Children: Key results of the 2002 National Children's Nutrition Survey. Wellington: Ministry of Health, 2003.

Notes

- 1 The survey was a cross-sectional population survey on a randomly selected sample of 3,275 New Zealand children aged 5-14 years from 172 schools throughout the country.
- 2 Information was obtained on food and nutrient intake, frequently eaten foods, eating patterns, physical activity patterns and dental health.
- 3 Measures of body size were obtained.

Results (selected)

- 1 Only two out of five children met the recommended number of servings of fruit (at least two per day).
- 2 About three out of five children met the recommended servings of vegetables (three or more per day).
- 3 Protein intake was in excess of requirements for all groups; carbohydrates contributed 54% of energy and total fat 33%.
- 4 Sixty nine per cent of children had a weight in relation to their height that was within an acceptable range, 31% of children were either overweight or obese.
- 5 Pacific children's levels of overweight/obesity were 62%, Māori 41% and European/Others 24%. This included 28% of Pacific children who were obese, 16% of Māori and 5% of European/Other.
- 6 No weekend physical activity was reported by 13% of children. This proportion was highest (23%) in girls aged 11-14 years.

10.4 Changes in Body Mass Index in New Zealand children

Source

Turnbull A, Barry D, Wickens K, Crane J. Changes in body mass index in 11-12 year old children in Hawke's Bay, New Zealand (1989-2000). *J. Paediatr. Child Health* 2004; 40:33-37.

Note

Data on height, weight and ethnicity were collected from 871 school children in 1989 and 894 children in 2000, who reached 12 years of age during the year of testing. The mean decile rating for the schools studied was 4.4 (lower socio-economic groups are deciles 1-3 and the highest 8-10).

Results

- 1 In 2000, 20.9% of Hawke's Bay children were classified as overweight and 9.1% as obese.
- 2 The mean Body Mass Index (BMI) increased from 18.1 in 1989 to 19.8 in 2000, a relative increase of 9.2%. The increases occurred in males (9%), females (9.3%), Māori (7.6%), European (9.1%) and Pacific Island children (11%).
- 3 The risk of being overweight in 2000 was 2.2 times greater than the risk in 1989 and the risk of being obese was 3.8 times greater.
- 4 These problems were more pronounced in Māori (overweight 24.7%, obese 15.3%) and Pacific Island children (overweight 35%, obese 15%) than European (overweight 18.2%, obese 5.7%).

Comments

- 1 Higher percentages of Māori and Pacific Island children are overweight or obese compared to European, but in all ethnic groups there has been a significant increase in mean BMI over an 11 year period.
- 2 The authors conclude that this reflects the trend in other developed countries and underlines childhood obesity as a major health problem in New Zealand.
- 3 The study suggests that the patterns of overweight and obesity found in New Zealand adults begin early in childhood.
- 4 The authors suggest that a sedentary lifestyle with reduced energy expenditure, together with increased consumption of high fat, energy dense foods might be contributing factors.

11. Life Expectancy

11.1 Total population

Table 17: Life expectancy (years) at selected ages. Total New Zealand population, 1950-2002.

	Males			Females		
	From birth	From 45 years	From 65 years	From birth	From 45 years	From 65 years
1950-52	67.2	28.0	12.8	71.3	30.8	14.8
1960-62	68.4	28.0	12.8	73.8	32.1	15.5
1970-72	68.6	27.6	12.6	74.6	32.6	16.0
1980-82	70.4	28.9	13.3	76.4	33.9	17.1
1990-92	72.9	31.1	14.8	78.7	35.6	18.5
2000-02	76.3	33.8	16.7	81.1	37.7	20.0

Source

New Zealand Life Tables 2000-2002, Statistics New Zealand, 2004.

Comments

- 1 For the total New Zealand population, life expectancy during the last 50 years has increased by nine years (11.9%) in men and almost ten years (12.1%) in women.
- 2 A newborn girl can expect to live 81.1 years and a newborn boy 76.3 years.
- 3 In the last decade, life expectancy in men has increased by 3.4 years and in women by 2.4 years. This is a higher relative increase than in earlier decades.
- 4 In the last 30 years, life expectancy in men has increased by 7.7 years or 11.2% and in women by 6.5 years or 8.7%.
- 5 The improved male life expectancy has reduced the gender gap from 6 years in favour of females in 1970 to 4.8 years in 2002.
- 6 Men aged 65 years can expect to live another 16.7 years to age 81.7 years and women another 20 years to 85 years.

11.2 Māori and non-Māori populations

Table 18: Life expectancy (years) in Māori and non-Māori, 2000-02.

		Males	Females
		Māori	From birth
	From 45 years	27.3	30.4
	From 65 years	12.7	15.1
Non-Māori	From birth	77.2	81.9
	From 45 years	34.4	38.3
	From 65 years	16.9	20.2

Notes

- 1 These figures are based on the 1996 ethnic classification which uses the concept of self-identification.
- 2 Statistics New Zealand advise that "ethnic mortality measures should therefore be interpreted with due caution".
- 3 The 1995-97 life expectancy figures quoted in NHF Technical Report No. 78 have been revised by Statistics New Zealand.

Source

New Zealand Life Tables 2000-2002, Statistics New Zealand, 2004.

Comments

- 1 Māori life expectancy at birth is 8.2 years less than non-Māori for males and 8.7 years for females.
- 2 A Māori boy can expect to live 69 years and a Māori girl 73.2 years.
- 3 The gender gap in favour of females for life expectancy is 4.2 years for Māori and 4.7 years for non-Māori. These figures are slightly lower than in 1995-97.
- 4 Statistics New Zealand estimates that Māori life expectancy at birth rose by about half a year more than non-Māori life expectancy did between 1995-97 and 2000-2002. The gap between Māori and non-Māori life expectancy has therefore narrowed slightly.

11.3 Regional life expectancy**Table 19: Life expectancy (years) from birth in New Zealand regions, 1995-1997.**

Region	Males	Females	Total
Northland	72.7	78.5	75.5
Auckland	75.1	80.2	77.7
Waikato	74.3	80.0	77.1
Bay of Plenty	73.0	79.2	76.1
Gisborne	70.4	76.2	73.3
Hawke's Bay	73.4	78.9	76.2
Taranaki	74.8	80.2	77.5
Manawatu-Wanganui	73.8	79.0	76.4
Wellington	74.7	79.9	77.3
Tasman/Nelson/Marlborough	75.2	80.0	77.6
West Coast	72.6	78.4	75.4
Canterbury	75.0	80.5	77.8
Otago	74.7	80.4	77.6
Southland	73.2	78.9	76.0

Source

Demographic Trends 2003, Statistics New Zealand, 2004.

Comments

- 1 Regional differences in life expectancy are small except for the Gisborne region where the Māori population is relatively high.
- 2 Life expectancy for men and women combined was highest in Canterbury, but only slightly more than in several other regions.

11.4 International comparisons

Table 20: Life expectancy at birth in selected countries (years).

Country	Year(s)	Males	Females	Difference (Female-Male)
Hong Kong	2002	78.6	84.5	5.9
Japan	2001	78.1	84.9	6.9
Iceland	2000-02	78.2	82.2	4.0
Sweden	2002	77.7	82.1	4.4
Switzerland	1999-2000	76.9	82.6	5.7
Australia	1998-2000	76.6	82.0	5.5
Norway	2002	76.4	81.5	5.1
NEW ZEALAND	2000-02	76.3	81.1	4.8
Austria	2001	75.9	81.7	5.8
Netherlands	2002	76.0	80.7	4.7
France	2001	75.5	83.0	7.5
Canada	1995-97	75.4	81.2	5.7
England and Wales	1998-2000	75.4	80.2	4.8
Finland	2001	74.6	81.5	6.9
Northern Ireland	1998-2000	74.5	79.6	5.1
Denmark	2000-01	74.5	79.2	4.7
Germany	1998-2000	74.8	80.8	6.0
USA	2000	74.1	79.5	5.4
Scotland	2000-02	73.3	78.8	5.5

Source

Demographic Trends 2003, Statistics New Zealand, 2004.

Comments

- 1 Among this selected group of countries, the highest life expectancy for men is in Hong Kong and for women is in Japan.
- 2 Women in Australia may expect to live almost one year longer than women in New Zealand. For men, the difference is 0.3 years.
- 3 Most women in these countries may expect to live for 80 years or more. In general, the trend has been for slight increases for both men and women since the 2002 Technical Report.
- 4 The greatest gender differences in favour of women are again in France, Finland and Japan. The smallest difference is in Iceland.

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