2003

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COUNTIES MANUKAU DISTRICT HEALTH BOARD

A Community Partnership

# Counties Manukau Population Health Indicators

2nd Edition
June 2003

Published in June 2003
By Counties Manukau District Health Board
Private Bag 95052
South Auckland Mail Centre
Manukau City
New Zealand
ISBN X-XXX-XXXXX-X (pending)

## Treaty of Waitangi

The “Treaty of Waitangi” establishes the unique and special relationship between Iwi Maori and the Crown. As a Crown agency Counties Manukau District Health Board considers the Treaty of Waitangi principles of partnership, participation and active protection of Maori Health interests, co-operation and utmost good faith, to be implicit conditions of the nature in which the internal organisation of Counties Manukau District Health Board responds to Maori Health.

Equally Counties Manukau District Health Board shall require that these principles shall be explicitly expressed in agreements between Counties Manukau District Health Board and providers. This report will provide input and assistance to these decision making processes for the delivery of effective services to address Maori Health gain.

## Abbreviations

| | |
|---|---|
| ADHB | Auckland District Health Board |
| CAU | Census area unit |
| CMDHB | Counties Manukau District Health Board |
| DALYs | Disability adjusted life years |
| DHB | District Health Board |
| FTE | Full time equivalent |
| HFA | Health Funding Authority |
| NDHB | Northland District Health Board |
| NZDep96 | New Zealand deprivation score for 1996 based on information collected from the census |
| NZDep01 | New Zealand deprivation score for 2001 based on information collected from the census |
| PAH | Potentially avoidable hospitalisation |
| VPD | Vaccine preventable disease |
| WDHB | Waitemata District Health Board |
| WHO | World Health Organisation |
| YLL | Years life lost (from an estimated average life expectancy) |

## Definitions

Adults = 15+ years
Children = 0 – 14 years

## Notes on data used in this report

All rates are per 100,000 population and age standardised using the 2001 New Zealand population, unless otherwise stated. Standardised rates allow comparisons across DHBs. Figures have been calculated for residents of each DHB presenting to services anywhere in New Zealand. CMDHB is ranked against the other northern DHBs and nationally. Rates for procedures and conditions unless otherwise indicated are for hospital discharges rather than individuals. Where shown confidence intervals are set at 95%. That is, if one assumes that the current year is a sample of all years, then 95% of the time one would expect the mean to fall within this range.

Hospital admission and surgical procedure rates are based on public hospital data only, no private hospital data has been used in this report.

Notes on control charts.

1. Rates are reported per 100,000 by month, with confidence intervals calculated for the entire time period of the graph as a whole.
2. Percent of all Medical-Surgical. These graphs give the number of discharges as a percentage of all Medical-Surgical discharges for the particular condition in question.

## Acknowledgments

This report was prepared by *Dr Andrew Lindsay*, Counties Manukau District Health Board.

I would like to acknowledge the assistance and support from the following individuals, *Dr Gary Jackson* who provided support and edited the report and *Dean Papa* who provided essential statistical support and most of the numerical data contained herein.

## Disclaimer

# Table of contents

# 1 Introduction

This is the second edition of health indicators for selected health events and key demographic information for Counties Manukau District Health Board (CMDHB). It includes a summary of important population statistics such as life expectancy, mortality, preventable diseases, and medical workforce, as wells as surgical, medical and performance indicators for selected conditions. In most cases statistics for CMDHB are compared with those of the other northern district health boards (DHBs) and New Zealand as a whole.

The main purpose of the CMDHB health indicators report is to collate, analyse, and monitor health performance and health indicators for the Counties Manukau district. Demographic information has been included for contextual purposes. The health indicators are aligned with the health priorities identified in the New Zealand Health and Primary Care strategies where such data currently exists and can be readily collected. Other indicators, relevant to Counties Manukau have also been included. Only routinely collected data are included. This document continues updates the information contained in the Counties Manukau Health Profile published in 2001. [1]

This report will support CMDHB in its obligations to address the key objectives of the key health strategies (New Zealand Health Strategy, Primary Health care Strategy and New Zealand Disability Strategy) for the Counties Manukau population.

The information is aimed at several audiences: the community, health care providers (primary and secondary), and decision makers in the CMDHB purchasing and provider arms. This report is available on the CMDHB web site (www.cmdhb.org.nz). The report is a living document, up dated regularly to demonstrate trends and monitor progress. The objectives of this document are to,

- Monitoring of health system and health events using secondary care and national databases, specifically admissions to South Auckland Health facilities, reported by total admissions, total potentially avoidable hospitalisations (PAH), and selected PAH categories.
- A further priority will be given to monitoring the key New Zealand Health Strategy population health objectives where this data exists from the sources identified above.

In the future as Primary Health Organisations establish we hope to incorporate primary care/community data. This will require the establishment of relationships with key primary care providers and organisations (both government agencies and NGOs) in order to gain access to data and the collection of relevant additional data.

Objectives of the report are:

- Counties Manukau population
  - Make local health information assessable to the public
  - Increase the transparency around CMDHB operations
  - Encourage the active participation of the wider community in CMDHB activities
  - Allow the public to assess the performance of CMDHB and providers
- Primary health care providers and organisations
  - Make local health information available to primary care providers
  - Timely presentation of health status of the CM population
  - Report on performance indicators
  - Encourage the exchange of health information between other providers and CMDHB
  - Monitoring barriers to accessing primary care services.
- CMDHB managers (providers and purchasers)
  - Cost effective method of providing health information for decision-makers
  - Timely reporting of health sector performance
  - Timely reporting of Counties Manukau population health status against national targets

## 2 Counties Manukau Demography

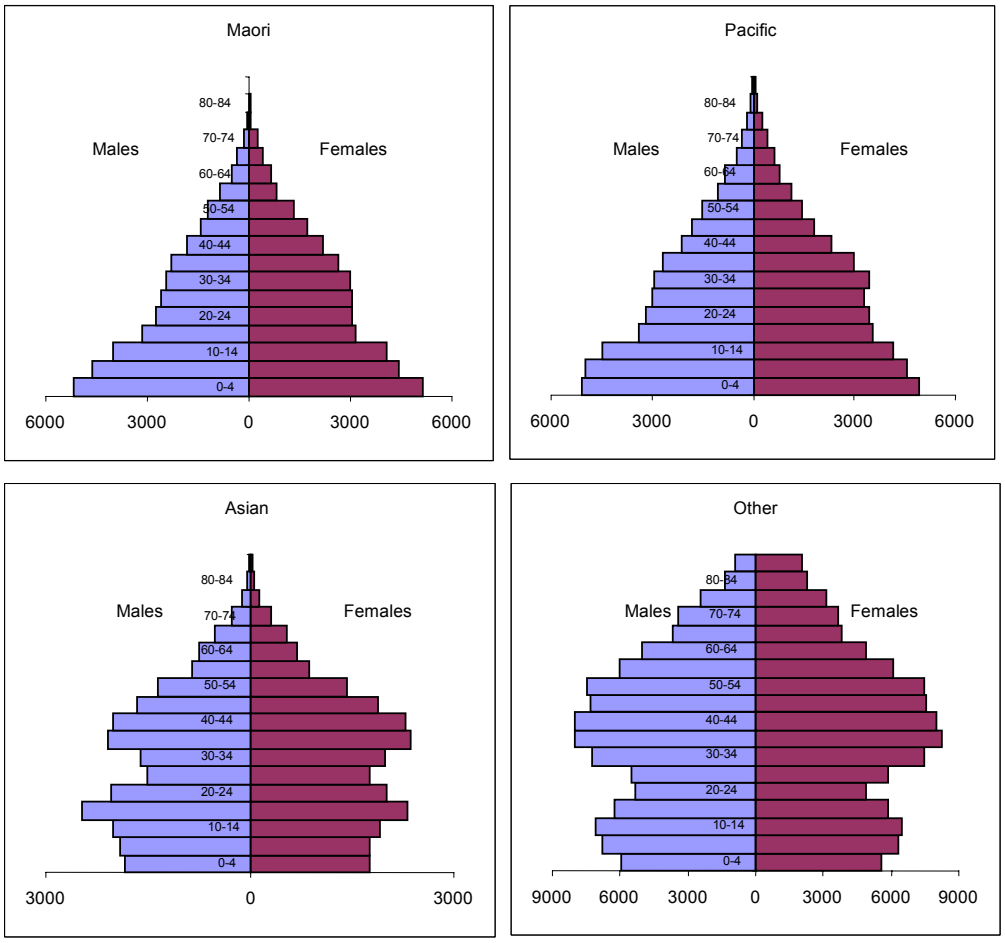
Population data for June 2001 based on the 2001 census for the resident population*, using prioritised ethnicity is provided below (Table 1).

**Table 1:** Counties Manukau population by age and ethnicity, 2001. *Census 2001*.

| Counties Manukau population, 2001 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ethnicity** | **0-4** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30-34** | **35-39** | **40-44** | **45-49** | **50-54** | **55-59** | **60-64** | **65-69** | **70-74** | **75-79** | **80-84** | **85+** | **Total** |
| Maori | 10345 | 9020 | 8090 | 6335 | 5865 | 5675 | 5440 | 4930 | 4000 | 3160 | 2540 | 1760 | 1220 | 775 | 415 | 175 | 55 | 15 | 69290 |
| Pacific | 10070 | 9530 | 8665 | 6935 | 6675 | 6325 | 6425 | 5735 | 4485 | 3645 | 3005 | 2255 | 1640 | 1175 | 790 | 525 | 230 | 110 | 78220 |
| Asian | 3660 | 3690 | 3965 | 4820 | 4065 | 3320 | 3585 | 4450 | 4340 | 3550 | 2790 | 1790 | 1460 | 1120 | 590 | 325 | 135 | 50 | 48000 |
| Other | 11515 | 13065 | 13575 | 12120 | 10255 | 11395 | 14775 | 16225 | 16050 | 14830 | 14990 | 12185 | 9975 | 7500 | 7090 | 5570 | 3725 | 2990 | 197965 |
| Total | 34760 | 35415 | 34305 | 30290 | 26870 | 26695 | 30230 | 31425 | 28885 | 25255 | 23335 | 18050 | 14375 | 10560 | 8985 | 6665 | 4245 | 3300 | 393750 |

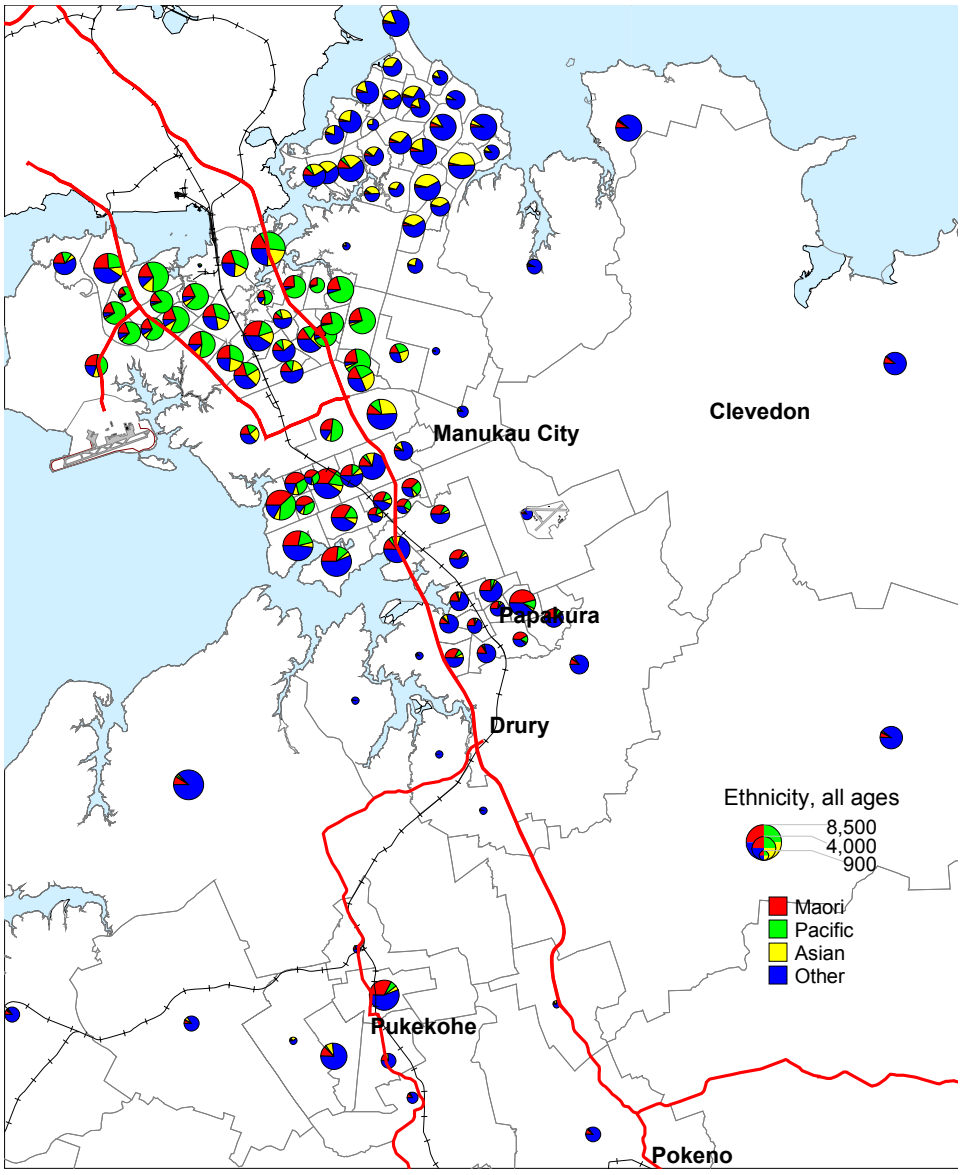
Figure 1 shows the population structure for residents of Counties Manukau and the distribution by ethnicity is shown in Figure 2. Maori and Pacific have much younger populations than the Asian and European populations. The Asian population pyramid has a bimodal distribution which may reflect immigrants of working age and families. There is a "dip" in the others aged 18 – 29 years and this may be due to young people moving out the area to attend tertiary educational facilities or travelling overseas for their overseas experience (OE).

**Figure 1:** Population pyramids for Counties Manukau residents by ethnicity. *Note: different scales used for each pyramid. Census 2001*.




* The resident population includes estimates for under numeration and people temporarily overseas at the time of the census.

**Figure 2:** CMDHB population distribution by ethnicity to CAU level. *Note: the rural areas of Franklin is not shown. Census 2001.*



## 2.1 Counties Manukau by NZDep01 score

NZDep01 is a census based small area index of deprivation, with a relative deprivation score assigned to each meshblock in New Zealand. A meshblock is the smallest geographic unit defined by Statistics New Zealand and contains a median of 90 people.[2] The variables that make up NZDep01 are listed in order of importance in the table below.

| Census variables included in the NZDep01 | |
|---|---|
| **Domain of deprivation** | **Description – Census96 variable used in assessment** |
| Communication | Proportion of people with no access to a telephone |
| Income | Proportion of people aged 18-59 receiving a means tested benefit |
| Employment | Proportion of people aged 18-59 who are unemployed |
| Income | Proportion of people living in households with equivalised household income below a defined income threshold. |
| Transport | Proportion of people with no access to a car |
| Support | Proportion of people aged < 60 living in a single parent family |
| Qualifications | Proportion of people aged 18-59 without any qualifications |
| Own home | Proportion of people not living in own home |
| Living space | Proportion of people living in households below equivalised bedroom occupancy threshold |

The deprivation index applies to areas, not individual people, and is therefore useful in illustrating the contextual as well as compositional variables affecting socio-economic status. The area index is also used as a proxy for individual socio-economic status when individual level data on income, education and occupation are not available. Caution must be exercised when used in this way – heterogeneity within meshblocks, and certainly within census area units mean that any socio-economic gradient present will be under-estimated.

The NZDep01 is often analysed by decile, while decile 1 represents the 10% of meshblocks least deprived in NZ and decile 10 the most deprived.

**Figure 3:** The percentage of people by NZDep01 decile by ethnicity for Counties Manukau, 2001. (If distributed evenly would all be 10%)

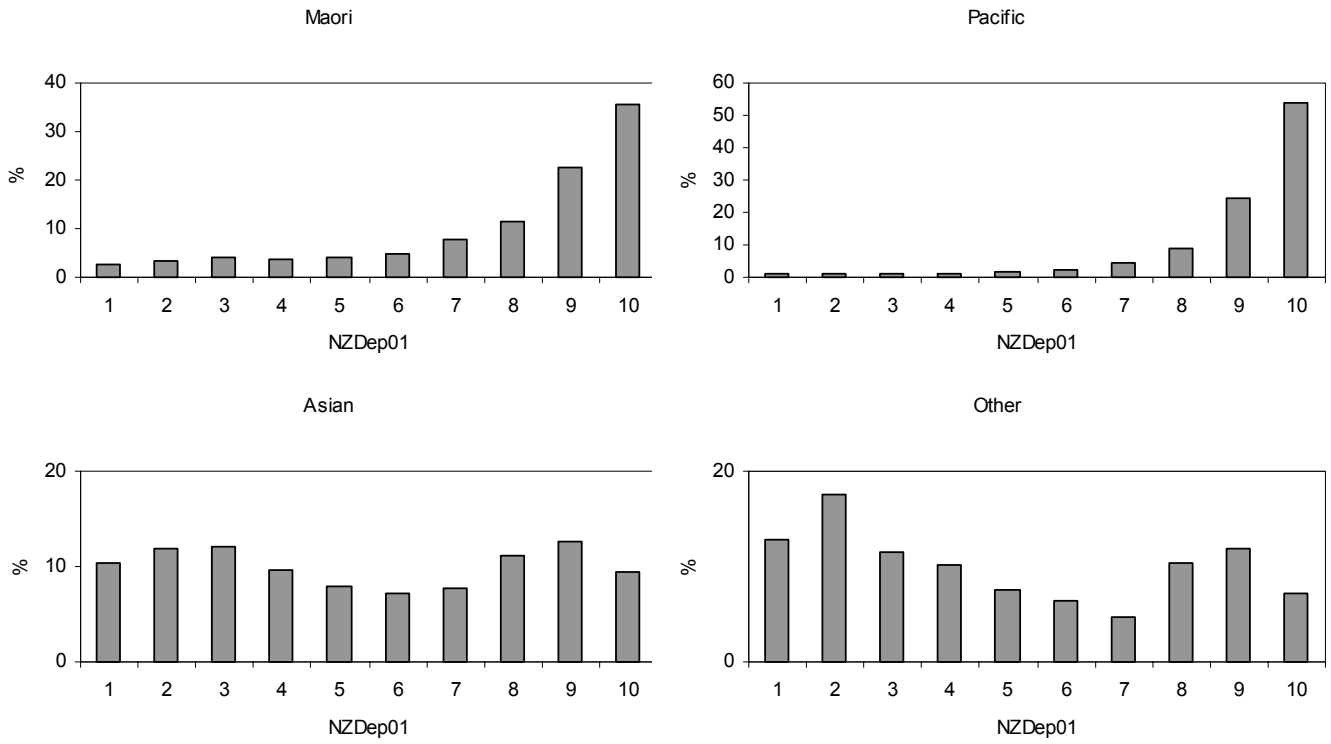
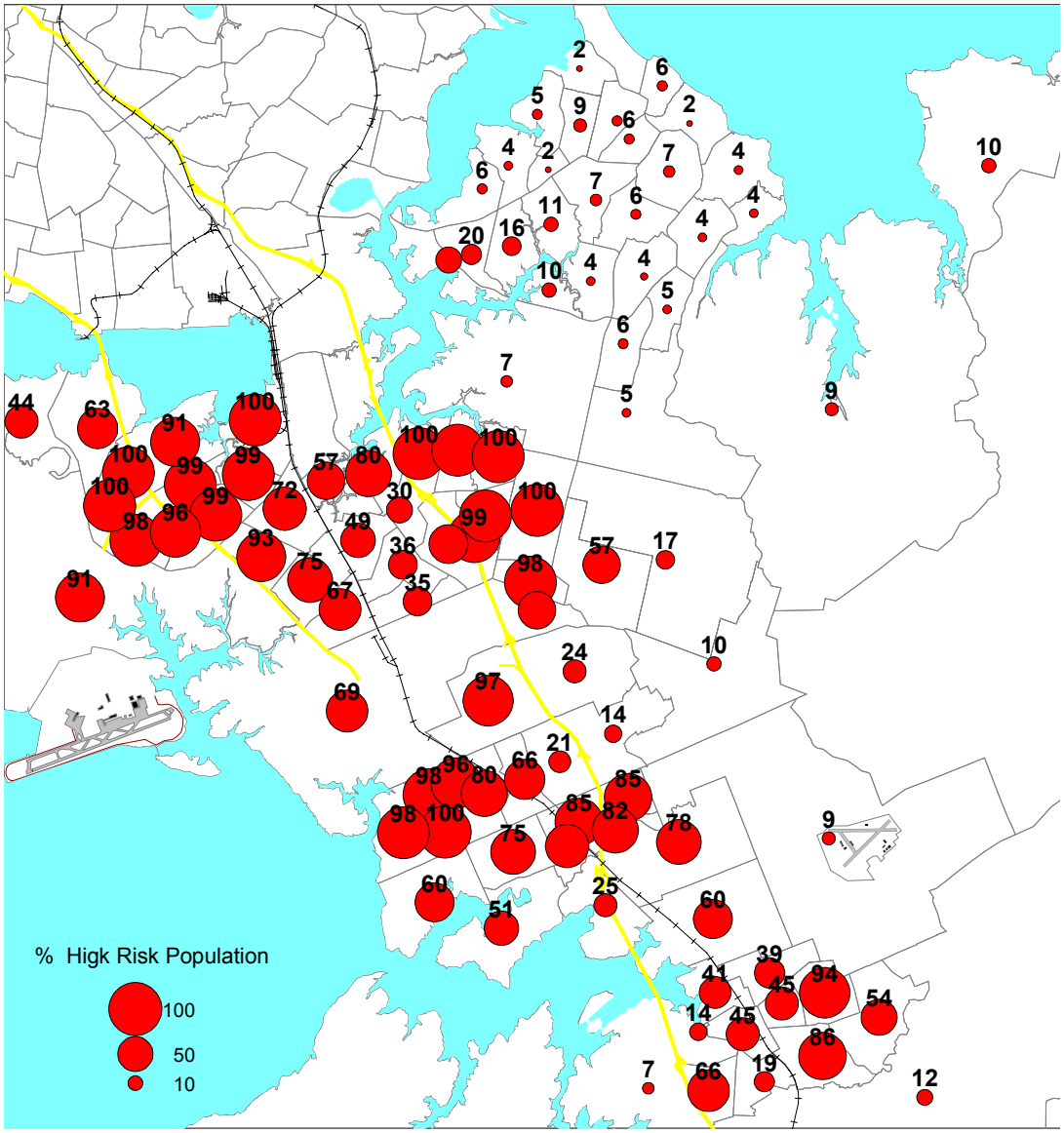


**Figure 4:** Counties Manukau high-risk population as a percentage of population by CAU, 2003.
*Note: the rural areas of Franklin is not shown.*

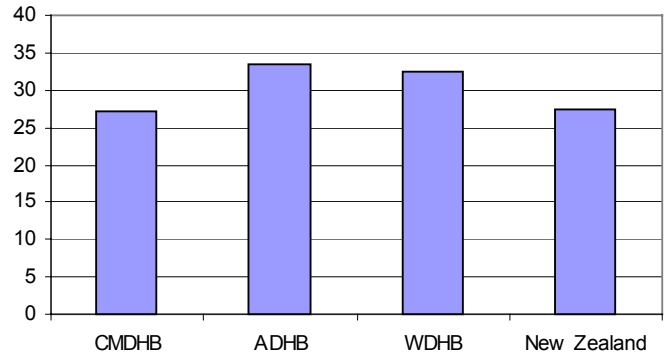



CAU = census area unit
High risk = areas with NZDep scores of 9 or 10 and with a high proportion of Maori and Pacific people (Where the total of Maori+Pacific+NZDep01 deciles 9+10 non-M non-P >=50% of the population for each CAU)

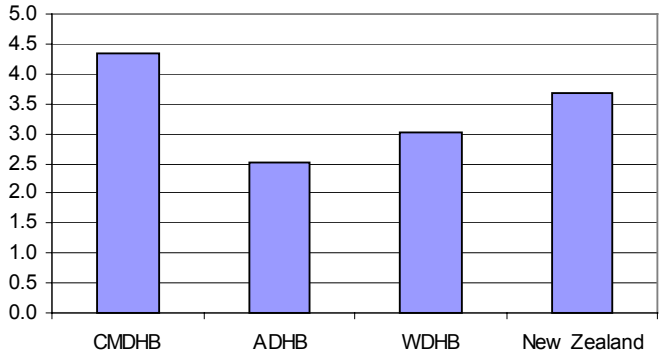
## 2.2 Socio-economic status by DHB

The tables contained in this section cover a range of social and economic factors that are known to or are likely to impact on health. Socioeconomic factors explain much of the variation of health status in a population, the various pathways linking social and economic factors are documented in *The social, cultural and economic determinants of health in New Zealand: Action to improve health (1998)*[3].

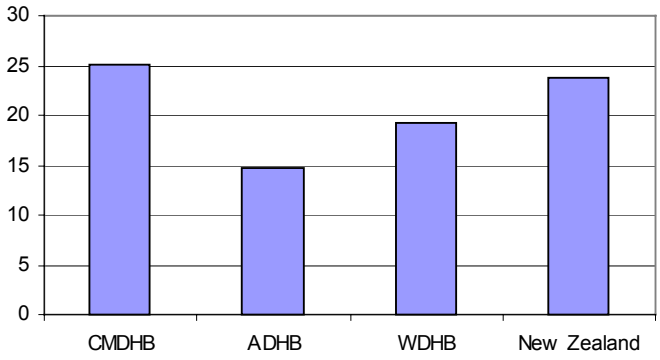
Percentage of people with an income over $30,000
*Census 2001 UR population*



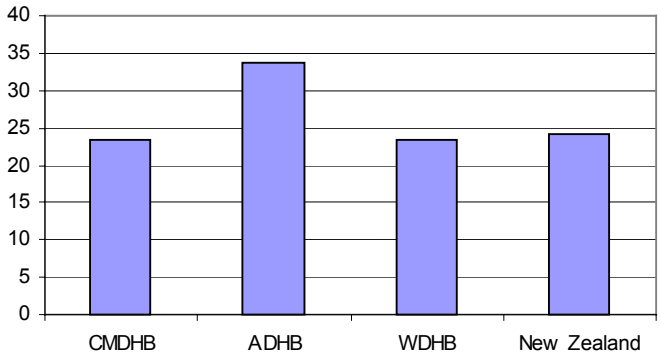

Percentage of people receiving a domestic services benefit
*Census 2001 UR population*



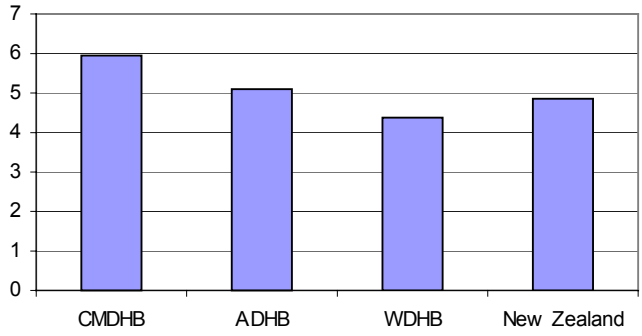

Percentage of people without any educational qualifications
*Census 2001 UR population*



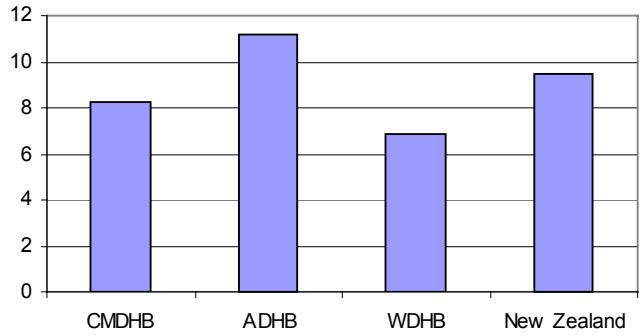

Percentage of people with a tertiary qualification
*Census 2001 UR population*



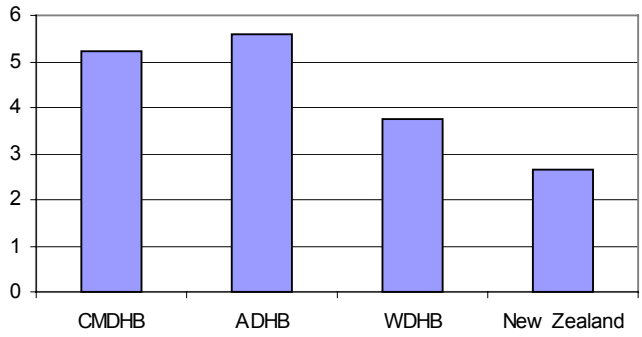
Percentage of people unemployed
*Census 2001 UR population*



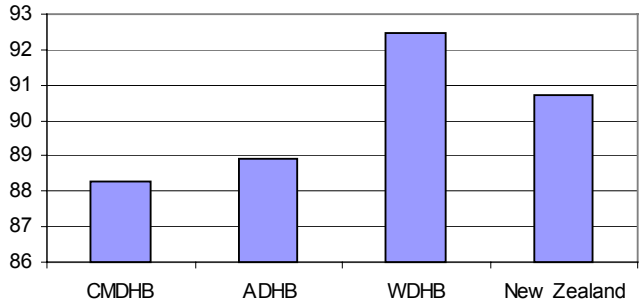

Percentage of dwellings without access to a car
*Census 2001 UR population*




Percentage of dwelling without household heating
*Census 2001 UR population*




Percentage of dwellings with a telephone
*Census 2001 UR population*




As CMDHB includes within its boundaries some of the wealthiest areas in the country as well as some of the poorest, these graphs necessarily provide as averaged picture. However, despite this the low rates of educational attainment and higher rates of unemployment in the CMDHB population compared to the rest of NZ are still evident.

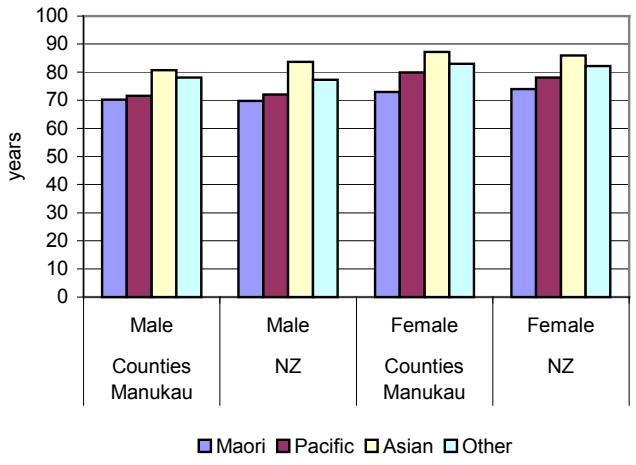
## 2.3 Life expectancy by DHB

Life expectancy is a long-standing indicator of a population's health. While it does not measure quality of life it is still of considerable importance and it is used internationally as a benchmark of population health.

| Life expectancy at birth (July 2000 – June 2001) | | |
|---|---|---|
| **DHB** | **Male** | **Female** |
| Northland | 74.7 | 79.7 |
| Waitemata | 78.7 | 82.9 |
| Auckland | 77.2 | 82.2 |
| Counties Manukau | 76.4 | 81.6 |
| **New Zealand** | **76.5** | **81.4** |

| Life expectancy (July 2000 – June 2002) | | | | |
|---|---|---|---|---|
| **Ethnicity** | **At birth (years)** | | | |
| | **Counties Manukau** | | **New Zealand** | |
| | **Male** | **Female** | **Male** | **Female** |
| Maori | 70.2 | 73.0 | 69.8 | 74.0 |
| Pacific | 71.6 | 79.9 | 72.1 | 78.1 |
| Asian | 80.7 | 87.2 | 83.6 | 86.0 |
| Others | 78.1 | 83.0 | 77.3 | 82.2 |
| **Total** | **76.4** | **81.6** | **76.5** | **81.4** |

Life expectancy at birth, July 2000 - June 2002 by ethnicity




In Counties Manukau, as elsewhere in the country, both Maori and Pacific people are lower than Asians and others. Of greater concern is the startling difference between Maori and Pacific and others and the low and high deprivation areas (not shown).

# 3 Smoking by DHB

Tobacco use is one of the most readily preventable causes of premature death in New Zealand.

| Smoking rates by DHB, 1996 | | | | |
|---|---|---|---|---|
| DHB | Age | % smoke regularly | | |
| | | Mäori | Pacific | Total* |
| Waitemata | 15-24 years | 36.8 | 20.9 | 21.5 |
| | 25-64 years | 40.2 | 28.1 | 21.2 |
| | 65+ years | 13.2 | 14.4 | 8.8 |
| | **Total** | **38.2** | **25.5** | **19.5** |
| Auckland | 15-24 years | 38.0 | 21.9 | 19.5 |
| | 25-64 years | 41.1 | 29.1 | 20.3 |
| | 65+ years | 18.3 | 14.3 | 9.4 |
| | **Total** | **39.1** | 26.3 | **18.6** |
| Counties Manukau | **15-24 years** | **42.1** | **23.0** | **23.8** |
| | **25-64 years** | **47.7** | **29.8** | **25.0** |
| | **65+ years** | **19.2** | **15.1** | **9.5** |
| | **Total** | **45.1** | **27.1** | **22.9** |
| New Zealand | 15-24 years | 39.8 | 23.5 | 24.5 |
| | 25-64 years | 43.9 | 30.2 | 23.9 |
| | 65+ years | 18.1 | 14.7 | 9.6 |
| | **Total** | **41.4** | **27.4** | **21.9** |

** Include all ethnic groups.*
*Source: 1996 census. Note repeated in the 2001 census.*

CMDHB has slightly higher smoking rates than the rest of NZ, and much higher rates than the rest of Auckland. Particularly striking is the high Maori smoking rates, whiles these are 1996 figures the picture is unlikely to have improved since then.

# 4 Clinical Workforce

The medical workforce data presented here was sourced from the Medical Council (New Zealand) workforce survey, 2001.

It should be noted that the Medical Council tries to analyse by practice or work location but theis may not be possible in all cases.

Definitions of the various work groups are those used by the NZ Health Information Service (NZHIS, http://www.NZHIS.govt.nz/).

**Primary employment capacities of active medical practitioners by DHB, 2001**

| DHB | GP | House Officer | MOSS | Registrar | Specialist | Other | Primary care | Not stated | Total |
|---|---|---|---|---|---|---|---|---|---|
| Northland | 113 | 17 | 12 | 15 | 62 | 4 | 4 | 0 | 227 |
| Waitemata | 292 | 38 | 23 | 61 | 169 | 19 | 19 | 5 | 626 |
| Auckland | 392 | 161 | 28 | 334 | 652 | 72 | 64 | 3 | 1706 |
| Counties Manukau | 239 | 55 | 23 | 120 | 182 | 15 | 15 | 2 | 651 |
| **New Zealand** | **3037** | **760** | **289** | **1242** | **2725** | **233** | **171** | **34** | **8491** |

*Source: Medical Council of New Zealand 2001*

**Medical practitioners by ethnicity and DHB, 2001**

| DHB | Maori | Pacific | Chinese | Indian | Other | European | No answer | Refused | Total |
|---|---|---|---|---|---|---|---|---|---|
| Northland | 9 | * | 5 | 4 | 24 | 179 | * | * | 227 |
| Waitemata | 13 | 9 | 41 | 29 | 44 | 482 | 8 | 0 | 626 |
| Auckland | 43 | 25 | 117 | 89 | 127 | 1284 | 21 | 0 | 1706 |
| Counties-Manukau | 24 | 17 | 61 | 65 | 69 | 408 | 7 | 0 | 651 |
| **New Zealand** | **220** | **91** | **407** | **408** | **739** | **6493** | **129** | **4** | **8491** |

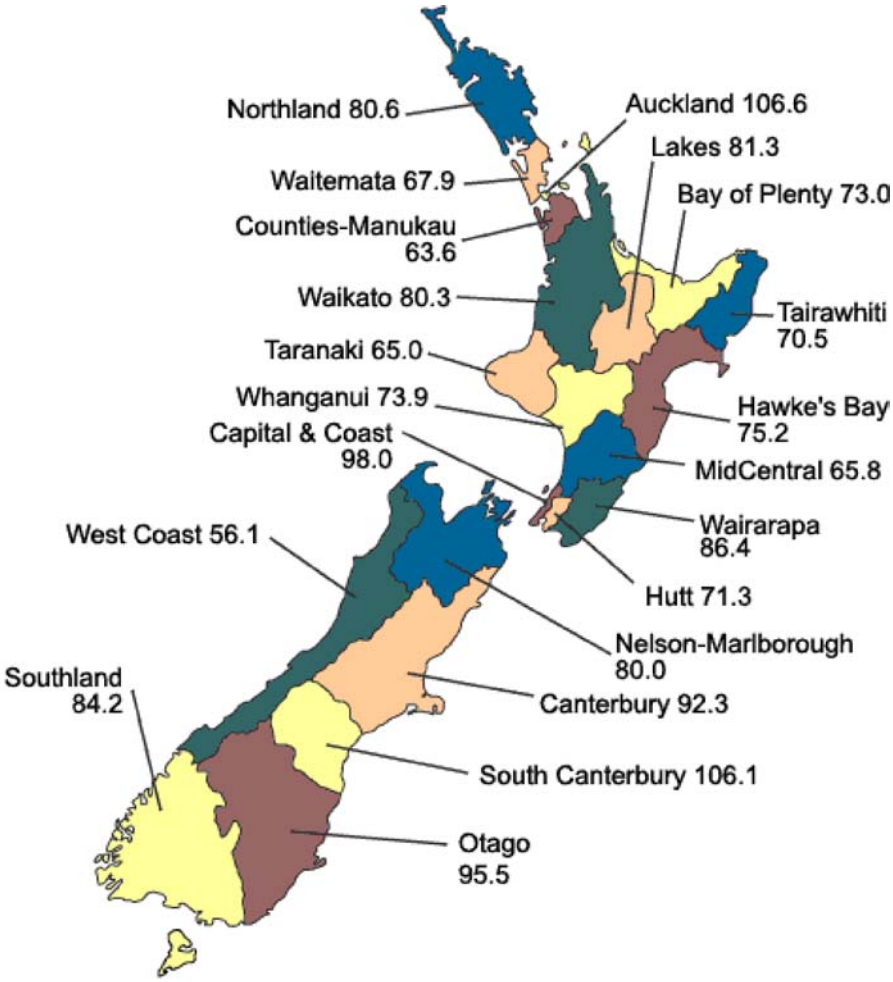
* denotes a number less than four, but greater than zero

*Source: Medical Council of New Zealand 2001*

## 4.1 General practitioners

Counties Manukau has a low rate of GPs compared to NZ. An additional 42 GPs would be needed to bring Counties Manukau up to the national average.

**Figure 5:** Active general practitioners, per 100,000 population, 2001. Rates have been calculated using the census night populations (6 March 2001). *Source: Medical Council of New Zealand 2000.*



## 4.2 Specialists

A specialist is a medical practitioner who has the appropriate qualifications, training and experience, and is being employed in that capacity. Many of these doctors are members of a college or professional association of specialists. This section includes data for medical practitioners who practise as specialists at their main employment location. It excludes medical practitioners who practise as specialists in their second or third employment location.

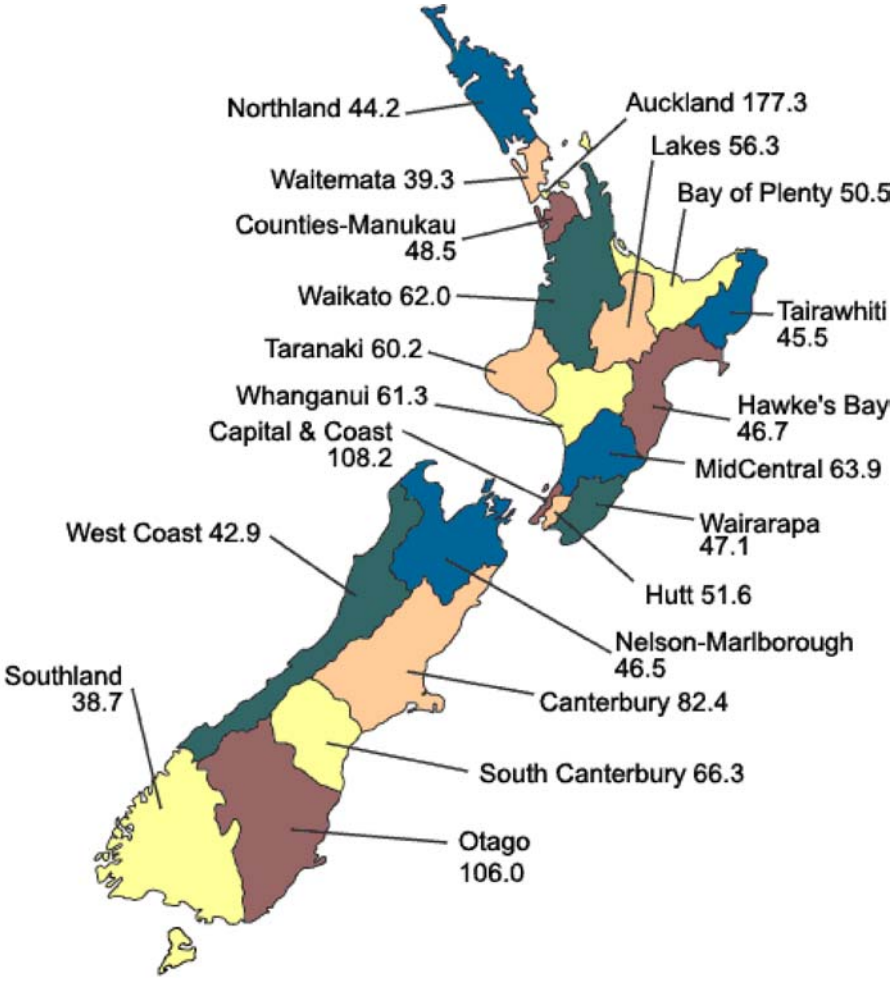
**Specialists by work type by DHB, 2001**

| Work type | Northland | Waitemata | Auckland | Counties-Manukau | Grand Total |
|---|---|---|---|---|---|
| Anaesthetics | 8 | 19 | 76 | 27 | **341** |
| Basic Medical Science | 0 | 0 | * | 0 | **7** |
| Dermatology | 0 | 4 | 10 | * | **37** |
| Diagnostic radiology | 7 | 22 | 44 | 10 | **202** |
| Emergency medicine | * | 0 | 10 | * | **32** |
| Intensive care medicine | 0 | * | * | 0 | **12** |
| Internal medicine - Cardiology | * | * | 30 | 9 | **92** |
| Internal medicine - Diabetology | 0 | 0 | * | * | **8** |
| Internal medicine - Endocrinology | 0 | 0 | 7 | 0 | **16** |
| Internal medicine - General | 7 | 9 | 18 | 12 | **131** |
| Internal medicine - Gastroenterology | 0 | * | 8 | 4 | **35** |
| Internal medicine - Geriatric medicine | 0 | 7 | 11 | * | **42** |
| Internal medicine - Haematology (also under pathology) | 0 | * | 7 | * | **22** |
| Internal medicine - Infectious diseases | 0 | * | 4 | * | **9** |
| Internal medicine - Immunology (also under pathology) | 0 | 0 | * | 0 | **4** |
| Internal medicine - Medical genetics | 0 | 0 | 0 | 0 | * |
| Internal medicine - Medical oncology | 0 | 0 | 5 | 0 | **16** |
| Internal medicine - Nuclear medicine | 0 | 0 | * | 0 | **5** |
| Internal medicine - Nephrology | * | 0 | * | 4 | **21** |
| Internal medicine - Neurology | 0 | 0 | 11 | * | **32** |
| Internal medicine - Clinical pharmacology (also under basic medical science) | 0 | 0 | 0 | 0 | * |
| Internal medicine - Palliative terminal care | 0 | * | * | 0 | **10** |
| Internal medicine - Physical medicine | 0 | 0 | * | 0 | * |
| Internal medicine - Rheumatology and musculoskeletal medicine | 0 | * | * | 0 | **29** |
| Internal medicine - Respiratory medicine | 0 | * | 7 | * | **24** |
| Public health and management | 0 | 4 | 17 | 0 | **88** |
| Obstetrics & Gynaecolog | 4 | 10 | 30 | 9 | **161** |
| Occupational medicine | 0 | 0 | 4 | 0 | **30** |
| Ophthalmology | * | 4 | 17 | * | **81** |
| Pathology | 0 | 0 | 26 | 4 | **143** |
| Paediatrics | 0 | 0 | 40 | 10 | **144** |
| Psychiatry | 0 | 25 | 36 | 9 | **278** |
| Rehabilitation medicine | 0 | 0 | 0 | 0 | **5** |
| Radiation Oncology | 0 | 0 | 10 | 0 | **26** |
| Surgery - general | 0 | 0 | 8 | 0 | **17** |
| Surgery - Cardiothoracic | 0 | 0 | 8 | 0 | **18** |
| Surgery - General | 5 | 9 | 18 | 9 | **135** |
| Sexual health medicine | 0 | 0 | * | 0 | **7** |

| | | | | | |
|---|---|---|---|---|---|
| Sports medicine | 0 | 0 | * | 0 | **6** |
| Surgery - Neurosurgery | 0 | 0 | 6 | 0 | **13** |
| Surgery - Otolaryngology head and neck | * | 5 | 16 | 0 | **67** |
| Surgery - Orthopaedic | 5 | * | 25 | 16 | **147** |
| Surgery: Other - Oral and/or maxillo-facial surgery | 0 | * | * | 0 | **7** |
| Surgery - Paediatric | 0 | 0 | 6 | 0 | **14** |
| Surgery - Plastic and reconstructive | 0 | * | 5 | 9 | **32** |
| Surgery: Other - Transplant surgery | 0 | 0 | * | 0 | * |
| Surgery - Urology | * | 0 | 8 | * | **36** |
| Surgery: Other - Upper gastrointestinal tract surgery | 0 | 0 | * | * | **4** |
| Surgery - Vascular | 0 | 0 | 4 | * | **12** |
| No answer | * | * | 24 | 5 | **65** |
| Other | 0 | * | * | 0 | **20** |
| **Total** | **62** | **169** | **652** | **182** | **2725** |

* denotes a number less than four, but greater than zero
*Source: Medical Council of New Zealand, 2003*

**Figure 6:** Active specialists, per 100,000 population, 2001. Rates have been calculated using the census night populations (6 March 2001). *Source: New Zealand Medical Council.*

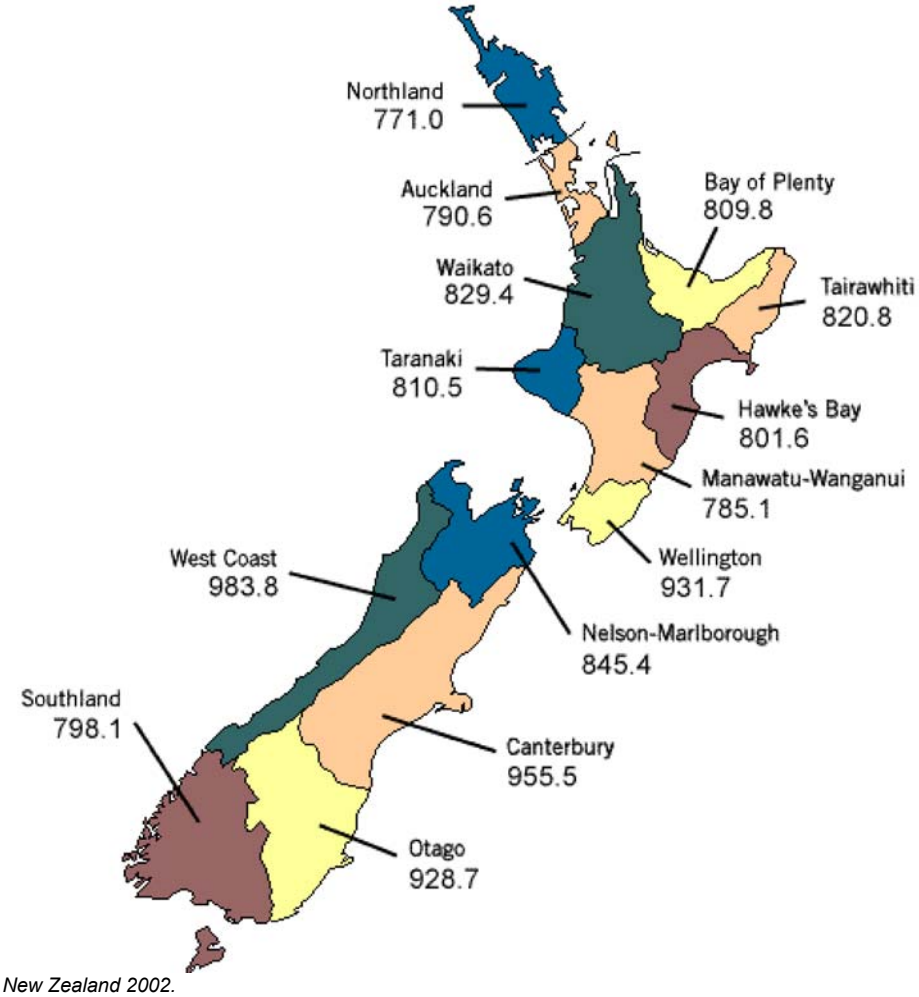


## 4.3 Registered nurses and midwives

A registered nurse is defined by the Nurses Act 1977 as a nurse whose name is recorded on one of the Registers of Nurses. A midwife may be a registered general and obstetric or comprehensive nurse who has undertaken further education to gain midwifery qualifications, or a graduate of a direct-entry midwifery course. (Direct-entry midwifery courses have been available in New Zealand since 1995, but direct-entry midwives may have graduated in another country before 1995 and subsequently gained New Zealand registration.)

| Active Registered nurses and midwives by prioritised ethnicity, 2002 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **DHB** | **Maori** | **Pacific** | **Asian** | **NZ European** | **Other** | **Not reported** | **Total** |
| Northland | 203 | 12 | 16 | 723 | 163 | 4 | 1121 |
| Waitemata | 143 | 72 | 126 | 1688 | 435 | 5 | 2469 |
| Auckland | 251 | 317 | 520 | 3252 | 1005 | 6 | 5351 |
| Counties Manukau | 166 | 207 | 178 | 1317 | 322 | 2 | 2192 |
| **Total** | **2338** | **964** | **1213** | **23869** | **4683** | **57** | **33124** |

**Figure 7:** Areas based on the old area health board regions (per 100,000 population) of active registered nurses and midwives working in nursing and midwifery in New Zealand, 2002. Rates have been calculated using the estimated resident population as at 30 June 2002. *Source: Nursing Council of New Zealand 2002.*

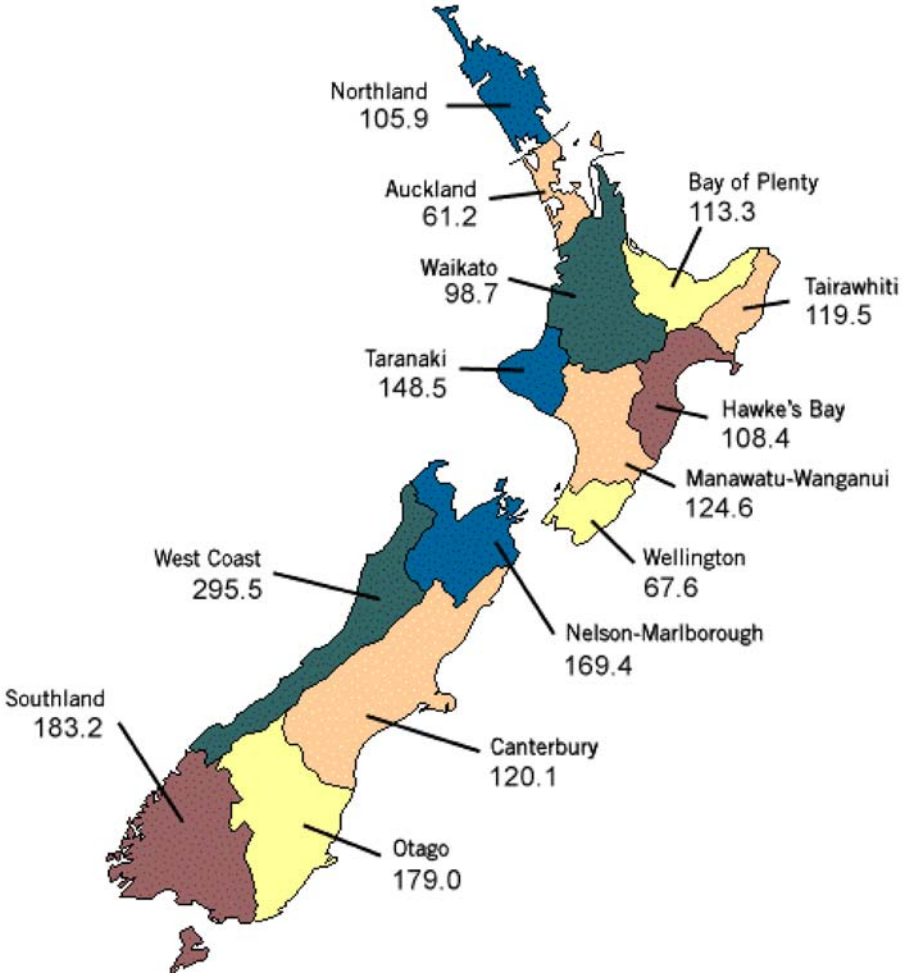


## 4.4 Enrolled nurses

An enrolled nurse is defined in the Nurses Act 1977 as a nurse whose name is recorded on the Roll of Nurses. Legislation restricts the scope of practice for enrolled nurses, requiring them to practise under the supervision of a registered nurse or medical practitioner. There had been no enrolled nursing education programmes offered in New Zealand since 1993, but training of enrolled nurses has recently recommenced. In 2002 there were 3973 active enrolled nurses in New Zealand.

| Active Enrolled nurses by prioritised ethnicity, 2002 | | | | | | | |
|---|---|---|---|---|---|---|---|
| DHB | Maori | Pacific | Asian | NZ European | Other | Not reported | Total |
| Northland | 42 | 2 | 0 | 103 | 7 | 0 | 154 |
| Waitemata | 30 | 34 | 10 | 198 | 33 | 0 | 305 |
| Auckland | 25 | 8 | 7 | 186 | 25 | 0 | 251 |
| Counties Manukau | 36 | 22 | 4 | 132 | 25 | 0 | 219 |
| **Total** | **488** | **105** | **31** | **3056** | **289** | **4** | **3973** |

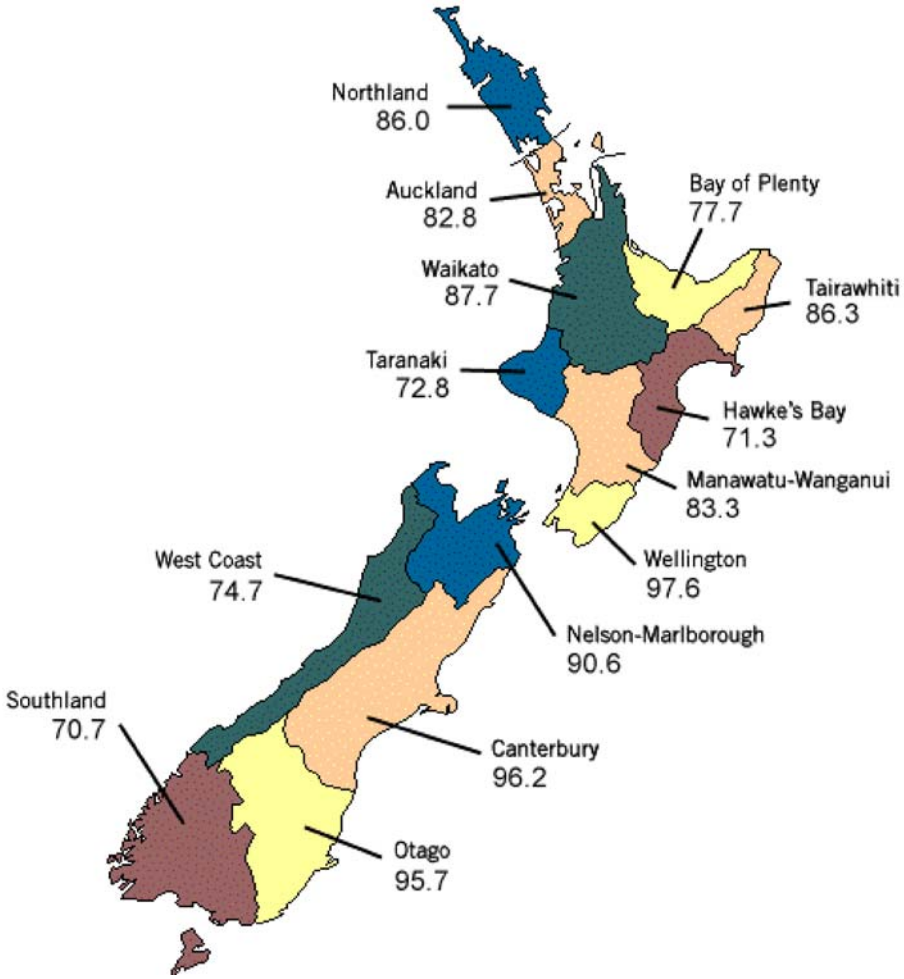
**Figure 8:** Area health board (per 100,000 population) of active enrolled nurses working in nursing in New Zealand, 2002. Rates have been calculated using the estimated resident population as at 30 June 2002. *Source: Nursing Council of New Zealand 2002.*



## 4.5 Midwives

Nurses in the workforce are classified as midwives because of their qualifications. They need not be working as a midwife to be included here. Nurses with midwifery qualifications are also included in the section above on Registered Nurses and Midwives, but the data for them is broken down further in this section.

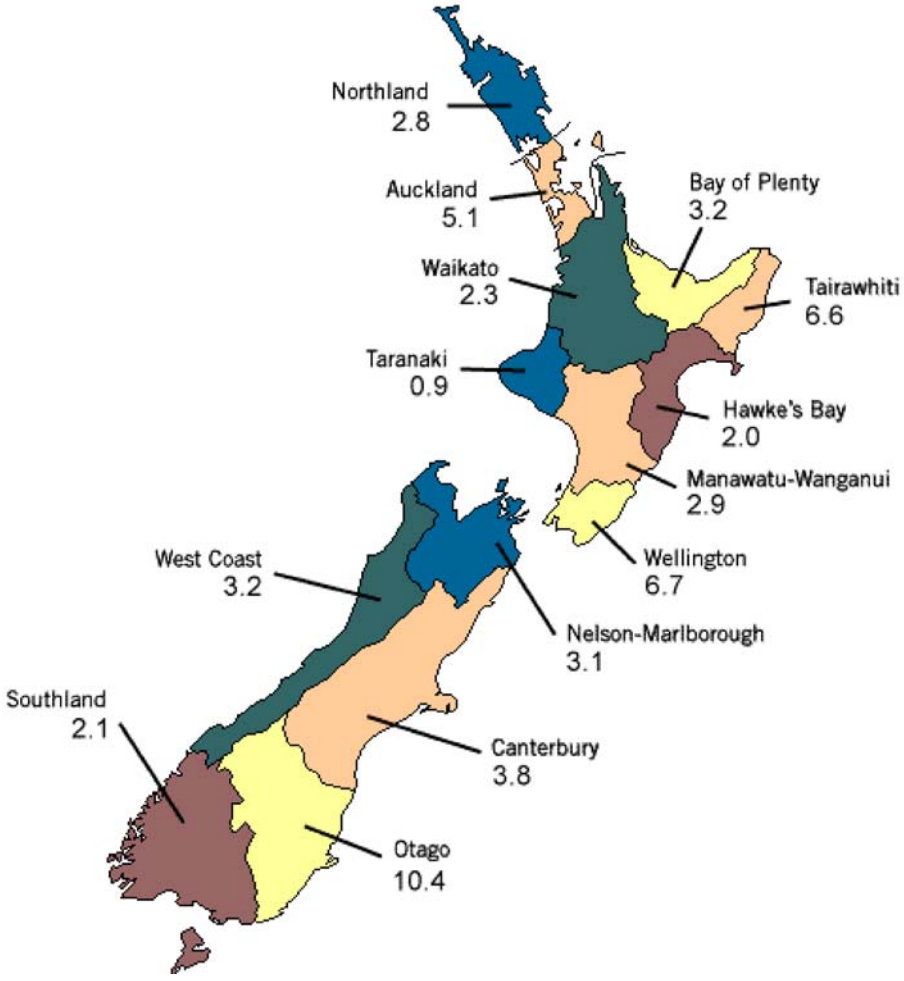
**Figure 9:** Areas based on the old area health board regions (per 100,000 population) of active nurses with midwifery qualifications working in nursing and midwifery in New Zealand, 2002. Rates have been calculated using the estimated resident population as at 30 June 2002. *Source: Nursing Council of New Zealand 2002.*



## 4.6 Midwives (direct entry)

Prior to 1995 a registered general and obstetric or comprehensive nurse had to undertake further education to gain midwifery qualifications. In 1995 direct-entry midwifery courses became available, allowing New Zealand students to enter directly into midwifery. The data for direct-entry midwives is included in the section on Registered Nurses and Midwives as well as the Midwives section. It is broken down further in this section to analyse just direct-entry midwives.

**Figure 10:** Area health board region (per 100,000 population) of active nurses with direct-entry midwifery qualifications working in nursing and midwifery in New Zealand, 2002. Rates have been calculated using the estimated resident population as at 30 June 2002. *Source: Nursing Council of New Zealand 2002.*



## 4.7 Dentists

| Active dentists, per 100,000 population aged 14+, 2001 | | | |
|---|---|---|---|
| **DHB** | **No. of dentists** | **Rates per 100,000** | **New Zealand population 14+, 2001** |
| Northland | 50 | 44.8 | 111,534 |
| Waitemata | 164 | 46.7 | 351,542 |
| Auckland | 298 | 94.2 | 316,488 |
| Counties Manukau | 81 | 27.8 | 290,930 |
| **New Zealand** | **1601** | **52.6** | **3,041,345** |

Note: Rates are calculated using the usually resident projected population aged 14+ for 30 June 2001 from the Ministry of Health, derived from Statistics New Zealand. *Source: The Dental Council of New Zealand 2002.*

There are very low numbers of dentists practising in Counties Manukau. One assumes peoples are utilising services in the ADHB area, but access to dentists for CMDHB residents remains a concern.

# 5 Surgical Indicators

## 5.1 Selected indicators by DHB – Adult

| Rate of surgical interventions in adults by DHB, 2002. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Cardiovascular | | | General | | | | |
| DHB | Angiography | Angioplasty | Coronary artery bypass grafts | Total hip joint replacement | Total knee joint replacement | Prostatectomy | Cataract extraction | Cholecystectomy |
| Northland | 244.8 | 70.1 | 62.5 | 108.2 | 94.1 | 79.2 | 326.8 | 166.0 |
| Waitemata | 281.3 | 96.3 | 74.6 | 70.1 | 43.1 | 67.0 | 242.1 | 111.2 |
| Auckland | 361.3 | 99.8 | 84.9 | 52.5 | 32.0 | 51.1 | 263.5 | 94.7 |
| Counties Manukau | 399.2 | 76.1 | 79.6 | 78.9 | 43.4 | 45.8 | 213.3 | 133.2 |
| **New Zealand** | **321.6** | **105.5** | **64.4** | **101.0** | **63.4** | **67.9** | **248.1** | **117.5** |

Standardised rates per 100,000
Adults = over 15 years of age

Improving elective surgery is a strategic priority for CMDHB. As indicators for surgery performance high cost high volume procedures from a range of surgical specialities have been selected. Rates are shown in the table below, and the accompanying graphs. Note that all procedures have been included whether they are elective or acute. For this edition of the health indicators only utilisation data has been included. It is hoped that future editions will be able to include clinical priority access criteria scores as a direct measure of equal treatment for equal need for surgery.

Cardiovascular interventions are carried out at Greenlane Hospital for all Northern Region residents. Equitable access to the regional provider is essential; such is the chain of referral required to receive these services they are a litmus test for all surgical interventions.

Angiography – an important initial diagnostic test, injecting dye to assess the state of the heart's arteries. CMDHB residents seem to have reasonable access as measured by utilisation rates.

Angioplasty – dilating narrowed arteries, often with a stent placed to keep the artery open. Often carried out at the time of angiography, CMDHB residents have a relatively low utilisation rate compared with Auckland and Waitemata residents, and the rest of New Zealand.

CABG – coronary artery bypass grafts, using grafts to re-instate blood flow past blocked coronary arteries. The most expensive and invasive of these cardiac interventions, there is a similar utilisation rate across the Auckland metropolitan DHBs. The Auckland DHBs funded additional cardiothoracic services for the 2002/03 financial year as compared with the 2001/02 year, and this rise is evident here. It is hoped to maintain this increased rate for 2003/04. The Auckland region has a higher rate of CABG intervention than the rest of New Zealand.

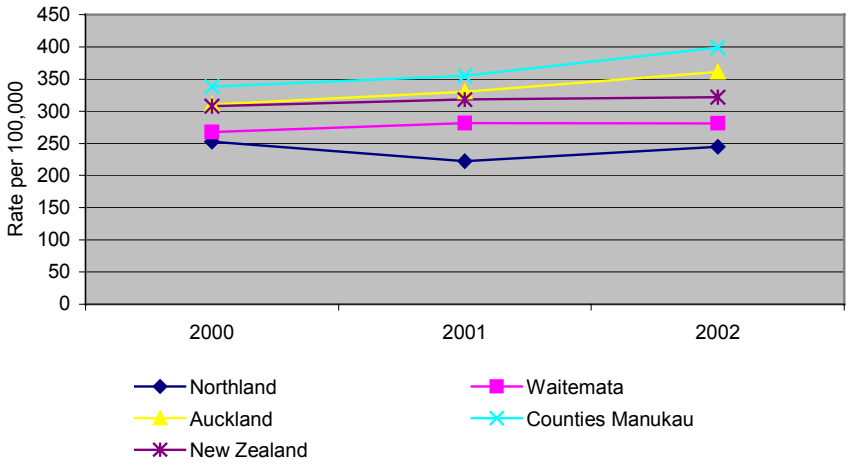
Hip and knee joint replacements are the heavy-weight procedures of the orthopaedic world. The Auckland DHBs have had lower rates of joint replacement surgery than the rest of New Zealand throughout the 1990s. The Waiting Time Fund initiative made up some of that difference, - some of which effect is seen in these graphs for the year 2000. Even then the Auckland region rates remained below that of the rest of the country, and that position has worsened for 2001 and 2002.

General surgery is represented here by cholecystectomy – removal of the gall bladder. CMDHB has an intervention rate above the national average.

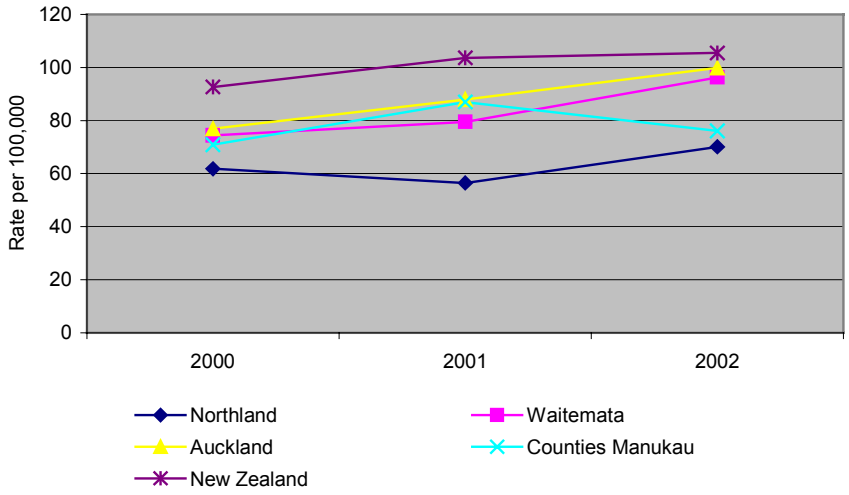
Prostatectomy is the common large procedure for the urology speciality, carried out for CMDHB by the regional service based at Auckland Hospital. Intervention rates are low for CMDHB men.

With an ophthalmology service now established at CMDHB the utilisation rate for cataract extraction has increased to approach the national rate.

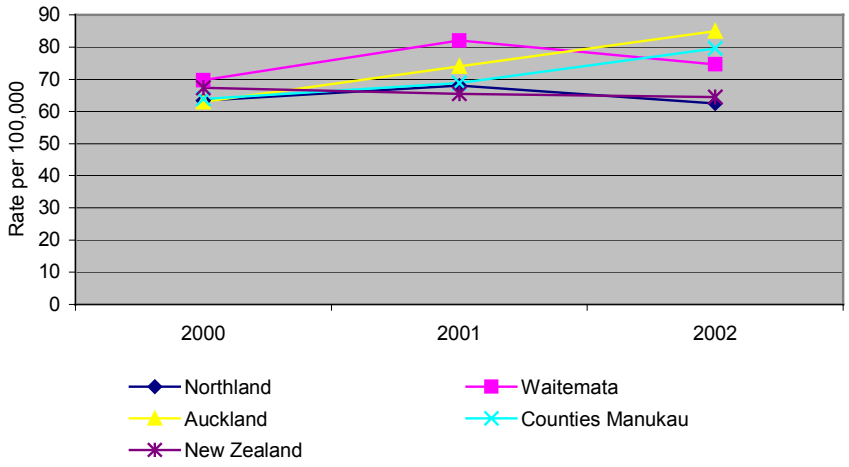
Angiography




Angioplasty

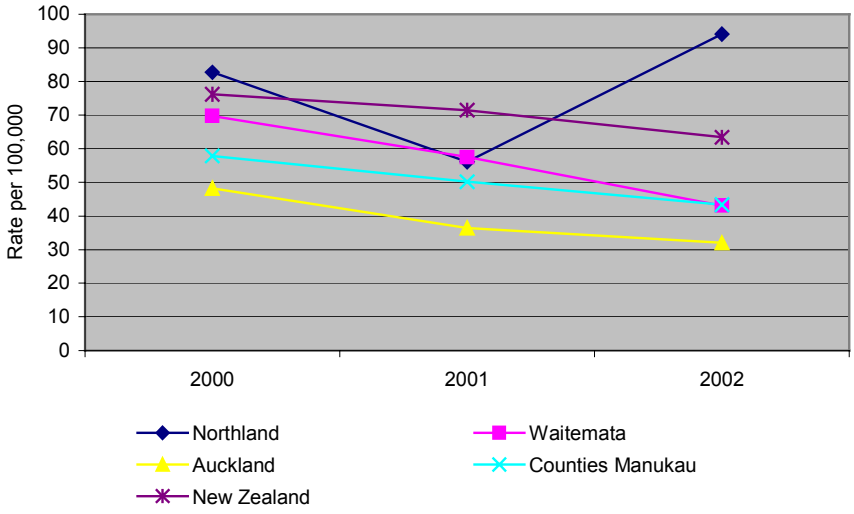



Coronary artery bypass grafts

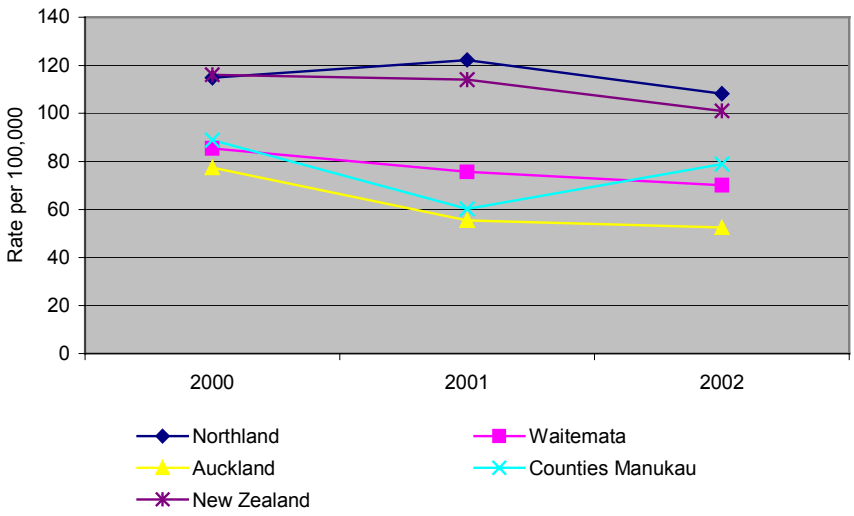


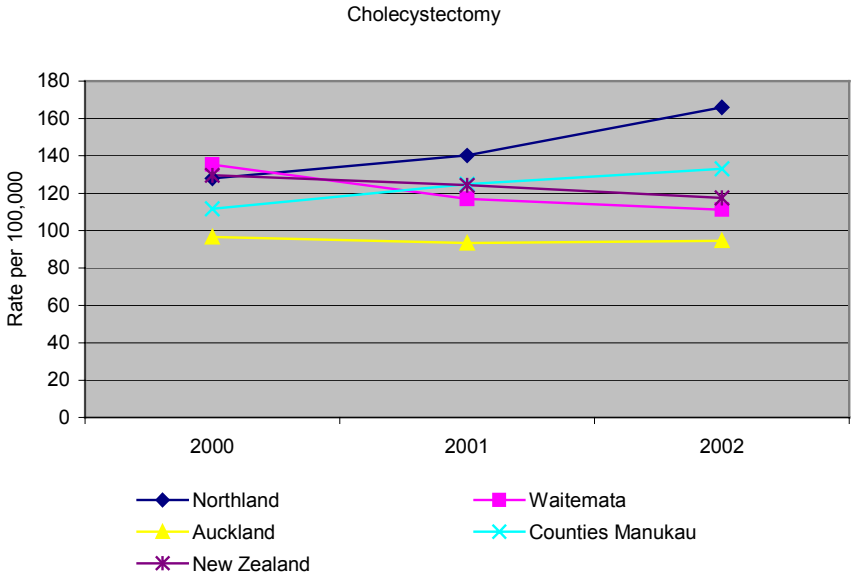
Prostatectomy


Total knee joint replacement




Total hip joint replacement

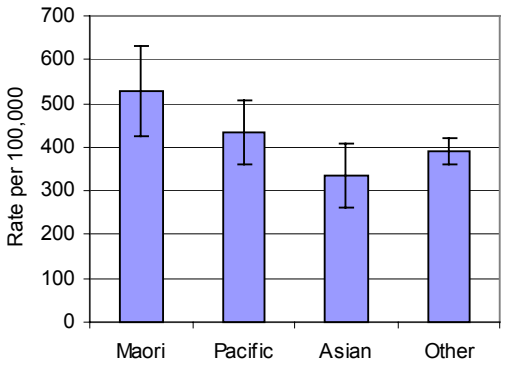



Cholecystectomy
Rate per 100,000
180
160
140
120
100
80
60
40
20
0
2000
2001
2002
Northland
Waitemata
Auckland
Counties Manukau
New Zealand

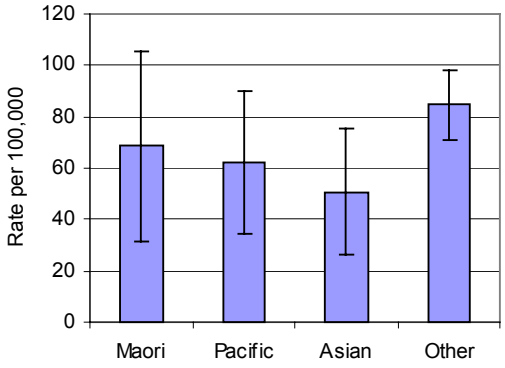
## 5.2 Selected surgical performance indicators by ethnicity for Counties Manukau

In the Counties Manukau Health Profile we noted that Maori and Pacific people had much lower rates of cardiac surgery intervention, despite having similar hospitalisation rates for ischaemic heart disease, and higher death rates. What is notable in this 2002 data is the increased rate of intervention for Maori CMDHB residents. Though based on relatively small numbers (note the wide confidence intervals) this is an important and gratifying result.

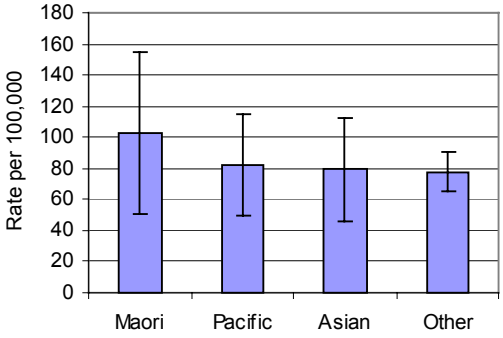
Angiography by ethnicity, 2002



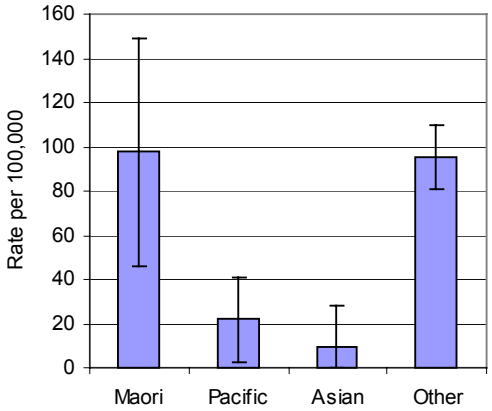

Angioplasty by ethnicity, 2002



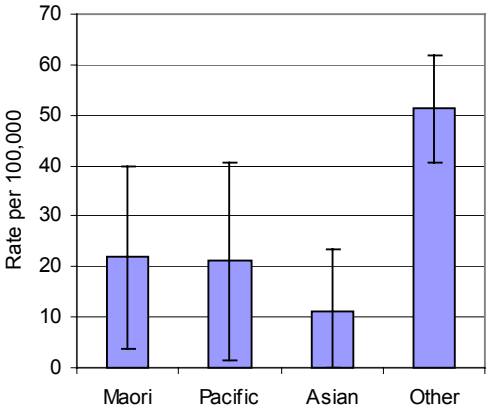

Coronary artery bypass grafts by ethnicity, 2002




Total hip joint replacement by ethnicity, 2002




Total knee joint replacement by ethnicity, 2002



# 6 Performance Indicators – Adults and Children

Potentially avoidable hospitalisations (PAH) are those admissions that are considered to be avoidable. PAH includes admissions that are,

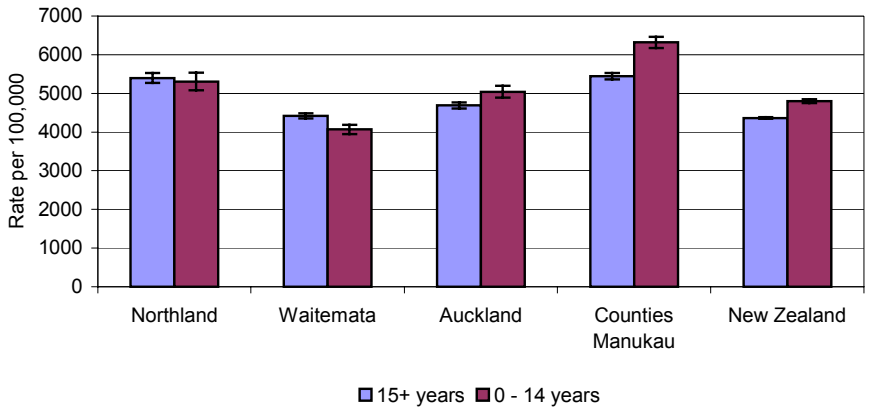
- ambulatory sensitive hospitalisations (ASH). These include conditions that are considered to be sensitive to prophylactic or therapeutic interventions deliverable in the primary care sector),
- public health (PH) - admission that could have been prevented by public health measures, and
- injury prevention (IP) – admissions resulting from injury. [2]

## 6.1 Potentially avoidable admission by DHB

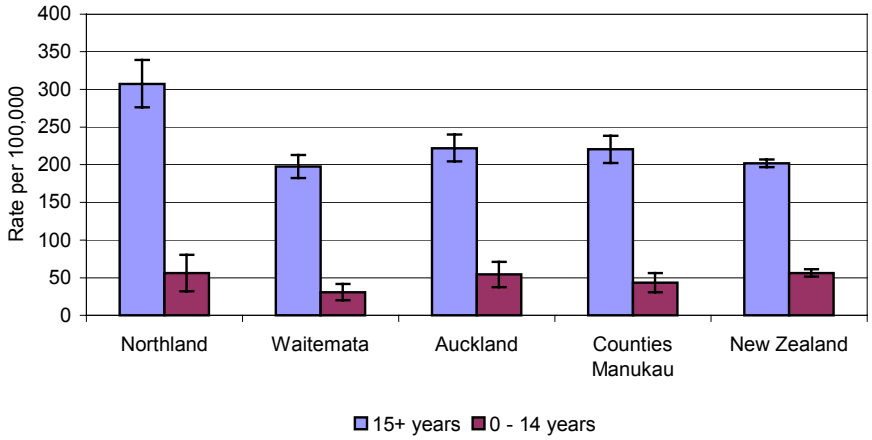
| Potentially avoidable hospitalisations (total and selected conditions), 2002 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PAH | | Diabetes | | Pneumonia | | Rheumatic fever | | Asthma | | Cellulitis | |
| DHB | 0 - 14 | 15+ | 0 - 14 | 15+ | 0 - 14 | 15+ | 0 - 14 | 15+ | 0 - 14 | 15+ | 0 - 14 | 15+ |
| Northland | 5308.3 | 5398.6 | 56.14 | 307.46 | 478.74 | 328.58 | 24.04 | 15.81 | 501.74 | 177.89 | 435.16 | 394.27 |
| Waitemata | 4066.4 | 4417.7 | 30.78 | 197.55 | 327.05 | 239.58 | 19.88 | 13.02 | 371.78 | 154.60 | 341.25 | 291.49 |
| Auckland | 5043.5 | 4689.7 | 54.30 | 222.04 | 514.43 | 266.50 | 47.01 | 17.95 | 504.37 | 155.83 | 461.94 | 352.19 |
| Counties Manukau | 6321.4 | 5444.4 | 43.61 | 220.38 | 689.22 | 361.60 | 45.37 | 36.87 | 570.90 | 168.81 | 575.71 | 414.78 |
| **New Zealand** | **4799.8** | **4363.4** | **56.32** | **201.81** | **367.21** | **261.22** | **16.53** | **18.98** | **438.69** | **124.81** | **331.87** | **292.32** |

Rates per 100,000

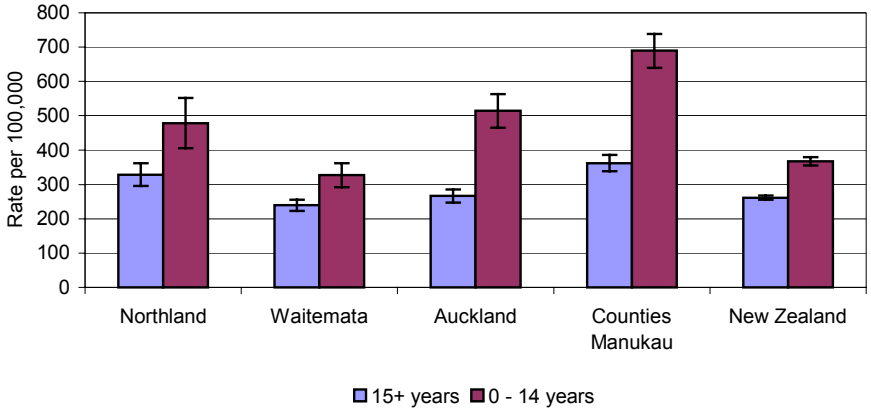
PAH by DHB, 2002



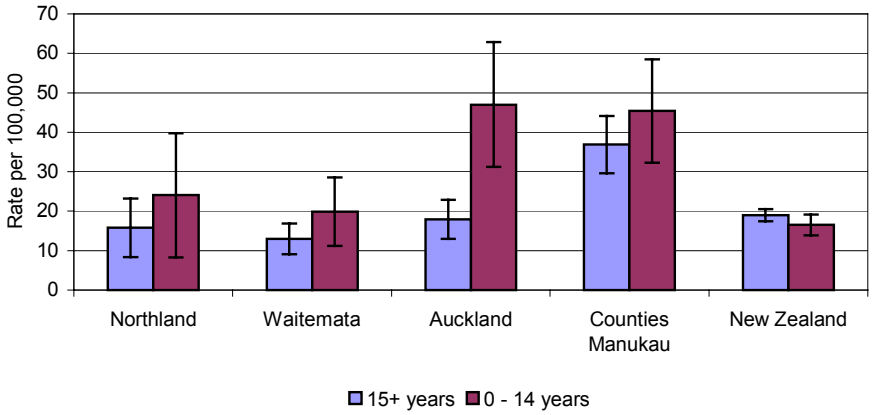

Diabetes by DHB, 2002



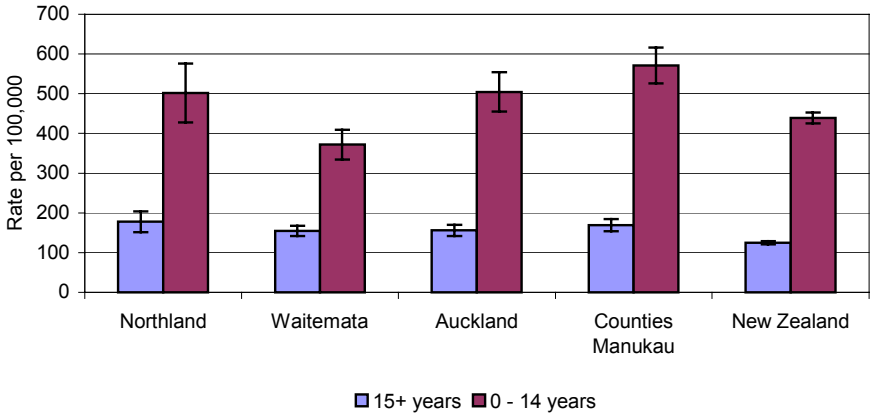
Pneumonia by DHB, 2002



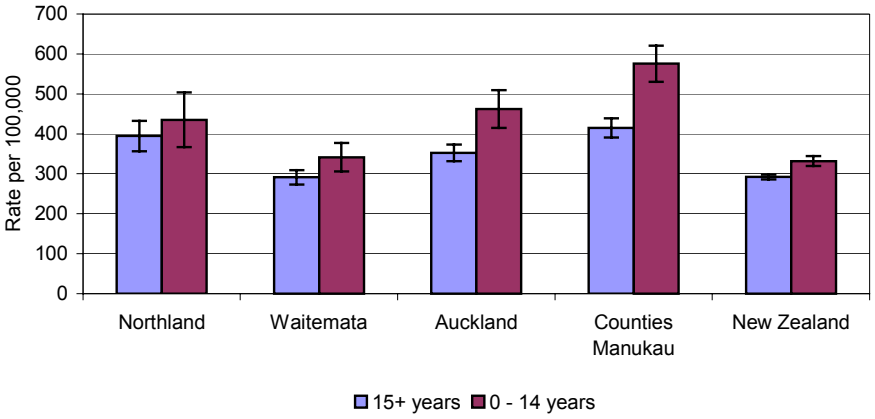

Rheumatic fever by DHB, 2002




Asthma by DHB, 2002

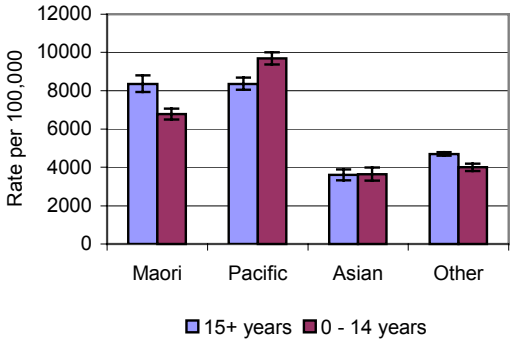


Cellulitis by DHB, 2002

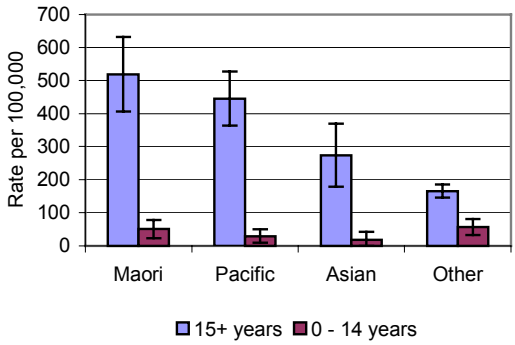


## 6.2 Potentially avoidable admissions by ethnicity for Counties Manukau

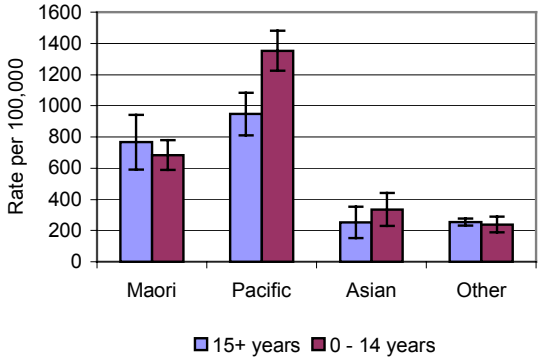
PAH by ethnicity, 2002



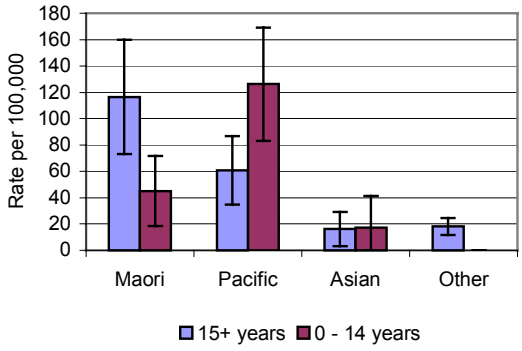

Diabetes by ethnicity, 2002



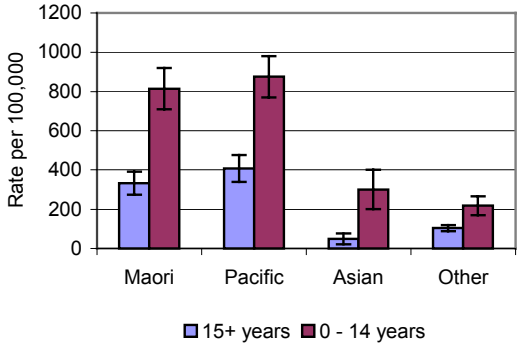

Pneumonia by ethnicity, 2002



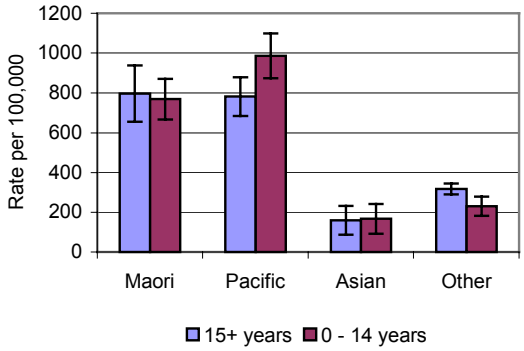

Rheumatic fever by ethnicity, 2002




Asthma by ethnicity, 2002




Cellulitis by ethnicity, 2002



# 7 Womens Health

## 7.1 Selected indicators by DHB

There has been concern regarding the increasing rates of obstetric intervention at child birth. While the "optimum" rate for caesarean section is unknown, the World Health Organisation (WHO) recommends a rate not exceeding 15%. CMDHB rates continue to rise to 17%, but remains lower than the 23% average rate for NZ and 26% for Auckland.

While the "desired" level of hysterectomy is unknown, the HFA used the hysterectomy rate as an indicator of potentially unneeded surgery for women in their reproductive years. [4] The northern region DHBs have relatively low hysterectomy rates compared with the rest of NZ.

**Deliveries, 2002**

| DHB | Maori | Pacific | Asian | Other | Total |
|---|---|---|---|---|---|
| Northland | 848 | 22 | 25 | 903 | 1798 |
| Waitemata | 728 | 783 | 809 | 4058 | 6378 |
| Auckland | 574 | 1350 | 1228 | 2995 | 6147 |
| Counties Manukau | 1570 | 2294 | 795 | 2578 | 7237 |
| **New Zealand** | **10267** | **5691** | **4063** | **32760** | **52781** |

**Assisted deliveries, 2002**

| DHB | Number | | | | | Percentage of deliveries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Maori | Pacific | Asian | Other | Total | Maori | Pacific | Asian | Other | Total |
| Northland | 26 | 2 | 1 | 51 | 80 | 3.1 | 9.1 | 4.0 | 5.6 | 4.4 |
| Waitemata | 42 | 40 | 120 | 508 | 710 | 5.8 | 5.1 | 14.8 | 12.5 | 11.1 |
| Auckland | 63 | 82 | 193 | 475 | 813 | 11.0 | 6.1 | 15.7 | 15.9 | 13.2 |
| Counties Manukau | 97 | 102 | 95 | 318 | 612 | 6.2 | 4.4 | 11.9 | 12.3 | 8.5 |
| **New Zealand** | **571** | **277** | **570** | **3524** | **4942** | **5.6** | **4.9** | **14.0** | **10.8** | **9.4** |

**Caesarean sections, 2002**

| DHB | Number | | | | | Percentage of deliveries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Maori | Pacific | Asian | Other | Total | Maori | Pacific | Asian | Other | Total |
| Northland | 99 | 3 | 8 | 137 | 247 | 11.7 | 13.6 | 32.0 | 15.2 | 13.7 |
| Waitemata | 109 | 162 | 239 | 1116 | 1626 | 15.0 | 20.7 | 29.5 | 27.5 | 25.5 |
| Auckland | 94 | 262 | 357 | 874 | 1587 | 16.4 | 19.4 | 29.1 | 29.2 | 25.8 |
| Counties Manukau | 185 | 316 | 214 | 539 | 1254 | 11.8 | 13.8 | 26.9 | 20.9 | 17.3 |
| **New Zealand** | **1520** | **998** | **1167** | **8419** | **12104** | **14.8** | **17.5** | **28.7** | **25.7** | **22.9** |

**Pre-eclampsia, 2002**

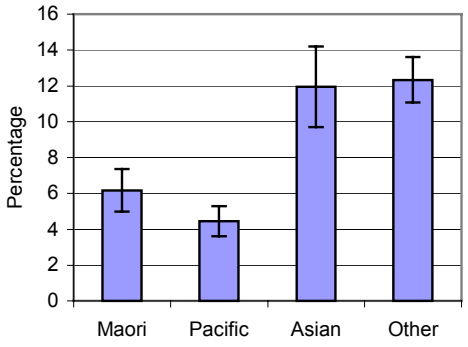
| DHB | Number | | | | | Percentage of deliveries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Maori | Pacific | Asian | Other | Total | Maori | Pacific | Asian | Other | Total |
| Northland | 16 | 0 | 0 | 17 | 33 | 1.9 | 0.0 | 0.0 | 1.9 | 1.8 |
| Waitemata | 15 | 20 | 12 | 59 | 106 | 2.1 | 2.6 | 1.5 | 1.5 | 1.7 |
| Auckland | 5 | 32 | 14 | 64 | 115 | 0.9 | 2.4 | 1.1 | 2.1 | 1.9 |
| Counties Manukau | 47 | 52 | 15 | 60 | 174 | 3.0 | 2.3 | 1.9 | 2.3 | 2.4 |
| **New Zealand** | **255** | **148** | **62** | **740** | **1205** | **2.5** | **2.6** | **1.5** | **2.3** | **2.3** |

| Rate of interventions in adults by DHB, 2002 | |
|---|---|
| DHB | Hysterectomy |
| Northland | 83.7 |
| Waitemata | 65.6 |
| Auckland | 81.9 |
| Counties Manukau | 77.0 |
| **New Zealand** | **104.0** |

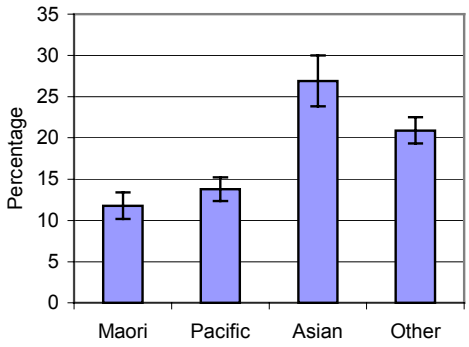
Standardised rates per 100,000
Reproductive age = 15 - 64 years

## 7.2 Interventions by ethnicity for Counties Manukau

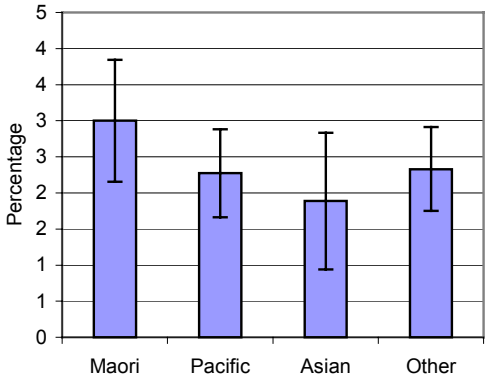
Assisted deliveries by ethnicity, 2002



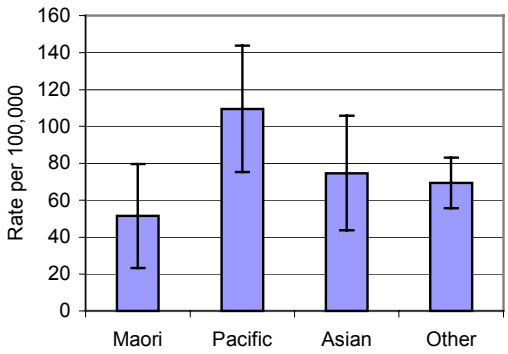

Caesarean section by ethnicity, 2002




Pre-eclampsia by ethnicity, 2002




Hysterectomy
by ethnicity for women aged 15 - 64 years, 2002



# 8 Mortality

## 8.1 Adult mortality - cardiovascular and cancers deaths by DHB

Cardiovascular disease is the leading cause of death in New Zealand, and this measure indicates the effectiveness of prevention measures and treatment.

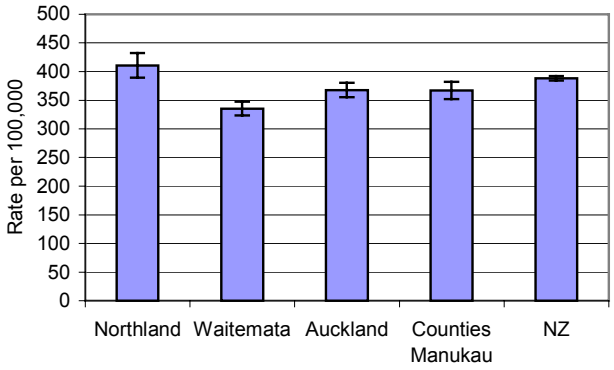
Cancer contributes to a significant level of YLL. Lung, bowel and breast cancer are the three most common cancers in New Zealand. This indicator reflects the effectiveness of cancer prevention (e.g. legislation for tobacco control), detection (including population screening measures), and treatment services.

The effects of cardiovascular disease and cancer can be reduced by effective primary, secondary and tertiary prevention measures.

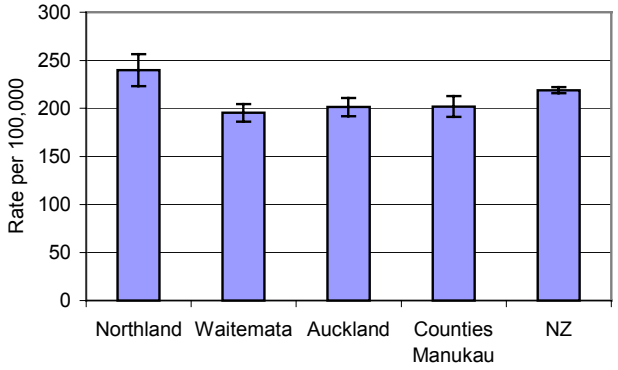
| Adult Cardiovascular and cancer deaths | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DHB | Circulatory deaths | | | Cancer deaths | | | | |
| | All | Ischaemic heart disease | Stroke | All | Colorectal | Lung | Breast | Prostate |
| Northland | 410.7 | 239.9 | 86.1 | 284.8 | 39.4 | 69.1 | 21.9 | 19.3 |
| Waitemata | 335.5 | 195.4 | 77.5 | 236.5 | 31.9 | 47.4 | 20.0 | 18.0 |
| Auckland | 367.7 | 201.3 | 96.3 | 243.2 | 35.5 | 42.7 | 20.7 | 14.2 |
| Counties Manukau | 367.1 | 202.0 | 85.4 | 254.5 | 34.2 | 50.2 | 24.2 | 20.2 |
| **New Zealand** | **388.5** | **218.9** | **90.3** | **257.0** | **38.4** | **48.6** | **21.8** | **18.4** |

Rates per 100,000

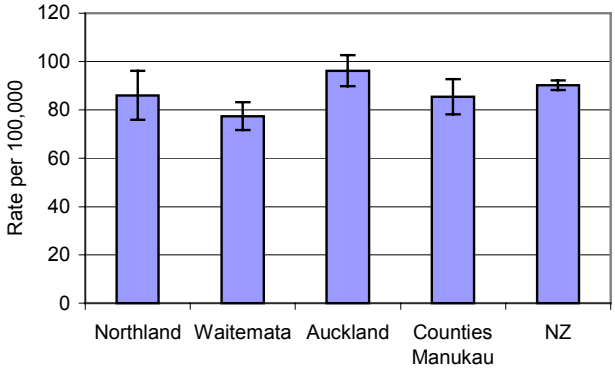
All circulatory deaths, 1997 - 1999



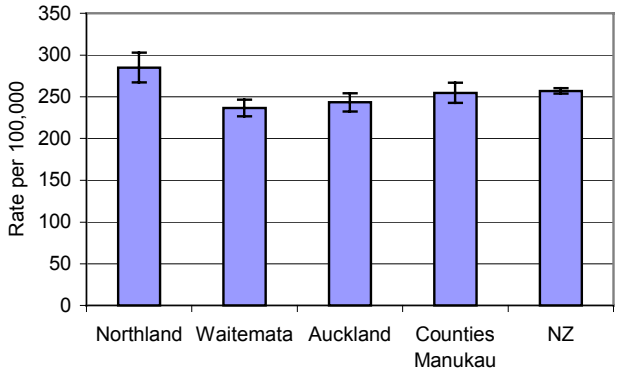

Ischaemic heart disease, 1997 - 1999



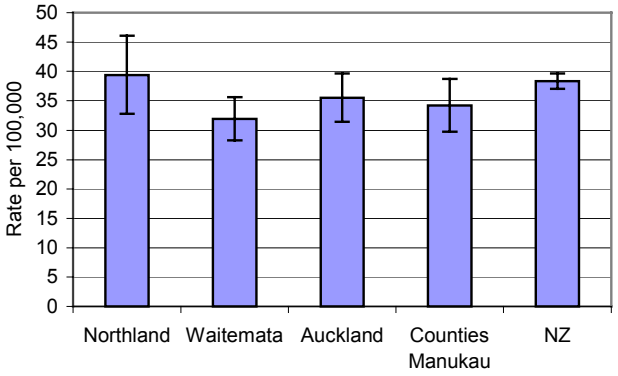

Stroke, 1997 - 1999



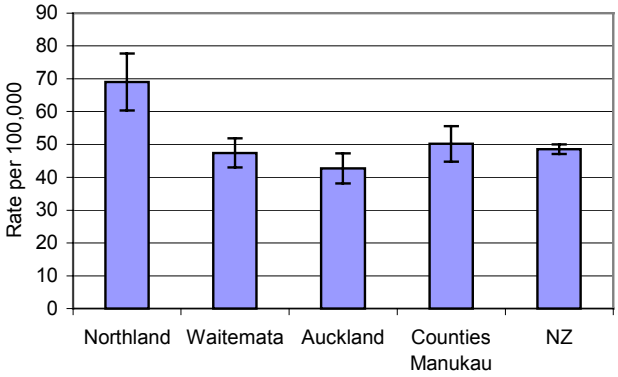
All cancers, 1997 - 1999



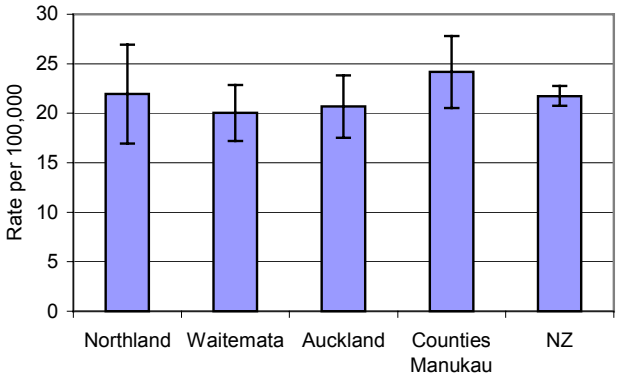

Colorectal cancer, 1997 - 1999



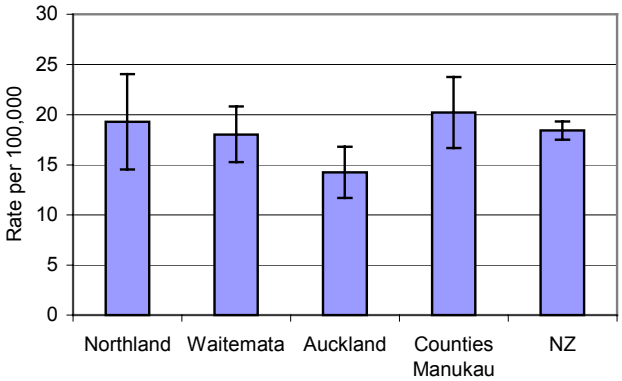

Lung cancer, 1997 - 1999




Breast cancer, 1997 - 1999

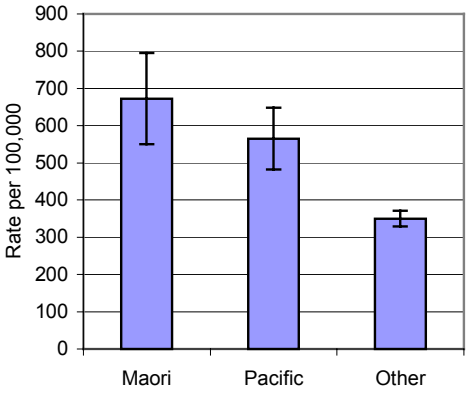



Prostate cancer, 1997 - 1999

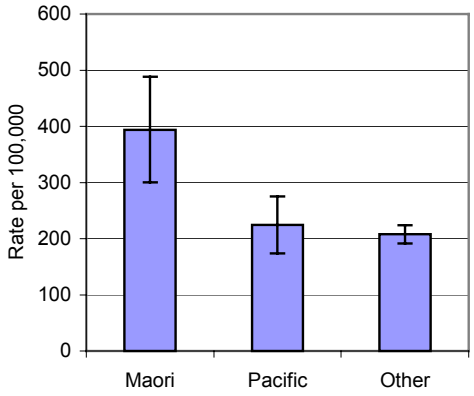


## 8.2 Adult mortality - cardiovascular and cancer deaths by ethnicity for Counties Manukau

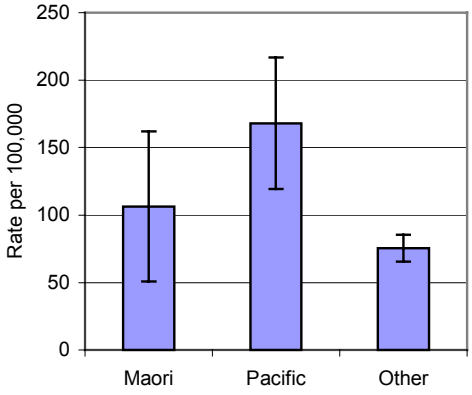
All circulatory deaths, 1997 - 1999



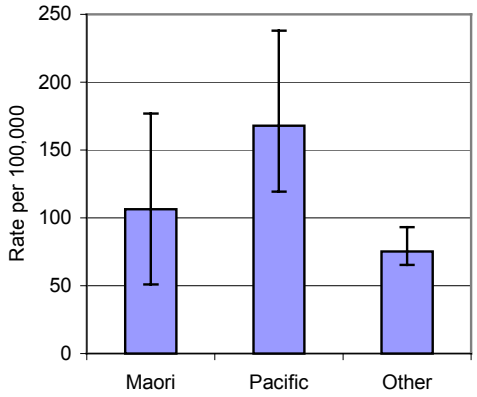

Ischaemic heart disease, 1997 - 1999



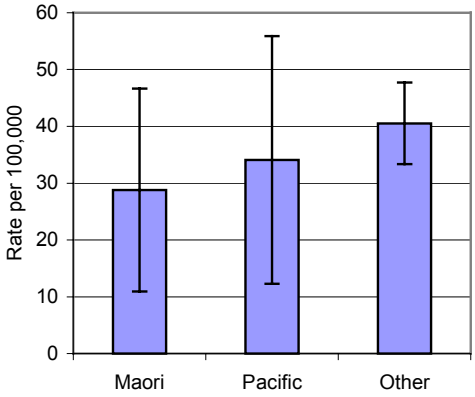

Stroke, 1997 - 1999



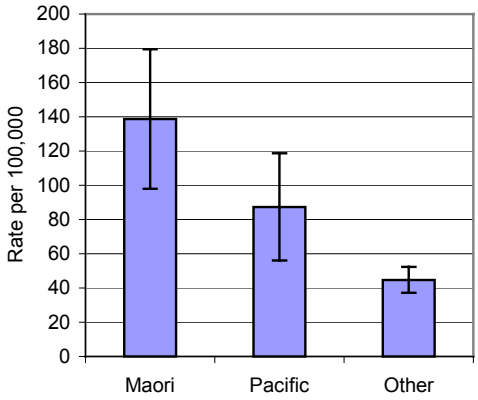
All cancers, 1997 - 1999



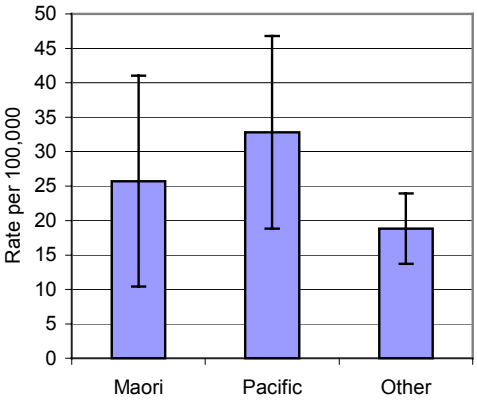

Colorectal cancer, 1997 - 1999



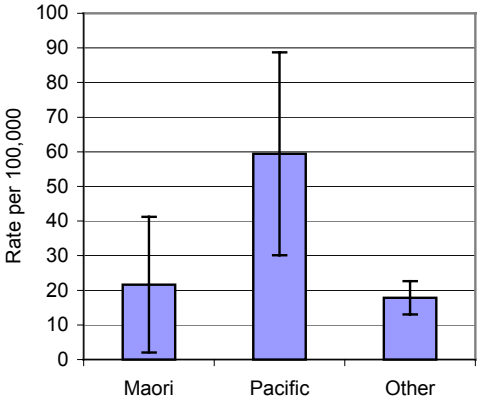

Lung cancer, 1997 - 1999




Breast cancer, 1997 - 1999




Prostate cancer, 1997 - 1999



## 8.3 Adult and children all cause mortality and selected causes by DHB

In common with life expectancy, all cause mortality is an important measure of population health.

New Zealand has one of the highest suicide rates, particularly in the 15 - 24 year age group, compared to other OECD countries.

Unintentional injuries have been included as this gives an indication of the effectiveness of injury prevention measures, health promotion activities, trauma care, and the provision of adequate services to manage injuries.

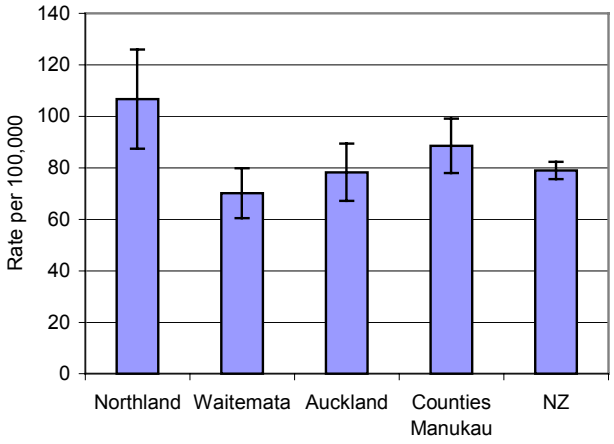
| Mortality for selected causes, 1997 - 1999 | | | | | |
|---|---|---|---|---|---|
| | All cause mortality | | Suicide | Unintentional injury | |
| DHB | 0 - 14 years | 15+ years | All ages | 0 - 14 years | 15+ years |
| Northland | 106.7 | 1005.8 | 18.2 | 24.2 | 43.1 |
| Waitemata | 70.2 | 816.4 | 13.2 | 8.7 | 28.1 |
| Auckland | 78.3 | 897.1 | 14.0 | 8.1 | 26.0 |
| Counties Manukau | 88.6 | 892.5 | 11.7 | 9.3 | 28.1 |
| **New Zealand** | **79.0** | **922.2** | **14.5** | **11.4** | **32.6** |

Rates per 100,000

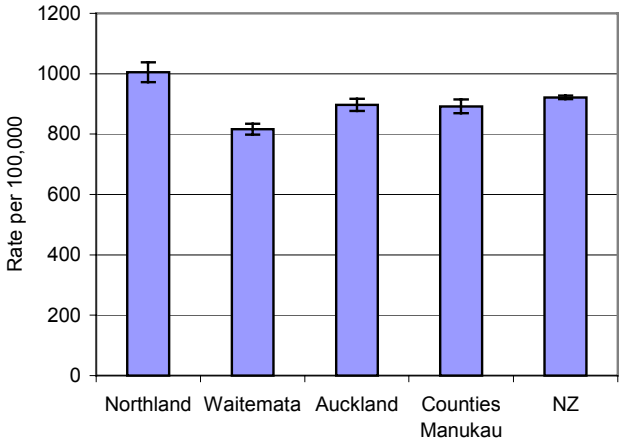
| Mortality for selected causes, 1997 - 1999 | | | | |
|---|---|---|---|---|
| | Respiratory | | Pneumonia | |
| DHB | 0 - 14 years | 15+ years | 0 - 14 years | 15+ years |
| Northland | 1.9 | 80.2 | 1.9 | 19.9 |
| Waitemata | 2.1 | 75.9 | 1.4 | 24.5 |
| Auckland | 2.5 | 93.5 | 1.2 | 27.2 |
| Counties Manukau | 1.6 | 91.5 | 1.3 | 24.1 |
| **New Zealand** | 1.9 | 88.7 | 1.1 | 23.3 |

Rates per 100,000

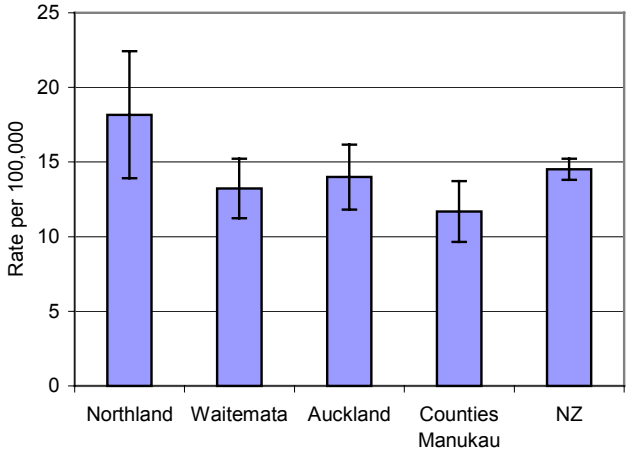
All cause mortality for 0 - 14 year olds, 1997 - 1999



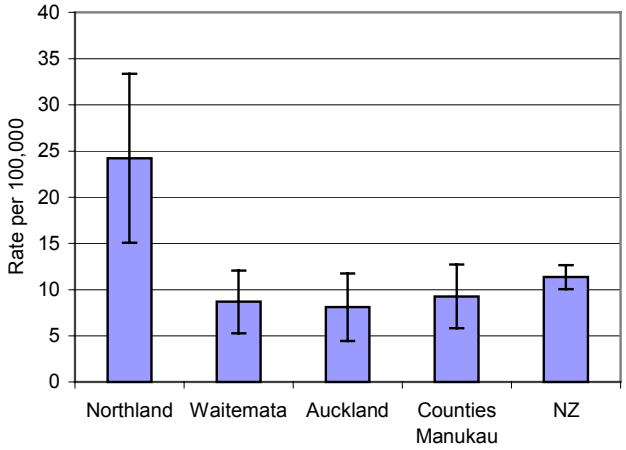

All cause mortality for 15+ year olds, 1997 - 1999



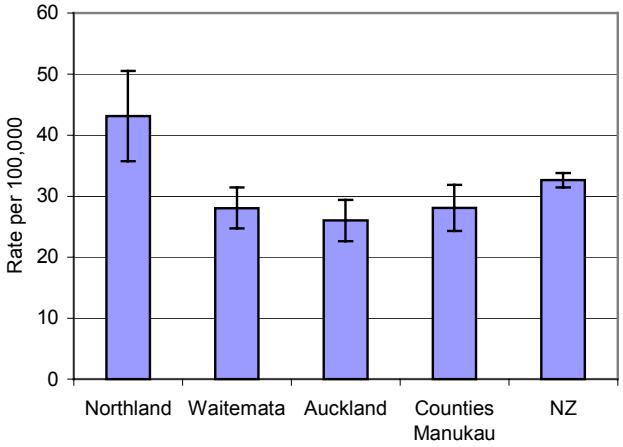
Suicide all ages, 1997 - 1999



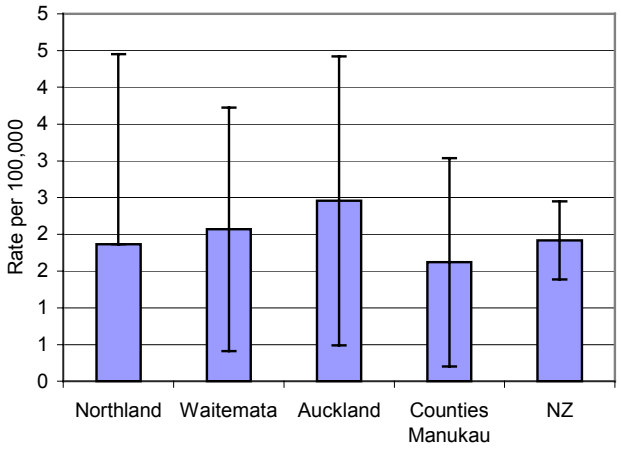

Unintentional injury for 0 - 14 years, 1997 - 1999



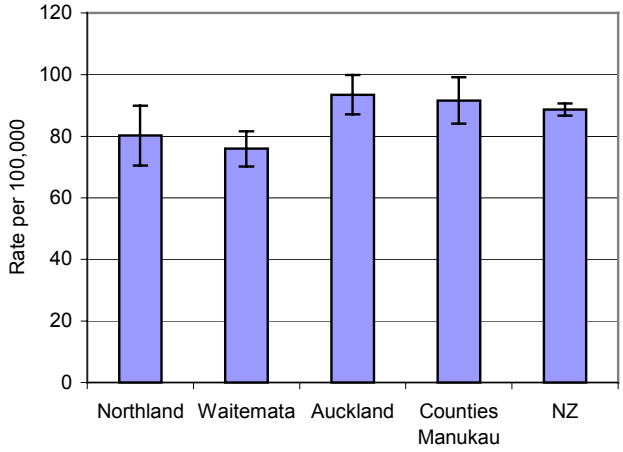

Unintentional injury for 15+ years, 1997 - 1999



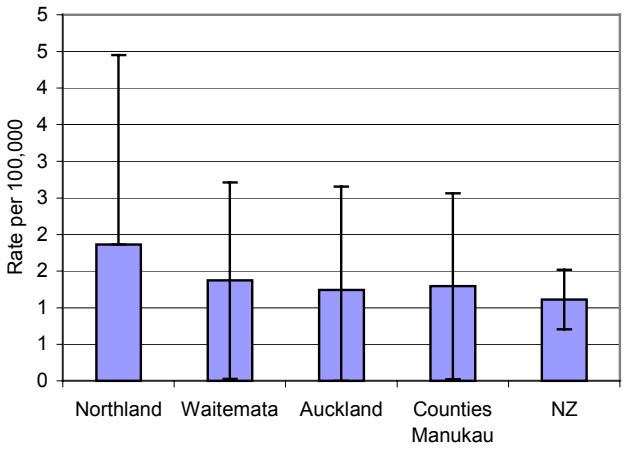
Respiratory for 0 - 14 years, 1997 - 1999



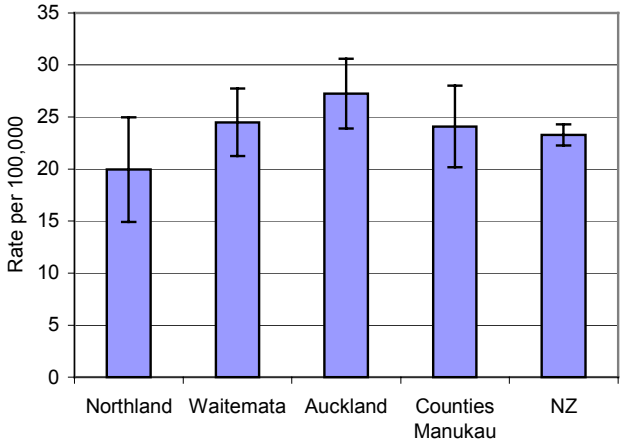

Respiratory for 15+ years, 1997 - 1999




Pneumonia for 0 - 14 years, 1997 - 1999

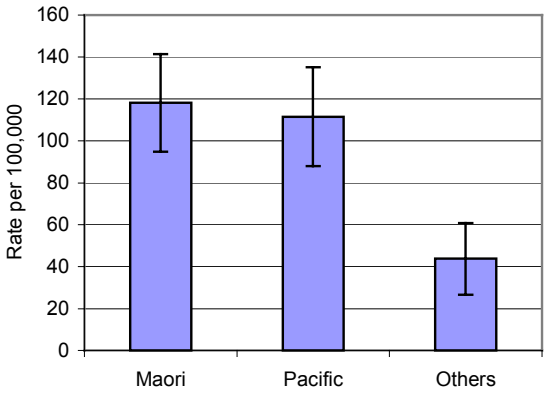



Pneumonia for 15+ years, 1997 - 1999

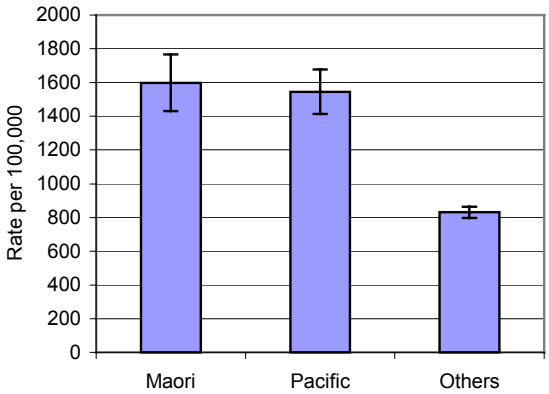


## 8.4 All cause mortality and selected causes by ethnicity for Counties Manukau

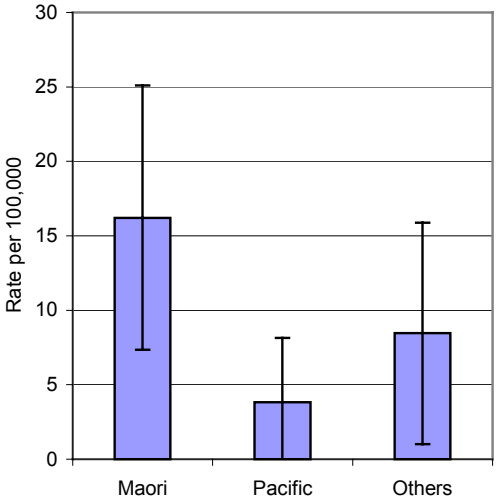
All mortality by ethnicity, 0 - 14 years, 1997 - 1999



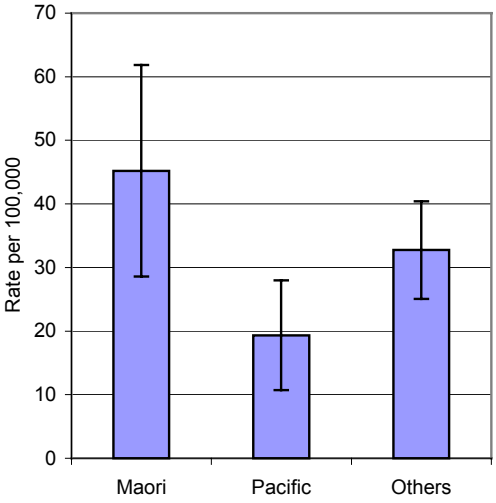

All mortality by ethnicity, 15+ years, 1997 - 1999



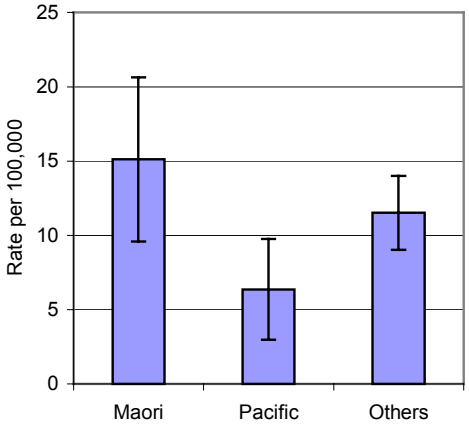

Unintentional injury by ethnicity, 0 - 14 years, 1997 - 1999



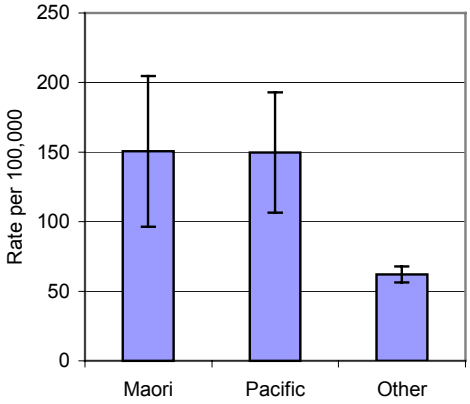

Unintentional injury by ethnicity, 15+ years, 1997 - 1999




Suicide by ethnicity, all ages, 1997 - 1999




Respiratory deaths by ethnicity, all ages, 1997 - 1999



# 9 Child and Youth Health

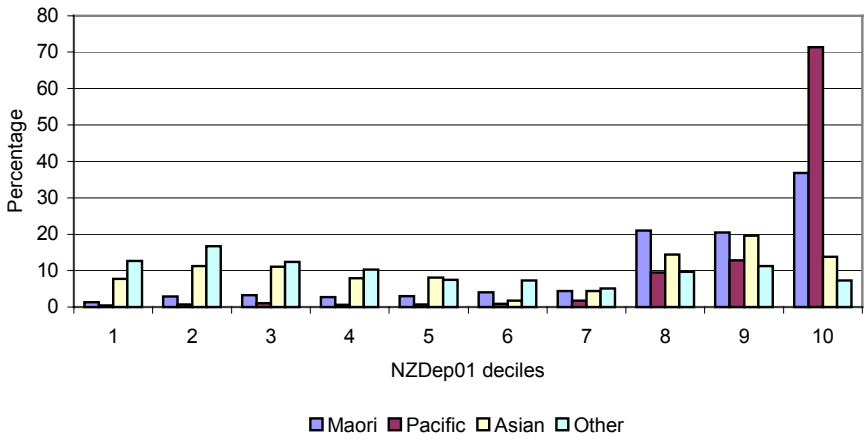
## 9.1 Demography

| Child population 2001 | | | | | | |
|---|---|---|---|---|---|---|
| | Age (years) | | | | | |
| Ethnicity | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | Total |
| Maori | 10345 | 9020 | 8090 | 6335 | 5865 | 39655 |
| Pacific | 10070 | 9530 | 8665 | 6935 | 6675 | 41875 |
| Asian | 3660 | 3690 | 3965 | 4820 | 4065 | 20200 |
| Other | 11515 | 13065 | 13575 | 12120 | 10255 | 60530 |
| Total | 34760 | 35415 | 34305 | 30290 | 26870 | 161640 |

*Source: census 2001*

Figure 11 shows children by NZDep01 deprivation level of the area of residence within Counties Manukau. A large proportion (50% of children aged 0 – 4 years) of children live in decile 9 and 10 areas, with Maori (57%) and Pacific (84%) children over represented in the most deprived deciles.

**Figure 11:** Counties Manukau children (0 - 4 years) by NZDep01 score by ethnicity, 2001. 1 = least deprived, 10 = most deprived.



## 9.2 Infant mortality

Infant mortality is a long-standing indicator of child health, frequently used for the purpose of comparing rates across OECD countries. In 1996, New Zealand ranked 21st out of the twenty-two OECD countries. It is used as an indicator of health status and effectiveness of preventive care. The average infant mortality rate in 1996 for the OECD countries is 5.4 deaths per 1000 live births.

**Total infant mortality 1998**

| DHB | Infant mortality rate |
|---|---|
| Northland | 7.1 |
| Waitemata | 5.0 |
| Auckland | 7.0 |
| **Counties Manukau** | **6.2** |
| Waikato | 4.6 |
| Lakes | 6.2 |
| Bay of Plenty | 6.7 |
| Tairawhiti | 3.5 |
| Taranaki | 4.5 |
| Hawkes Bay | 5.9 |
| MidCentral | 5.8 |
| Whanganui | 3.8 |
| Capital & Coast | 3.1 |
| Hutt | 4.1 |
| Wairarapa | 5.2 |
| Nelson Marlborough | 4.6 |
| West Coast | 6.1 |
| Canterbury | 3.8 |
| South Canterbury | 10.0 |
| Otago | 6.4 |
| Southland | 6.5 |
| **New Zealand** | **5.4** |

Rates per 1000

**Top ten potentially avoidable mortality conditions, 0- 14 years, 1996-98**

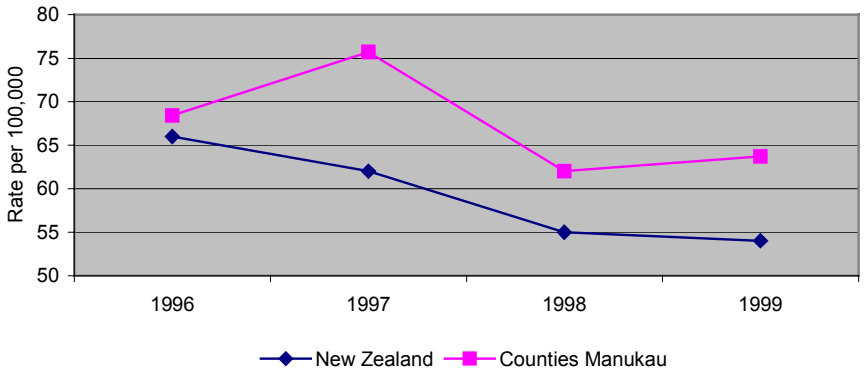
| | Age specific rates | |
|---|---|---|
| | Counties Manukau | New Zealand |
| SIDS | 11 | 6.9 |
| Low birth-weight babies | 10 | 4.9 |
| Motor vehicle crashes | 7.3 | 5.7 |
| Congenital anomalies | 5.3 | 4.6 |
| Other perinatal conditions | 4.7 | 3.5 |
| Birth trauma and asphyxia | 4.3 | 4.1 |
| Other external causes | 3 | 3.8 |
| Meningococcal infection | 3 | 1.4 |
| Brain tumours | 1.7 | 1.6 |
| Drowning | 0.7 | 1.2 |

Rates per 100,000
Note: 1998 mortality data is provisional.
SIDS = sudden infant death.
*Source: Counties Manukau Health Profile. 2001*

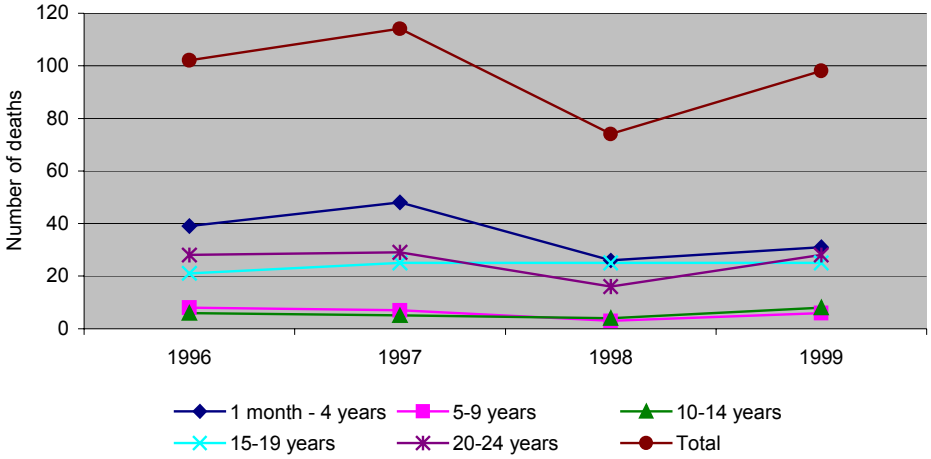
## 9.3 Child and youth mortality

### 9.3.1 Number and rate of child and youth deaths for Counties Manukau

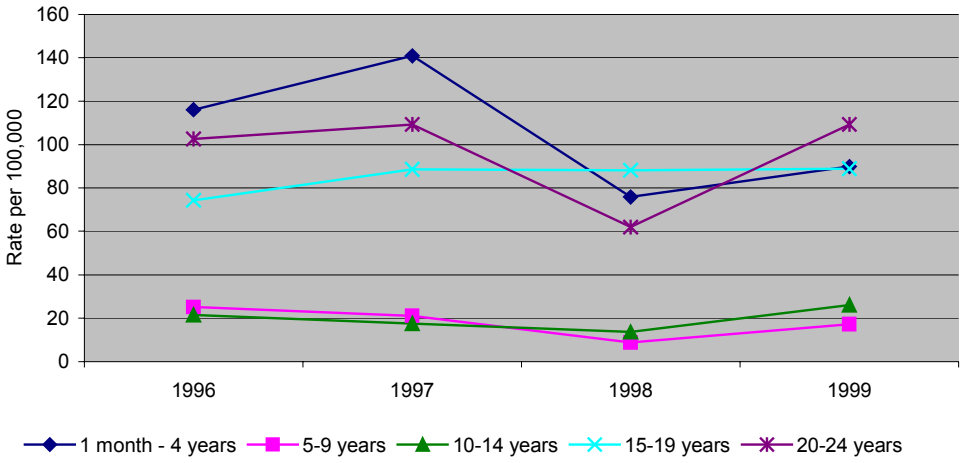
Age specific death rate for Counties Manukau and New Zealand, 1996 – 1999.
Age 1 month – 24 years



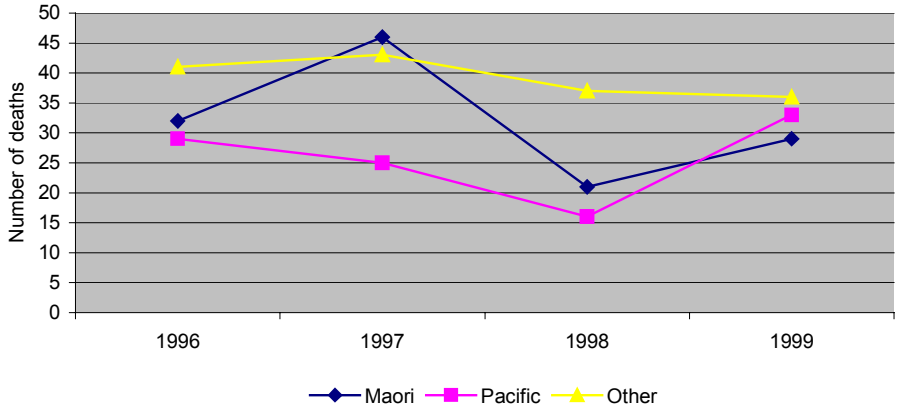

Number of deaths by age in Counties Manukau residents, 1996 – 1999



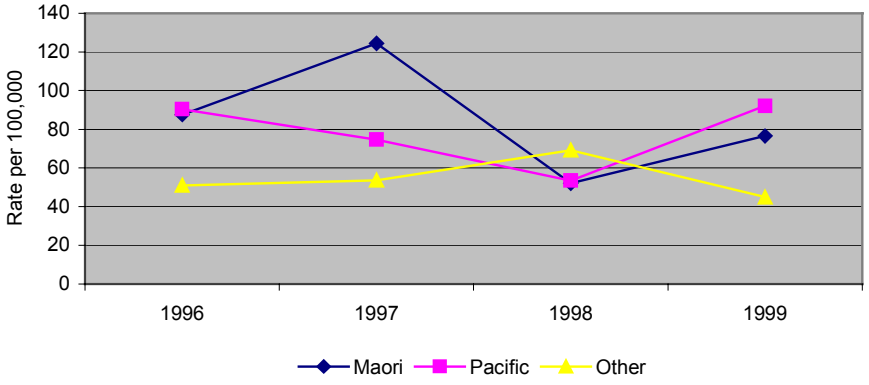
Age specific death rate for Counties Manukau residents



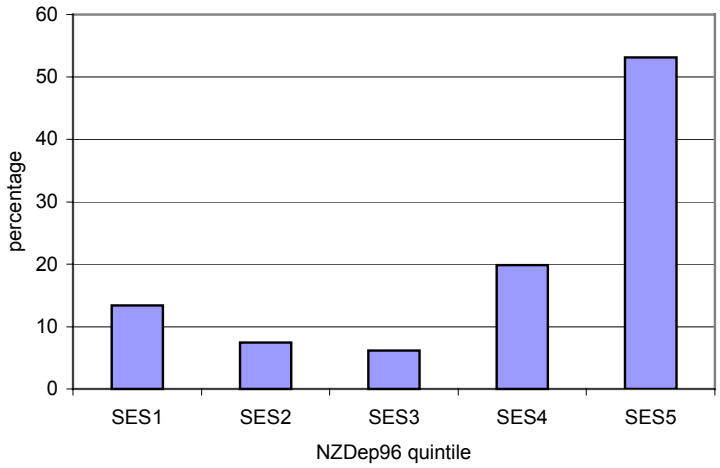

Number of deaths in Counties Manukau residents aged 1 month – 24 years by ethnicity, 1996 – 1999



Age specific death rate for Counties Manukau residents aged 1 month – 24 years by ethnicity, 1996 – 1999



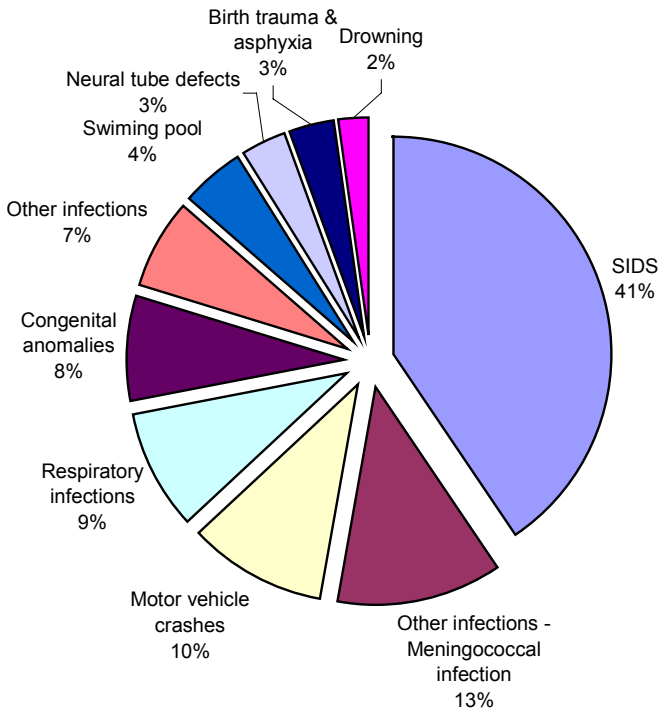

Mortality by NZDep96 quintiles for children aged 1 month to 24 years, 1996 - 1999



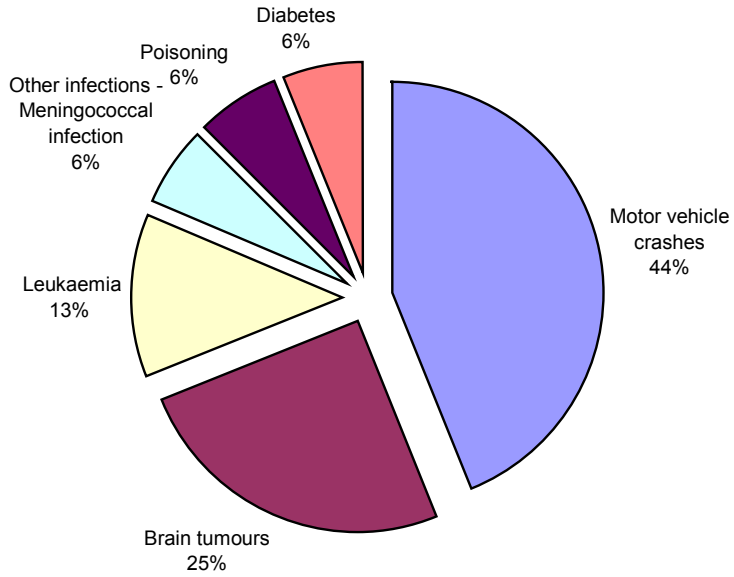

| Suburb | Number of deaths in 4 years | Rate per 100,000 per year |
|---|---|---|
| Howick Pakuranga/Beachlands/Maraetai | 67 | 76.7 |
| Papatoetoe | 44 | 35.3 |
| Otara | 51 | 79.8 |
| Manukau | 35 | 51.7 |
| Takanini Papakura | 39 | 66.0 |
| Mangere | 65 | 106.2 |
| Manurewa | 54 | 64.7 |
| South Rural | 33 | 48.7 |
| **Total** | **388** | **63.1** |

### 9.3.2 Cause of deaths in Counties Manukau residents

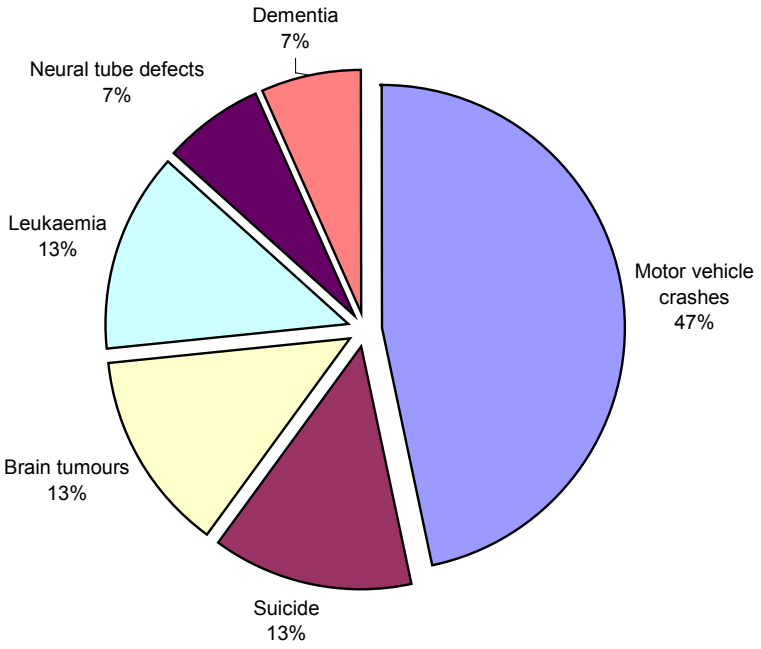
Cause of death 1 month - 4 years, 1996 - 1999



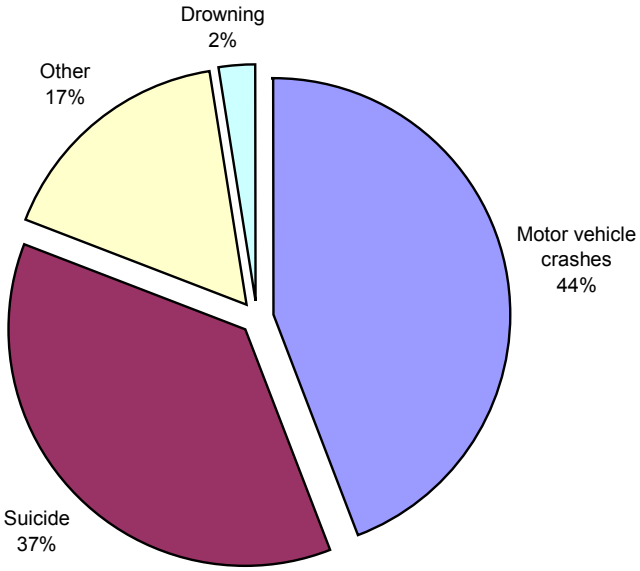

Cause of death 5 - 9 years, 1996 - 1999



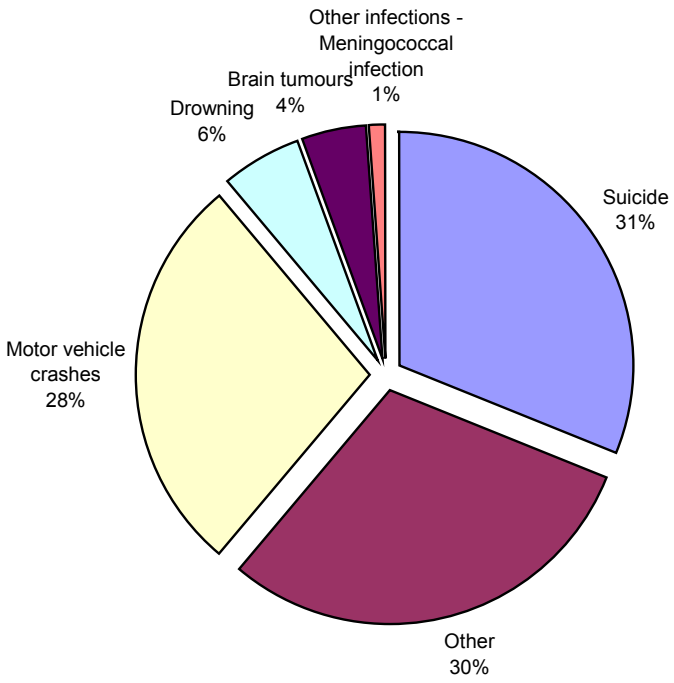
Cause of death 10 - 14 years, 1996 - 1999




Cause of death 15 - 19 years, 1996 - 1999



Cause of death 20 - 24 years, 1996 - 1999



## 9.4 Low birth weight 2000 by DHB

Low birth weight is associated with increased risk of death and disability. Nationally it was the 2nd most common cause of death for males and females under 1 year of age in 1996.[3] It is associated with prematurity, respiratory disease in premature newborns. Prevention measures include, smoking and prenatal care (primary prevention), antenatal care, specialist care (secondary prevention, and by obstetric and neonatal services (tertiary prevention).

| DHB | % of low birth weight | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Maori | | Pacific | | Asian | | Other | | Total | |
| DHB | % | Total births | % | Total births | % | Total births | % | Total births | % | Total births |
| Northland | 6.2 | 929 | 0.0 | 12 | 0.0 | 20 | 5.2 | 872 | 5.6 | 1,833 |
| Waitemata | 7.9 | 555 | 6.2 | 673 | 8.1 | 470 | 5.7 | 4,823 | 6.1 | 6,521 |
| Auckland | 7.0 | 555 | 4.7 | 1348 | 8.9 | 1216 | 5.9 | 3,162 | 6.3 | 6,281 |
| Counties Manukau | 10.0 | 1586 | 4.7 | 2340 | 8.2 | 805 | 6.0 | 2,683 | 6.7 | 7,414 |
| **New Zealand** | **8.1** | **10554** | **5.2** | **5659** | **8.2** | **3739** | **6.2** | **34023** | **6.6** | **53975** |

Low birth weight as a percent of live births < 2500g. Data only on hospital births.

Maori have a significantly higher proportion of births that are low birth weight compared to Pacific and Others. All groups in Counties Manukau exceed the national rate.

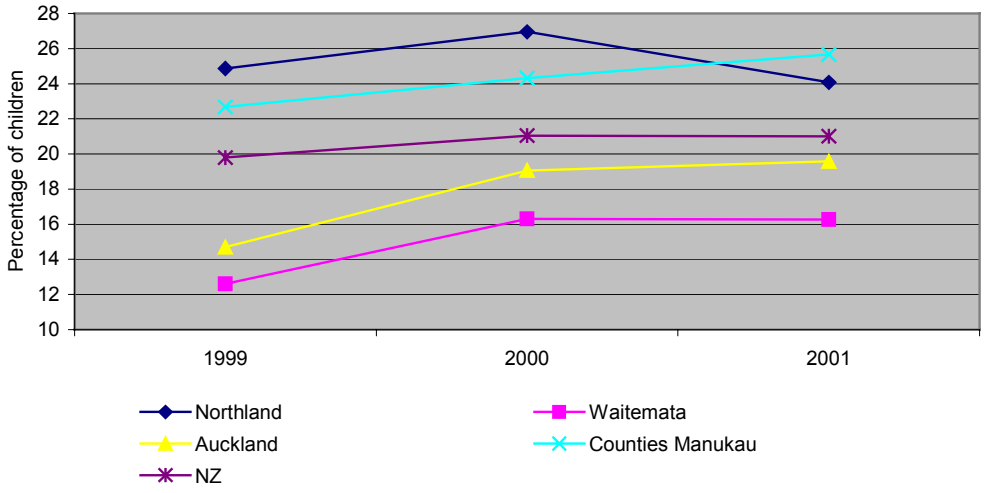
## 9.5 Newborns admitted in first year by DHB

This is an indicator of child health in the first year of life. Admission rates are likely to be influenced by antenatal and natal care, parenting skills, and access to primary care services.

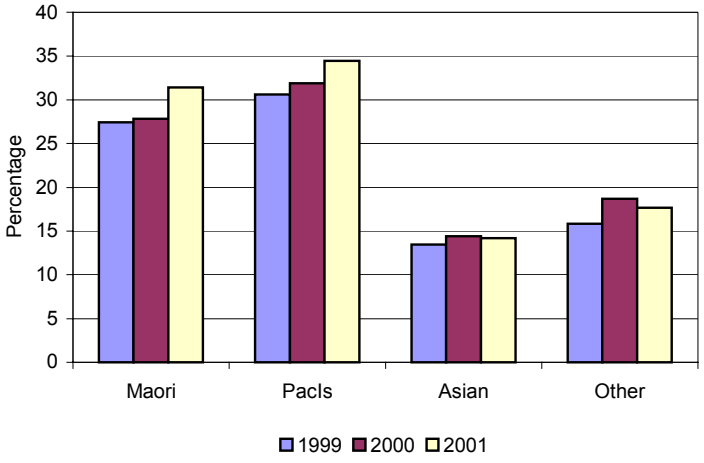
This is an indicator of child health in the first year of life. Admission rates are likely to be influenced by antenatal and natal care, parenting skills, and access to primary care services.

| Percentage of children born in 2001 who were admitted in their first yearr of life by DHB | | | | | |
|---|---|---|---|---|---|
| DHB | Maori | Pacific | Asian | Other | Total |
| Northland | 30 | 22 | 18 | 19 | 24 |
| Waitemata | 21 | 24 | 10 | 15 | 16 |
| Auckland | 29 | 30 | 14 | 16 | 20 |
| Counties Manukau | 31 | 34 | 14 | 18 | 26 |
| **NZ** | **29** | **30** | **13** | **18** | **21** |

Percentage of children born who were admitted in their first year of life by DHB and year




Percentage of children born who were admitted in their first year of life by ethnicity and year, CMDHB residents



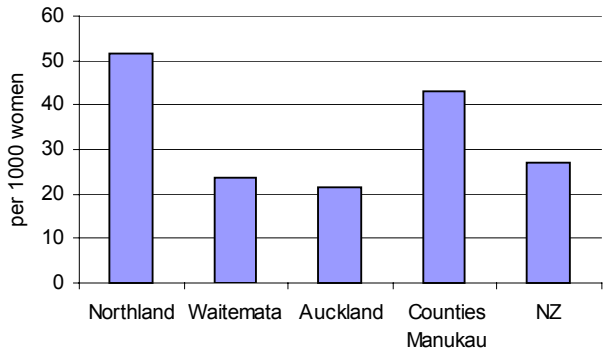
## 9.6 Teenage births by DHB and ethnicity

Counties Manukau teenage birth rate, particularly among Maori and Pacific women, is significantly higher than that nationally.

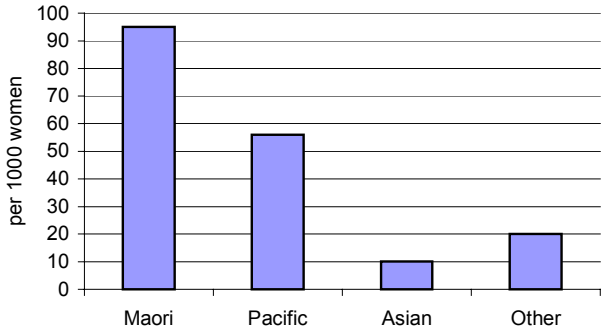
| Rate of teenage births, 16 – 19 years by DHB, 2002 | | | | | |
|---|---|---|---|---|---|
| **DHB** | **Maori** | **Pacific** | **Asian** | **Other** | **Total** |
| Northland | 78.1 | 41.7 | 0.0 | 31.0 | 51.7 |
| Waitemata | 48.7 | 48.2 | 5.3 | 20.1 | 23.7 |
| Auckland | 59.1 | 53.5 | 6.0 | 10.3 | 21.5 |
| **Counties Manukau** | **95.1** | **56.0** | **10.1** | **20.1** | **43.0** |
| **NZ** | **70.8** | **49.2** | **5.6** | **23.0** | **27.1** |

Rate calculated using the number of births to women aged < 20 years at birth per 1000 women aged 16 - 19 years

Teenage births, 16 - 19 years, 2002




Teenage births, 16 - 19 years by ethnicity, 2002



## 10 Prevention

A number of important communicable diseases are vaccine preventable. Vaccine preventable diseases (VPD) are associated with significant risk of death and disability. Vaccination is provided free to all children in New Zealand. However, despite this vaccination coverage in many cases is below the level required to prevent epidemics. As the data on vaccine coverage is poor the incidence of disease is reported here as a proxy of vaccine coverage. Other communicable diseases are included as they are important preventable causes of illness and death.

| Disease | Current rate for year ending February 2001 [1,2] by health district [3,4] | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Northland | NW Auckland | Central Auckland | South Auckland | Waikato | Tauranga | Eastern BoP | Gisborne | Rotorua | Taupo | Taranaki | Ruapehu | Hawkes Bay | Wanganui | Manawatu | Wairarapa | Wellington | Hutt | Nelson-Marl | West Coast | Canterbury | South Cant | Otago | Southland |
| AIDS[3] | 0.7 | 1.7 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.2 | | 0.8 | 0 | 0.8 | 0 | 0.6 | 0 |
| Campylobacteriosis | 153.9 | 209.0 | 216.3 | 179.7 | 274.0 | 175.5 | 111.4 | 135.5 | 134.8 | 208.5 | 185.3 | 83.6 | 228.6 | 133.5 | 103.1 | 200.2 | 313.3 | 216.4 | 126.9 | 200.5 | 368.6 | 367.1 | 286.1 | 335.1 |
| Cryptosporidiosis | 17.5 | 8.9 | 11.0 | 12.0 | 41.3 | 16.8 | 4.0 | 24.0 | 69.7 | 19.5 | 14.0 | 0 | 44.6 | 22.8 | 23.9 | 33.8 | 18.9 | 34.7 | 0.9 | 37.0 | 20.4 | 75.4 | 34.2 | 35.0 |
| Gastroenteritis | 5.1 | 19.5 | 24.6 | 15.5 | 9.3 | 13.3 | 8.0 | 0 | 20.1 | 162.9 | 33.7 | 0 | 1.4 | 1.6 | 31.3 | 10.4 | 11.5 | 9.0 | 21.4 | 15.4 | 59.0 | 42.7 | 22.0 | 5.4 |
| Giardiasis | 35.7 | 52.0 | 70.3 | 40.7 | 56.5 | 68.3 | 23.9 | 30.6 | 65.1 | 42.3 | 15.0 | 6.0 | 64.1 | 8.1 | 23.3 | 23.4 | 69.2 | 40.0 | 12.9 | 117.2 | 33.1 | 35.2 | 26.6 | 21.6 |
| *H. influenzae* type b disease * | 0.7 | 0.3 | 0.3 | 0.9 | 0.3 | 2.7 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 0 | 0 | 0.3 | 0 | 0 | 0 |
| Hepatitis A ** | 0 | 1.5 | 3.2 | 5.9 | 1.0 | 3.5 | 0 | 15.3 | 3.1 | 0 | 0.9 | 0 | 0.7 | 0 | 0 | 0 | 0.4 | 0.8 | 1.7 | 0 | 10.9 | 3.8 | 1.2 | 1.8 |
| Hepatitis B * | 0.7 | 1.8 | 2.0 | 1.2 | 4.0 | 1.8 | 2.0 | 2.2 | 1.5 | 3.3 | 0 | 6.0 | 4.2 | 0 | 1.3 | 2.6 | 1.6 | 0.8 | 1.7 | 3.1 | 2.6 | 1.3 | 1.7 | 1.8 |
| Hepatitis C | 0 | 1.0 | 0.3 | 0.6 | 1.0 | 15.1 | 4.0 | 4.4 | 13.9 | 0 | 0.9 | 0 | 3.5 | 0 | 0 | 0 | 1.6 | 3.0 | 1.7 | 3.1 | 2.8 | 2.5 | 1.7 | 0.9 |
| Lead absorption | 2.2 | 0.8 | 1.4 | 1.2 | 4.3 | 2.7 | 0 | 8.7 | 1.5 | 3.3 | 1.9 | 23.9 | 3.5 | 11.4 | 7.3 | 2.6 | 3.7 | 0 | 3.4 | 3.1 | 7.5 | 12.6 | 5.8 | 2.7 |
| Measles * | 2.9 | 2.5 | 2.0 | 0.3 | 0 | 0 | 0 | 2.2 | 1.5 | 0 | 0 | 0 | 4.2 | 1.6 | 0.7 | 2.6 | 0.4 | 2.3 | 1.7 | 0 | 3.4 | 1.3 | 0 | 3.6 |
| Meningococcal disease ** | 22.6 | 10.4 | 23.1 | 36.9 | 13.6 | 12.4 | 23.9 | 28.4 | 18.6 | 16.3 | 3.7 | 17.9 | 13.2 | 11.4 | 6.0 | 13.0 | 8.6 | 7.5 | 4.3 | 0 | 4.4 | 5.0 | 8.1 | 4.5 |
| Mumps * | 2.2 | 1.3 | 1.7 | 1.2 | 0 | 0.9 | 2.0 | 0 | 1.5 | 0 | 0 | 6.0 | 3.5 | 1.6 | 1.3 | 0 | 2.5 | 0.8 | 3.4 | 0 | 1.8 | 1.3 | 0.6 | 0 |
| Pertussis * | 83.9 | 42.4 | 55.8 | 42.7 | 175.5 | 75.4 | 91.5 | 96.2 | 80.6 | 58.6 | 7.5 | 83.6 | 53.7 | 6.5 | 9.3 | 270.4 | 53.9 | 132.7 | 436.5 | 659.9 | 264.9 | 106.9 | 161.0 | 60.2 |
| Rheumatic fever | 9.5 | 1.5 | 7.2 | 9.7 | 3.6 | 1.8 | 11.9 | 2.2 | 4.6 | 0 | 0 | 0 | 3.5 | 0 | 0 | 2.6 | 1.6 | 1.5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Salmonellosis | 37.9 | 42.1 | 36.4 | 25.5 | 45.3 | 40.8 | 29.8 | 37.2 | 27.9 | 48.9 | 45.9 | 11.9 | 48.1 | 47.2 | 71.1 | 153.4 | 62.2 | 46.0 | 67.7 | 27.8 | 69.1 | 110.6 | 106.0 | 132.9 |
| Shigellosis | 2.2 | 4.1 | 8.7 | 7.9 | 2.0 | 0 | 0 | 2.2 | 1.5 | 3.3 | 0 | 0 | 1.4 | 0 | 0 | 0 | 3.3 | 4.5 | 0.9 | 0 | 2.6 | 3.8 | 1.7 | 0 |
| Tuberculosis * | 5.1 | 8.6 | 22.6 | 19.9 | 6.6 | 5.3 | 17.9 | 6.6 | 4.6 | 6.5 | 1.9 | 11.9 | 9.1 | 6.5 | 10.6 | 7.8 | 22.6 | 15.1 | 1.7 | 0 | 2.8 | 1.3 | 4.1 | 3.6 |
| Yersiniosis | 2.2 | 12.9 | 13.6 | 8.2 | 9.3 | 18.6 | 13.9 | 6.6 | 17.0 | 19.5 | 1.9 | 6.0 | 6.3 | 1.6 | 2.7 | 2.6 | 10.7 | 9.0 | 7.7 | 18.5 | 14.2 | 18.9 | 4.6 | 14.4 |

1 Current rate is based on the cumulative total for the 12 months up to and including February 2001 expressed as cases per 100,000
2 These data are provisional
3 AIDS data is reported by area totals and rates for the Auckland and Wellington areas
4 Further data are available from the local medical officer of health

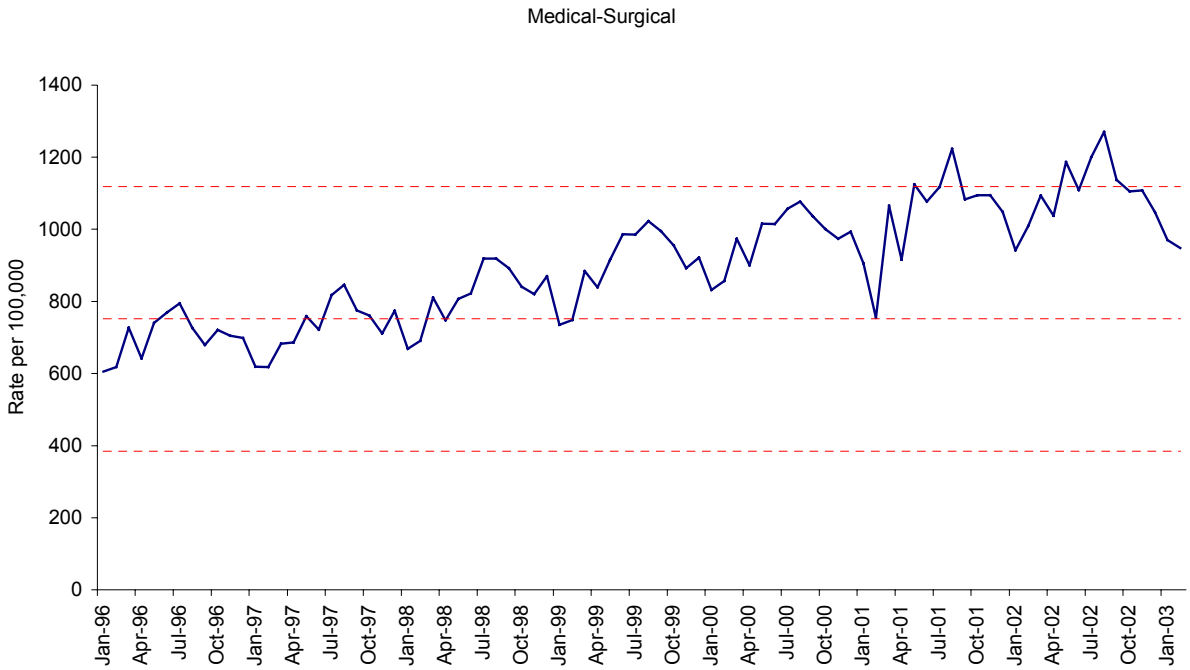
* Vaccine preventable disease, other not reported here in diphtheria and tetanus
** Vaccine preventable disease, not on the immunisation schedule
*Source: ESR*

# 11 Middlemore Hospital Discharge Data - control charts

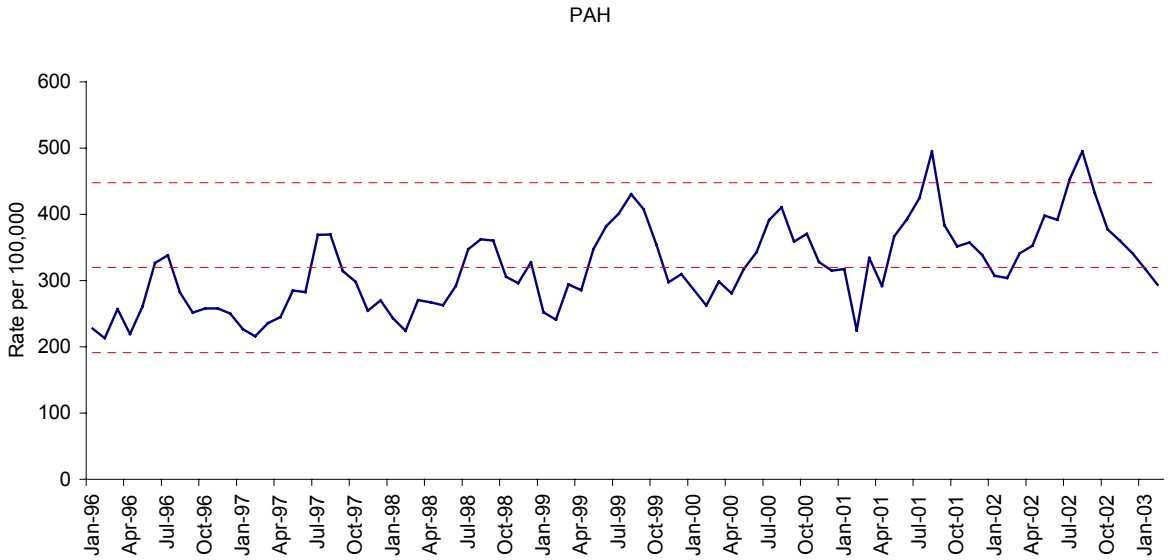
Notes on control charts.

1. Rates are reported per 100,000 by month, with confidence intervals calculated using standard control chart methods for the time period January 1996 to February 2003.
2. The data presented are for Counties Manukau residents attending CMDHB facilities and does not include private hospital discharges.

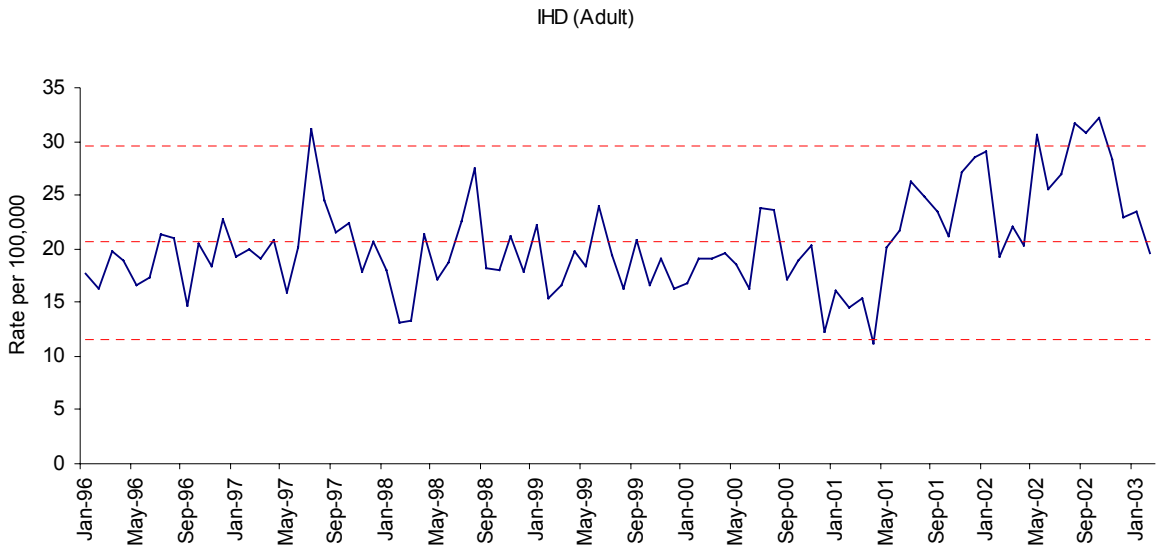
## 11.1 All Medical-Surgical discharges



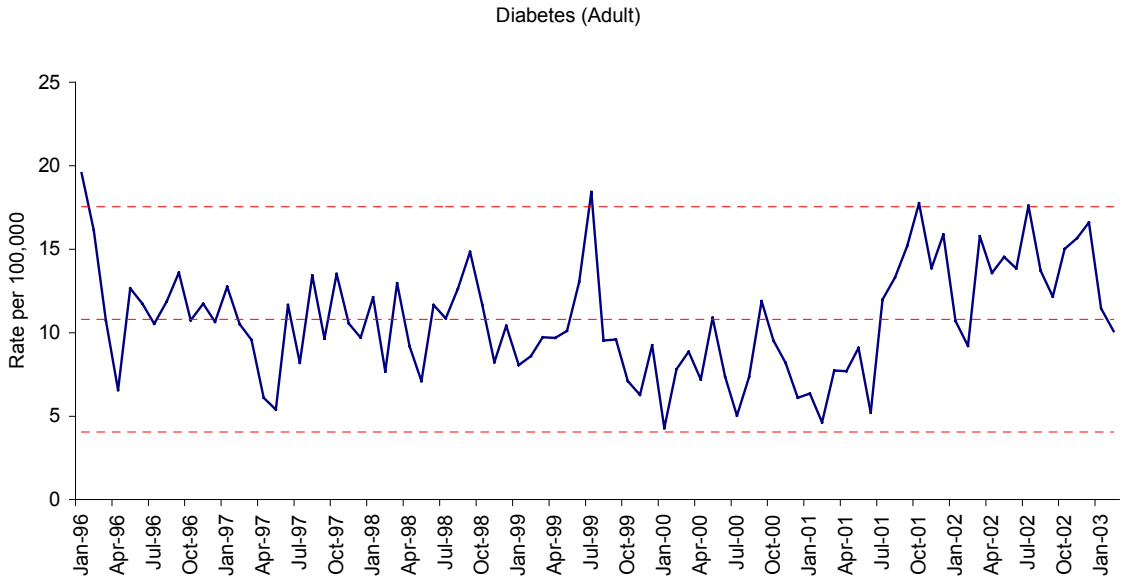

## 11.2 Potentially avoidable hospitalisations



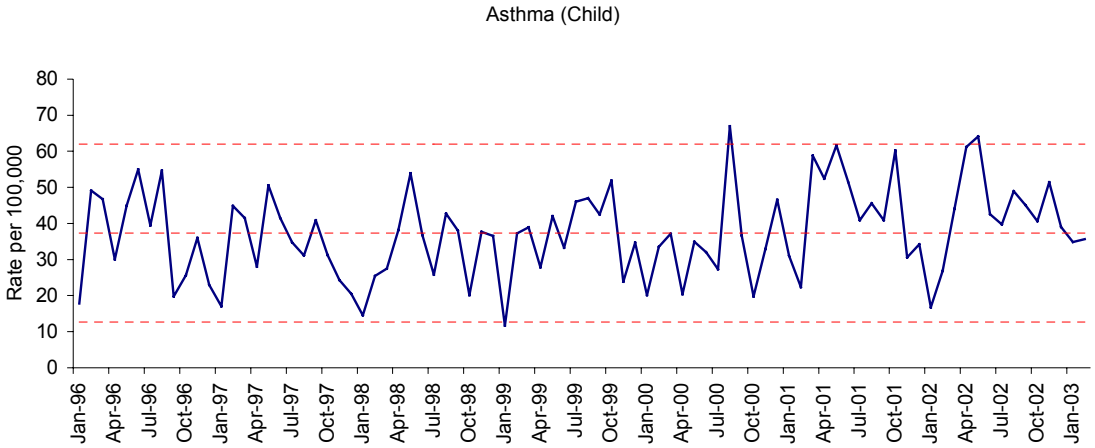
## 11.3 Ischaemic heart disease (adult) discharges

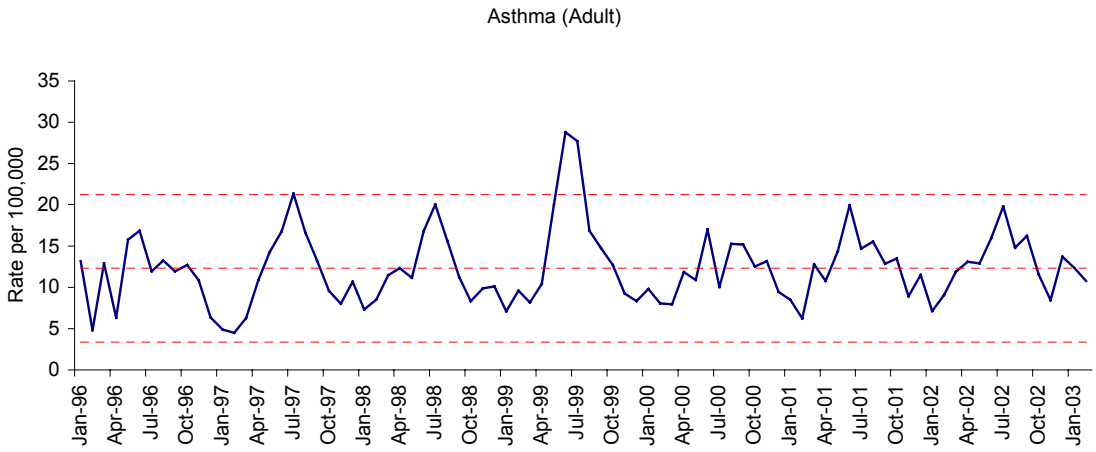



## 11.4 Diabetes (adult) discharges



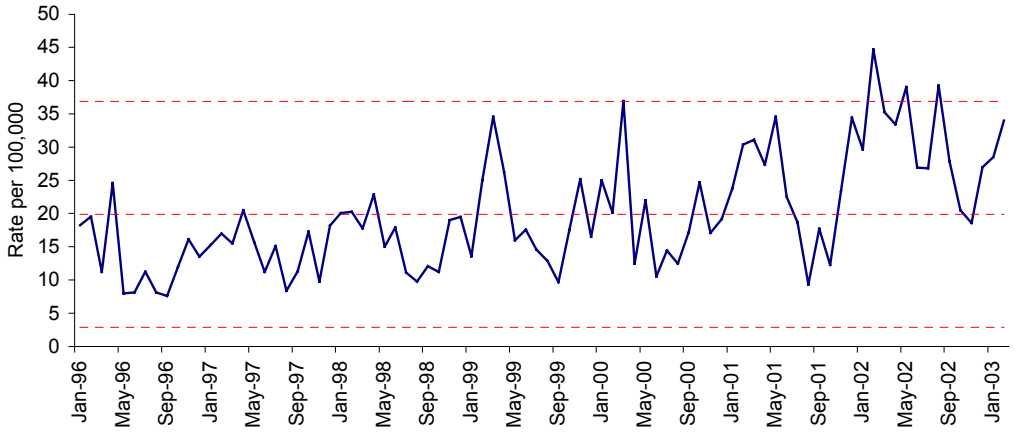
## 11.5 Asthma discharges



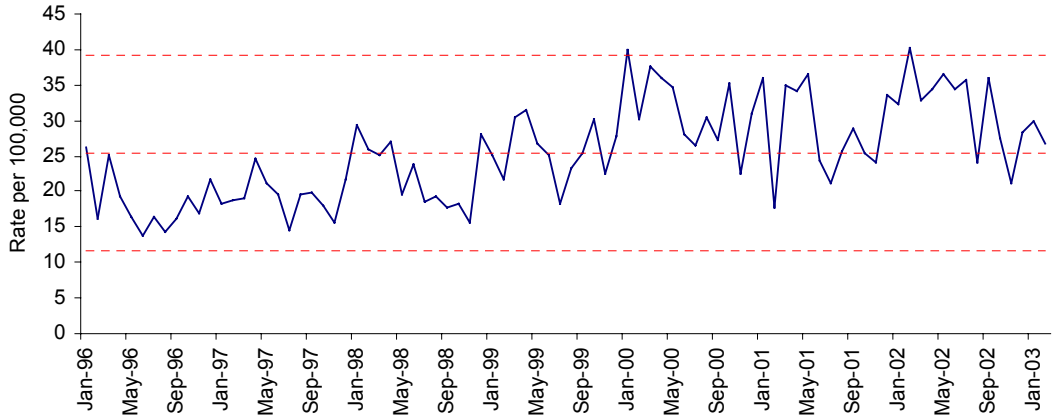



## 11.6 Cellulitis

Cellulitis (Child)

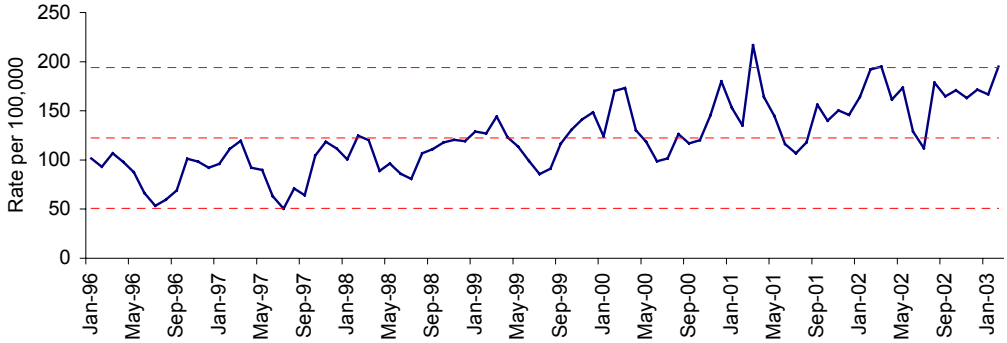



Cellulitis (Adult)

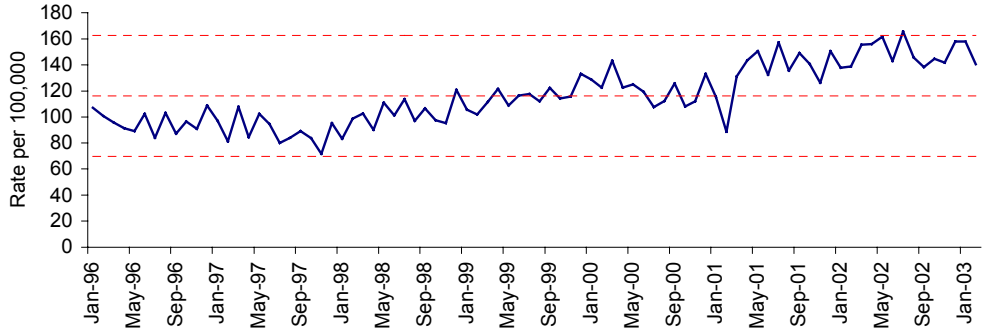


## 11.7 Injuries

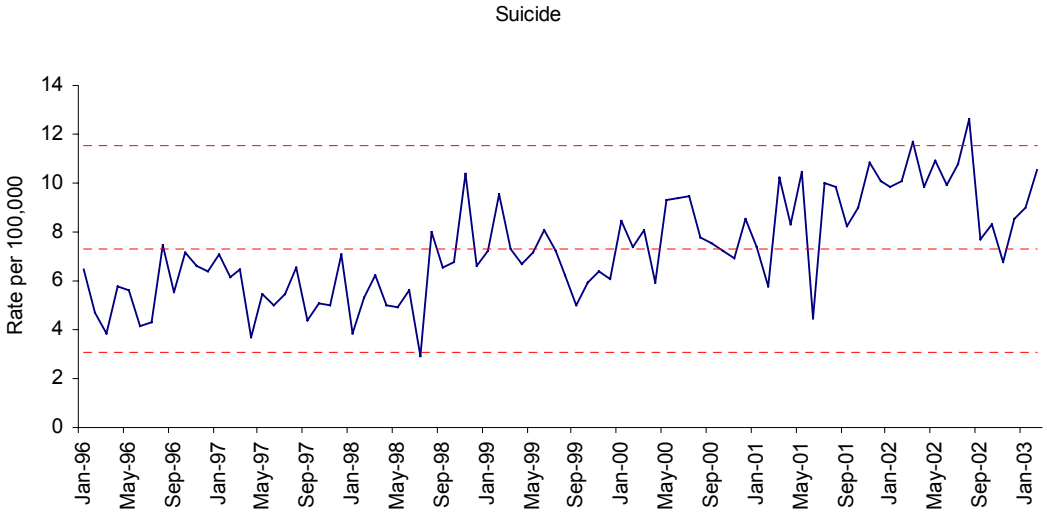
Injuries (Child)




Injuries (Adult)



## 11.8 Suicide deaths



# 12 Definitions and Data Sources

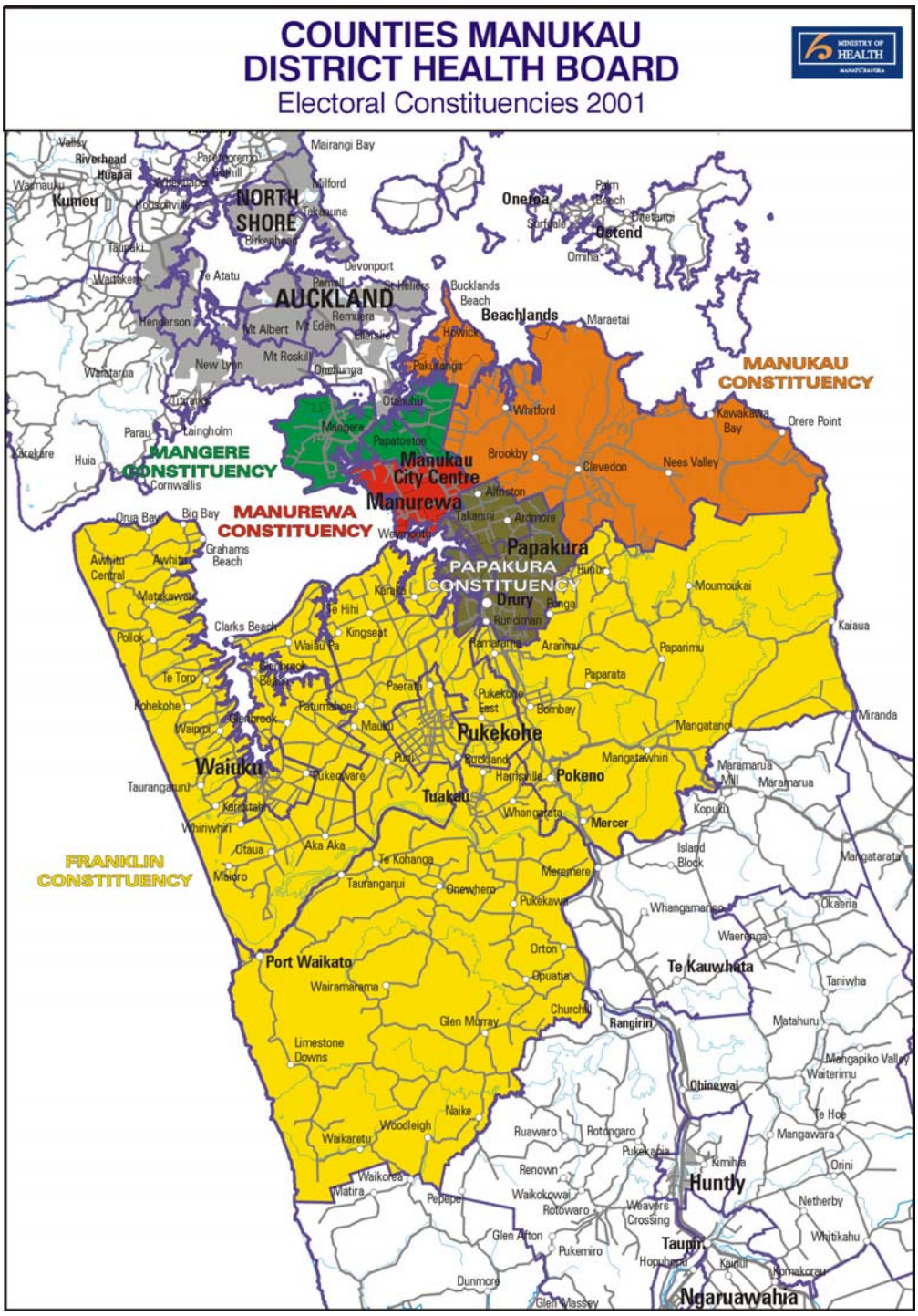
| Measure | Method | |
|---|---|---|
| Life expectancy at birth | Standard life table method | |
| **Surgical indicators** | **Procedure codes** | **Comments** |
| Knee replacement | Procedure codes 4951800,4951900,4952100,4952101,4952102,4952103,4952400,4952401,4952700,4953000,4953001,4953300,4953400,4955400 | All age standardised to NZ population for 15+ years and total |
| Hip replacements | Procedure codes 4931800,4931900,4932400,4932700,4933000,4933300,4934500 | |
| Coronary bypass grafts | Procedure codes 3849700,3849701,3849702,3849703,3849704,3849705,3849706,3849707,3850000,3850001,3850002,3850003,3850004,3850300,3850301,3850302,3850303,3850304,3863700,9020100,9020101,9020102,9020103 | |
| Angioplasties | Procedure codes 360 excl 3530400,3530500,3531000,3531001,3531002 | |
| Hysterectomy | Procedure codes 3565300,3565301,3565302,3565303,3565700,3566100,3566400,3566401,3566700,3566701,3567000,3567300,3567301,3575000,3575300,3575301,3575600,3575601,3575602 | |
| **Performance** | **Diagnosis codes ICD-10** | **Comments** |
| Ambulatory sensitive hospitalisations rate | Principal diagnosis 250,291,292,300,303,304,305,311,401,402,403,404,405,493 and acute | |
| Hip fractures rate | Principal procedure 8200-8209 and acute | |
| Assisted delivery % | Procedure codes 9046800,9046801,9046802,9046803,9046804,9046900,9047001,9047002,9047003,9047004 | As percentage of all deliveries |
| Forceps delivery % | Procedure codes 720-724 | As percentage of all deliveries |
| Caesarean sections % | Procedure codes 1652000,1652001,1652002,1652003 | As percentage of all deliveries |
| Pneumonia | Principal diagnosis 48 and acute | |
| **Mortality** | **Diagnosis codes ICD-9** | **Comments** |
| All cause mortality | All causes | Age standardised to NZ population |
| Suicide | Ecode 95 | |
| Unintentional injury | Ecodes 800-929 Excluding 87 | |
| Respiratory death | 46-51 | |
| Ischaemic heart disease | I21,I22,I25,I240,I241,I248,I249 | |
| Stroke | I61-I6199,I63-I6699 | |
| Colorectal cancer | C18-C2199 | |
| Lung cancer | C33-C3499 | |
| Breast cancer | C50-C5099 | |
| Infant mortality | | Number of infants who die in the first year of life |

| Childrens health | Criteria | Comments |
|---|---|---|
| Low birth weight | < 2500g | Live births |
| **PAH categories** | **Diagnosis codes ICD-10** | **Condition description** |
| Gastroenteritis | A01-A0999 | Diarrhoeal diseases, digestive symptoms |
| Tuberculosis | A150-A19999,B900-B90999,P370-P37099 | Tuberculosis |
| Other infections | A23-A2399,A26-A2699,A28-A2899,A32-A3299,A38-A3899, B50-B5499,J020-J02099,J030-J03099,P23-P2399,P351-P35199, P352-P35299,P358-P35899,P359-P35999,P36-P3699,P371-P37999 | Brucellosis, other zoonoses, strep throat, erysipelas, malaria, congenital infections |
| HIV/AIDS | B20-B2499 | HIV/AIDS |
| Immunisation-preventable | A413-A41399,A492-A49299,B9631-B963199,B9639-B963999,G000-G00099,B05-B0599, B06-B0699, B26-B2699, P350-P35099, A37-A3799, A33-A3699,A80-A8099 | Diphtheria, whooping cough, tetanus, polio, measles, mumps, Hib, rubella |
| Hepatitis & liver cancer | B15-B1999,C22-C2299,P353-P35399 | Hepatitis A, B, C,D,E primary liver cancer |
| Sexually-transmitted diseases | A50-A5899,A638-A63899,A64-A6499,I980-I98099,M023-M02399, M031-M03199,M730-M73099,M731-M73199,N290-N29099,N302-N30299, N341-N34199,N70-N7799,O00-O0099 | Syphilis, gonorrhoea + other STDs, PID, ectopic pregnancy |
| Skin cancers | C00-C0099,C43-C4499 | Lip, melanoma, other skin cancer |
| Oral cancers | C01-C0699,C09-C1099 | Malig neoplasm mouth, pharynx, larynx |
| Colo-rectal cancer | C18-C2199 | Colo-rectal cancer |
| Lung cancer | C33-C3499 | Malig neoplasm trachea, bronchus, lung |
| Breast cancer | C50-C5099 | Breast cancer |
| Cervical cancer | C53-C5399 | Cervical cancer |
| Thyroid disease | E00-E0599,E890-E89099 | Goitre, thyrotoxicosis, hypothyroidism |
| Diabetes | E10-E1499,E162-E16299 | Diabetes, hypoglycaemia |
| Nutrition | D50-D5399,E40-E4699,E50-E6499,M833-M83399,P923-P92399 | Nutritional deficits incl anaemia |
| Dehydration | E86-E8699,E870-E87099 | Hypernatraemia, dehydration/volume depletion |
| Alcohol-related conditions | F10-F1099,I426-I42699,K290-K29099,K292-K29299, K70-K7099 | psychosis, alcoholism, cardiac, gastric or liver damage due to alcohol |
| Epilepsy | G40-G4199,R560-R56099,R568-R56899 | Epilepsy, convulsions |
| ENT infections | H65-H6899,H70-H7099,J01-J0199,J028-J02999,J038-J03999 | Otitis media & mastoiditis, sinusitis, tonsillitis, pharyngitis |
| Rheumatic fever/heart disease | I00-I0999 | Acute rheumatic fever, heart disease |
| Hypertensive disease | I10-I1599,I674-I67499 | Hypertensive disease, hypokalaemia |

| | | |
|---|---|---|
| Ischaemic heart disease | I21,I22,I25,I240,I241,I248,I249 | Myocardial infarction, atherosclerosis, chronic IHD |
| Angina | I20-I2099,R071-R07499 | Angina, chest pain |
| Congestive heart failure | I50-I5099,J81-J8199 | Congestive heart failure, acute pulmonary oedema |
| Stroke | I61-I6199,I63-I669 | Intracerebral haemorrhage or occlusion |
| Respiratory infections | J21-J2199, A481-A48199,J13-J1899, J00-J0099,J06-J0699,J10-J1199,J20-J2099 | Common cold & URTI, acute bronchitis, pneumonia, influenza |
| CORD | J40-J4499,J47-J4799 | Acute and chronic bronchitis, emphysema, bronchiectasis |
| Asthma | J45-J4699 | Asthma |
| Dental conditions | K00-K0699 | Dental conditions |
| Peptic ulcer | K25-K2899 | Gastric & duodenal ulcers |
| Ruptured appendix | K350-K35199 | Ruptured appendix |
| Obstructed hernia | K400-K40199,K403-K40499,K410-K41199,K413-K41499,K420-K42199, K430-K43199,K440-K44199,K450-K45199, K460-K46199 | Obstructed or gangrenous inguinal or other hernia |
| Kidney/urinary infection | N10-N1099,N12-N1299,N136-N13699,N151-N15199,N390-N39099 | Pyelonephritis, urinary infections |
| Cellulitis | A46-A46999,H000-H00099,H010-H01099,H050-H05099,J340-J34099, K122-K12299,L01-L0499,L08-L0899,L980-L98099 | Skin infections - carbuncles, abscesses, impetigo, pilonidal cyst |
| Failure to thrive | R62-R6299,R633-R63399,R64-R6499 | Feeding problems, Lack of expected development |
| Gangrene | R02-R0299 | Gangrene |
| Motor vehicle crashes | E810 - 829 | Motor vehicle crashes |
| Poisoning | E850 - 869 | Poisoning |
| Swimming pool | E8830, 9105, 9106 | Swimming pool falls and drowning |
| Recreation injury | E8840, 8845 | Falls from playground equipment |
| Sport Injury | E8860, 9170, 927 | Sport Injury |
| Fire | E890 - 899 | Burns and scalds |
| Drowning | E910 - 9104, 9107-9109, 984 | Drowning |
| Suicide | E950 - 959, 980-989 | Suicide |

Data Source NMDS (National Minimum Data Set)

# Appendix A CMDHB electoral boundaries



# 13 Bibliography

[1] Jackson G, Palmer C, Lindsay A, Pearce J. Counties Manukau Health Profile. Counties Manukau District Health Board. May 2001.
[2] Ministry of Health. Our health our future. The health of New Zealanders 1999. Wellington: Ministry of Health.
[3] National health committee. The social, cultural and economic determinants of health in New Zealand: Action to improve health. June 1998.
[4] Jackson G, Palmer C, Lindsay A, Peace J. Counties Manukau health profile. Manukau: Counties Manukau District Health Board. May 2001.