

Taawhiti rawa toou haerenga ake te kore haere tonu.
Nui rawa oou mahi te kore mahi nui tonu.

We have come too far not to go further.
We have done too much not to do more.
(Sir James Henare)

Maa Taatou, Moo Taatou

Information to support Maaori Health Planning in Counties Manukau



Te Kaahui Ora

**Counties Manukau District Health Board
2007**

**COUNTIES MANUKAU DISTRICT
HEALTH BOARD**
A Community Partnership

Acknowledgements

This report was prepared by Dr Doone Winnard, Public Health Medicine trainee, Counties Manukau District Health Board.

I would like to acknowledge the support and encouragement of the DHB Maaori Health Team as I journeyed as a Paakehaa to attempt to provide something that might enhance their work with the Maaori community of Counties Manukau. I am also indebted to the support, wise counsel and editing of Dr Tom Robinson, and statistical support from Dean Papa.

This report is a 'work in progress', which will need to be modified and updated as new information comes to hand, and Maaori 'ways of knowing and working' are further articulated.

Disclaimer

Information in this report belongs to the people about whom it is written, the Maaori community of Counties Manukau. Every effort has been made to ensure that the information in this report is correct. Counties Manukau District Health Board and the author do not accept any responsibility for information which is incorrect and where action has been taken as a result of the information in this report.

Published in September 2007

By Counties Manukau District Health Board,
Private Bag 94052
South Auckland Mail Centre
Manukau City, New Zealand

This report is available in PDF format from www.cmdhb.org.nz

ISBN 978-0-9582842-2-6

The Whaanau Ora Framework

This report sits alongside the Counties Manukau Whaanau Ora plan, which attempts to capture the multidimensional nature of Maaori and Whaanau Ora well-being in eight key outcomes. Six of these are derived from Durie's Te Pae Maahutonga model and two new outcomes were developed through the Maaori Health Plan consultative process. These eight outcome areas are

- Te Mana Whakahaere – Maaori autonomy
- Ngaa Manukura – leadership
- Toiora – healthy lifestyles
- Tinana Ora – healthy lives
- Te Mana Kaawanatanga – governing with integrity
- Mauri Ora – access to Te Ao Maaori resources
- Waiora – interdependence with and protection of the environment
- Whaiora – participation in society

This framework is used to organise the quantitative outcomes data in Part One of this report.

Executive Summary

The Counties Manukau DHB Whaanau Ora plan seeks to create a platform to change the paradigm of Maaori health in the rohe 'from illness to informed wellness', to focus on strengths to move from 'prevalent diseases to preventative opportunities'. This requires adequate definition of the prevalent diseases and the numbers of Maaori affected by these conditions in Counties Manukau to assist in

- (a) planning innovative approaches to improve outcomes, and
- (b) subsequent identification and measurement of progress towards those improved outcomes.

This document attempts to provide a summary of currently available data to inform Maaori health planning in the Counties Manukau district. It incorporates both quantitative population level data in Part One, and a review of currently available literature about what 'best practice' for Maaori health service provision might look like in Part Two. It is naturally a 'work in progress', recognising that not only is new quantitative data continually becoming available, but also that Maaori specific and Maaori responsive health services are increasingly contributing to the body of knowledge publicly available about effective ways to promote whaanau ora.

Key facts from the quantitative population indicators are summarised after this executive summary and recommendations. Essentially those facts demonstrate that while progress has been made, reflecting passionate commitment by members of the Maaori community in Counties Manukau to improve Maaori health outcomes, there remain significant challenges. Clearly highlighted is that **progress towards smokefree Maaori lives and environments has the potential to reduce a sizable proportion of the preventable deaths and hospitalisations for both adults and tamariki**. This requires not only strategic and policy level commitment to Auahi Kore, but also recognition of the significant community level, whaanau-centred support needed for those who are smoking to successfully quit and to reduce initiation by rangatahi.

Similarly to impact the burgeoning consequences of overweight and obesity will require community commitment to build on current initiatives to improve physical activity and nutrition, supported by appropriate resource and policies. The prevalence of hazardous and problem drinking in Maaori adults highlights the need for appropriate alcohol treatment services for Maaori, but also the need for broader approaches to the issue.

For health service provision, the evidence that is available suggests investment in **community partnership in combination with systematic, structured approaches to care**, especially for long term health conditions, has significant potential to improve health outcomes. Building on quality improvement programmes currently in use provides opportunities to embed Maaori priorities into frameworks which are already an accepted part of day to day practice.

However as highlighted by the literature review, to measure the impact of future initiatives on health inequalities for Maaori, and also support Maaori provider development and increased Maaori responsiveness of mainstream/generic services, will require those in management to work closely with service providers and recipients **to better identify performance indicators that capture both qualitative and quantitative data to reflect the priorities of both Te Ao Maaori and generic/ mainstream health service management**. As a resource for programme planning, detailed evidence about approaches which may be appropriate in addressing specific health issues is provided in the literature review of this document.

Recommendations

These recommendations are made on the basis of the quantitative and qualitative information gathered in the preparation of both Parts One and Two of this report.

1. **Strategic commitment is made to promote Auahi Kore** for the Counties Manukau rohe to re-establish smokefree as a cultural norm for Maaori. This will require investment in both community level health promotion mahi and quit support via primary, secondary and community services.

Further detail of how what such an approach might require across the DHB is outlined on P 110 – 114 of this report.

2. **Needs assessment to allow better understanding of actual barriers to care and participation in health-related programmes is undertaken** as part of programme planning to enhance appropriate service provision.

3. While recognising the limitations of currently available data, **where possible evidence about effectiveness is taken into consideration in programme planning.**

4. The DHB promotes **increased use of programme logic in planning** new initiatives, to build on the evidence (both qualitative and quantitative) that is available to ensure that interventions are planned in ways that maximise the likelihood of 'success', as defined by the Maaori community. This is likely to require the provision of training opportunities for programme managers and service providers.

5. **Cultural appropriateness and competence of all facets of programmes delivered** is addressed, including attention to the media used, the settings in which programmes are provided and the people involved. This requires a whole of system approach.

6. The need for **intensive recruitment and follow-up approaches**, including face-to-face interactions, to engage Maaori whaanau is recognised in all programmes. This requires adequate human and systems resource, and frequently multidisciplinary approaches including community health workers or other 'peer led' approaches.

7. **Evaluation of** new approaches to address health issues for Maaori in Counties Manukau is encouraged and supported with funding and training.

8. Members of the Maaori Health team advocate for and potentially facilitate **increased opportunities for shared learning** among Maaori providers and managers both regionally and nationally.

.....

Key Facts from Part One: Population Health Indicators for Maaori in Counties Manukau

When describing rates of health, ill-health and health-related behaviours (the Toiora and Tinana Ora sections), the **percentages in this section differ from those in Part One** of the main body of this report. This is because in the main part of the report the Maaori population is compared to other groups in Counties Manukau and so age-standardised rates are quoted, whereas in this section the Maaori population alone is being described, so the **use of crude rates** is appropriate. These crude rates are lower than the age-standardised rates in most instances, but higher for smoking and hazardous alcohol use, the difference between the two types of rates being described in the methodology section on P 2.

Demography

In 2006 there were approximately **76,100 Maaori in Counties Manukau** (36,800 males and 39,300 females), making up just over **17% of the total Counties Manukau population**. This proportion is predicted to remain relatively stable over the next 20 years. The population is **relatively youthful**, with 48% being aged under 20 years. This youthful population brings challenges but also the potential to nurture tamariki and rangatahi with secure cultural identity and whai painga (values) in tune with whaanau ora.

The Maaori population in Counties Manukau is **predicted to increase 51%** by 2026, with a much **larger increase in those aged over 65 yrs** (330%). This will require increased consideration of the specific needs of older kuia and kaumatua, and is in part a positive consequence of the increasing life expectancy for Maaori.

Sixty-five percent of Maaori in Counties Manukau live in the urban areas of Manurewa, Maangere, Papatoetoe and Otara, meaning initiatives in these areas can reach significant proportions of the Counties Manukau Maaori population. In addition 16% of Counties Manukau Maaori live in the wards that collectively make up Papakura, and in other rural areas, Maaori may constitute a significant percentage of the local community, potentially facilitating community based initiatives in these areas.

Approximately 60% of Maaori in Counties Manukau (45,500 people) live in areas classified as the most socioeconomically deprived (NZDep 9 & 10). Thus for Maaori whaanau **socioeconomic deprivation adds to the health disparities caused by ethnicity**. In Manukau and Papakura, approximately 25% of Maaori households are living in overcrowded homes.

Te Mana Whakahaere (Maaori autonomy)

The development of sustainable Maaori health and disability providers, increased numbers of Maaori in the health and disability workforce and Maaori participation in key DHB decision making structures will be important to achieving increased Maaori autonomy. However ultimately Te Mana Whakahaere is about empowering the Maaori community to participate, lead and take ownership of Maaori outcomes. The challenge is how the DHB can further support and resource the community to lead this development.

Maaori providers funded by the Counties Manukau District Health Board deliver a broad spectrum of services including personal health services (both 'on-site' and outreach services), mental health services, disability support and health promotion. These providers vary in size and structure but all seek to govern, manage and deliver services from a kaupapa Maaori framework.

Workforce surveys undertaken in recent years indicate that approximately 6% of DHB hospital staff and 12% of the primary care, community and NGO workforce in the DHB area identified as Maaori. Specific **work force initiatives to attract and retain Maaori practitioners from a wide variety of health fields** will continue to be important to allow extension of 'by Maaori for Maaori'

services. In addition, the **non-Maori workforce must be competent in working for Maori health gain.**

Nga Manukura. (Maori leadership)

Increased Maori leadership at all levels of the health sector is a long term goal of the Whaanau Ora plan, which will be contributed to by effective partnered governance of the DHB through POU and Maori leadership development opportunities at all levels of the health and disability sector.

Manawhenua provide guidance on tikanga issues related to the DHB (e.g. service provision, development of facilities and engagement with Maori communities).

In addition to committees required by legislation, Counties Manukau DHB has established **POU, the Maori Governance Group**. This group is a non-statutory sub-committee of the Board, with members appointed by and accountable to the Board. The role of POU is to ensure that the priorities and needs of Maori communities are reflected in DHB planning, to provide advice to the Board on strategies to reduce health disparities for Maori and matters relating to Te Tiriti o Waitangi¹, and ensure governance level partnership with Maori.

The General Manager for Maori Health sits as a member of the Executive Management Team, the Funding Forum and oversees the work of Te Kaahui Ora, the Maori Health team. Members of the Te Kaahui Ora team chair a number of steering groups or committees that specifically relate to Maori health programmes or streams of work, as well as participating as Maori representatives on the other DHB Committees.

Mauri Ora (Access to Te Ao Maori resources)

Maori models of health recognise the importance of cultural identity, and the need for health promotion to facilitate access by Maori to Te Ao Maori.

Census data from 2001 indicated **75% of Maori in Counties Manukau identified with one or more iwi**. Twenty-five percent (17,030 people) identify with one of the Tainui group of iwi while 43% (29,570) identify with one of the Tai Tokerau iwi. Of those who identify as Maori, **23% can hold a conversation about 'a lot of everyday things' in Te Reo**.

At the time this document was produced 31 marae were identified in the Counties Manukau district. In 2006 there were **43 Koohanga Reo** registered in the Counties Manukau district, and **five Kura Kaupapa and one Kura Teina** school in the region. Five percent of tamariki aged 5 – 15 years are involved in Te Reo immersion education for 50% or more of their school week.

Toiora² (Healthy lifestyles)

The prevalence of important risk factors for current and future ill-health and premature death demonstrate major areas where the DHB can work with the Maori community to positively influence the notable disparities. Data from the 2002-03 New Zealand Health Survey is the most recent population level data available for Counties Manukau as a district; these figures will need to be updated once the 2006-07 results are available.

¹ within the framework of the New Zealand Public Health & Disabilities Act

² As noted previously (P iv) the percentages in this section differ from those in Part One of this report because crude rates are used rather than age standardised rates. The crude rates are lower than the age-standardised rates in most instances, but higher for smoking and hazardous alcohol use, the difference between the two types of rates being described in the methodology section on P 2.

For Maaori in Counties Manukau **smoking** remains a very significant risk factor for ill health, and the leading risk factor that is able to be modified. **Maaori women in Counties Manukau are particularly at risk, with 58.5% smoking compared to 48% of Maaori men.** This means approximately 14,750 Maaori women and 10,690 Maaori men in Counties Manukau are smokers, and for the sake of themselves and their whaanau need support to quit. National data suggests approximately **24% of Maaori smokers are likely to be thinking about or doing things to help them quit.** This means 3,540 Maaori women and 2,560 Maaori men in Counties Manukau are already likely to be actively thinking about or trying to quit smoking. Finding **effective strategies to support them is key** as increasing the number of smokers and environments that are **smokefree** will impact significantly on health outcomes for Maaori in Counties Manukau, both directly and by helping to reduce smoking initiation by others and the harm from second hand smoke.

Approximately **60% of Maaori adults are involved in regular physical activity**, a figure which has been **maintained over recent years** in the face of falling activity levels by some other population groups. However that still means 40% of Maaori adults (19,000 in Counties Manukau) need support to increase their physical activity levels.

Fruit and vegetable intake is also an area needing improvement with only **32% of Maaori adults in Counties Manukau reaching the target of '5+ a day'**. A gender difference for fruit and vegetable intake influences the results, with 39% of Maaori females reaching the target compared to 23% of males.

Overall **28% of Maaori adults in Counties Manukau are classified as obese, and 34% as overweight.** This means approximately 29,000 Maaori adults in Counties Manukau need support to reduce their weight to decrease their risk of serious health problems. The prevalence of being overweight is increasing and this will reflect in increased associated morbidity and mortality, particularly related to diabetes and ischaemic heart disease, where Maaori are already overrepresented.

Hazardous alcohol use is also of concern. **40% of Maaori men are likely to be drinking in a way that carries a high risk of health damage; 22% of Maaori women have also been identified as drinking hazardously.** These figures suggest there are 8,920 Maaori men and 5,540 Maaori women in Counties Manukau who need support to reduce their drinking to safe levels. In addition, alcohol use and binge drinking appears to be an accepted norm for many young people - over a third of rangatahi aged 14 years report an episode of binge drinking in the preceding month.

Tinana Ora (Healthy lives)

The Whaanau Ora plan focuses on moving towards reducing absolute and relative health and disability outcomes. The indicators documented in this report highlight the situation for Maaori in Counties Manukau in relation to life expectancy and disease-related outcomes which are prioritised in the Whaanua Ora plan.

Overall indicators

Life expectancy for Maaori in Counties Manukau has improved 4 years over the past decade. This has **reduced the gap** between ethnicities; **however significant disparity remains, with a 10.4 year gap between life expectancy of Maaori and that of non-Maaori/non-Pacific peoples.** In keeping with increasing life expectancy, premature mortality aged 15 – 74 years has fallen significantly in Counties Manukau over the past 10 years, averaging 2.2% per year, in parallel with the drop in all New Zealand mortality. The reduction has been even steeper for Maaori at 5% per year, although that still leaves an 80% excess mortality.

Census data for Counties Manukau indicates that **caring for those with disability is an important dynamic in Maaori households, with 12.6% caring for a member of their own household with disability, while 9.7% care for someone with a disability living in another**

household³. This is both a tribute to whaanaungatanga but also a marker of higher levels of disability in the Maaori population. National data suggest Overall 21 percent of Maaori living in households had a disability and 14% had a functional disability requiring assistance.

Children and young people

SIDS is clearly the most important potentially preventable cause of death for tamariki in Counties Manukau. Figures suggest each year in Counties Manukau between two and nine whaanau have to deal with the tragedy of a SIDS death. The percentage of Maaori births where baby weighed less than 2500gms has remained relatively stable at approximately 8% for nearly the past decade. This equates to **120 – 140 Maaori babies born with the risks that accompany low birth weight per year** in Counties Manukau. Plunket data suggests **breast feeding rates for Maaori in Counties Manukau, at less than 50% at 6 weeks** and 35% at 3 months, are well below national targets.

For tamariki aged 0 – 14 years, **bronchiolitis, dental conditions, asthma, cellulitis and ENT infections are the most important preventable causes of hospitalisation**. Together these conditions resulted in 1356 admissions in the 2005/06 year, with bronchiolitis alone accounting for 354 admissions. **Injury is also an important cause of childhood hospitalisation**. There are in the order of 120 tamariki aged under five admitted to Middlemore hospital annually because of poisoning, falls or burns.

A large majority (**at least 85%**) of Maaori children have been successfully protected against **meningococcal disease in Counties Manukau** due to significant effort by primary care and community services. Other immunisation data is currently limited by difficulties with information systems.

In response to evidence of poor oral health for tamariki, considerable efforts have been made to increase **preschool dental enrolments** across the Auckland region and in Counties Manukau from **2001 to 2005 Maaori enrolments increased 77%, at a time when the Maaori preschool population was projected to increase only 12%**. However there is still significant progress to be made, given those enrolments **still only represent approximately 44% of the eligible Maaori preschool population**. 70% of preschool tamariki in Counties Manukau were caries free, but only 48.4% of 5 yr old tamariki were caries free. Data suggests approximately 58% of tamariki complete dental assessment by the end of Year 8 (Form 2).

In the 2005/06 year there were approximately 310 - 340 **births in public hospitals** in Counties Manukau to Maaori young women under the age of 20 years, **120 - 130 of these aged 17 years or less**, and approximately 50 aged 16 years or less. As a percentage of total deliveries to Maaori women, teenage deliveries have remained fairly stable in the range of 16 – 18% since 2000, which is very similar to all New Zealand Maaori.

Adults

Self reported health and illness data⁴

New Zealand Health Survey results indicate that **85% of Maaori adults rate their health as 'good, very good or excellent'**. However 7.2% were limited 'at least a little' in self care by health issues.

Differences in self-reported illness may be due to differences in true prevalence, or differences in diagnosis and/or provider discussion of diagnosis with their patients. Health survey data from 2002-03 indicate **10% of Maaori adults in Counties Manukau are likely to report a diagnosis of heart disease**, equating to approximately 4,690 Maaori adults with diagnosed heart disease of some sort. The prevalence of **self reported doctor diagnosed diabetes (excluding in**

³ This reality is only reflected in a limited way in DHB planning because funding arrangements mean that many disability support services are not contracted through the DHB

⁴ Again this section uses crude rates.

pregnancy) was 6.7%, equating to 3170 Maaori adults in Counties Manukau. National data suggests diabetic renal disease is a significant complication of diabetes for Maaori. A diagnosis of stroke is reported much less commonly at 3.2%.

Self report of diagnosed **high blood pressure at any time except during pregnancy was 20.4%**, much higher than report that a doctor had diagnosed high blood cholesterol at 10%. It is recognised that self report of raised cholesterol is likely to significantly under estimate the prevalence of this risk factor, but does give an indication of how many people may have been screened and diagnosed.

Recently attention has been drawn to the **high incidence of symptomatic gout among Maaori men** in Counties Manukau, with a prevalence of 9.3% in one PHO (more commonly diagnosed than diabetes in that population). While the burden of gout falls largely in the primary care sector, in the past four years, as a primary diagnosis gout has accounted for 40 – 60 admissions for Maaori in Counties Manukau each year in the 15 – 64 yr (working age) age group with a similar number in that age group where gout was a secondary diagnosis.

Overall **24.5% of Counties Manukau clients seen by DHB mental health services⁵ are Maaori⁶**. This access rate is higher than access rates for Maaori residing elsewhere in New Zealand, and given that efforts are being made to increase access, this could be interpreted positively. Maaori account for 32% of Counties Manukau residents seen for schizophrenia, 12% of those seen for depression⁷, 27% of those seen with bipolar disorder, and 38% of alcohol and drug clients. Nine percent of Counties Manukau Maaori clients saw the general Kaupapa Maaori Mental Health team and a further 6.1% saw the Alcohol and Drug Kaupapa Maaori team.

Health systems health and illness data

In the five years from 1999 – 2003 **ischaemic heart disease, lung cancer, diabetes, and CORD were consistently the top four causes of potentially avoidable mortality** for Maaori aged 15+ years in Counties Manukau, except in 1999 when stroke displaced diabetes.

Angina/chest pain and CORD have been the top two causes of potentially avoidable hospitalisation for Maaori adults aged 15+ for several years, with angina/chest pain and myocardial infarction together accounting for 20% of potentially avoidable admissions for both men and women in 2005/06. For women, angina/chest pain and CORD amounted to 357 admissions in 2005/06 (420 if confirmed myocardial infarction is included); the same figures for men were 260 admissions for angina/chest pain and CORD in 2005/06 (344 if confirmed myocardial infarction is included).

In addition interpersonal **violence and intentional self harm** (which are not included in the definitions of potentially avoidable hospitalisations) **also account for significant numbers of hospitalisations** - 250 – 300 admissions per year for due to interpersonal violence and 100 – 110 admissions per year due to intentional self harm.

Health services access⁸

Health survey data indicates that prior to the implementation of the Primary Health Care Strategy approximately 72% of Maaori adults in Counties Manukau report visiting a GP in the last 12 months. Although the average number of visits was greater for Maaori than other groups, these figures do not take account of need, and national level data suggests 15 – 20% of Maaori adults said they needed to see a GP in the last 12 months but did not see one. However as noted this

⁵ Some mental health services are provided on a regional basis so information is provided on access to a mental health service in any DHB by Counties Manukau residents

⁶ note these are rates for those accessing care, not prevalence rates for the mental health conditions in the population

⁷ Evidence would suggest this lower rate of access for care for depression is unlikely to reflect a lower prevalence of depression in the population. The recent national mental health survey which included 2,600 Maaori suggests that major depression has a similar prevalence in Maaori as in non-Maaori/non-Pacific populations (33).

⁸ This section also quotes crude rates

was prior to the implementation of the Primary Health Care Strategy (PHCS) which has sought to reduce barriers to access, particularly financial barriers.

Health Survey data suggested 17% of Maaori in Counties Manukau were likely to report having visited a Maaori health provider in the last 12 months, with national level data suggesting a further 6% likely to report unmet need to see a Maaori health provider (again prior to the PHCS).

Te Mana Kaawanatanga (Governing in partnership with integrity)

As noted under Ngaa Manukura DHB governance level partnership is led by POU, the Maaori Governance Group. In addition members of the Maaori community are involved in various DHB-led steering groups and advisory groups.

Waiora (Interconnection with the environment and environmental protection)

The vast majority of Maaori in Counties Manukau obtain drinking water from supplies which have high compliance with bacteriological standards. The Healthy Environments Team from ARPHS is currently working with marae in the rohe to **ensure that water used on the marae and their onsite koohanga reo and kaumaatua units is safe to drink.** However much of Franklin, and parts of Papakura and Manukau city have a reticulated water supply which is not fluoridated; this is in addition to the supply to Onehunga which is not fluoridated. These **non-fluoridated areas** are of concern given the poor oral health of tamariki in Counties Manukau.

On-site wastewater treatment and disposal systems that are not properly designed or maintained can be a health risk predominantly for infectious diseases, and 2% of those living in Manukau City, 12% of those in Papakura and 21% in Franklin live in properties with **on-site wastewater systems.**

Access to factors which may influence health-related behaviour.

In relation to physical activity and nutrition, proximity to various food retailers and space for physical activity may influence the choices people make. People living in **lower socioeconomic areas** tend to live closer to commercial centres and industrial zones where **takeaway food outlets are more common and access to green space is more limited,** compared to rural or less commercial zones. While the reasons for this are complex, consideration does need to be given to the effect that access or lack of it may have on the health and wellbeing of Maaori in Counties Manukau.

Whaiora (Maaori participation in society)

Transport and storage, communication and electricity/gas/water supply feature as industry sectors that employ significant proportions of Maaori in Counties Manukau, pointing to areas where attention to occupational health and safety issues may be particularly important for Maaori.

A significant proportion (17%) of Maaori are pursuing study as adults; given Maaori are less likely to leave school with a qualification, this is an indication of their determination to improve their education status.

Maaori adults are **more likely** than their non-Maaori/non-Pacific counterparts **to be looking after a child** in their own or another household, and as cited previously under disability, more likely to be looking after someone who is disabled. They are also more likely to be involved in other helping/voluntary activities.

Table of Contents

EXECUTIVE SUMMARY	III
KEY FACTS FROM PART ONE: POPULATION HEALTH INDICATORS FOR MAAORI IN COUNTIES MANUKAU	IV
TABLE OF CONTENTS	XI
LIST OF FIGURES	XIII
LIST OF TABLES.....	XVI
ABBREVIATIONS / GLOSSARY OF MEDICAL AND TECHNICAL TERMS ..	XVII
PART ONE: POPULATION HEALTH INDICATORS FOR MAAORI IN COUNTIES MANUKAU	1
1 INTRODUCTION	1
1.1 The focus of this report.....	1
1.2 Methodology.....	1
1.3 Principle data sources	3
2 DEMOGRAPHY OF THE MAAORI POPULATION IN COUNTIES MANUKAU	4
2.1 Age structure of the Counties Manukau Maaori population	4
2.2 Predicted population growth.....	6
2.3 The distribution of Maaori across the Counties Manukau district.	6
2.4 Socioeconomic factors	8
3 TE MANA WHAKAHAERE (MAAORI AUTONOMY).....	11
3.1 Maaori providers within the Counties Manukau district.....	11
3.2 Workforce	13
4 NGA A MANUKURA (MAAORI LEADERSHIP)	14
4.1 Maaori involvement in DHB governance.....	14
4.2 Maaori leadership in other parts of the DHB.....	15
5 MAURI ORA (ACCESS TO TE AO MAAORI RESOURCES).....	16
5.1 Iwi identified by Maaori living in Counties Manukau	16
5.2 Te Reo Maaori.....	16
5.3 Marae in Counties Manukau district.....	17
5.4 Access to Maaori specific education	18
5.5 Maaori specific leisure activities	19
6 TOIORA (HEALTHY LIFESTYLES).....	20
6.1 Risk factors for ill health	20
6.2 Behaviours to enhance hauora	27
6.3 Disability Adjusted Life Years.....	32
7 TINANA ORA (HEALTHY LIVES).....	33
7.1 All ages.....	33
7.2 Child and youth general data	38
7.3 Tamariki specific data.....	40
7.4 Rangatahi specific data	50
7.5 Adult Data.....	52
8 TE MANA KAAWANATANGA (GOVERNING IN PARTNERSHIP WITH INTEGRITY).....	70

8.1	Maaori involvement in governance in CMDHB	70
9	WAIORA (INTERCONNECTION WITH THE ENVIRONMENT AND ENVIRONMENTAL PROTECTION).....	71
9.1	Urban Physical Environment.....	71
9.2	Water supply and sewage disposal.....	71
9.3	Access to factors which may influence health-related behaviour.	72
10	WHAIORA (MAAORI PARTICIPATION IN SOCIETY).....	74
10.1	Education	74
10.2	Occupation	77
10.3	Unpaid activities	81
PART TWO: LITERATURE REVIEW. EVIDENCE TO SUPPORT EFFORTS TO IMPROVE THE HEALTH STATUS OF MAAORI IN COUNTIES MANUKAU... 83		
11	INTRODUCTION TO LITERATURE REVIEW	84
11.1	How might 'best practice' look?.....	84
11.2	How can evidence be used in programme planning?	85
11.3	The importance of quality monitoring and reporting.....	85
11.4	The role of formal evaluation.....	86
11.5	Structure of this literature review.....	86
12	SCOPE OF THIS LITERATURE REVIEW.....	86
12.1	Method	87
13	GENERAL APPROACHES	88
13.1	Community engagement and self-determination.	90
13.2	Opportunities to share experiences and stories with whaanau and communities	90
13.3	Affirmation of cultural identity	90
13.4	Cultural competence	90
13.5	Community Health Workers	91
13.6	Importance of good general communication skills	92
13.7	Nurse-led initiatives.....	92
13.8	Quality initiatives	92
13.9	Social marketing.....	92
13.10	Community resilience	92
14	SPECIFIC ISSUES	93
14.1	Smokefree	93
14.2	Cardiovascular Disease (CVD) – particularly heart attack and stroke.....	98
14.3	Diabetes	99
14.4	Hypertension	102
14.5	Nutrition and physical activity.....	102
14.6	Injury Prevention	106
14.7	Sexual and reproductive health.....	107
14.8	Well Child and Immunisations.....	108
14.9	Cancer screening	109
14.10	General strategies for health education for Maaori.....	109
15	IMPORTANT POTENTIAL LEARNINGS: EXAMPLE OF A WHAANAU ORA SMOKEFREE APPROACH FOR TAMARIKI.....	110
15.1	Using the evidence: What things could the DHB do to support the outcomes represented in this story?	111
15.2	Potential community and whaanau level responses by the DHB	112
15.3	Potential primary and secondary health care services responses by the DHB	113
16	REFERENCES.....	115

List of Figures

<i>Figure 2.1.1 Population pyramids for Counties Manukau residents projected populations 2006 (note the different scales on X axes, proportionate to the differing sizes of the populations represented)</i>	5
<i>Figure 2.2.1 Predicted increase of the Counties Manukau Maaori population 2006 – 2011 by age group</i>	6
<i>Figure 2.3.1 Percentage of territorial authority populations who identify as Maaori and the distribution of Maaori across the territorial authority areas in Counties Manukau</i>	7
<i>Figure 2.3.2 Map of Ward boundaries 2006</i>	7
<i>Figure 2.3.3 The distribution of Maaori across the Counties Manukau district (2006 Census data)</i>	8
<i>Figure 2.4.1 Percentage of people by NZDep01 quintile and ethnic group for Counties Manukau</i> .	9
<i>Figure 2.4.2 Life expectancy by ethnicity and socioeconomic deprivation – national data</i>	10
<i>Figure 2.4.3 Percentage of crowded households in Counties Manukau territorial authorities by ethnicity</i>	11
<i>Figure 3.1.1 The distribution of Maaori primary care providers in relation to the Maaori population in Counties Manukau (2006 Census data)</i>	12
<i>Figure 5.2.1 Percentage of Maaori able to hold a conversation about ‘a lot of everyday things’ in Te Reo Maaori</i>	17
<i>Figure 5.3.1 Marae identified in the Counties Manukau region</i>	18
<i>Figure 6.1.1 Age-standardised prevalence of obesity by ethnicity and gender</i>	20
<i>Figure 6.1.2 Age-standardised prevalence of overweight by ethnicity and gender (NZHS 2002/03)</i>	21
<i>Figure 6.1.3 Prevalence of obesity in children aged 5 – 14 yrs by ethnicity and gender, national level data</i>	22
<i>Figure 6.1.4 Prevalence of overweight in children aged 5 – 14 yrs by ethnicity and gender, national level data</i>	22
<i>Figure 6.1.5 Age-standardised prevalence of current smoking by ethnicity and gender</i>	23
<i>Figure 6.1.6 Age-standardised prevalence of marijuana use in the last 12 months by ethnicity and gender</i>	24
<i>Figure 6.1.7 Use of marijuana by secondary school aged Maaori young people in the Auckland region</i>	25
<i>Figure 6.1.8 Age-standardised prevalence of hazardous drinking by ethnicity and gender</i>	26
<i>Figure 6.1.9 Use of alcohol by secondary school aged Maaori young people in the Auckland region</i>	27
<i>Figure 6.2.1 Age-standardised prevalence of regular exercise (at least 150 mins of physical activity per week comprising at least 30 minutes on five or more days of the week) by ethnicity and gender</i>	28
<i>Figure 6.2.2. Percentage of children in the most active quartile, national level data</i>	28
<i>Figure 6.2.3 Age-standardised prevalence of recommended fruit intake by ethnicity and gender</i>	29
<i>Figure 6.2.4 Age-standardised prevalence of recommended vegetable intake by ethnicity and gender</i>	30
<i>Figure 6.2.5 Prevalence of recommended fruit intake by children ethnicity and gender, national level data</i>	30

<i>Figure 6.2.6 Prevalence of recommended vegetable intake by children by ethnicity and gender, national level data.....</i>	<i>31</i>
<i>Figure 6.2.7 Prevalence of children who eat something at home before leaving for school, national level data</i>	<i>31</i>
<i>Figure 6.2.8 Prevalence of children for whom most of what they eat at school is taken from home, national level data.....</i>	<i>31</i>
<i>Figure 6.2.9 Prevalence of children who report that their household can always afford to eat properly, national level data.....</i>	<i>32</i>
<i>Figure 7.1.1 Life expectancy at birth, both genders combined by ethnicity</i>	<i>34</i>
<i>Figure 7.1.2 Total age standardised mortality rate, both genders combined, by ethnicity.....</i>	<i>34</i>
<i>Figure 7.1.3 Age adjusted mortality, 0 – 14 years, both genders combined, by ethnicity.....</i>	<i>35</i>
<i>Figure 7.1.4 Age adjusted mortality, 15 – 74 years, both genders combined, by ethnicity.....</i>	<i>35</i>
<i>Figure 7.1.5 Age adjusted mortality, 75 years +, both genders combined, by ethnicity.....</i>	<i>36</i>
<i>Figure 7.1.6 Age specific prevalence of disability, national level data, by ethnicity (2001).....</i>	<i>37</i>
<i>Figure 7.1.7 Rates of selected disability types, Maaori children (national level data 2001).....</i>	<i>37</i>
<i>Figure 7.1.8 Percentage of people looking after a member of their own household who is ill/has a disability by ethnicity.....</i>	<i>38</i>
<i>Figure 7.1.9 Percentage of people looking after someone who is ill/has a disability who is not living in their own household by ethnicity</i>	<i>38</i>
<i>Figure 7.3.1 Percentage of births where baby weighed < 2500 gm by ethnicity.....</i>	<i>41</i>
<i>Figure 7.3.2 Full/exclusive breastfeeding rates (June 2004 to June 2005) by ethnicity.....</i>	<i>42</i>
<i>Figure 7.3.3 Hospitalisation rates for children under 1 year by ethnicity.....</i>	<i>43</i>
<i>Figure 7.3.4 Hospitalisation from injury (poisoning/falls/burns) aged 0 – 4 years by ethnicity.....</i>	<i>43</i>
<i>Figure 7.3.5 Admissions due to interpersonal violence for tamariki aged 0 – 14 years.....</i>	<i>44</i>
<i>Figure 7.3.6 Percentage of children who did not pass the New Entrant Hearing Test 2005/06 year.</i>	<i>46</i>
<i>Figure 7.3.7 Percentage of children who did not pass the Preschool Typanometry Test 2005/06</i>	<i>46</i>
<i>Figure 7.3.8 Preschool dental enrolments as percentage of preschool population by ethnicity</i>	<i>47</i>
<i>Figure 7.3.9 Percentage of 5 yr olds who are caries free by ethnicity.....</i>	<i>48</i>
<i>Figure 7.3.10 Five yr olds DMFT (decayed/missing/filled teeth) by ethnicity.....</i>	<i>48</i>
<i>Figure 7.3.11 DMFT of Form II students by ethnicity</i>	<i>49</i>
<i>Figure 7.3.12 Significant caries index of Form II students by ethnicity</i>	<i>49</i>
<i>Figure 7.4.1 Percentage of pregnancies ending in abortion by ethnicity for NZ women aged < 20 years</i>	<i>50</i>
<i>Figure 7.4.2 Births to teenage mothers as percentage of total number of births by ethnicity.....</i>	<i>51</i>
<i>Figure 7.4.3 Admissions for intentional self harm aged 15+ years by ethnicity</i>	<i>52</i>
<i>Figure 7.5.1 Age-standardised prevalence of those reporting their health status to be Good/Very Good/Excellent by ethnicity and gender.....</i>	<i>56</i>
<i>Figure 7.5.2 Age-standardised prevalence of limitation of self care by ethnicity and gender.....</i>	<i>57</i>
<i>Figure 7.5.3 Age-standardised prevalence of self reported heart disease by ethnicity and gender</i>	<i>58</i>
<i>Figure 7.5.4 Age-standardised prevalence of self reported stroke by ethnicity and gender.....</i>	<i>58</i>
<i>Figure 7.5.5 Age-standardised prevalence of self reported hypertension by ethnicity and gender</i>	<i>59</i>

<i>Figure 7.5.6 Prevalence of self reported raised cholesterol by ethnicity and gender</i>	<i>59</i>
<i>Figure 7.5.7 Age-standardised prevalence of self reported diabetes by ethnicity and gender</i>	<i>60</i>
<i>Figure 7.5.8 Admission rates for gout as a primary diagnosis in Counties Manukau by ethnicity, aged 15 – 64 yrs</i>	<i>62</i>
<i>Figure 7.5.9 Admission rates for interpersonal violence for age 15+ by ethnicity.....</i>	<i>64</i>
<i>Figure 7.5.10 Admission rates for intentional self harm for age 15+ by ethnicity.....</i>	<i>65</i>
<i>Figure 7.5.11 Percentage of total deliveries requiring assistance (e.g. forceps, Ventouse) by ethnicity.....</i>	<i>65</i>
<i>Figure 7.5.12 Percentage of total deliveries requiring Caesarean Section by ethnicity.....</i>	<i>66</i>
<i>Figure 7.5.13 Hospitalisation rate for pelvic inflammatory disease by ethnicity, women aged 15+ years</i>	<i>67</i>
<i>Figure 7.5.14 Hospitalisation rate for ectopic pregnancy by ethnicity, woman aged 15 + years ...</i>	<i>67</i>
<i>Figure 7.5.15 Age-standardised prevalence of visit to a GP in the last 12 months by ethnicity and gender.....</i>	<i>68</i>
<i>Figure 7.5.16 Age-standardised prevalence of visit to specialist in the last 12 months by gender and ethnicity.....</i>	<i>69</i>
<i>Figure 7.5.17 Age-standardised prevalence of having used a private or public hospital in the last 12 months by gender and ethnicity.....</i>	<i>70</i>
<i>Figure 9.3.1 Proportion of population within 1 km of takeaway and fast food outlets by ethnicity.</i>	<i>72</i>
<i>Figure 9.3.2 Proportion of population within 1 km of fruit and vegetable retailer by ethnicity.....</i>	<i>73</i>
<i>Figure 9.3.3 Access to Green Activity Space by ethnicity.....</i>	<i>73</i>
<i>Figure 9.3.4 Proportion of population within 1 km of an off-licence liquor outlet by ethnicity.....</i>	<i>74</i>
<i>Figure 10.1.1 Time spent by those aged 15+ pursuing study by ethnicity</i>	<i>75</i>
<i>Figure 10.1.2 Highest qualification of Counties Manukau usually resident population aged 15 years and over, 2001 Census.....</i>	<i>75</i>
<i>Figure 10.1.3 Apparent School Retention Rates at age 16 years at July 2006, national data.....</i>	<i>77</i>
<i>Figure 10.2.1 Occupational Group of the employed Counties Manukau usually resident population by ethnicity.....</i>	<i>78</i>
<i>Figure 10.2.2 Industry of the employed Counties Manukau usually resident population by ethnicity</i>	<i>79</i>
<i>Figure 10.3.1 Time spent by those aged 15+ in various unpaid activities</i>	<i>81</i>
<i>Figure 14.5.1 Percentage of children who actively travel to school, national level data</i>	<i>103</i>
<i>Figure 14.5.2 Percentage of children who watch > 20 hours television or videos during the week, national level data.....</i>	<i>103</i>
<i>Figure 14.5.3 Percentage of children who watch > 8 hours television or videos during the weekend, national level data</i>	<i>104</i>
<i>Figure 14.6.1 Percentage of off-licence premises who sold alcohol to young people without age verification ID.....</i>	<i>107</i>
<i>Figure 15.14.10.1 Influences on whaanau hauora</i>	<i>110</i>

List of Tables

<i>Table 1.3.1 Predicted Maaori population as a proportion of the Counties Manukau DHB total population</i>	4
<i>Table 3.2.1 Number and proportion of selected health sector occupations who identify as Maaori in New Zealand</i>	13
<i>Table 3.2.2 Workforce groupings of the Maaori Counties Manukau DHB hospital staff</i>	14
<i>Table 5.1.1 Iwi nominated by more than 1000 residents in Counties Manukau</i>	16
<i>Table 6.1.1 Percentage of Year 10 students smoking at least daily, 2005 compared to 1999 by ethnicity</i>	24
<i>Table 6.1.2 Percentage of Year 10 students smoking at least daily, all ethnicities combined for Counties Manukau</i>	24
<i>Table 6.3.1 Top five risk factors for Maaori ranked according to DALYs (Disability Adjusted Life Years) lost, based on 1996 data</i>	32
<i>Table 7.1.1 Life expectancy at birth in 2005 by ethnicity and gender</i>	33
<i>Table 7.2.1 Potentially avoidable mortality children aged 0 - 14 years, both genders combined, ranked by rates per 100,000 for CM Maaori (2001 - 2003)</i>	39
<i>Table 7.2.2 Potentially avoidable hospitalisations for children aged 0 – 14 years, both genders combined, ranked by rates per 100,000 for CM Maaori (2005/06)</i>	40
<i>Table 7.5.1 Potentially avoidable mortality aged 15+ years both genders combined, ranked by rates per 100,000 for CM Maaori (2001 - 2003)</i>	53
<i>Table 7.5.2 Potentially avoidable hospitalisations females aged 15+ years, ranked by rates per 100,000 for CM Maaori (2005/06)</i>	54
<i>Table 7.5.3 Potentially avoidable hospitalisations males aged 15+ years, ranked by rates per 100,000 for CM Maaori (2005/06)</i>	55
<i>Table 7.5.4 Important diseases/conditions for Maaori ranked according to DALYs (Disability Adjusted Life Years) lost, based on 1996 data</i>	56
<i>Table 7.5.5 Prevalence of gout in a Counties Manukau PHO, with diabetes prevalence for comparison</i>	61
<i>Table 7.5.6 Access for care for specific mental health illnesses or issues for Counties Manukau resident Maaori (2005)</i>	64
<i>Table 10.1.1 Highest qualification of Counties Manukau usually resident population aged 15 years and over 2001 census by ethnicity</i>	76
<i>Table 10.1.2 Percentage of the Counties Manukau usually resident Maaori population holding various levels of qualification</i>	76
<i>Table 10.2.1 Percentage of the employed Counties Manukau usually resident population in various occupational groups by ethnicity</i>	78
<i>Table 10.2.2 Percentage of the Counties Manukau usually resident Maaori population working in various occupational groups</i>	79
<i>Table 10.2.3 Percentage of the employed Counties Manukau usually resident population working in various industries by ethnicity</i>	80
<i>Table 10.2.4 Percentage of the employed Counties Manukau usually resident Maaori population working in various industries</i>	80
<i>Table 14.1.1 Proportion of the population who are regular smokers by deprivation and ethnicity</i>	94

Abbreviations / Glossary of medical and technical terms

Maaori terms are not included in this glossary as this document sits alongside the Whaanau Ora plan where there is a glossary that explains the Maaori terms used.

ARPHS – Auckland Regional Public Health Service

CM – Counties Manukau

CORD – chronic obstructive respiratory disease, predominantly emphysema and chronic bronchitis secondary to smoking.

CVD – Cardiovascular disease, encompassing angina and heart attack, stroke and peripheral vascular disease (e.g. claudication).

NZDep – an area level measure of socioeconomic status, incorporating census data about income, education, employment, home ownership, amount of living space, access to transport and phone and social support.

NMDS - National Minimum Data Set, a collection of data gathered primarily from hospitals about admission and discharge rates for various conditions.

NZHIS - New Zealand Health Information Service is a group within the New Zealand Ministry of Health responsible for the collection and dissemination of health-related data.

PHI - Public Health Intelligence, a group funded by the Ministry of Health to collect and analyse data about the health of the New Zealand population.

SNZ - Statistics New Zealand (Tatauranga Aotearoa) is New Zealand's major source of official statistics. In particular SNZ is responsible for the collation of data from the New Zealand census which takes place every five years.

Part One:

Population health indicators for Maaori in Counties Manukau

1 Introduction

1.1 *The focus of this report*

While there are methodological issues about the choosing and reporting of indicators for Maaori health which are discussed below, overall indicators have been chosen that relate to the priority areas identified for action in the Whaanau Ora Plan:

- Lifestyle Risk Factors
 - Obesity
 - Smoking
 - Alcohol & Other Drug misuse
- Chronic Disease
 - Diabetes
 - Cardiovascular Disease
- Tamariki and Rangatahi Health
 - Immunisation
 - Low Birth Weight
 - Injury Prevention (intentional & unintentional)
 - Maternal Health

Where this report refers to tamariki and rangatahi, it is referring specifically to Maaori children and young people; children and young people of other ethnicities are referred to as children and young people.

The Counties Manukau Whaanau Ora Plan (2006 – 2011) has identified the need to accentuate positive Maaori health and disability gain, using developmental issues as learning tools for all and harnessing the collective wisdom and strength of Maaori and non-Maaori to make a difference.

This report therefore seeks to highlight areas/issues where initiatives have started to make an impact on Maaori health outcomes, as well as identifying the areas where the DHB is likely to be able to facilitate the most gains going forward. Successes to be celebrated, along with critical issues to address and potential actions to facilitate gain are highlighted in text boxes such as this.

1.2 *Methodology*

1.2.1 **Selection of Indicators**

The decision about which indicators of health and disease to include in a Maaori Health Needs Analysis, and how to report those indicators is complex, and has been considered by a number of groups in the last 2 – 3 years (1-3). In constructing this document a number of decisions had to be made which reflect the issues raised by these previous reviews.

While broad indicators of health better reflect holistic Maaori models of health, the degree of influence the DHB can potentially have on such broad indicators may be quite limited. Discussion between the Maaori and public health teams of Counties Manukau DHB established the need to provide information to support DHB decision making by focusing on those indicators of health on which the DHB is likely to be able to have a direct influence, but including influence of the DHB by advocacy. Some broader indicators of health are also included as important context for health funding decision making.

1.2.2 Reporting of Indicators (e.g. Data Comparisons)

In addition, while the concept of an independent health status for Maaori which is not compared to other groups was acknowledged, to support the DHB's continued focus on reducing health inequalities, comparisons between populations groups were seen to be useful. The value of comparing Maaori data with all other groups combined together into a non-Maaori category was recognised as being an important means of considering how well Counties Manukau DHB is meeting its obligations under the Tiriti o Waitangi. However the high rates of illness/risk factors in the significant population of Pacific peoples residing in Counties Manukau can mask the degree of disparity for Maaori in some instances. It was therefore elected to compare Maaori data with Pacific and non-Maaori/non-Pacific where possible.

The age structure of a population can influence rates of illness. For example the crude rate for ischaemic heart disease for Maaori will be affected by the fact that there are less Maaori living to the age where ischaemic heart disease becomes very common in the population, compared to the number of Pakeha who live to that age. Thus to make meaningful comparisons between ethnic groups, age-standardised rates need to be used. These rates represent the rates the condition in question would take if all the populations being compared had the same age structure.

This report follows the pattern of most documents, including previous Counties Manukau indicator reports, and for hospitalisation and mortality data standardises to the most recently available census data for the total New Zealand population (2001 in this instance)⁹. Results from the New Zealand Health Survey (see further below) are age-standardised to the World Health Organisation (WHO) World Population¹⁰, and the Children's National Nutrition Survey results are weighted for gender, age and ethnic groups to allow appropriate comparisons (4). These age-standardised rates may be different to the rates quoted when the Maaori population alone is referred to in this (e.g. in the Executive summary) and other documents, as normally the crude population is used if comparisons are not being made between populations. For example, the age-standardised rate for Maaori in Counties Manukau for self-reported diabetes is 9.5%, while the crude rate is 6.7%. As below it is also important that crude rates, not age-standardised rates, are used to calculate the actual numbers of people in the population affected by a particular condition.

Where possible the rates given for various conditions are 'translated' into the actual numbers of Maaori this represents to enhance the usefulness of the report for health service planning. Where these relate to defined data such as hospital admissions, representative numbers have extracted from the data source. Where rates are used to calculate numbers affected (e.g. from the New Zealand Health Survey), crude rates are used in the calculation.

For example the crude rate for self-reported diabetes from the Health Survey is applied to census data to calculate that approximately 3,170 Maaori in Counties Manukau likely to self-report a diagnosis of diabetes. In contrast, the figure of 344 potentially avoidable

⁹ This is in distinction to the approach taken by the Public Health Intelligence Unit's 2006 report Tatau Kahukura [2], which standardised against the total Maaori population from the 2001 census (this complicates any comparisons between data from the Tatau Kahukura report and other reports).

¹⁰ This WHO population is now the standard population being used by the Public Health Intelligence Unit, and also has the advantage of being closer in demographic structure to the actual Counties Manukau population than is the structure of the Census New Zealand total population. This reflects the youthful age structure of the Counties Manukau population which is more like that of a developing nation in transition than the age structure of the Pakeha population of New Zealand.

hospitalisations due to angina/chest pain or heart attack in 2005/06 is based on actual figures drawn from hospitalisation data.

It was suggested that it might be helpful to break down at least some results by Territorial Local Authority (TLA) to try to get some indication of rural/urban differences for Maaori. However because of the relative sizes of the three TLA populations (72% of Maaori in Counties Manukau live in Manukau City, 16% in Papakura, 13% in Franklin), numbers for many conditions are very small for Maaori in Papakura and Franklin, even when data from several years is combined. This means it cannot be determined with confidence whether apparent differences are true differences or simply due to just chance variation. For this reason most results are not broken down to the TLA level.

1.3 Principle data sources

The New Zealand Census is repeated five yearly, most recently in 2006. However data from the 2006 census was not available at the time of writing this report so the census data it contains was extracted from the 2001 census reports and subsequent population projections.

The New Zealand Health Survey is being repeated in the latter part of 2006 and 2007, and because of the demographics of the Counties Manukau population, data specific to this DHB will benefit from the planned national oversampling of Maaori. However until the results of this survey are available, the 2002/2003 NZ Health Survey (NZHS) provides one of the most recent sources of population data available where the Counties Manukau population can be considered separately from national data, and that reflects health behaviour rather than illness indicators. The NZHS Counties Manukau specific data is based on the actual data obtained from residents in this area, boosted by modelling from demographically similar DHB populations.

Mortality and hospitalisation data is drawn from the National Minimum Data Set held by the New Zealand Health Information Service. Rates are per 100,000 population and age-standardised to the 2001 Census population unless otherwise specified. Rates for conditions within hospitals are for discharges rather than individuals (i.e. if the same person is admitted with the same condition three times in a year, they will be counted three times). This is appropriate for service planning, but does mean these numbers may overestimate the number of people in the community affected by the condition in question. Hospital admission rates are based on public hospital data only; no private hospital data has been used in this report as its availability is very limited.

Disability data includes information from the 2001 Census and the 2001 Household Disability Survey, which followed the Census. The sample frame for this survey was developed by using information gained from two general questions on disability in the census.

Data is also drawn from other regional or national sources where these have Counties Manukau specific data, or if local data is not available, where national level data may contribute to understanding the likely health needs of the Maaori community in Counties Manukau.

2 Demography of the Maaori Population in Counties Manukau

Based on projections from the 2001 census data, in 2006 there were approximately **76,100 Maaori in Counties Manukau** (36,800 males and 39,300 females), **making up 17.3% of the Counties Manukau population**. This proportion is predicted to remain relatively stable over the next 20 years, and is slightly higher than the proportion of Maaori in the New Zealand total population (15.3%).

Table 1.3.1 Predicted Maaori population as a proportion of the Counties Manukau DHB total population

Year	2001	2006	2011	2016	2021	2026
Maaori as % of Counties Manukau total population	17.6	17.3	17.4	17.4	17.5	17.7

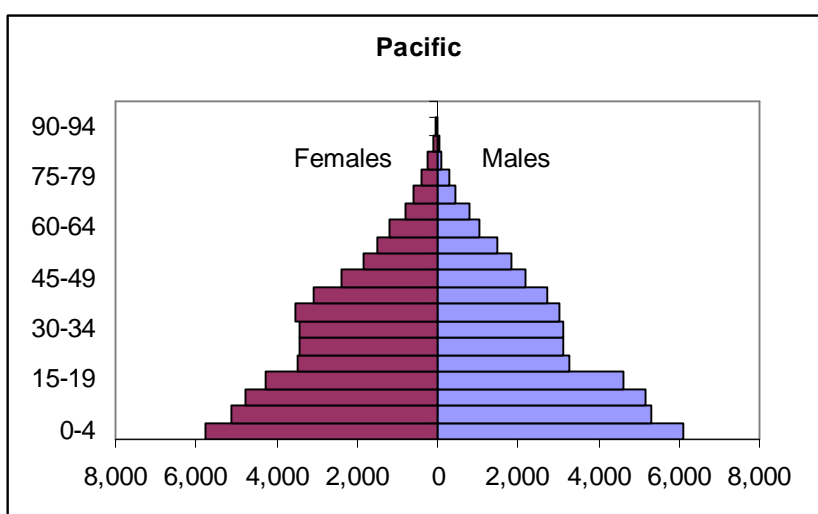
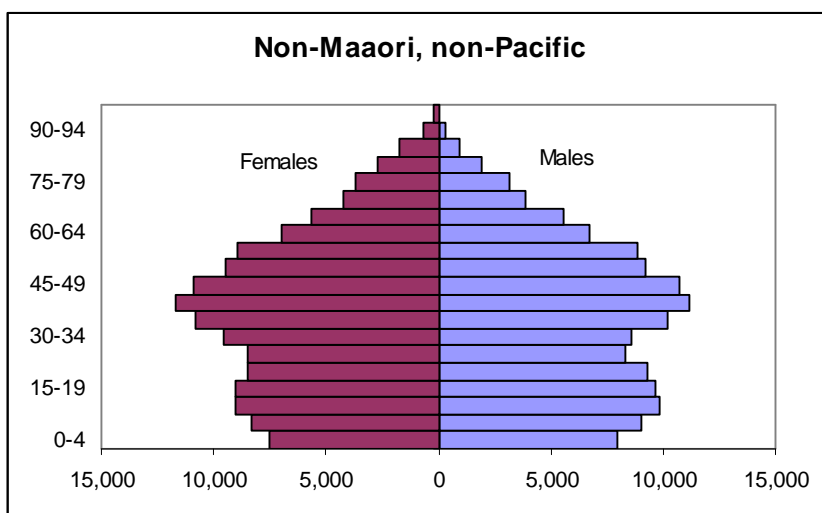
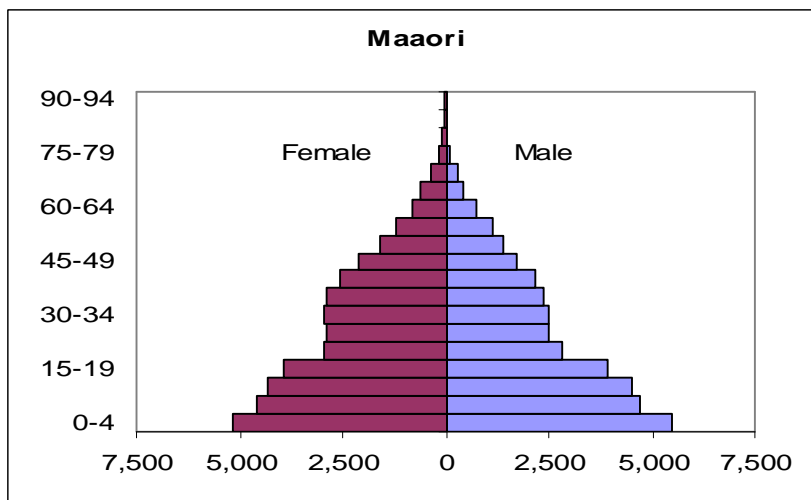
Source: SNZ Population Projections from 2001 Census data, October 2005

2.1 Age structure of the Counties Manukau Maaori population

The **Maaori population is relatively young** compared to non-Maaori/non-Pacific populations, as demonstrated by the population pyramids below. Thirty-eight percent of the Maaori population are aged 15 years and under, compared to 19% of the non-Maaori/non-Pacific population (48% under 20 years, compared to 26 % of the non-Maaori/non-Pacific population).

This youthful population brings challenges but also the potential to nurture tamariki and rangatahi with secure cultural identity and whai painga (values) in tune with whaanau ora.

Figure 2.1.1 Population pyramids for Counties Manukau residents projected populations 2006 (note the different scales on X axes, proportionate to the differing sizes of the populations represented)

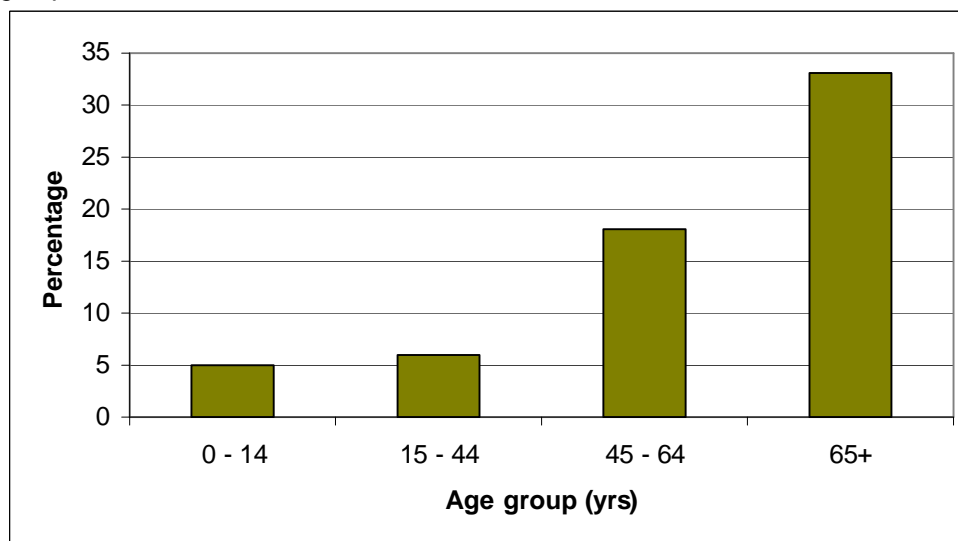


Source: SNZ Population Projections from 2001 Census data, October 2005

2.2 Predicted population growth

The Maaori population in Counties Manukau is **expected to increase 51% from the 2001** census figure of 69,200 to 104,300 **by 2026** (SNZ projections October 2005). This increase is greater than populations classified as 'Other' at 9%, but less than Pacific (81%) and Asian (162%) populations. While the higher fertility rate for Maaori females compared to non-Maaori females contributes to this population growth¹¹, growth in those aged 65 years and older is also important. This means while the increase in total Maaori population for Counties Manukau is 51% **by 2026, the increase in those aged over 65 yrs is 330%**. Even by the year 2011, there is projected to be a significant increase in the percentage of the Counties Manukau Maaori population who will be aged over 65 yrs. This is apparent when the predicted percentage increase of each age group is shown, as below.

Figure 2.2.1 Predicted increase of the Counties Manukau Maaori population 2006 – 2011 by age group



Source: SNZ Population Projections from 2001 Census data, October 2005

This equates to 2,120 Maaori aged 65+ years in 2006, increasing to 2,830 by 2011.

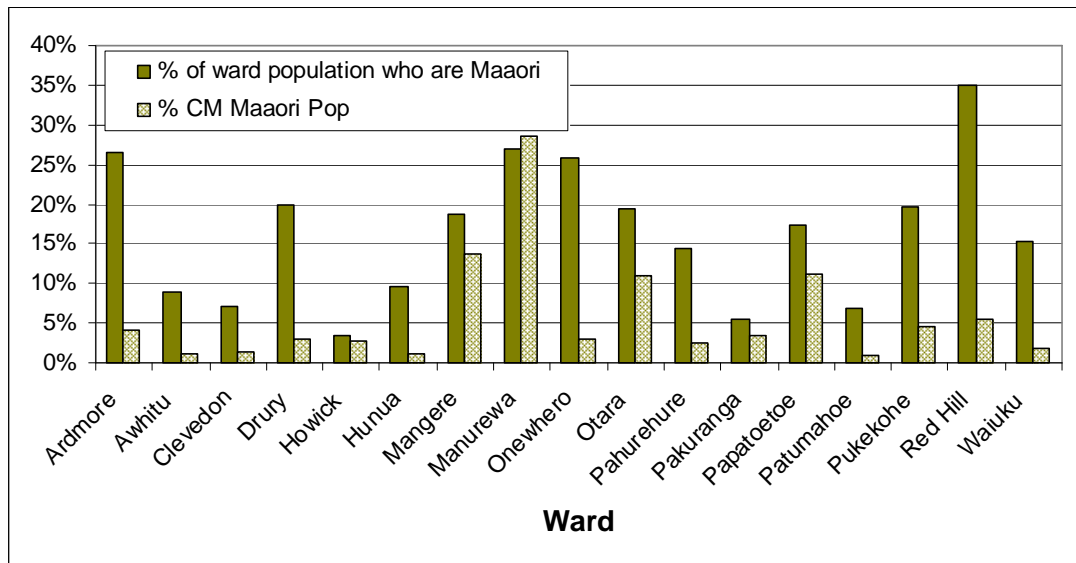
The increasing percentage of the CM Maaori population who will be aged over 65 yrs will require increased consideration of the specific needs of older kuia and kaumatua, and is in part a positive consequence of the increasing life expectancy for Maaori, as described later in this report.

2.3 The distribution of Maaori across the Counties Manukau district.

The Maaori population of Counties Manukau are concentrated in the urban areas of **Manurewa, Maangere, Papatoetoe and Otara, with 65% living in these wards**. This means initiatives in these areas can reach significant proportions of the Counties Manukau Maaori population. In addition 16% of Counties Manukau Maaori live in the wards that collectively make up Papakura (Ardmore, Drury, Pahurehure and Red Hill) and as shown in Figure 2.3.1, in other rural wards, Maaori may constitute a significant percentage of the local community, potentially facilitating community based initiatives in these areas.

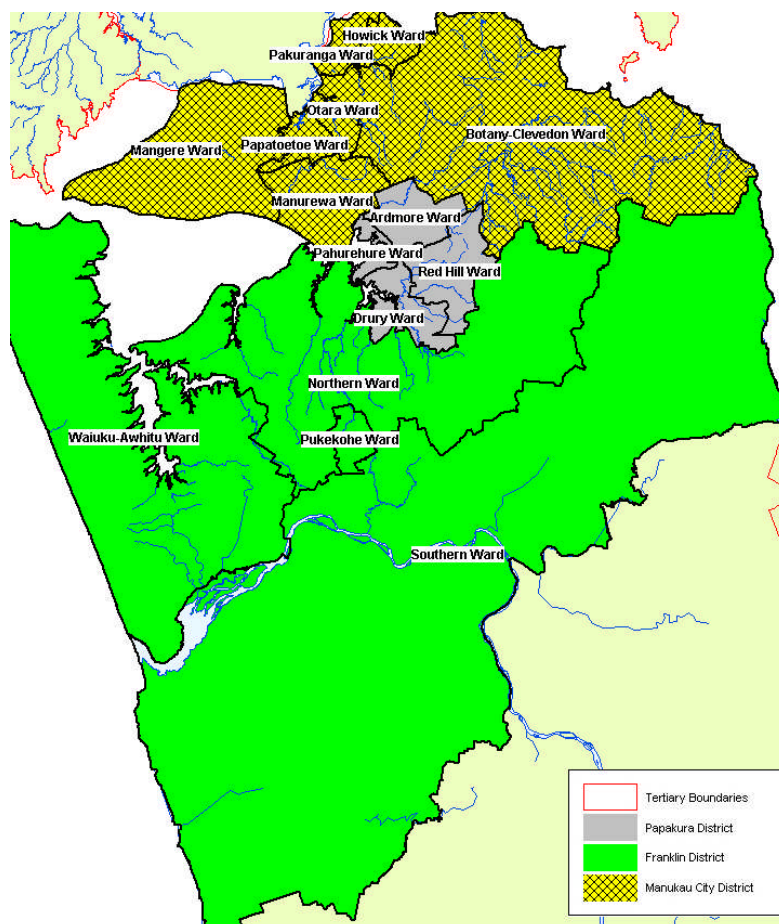
¹¹ In 2004 the national Māori fertility rate was 2.7 compared with 1.9 for non-Māori (Tatau Kahukura [2])

Figure 2.3.1 Percentage of territorial authority populations who identify as Maaori and the distribution of Maaori across the territorial authority areas in Counties Manukau



Source: 2001 Census data compiled by ARPHS

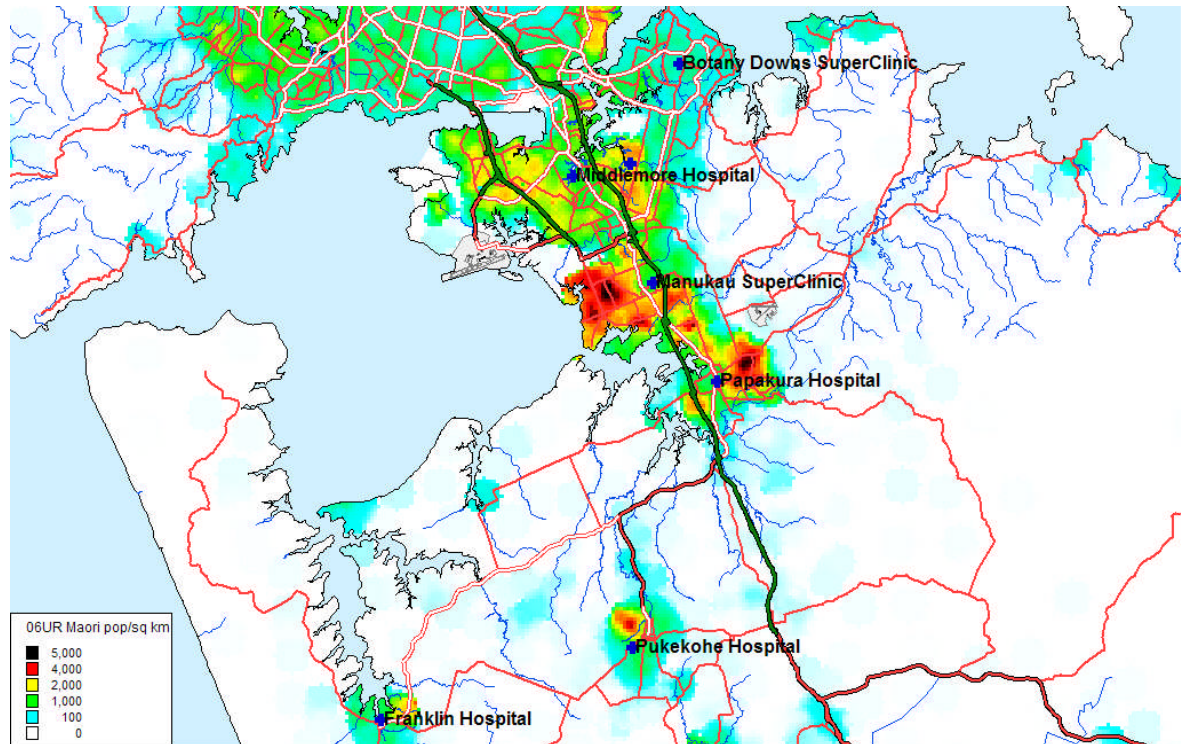
Figure 2.3.2 Map of Ward boundaries 2006¹²



¹² These approximate to the areas on the graph in Figure 2.3.1 above which was based on 2001 wards. Patumahoe is now essentially the Northern Ward & Hunua and Onewhero are combined into the Southern Ward

The map below shows this distribution of the Maaori population across Counties Manukau pictorially, highlighting the concentrations of Maaori in Manurewa and Papakura (collectively the wards of Ardmore, Drury, Pahurehure and Red Hill). This reflects a 'shift' south over the past 10 years from previous higher concentrations of Maaori in Otara and Mangere.

Figure 2.3.3 The distribution of Maaori across the Counties Manukau district (2006 Census data)



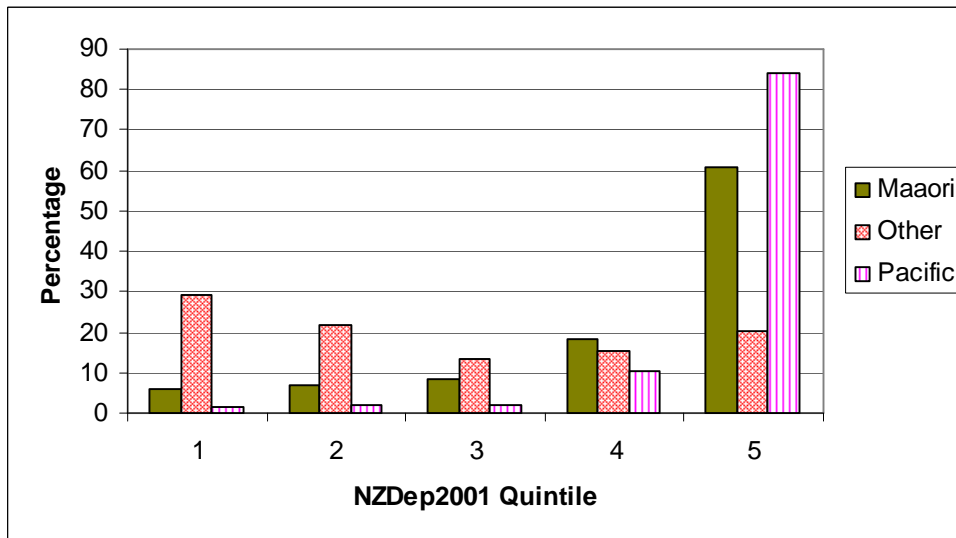
Source: 2006 Census Usually Resident data compiled by CMDHB

2.4 Socioeconomic factors

2.4.1 Deprivation

Using projections from 2001 census figures, in 2006 approximately **60% of Maaori in Counties Manukau live in areas classified as the most socioeconomically deprived (NZDep 9 & 10)** compared to 20% of European/Other, and 83% of Pacific peoples. For Maaori this equates to approximately 45,500 people living in areas classified as NZDep 9 & 10.

Figure 2.4.1 Percentage of people by NZDep01 quintile and ethnic group for Counties Manukau



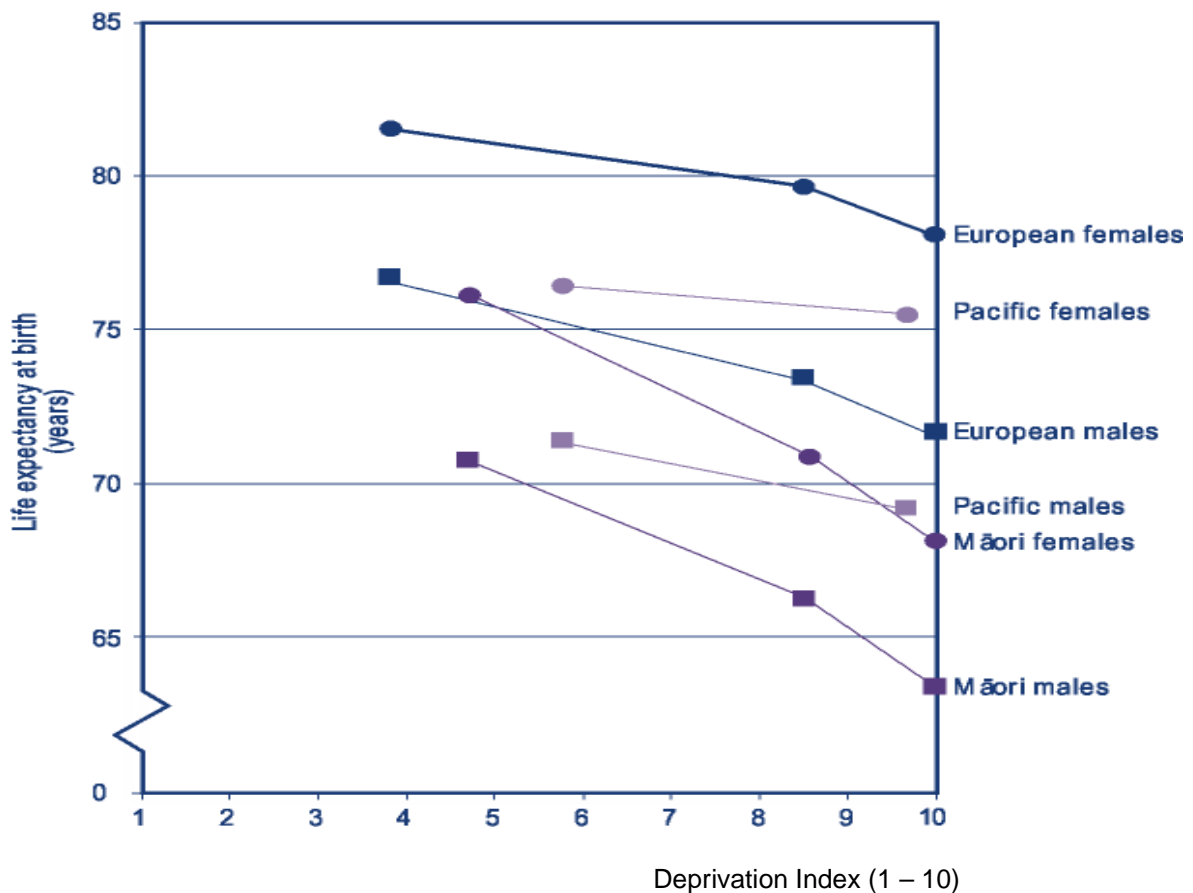
Source: Census 2001, analysed by CMDHB

This is consistent with national data from the Ministry of Social Development 2004 Living Standards Report, which revealed marked differences in the distribution of living standards by ethnicity (5). Forty percent of Maaori and 58% of Pacific peoples were living in some degree of hardship compared to 19% of Europeans. In addition the degree of hardship had increased since the previous survey in 2000, with 7% of Maaori living in severe hardship in 2000, this figure having increased to 17% in 2004, compared to 3.1 and 4.3% of Europeans in 2000 and 2004 respectively. This is due at least in part to the fall in living standards of those on income-tested benefits with children, where Maaori are over-represented.

This over-representation of Maaori in families reliant on benefits is consistent with census employment data showing working age Maaori are under-represented in the employment data compared with their proportion of the total working age population. At the time of the 2001 Census 14.4% of the employed population in Counties Manukau identified as Maaori, while 16% of the population aged 15 – 64 yrs (the closest approximation to working age obtainable from the census data) identified as Maaori. The distribution of Maaori in Counties Manukau across occupational groups is explored further under Whaiora (P 77).

Socioeconomic gradients in mortality of similar magnitude have been demonstrated to exist within both Maaori and non-Maaori ethnic groups, with the difference in socioeconomic positions of Maaori and non-Maaori thought to account for at least half of the ethnic disparities in mortality for working-age adults and one-third of the disparities in mortality for older adults (6). Similarly there are significant socioeconomic disparities in both morbidity and mortality in childhood (7). However as in the graph below, Maaori life expectancy is lower than other population groups for the equivalent level of socioeconomic deprivation. Thus **for Maaori whaanau socioeconomic deprivation adds to the health disparities caused by ethnicity.**

Figure 2.4.2 Life expectancy by ethnicity and socioeconomic deprivation – national data.



Source: *Decades of Disparity II*, Ministry of Health 2005 (6)

Māori health needs to be seen in the context of deprivation as socioeconomic deprivation has a vital impact on health. The current economic status of Māori in Counties Manukau is an issue that requires ongoing advocacy.

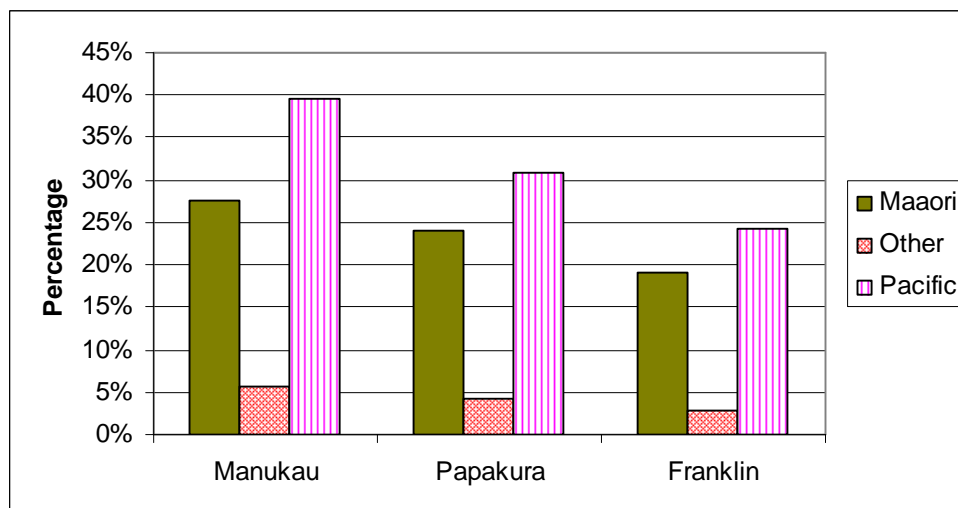
2.4.2 Overcrowding

The socio-economic profile of Māori living in Counties Manukau is reflected in the proportion of Māori living in overcrowded households. Crowding is reported by the Canadian Occupancy Standard, an internationally recognised standard, as applied by Statistics New Zealand. A household is deemed crowded if the dwelling the household resides in needs one or more additional bedrooms (after accounting for couples, children, and other factors). Crowding is a particular issue for suburban areas with the highest rates across the wider Auckland region occurring in Counties Manukau, in the Mangere and Otara-Flatbush areas (1).

As can be seen from the specific Counties Manukau data below, Pacific households feature strongly in the overcrowding statistics, but overcrowding is also an important reality for many Māori families. Approximately **a quarter of Māori households in Manukau and Papakura need more rooms in their homes**. At present the intersectoral Healthy Housing project is overwhelmed by the greater need of Pacific families in Counties Manukau (personal communication Jude Woolston, August 2006).

The health consequences of overcrowding include increased risk of infectious diseases such as meningitis, rheumatic fever, respiratory and skin infections. In addition overcrowding may increase psychological stress, although conversely also has the potential to decrease social isolation (8).

Figure 2.4.3 Percentage of crowded households in Counties Manukau territorial authorities by ethnicity



Source: Census 2001 data, compiled by ARPMS

Approximately 25% of Maaori households in Manukau and Papakura are living in overcrowded homes. Going forward advocacy and intersectoral activity to specifically address housing issues for Maaori families may be an important consideration for the DHB

3 Te Mana Whakahaere (Maaori autonomy)

Importance

Increased Maaori autonomy is a long term goal of the Whaanau Ora plan. This will be contributed to by the medium term goals of the development of sustainable Maaori health and disability providers, increased numbers of Maaori in the health and disability workforce, and Maaori participation in key DHB decision making structures (as outlined in Ngaa Manukura). However ultimately Te Mana Whakahaere is about empowering the Maaori community to participate, lead and take ownership of Maaori outcomes. The challenge is how the DHB can further support and resource the community to lead this development.

“Ma te huruhuru, ka rere to manu
Me whakahokimai te Mana ki te Whaanau, Hapu, Iwi”
“Adorn the bird with feathers so it can fly”.

3.1 Maaori providers within the Counties Manukau district

Maaori providers funded by the Counties Manukau District Health Board deliver a broad spectrum of services including personal health services (both ‘on-site’ and outreach services), mental health services, disability support and health promotion. These providers vary in size and structure but all seek to govern, manage and deliver services from a kaupapa Maaori framework.

There are seven providers of personal health services, including a Maaori-led PHO. In addition to general practice care, personal health services provided include Tamariki Ora (Well Child), outreach immunisation, breast feeding support and advocacy, support services for mothers and

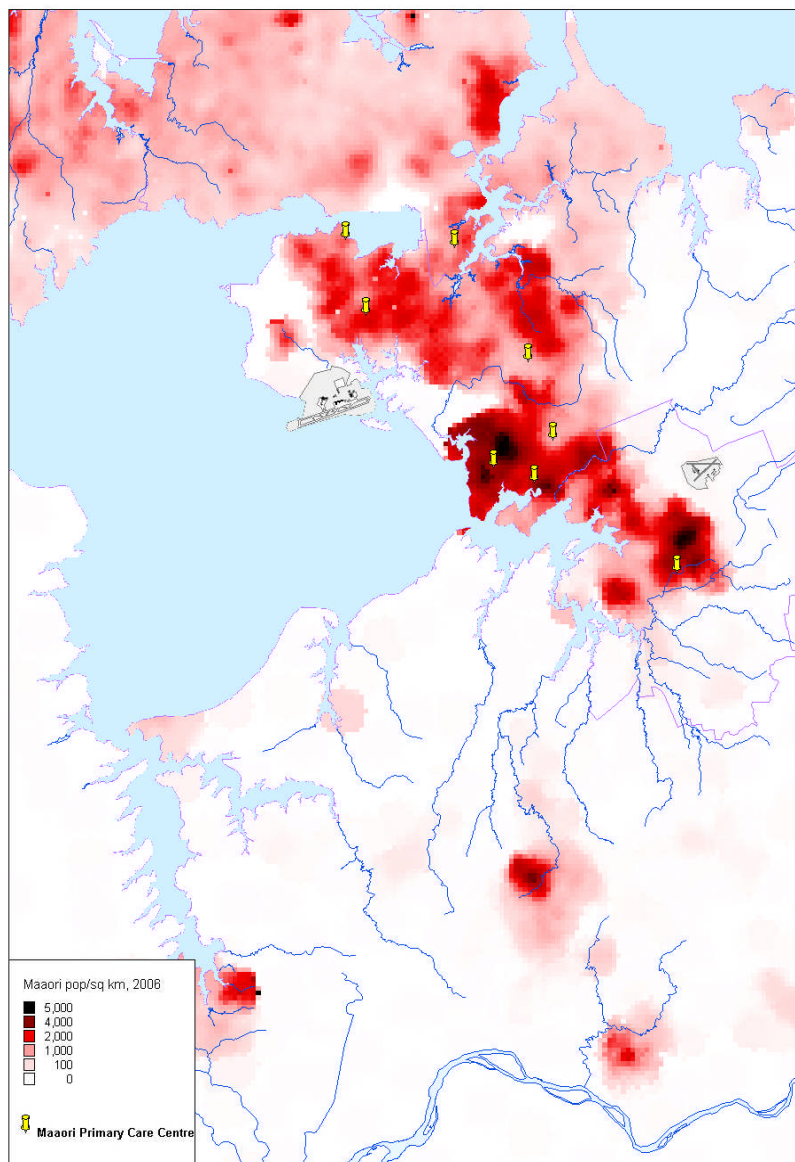
pepi, school-based nursing, and He Puna Oranga (Maaori Nursing Chronic Care Management). Four of these providers also have contracts for the delivery of health promotion.

There are three providers of non-clinical kaupapa Maaori mental health services who offer iwi and whaanau support and advocacy, day programmes, residential care and alcohol and drug services. There are four providers of disability support services including home-based support services (both household management and personal care), and kaumaatua and kuia marae-based day programmes.

As a regional Maaori public health provider, Hapai Te Hauora Taapui not only contract health promotion services in the Counties Manukau district but also provide strategic leadership and support for public health for Maaori in the rohe.

The map below shows the distribution of Maaori primary care providers in relation to the Maaori population in Counties Manukau.

Figure 3.1.1 The distribution of Maaori primary care providers in relation to the Maaori population in Counties Manukau (2006 Census data)



Source: 2006 Census Usually Resident data compiled by CMDHB

3.2 Workforce

To support the ongoing development of Kaupapa Maaori services Counties Manukau DHB will **need to attract Maaori graduates from a wide variety of health-related professions**. The low number of Maaori working in most of the occupations noted in Table 3.2.1, suggests that even if a significant percentage of those Maaori health professionals chose to work in Counties Manukau, the region is still likely to need more Maaori practitioners to begin to match the proportion of the population who are Maaori.

The ethnic specific workforce data is not broken down by DHB (except medical practitioners where the Counties Manukau percentage who are identify as Maaori is essentially the same as the national rate for both specialists and GPs). However it is notable that the Auckland region overall had the lowest rate of registered nurses and midwives, and enrolled nurses, in active practice¹³ of any region in the country and Counties Manukau had the second lowest rate of registered dentists in active practice.

Table 3.2.1 Number and proportion of selected health sector occupations who identify as Maaori in New Zealand

Occupation	Workforce Survey response rate ¹⁴ (%)	Number of Maaori practitioners	% of workforce who are Maaori
Podiatrists	66	5	2.9
Psychologists	67	39	3.8
Optometrists	76	3	0.6
Dieticians	84	5	1.4
Medical Radiation Technicians	68	12	0.9
Chiropractors	75	1	0.4
Nurses / Midwives	Not stated	2883	7.5
Medical practitioners		54 Specialists 78 GPs	1.8% of specialists 2.6% of GPs
Dentists	95	31	2
Physiotherapists	55	38	2.6
Occupational therapists	72	26	2.4
Medical Laboratory Technologists	61	11	1.3

Source: Selected workforce surveys 2002 – 2005, NZHIS

The CMDHB Workforce Census in 2003 indicated that approximately 6% of DHB hospital staff identified as Maaori (310 people), of whom 88% were waahine. Forty-three percent were clinical staff, 30% allied health, and the rest worked in administration/IT, service planning and other roles. Nurses comprised the largest single occupational group at 30% (9). In terms of service areas, only 3.7% of FTE (full time equivalent) staff in women's health identified as Maaori and 8% in Kidz First, compared to 14.6% in mental health. This is important given that more than half of all Maaori inpatient discharges for CMDHB were from Kidz First and women's health for the year ending Feb 2005 (10).

¹³ Per 100,000 population

¹⁴ 2005 Workforce Surveys for podiatrists, psychologists, optometrists, dieticians, medical radiation technicians, chiropractors; 2004 nursing and midwives workforce survey, 2004 medical council workforce data (obtained by formal IT data extraction); 2003 dental workforce survey; 2002 workforce survey for physiotherapists, occupational therapists and medical lab technicians.

Table 3.2.2 Workforce groupings of the Maaori Counties Manukau DHB hospital staff

Workforce group	% of CM Maaori workforce
Clinical (doctors, nurses, health care assistants, aids)	43
Allied health	30
Admin/IT	18
Hospital services & miscellaneous	8

Source: CMDHB Workforce Census 2003, analysed by Wikeepa [9]

A 2005 census of the primary care, community and NGO workforce in the DHB area indicated that 12% of this workforce identified as Maaori. Maaori were most represented in the social services workforce at 28%, while only 7% of nurses identified as Maaori, 11% of admin/management workers, 5% of other clinical workers and 14% of the other allied health workforce.

A more detailed analysis of the Maaori mental health workforce, including those working in community and NGO roles was undertaken in 2005 (11). In this workforce, the largest occupational group were those working in social services (63%). The gender balance was more even in this workforce with 40% taane, but of concern was the relative lack of younger people, with 61% being aged 40 years or older. Over 50% had a tertiary qualification of some sort (33% an undergraduate certificate or diploma, 11% a Bachelors degree) and approximately half were currently studying with another 25% having completed study in the last 6 months or planning to undertake study in the next 6 months. Approximately 67% identified having some ability in either speaking and/or writing in Te Reo Maaori, with a quarter of those considering themselves fluent and another 29% having conversational skills (this is significantly higher than those in the general population in Counties Manukau, see page 16). Those speaking Te Reo were spread across the occupational groupings. Encouragingly 95% of the Maaori mental health workforce intended to remain in the health workforce for at least another two years, with 67% intending to do so for at least another 5 years.

Specific work force initiatives to attract and retain Maaori practitioners from a wide variety of health fields will continue to be important to allow extension of 'by Maaori for Maaori' services.

The non-Maaori workforce must be competent in working for Maaori health gain.

4 Ngaa Manukura (Maaori leadership)

Importance

Increased Maaori leadership at all levels of the health sector is a long term goal of the Whaanau Ora plan. The Whaanau Ora Plan has identified the need to establish infrastructure initiatives which will support the development of Maaori as leaders in health. From schools through to the marae, the DHB will be making concerted efforts to realise the latent potential of Maaori in health. Internally this is achieved by effective partnered governance of the DHB through POU as described below.

4.1 Maaori involvement in DHB governance

In October 2001 the Board's relationship with Iwi was established with the signing of a Memorandum of Understanding with Manuwhenua I Tamaki Makaurau. Manuwhenua provide guidance on tikanga issues related to the DHB (e.g. service provision, development of facilities and engagement with Maaori communities).

Legislation requires the District Health Board to establish three committees:

- Community and Public Health Advisory Committee (CPHAC)
- Hospital Advisory Committee (HAC)
- Disability Support Advisory Committee (DiSAC).

There are two Manawhenua representatives on each of these statutory committees. Maaori participation in the DHB Board and these committees is mandated by the Health and Disability Act 2000.

In addition Counties Manukau DHB has established POU, the Maaori Governance Group. This group is a non-statutory sub-committee of the Board, with members appointed by and accountable to the Board. Any recommendations or decisions of the Committee must be ratified by the District Health Board, but the Board may delegate to the Committee authority to make decisions and take actions on its behalf.

The role of POU is to ensure that the priorities and needs of Maaori communities are reflected in DHB planning (12) to provide advice to the Board on strategies to reduce health disparities for Maaori and matters relating to Te Tiriti o Waitangi¹⁵, and ensure governance level partnership with Maaori.

There are 13 members of POU, four DHB Board members, five community members and four Manawhenua members.

4.2 Maaori leadership in other parts of the DHB

The Executive Management Team of Counties Manukau DHB consists of 20 members covering the operating areas and functions of the DHB. The General Manager for Maaori Health sits as a member of the EMT team, the Funding Forum and oversees the work of the Te Kaahui Ora, Maaori Health team.

Members of the Te Kaahui Ora team chair a number of steering groups or committees that specifically relate to Maaori health programmes or streams of work:

- Te Ara Whiriwhiri, Counties Manukau Maaori mental health managers network
- Whare Oranga steering group
- He Puna Oranga steering group
- Fit for Purpose steering group
- Maaori Research Review Committee.

There are also Maaori representatives on the DHB Clinical Board Medicines Advisory Committee, the Research and Audit Committee, and the Clinical Advisory Group.

There are a wide array of other groups and committees related to professional groups (e.g. Primary Health Care nursing), service areas (e.g. orthopaedics), workforce development, quality and also regional groups where Counties Manukau is working with the other Auckland DHBs on issues of regional importance. At May 2007 the Te Kaahui Ora team is not aware of specific Maaori representatives on these other committees. Maaori representation is currently appointed in an ad hoc fashion; one of the goals of the DHB is to have a formalised process for such appointments.

Maaori leadership in the Counties Manukau community

In the future information about Maaori community leadership could be sought to strengthen this area of the report.

¹⁵ within the framework of the New Zealand Public Health & Disabilities Act

5 Mauri Ora (Access to Te Ao Maaori resources)

Importance

Maaori models of health recognise the importance of cultural identity, and the need for health promotion to facilitate access by Maaori to Te Ao Maaori.

5.1 Iwi identified by Maaori living in Counties Manukau

The recent Auckland Regional Public Health Service Maaori Public Health Report highlights the **diversity within the Maaori community** living in the Auckland region, citing 2001 census data which identified 129 iwi or iwi confederations nominated by those of Maaori descent living in the region (1). The census also identified that 20% of those with Maaori descent in the Auckland region could not identify their iwi or rohe.

Further analysis of the census data demonstrates that of Maaori in Counties Manukau, approximately 17,030 people (25%) identify with one of the Tainui group of iwi while 29,570 (43%) identify with one of the Tai Tokerau iwi. 75% of Maaori in Counties Manukau identified with one or more iwi. Iwi nominated by more than 1000 residents are outlined in Table 5.1.

Table 5.1.1 Iwi nominated by more than 1000 residents in Counties Manukau

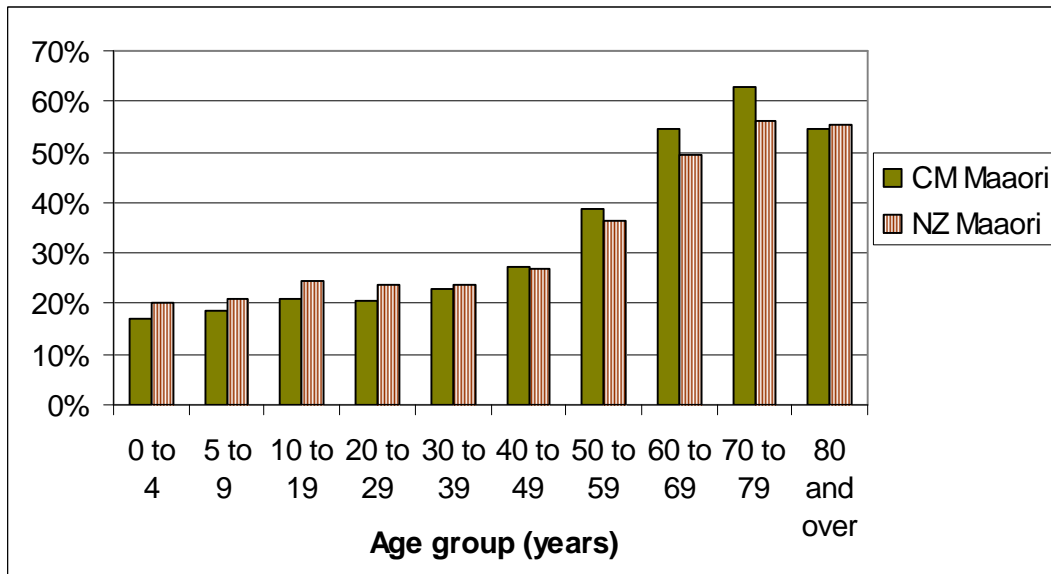
Iwi	Number identifying
Ngapuhi	19950
Waikato	8562
Ngati Porou	4524
Ngati Maniapoto	3489
Tainui	2709
Tuhoe	2562
Ngati Kahungunu (various)	2349
Te Rarawa	2238
Ngati Whatua	2046
Ngati Tuwharetoa	2019
Te Aupouri	1539
Te Arawa	1500
Ngati Kahu	1344
Ngai/Kai Tahu	1242
Ngati Awa	1218
Te Arawa/Taupo not further undefined	1065

Source: Census 2001, analysed by CMDHB

5.2 Te Reo Maaori

The 2001 Census contained a question that identified those who could hold a conversation about 'a lot of everyday things' in Te Reo. The results for Counties Manukau are similar to those for the rest of New Zealand: overall of those who identified as Maaori, **23% of those in Counties Manukau could hold such a conversation** compared to 25% for the whole of New Zealand, 21% for the Auckland DHB region and 18% for Waitemata.

Figure 5.2.1 Percentage of Maaori able to hold a conversation about 'a lot of everyday things' in Te Reo Maaori

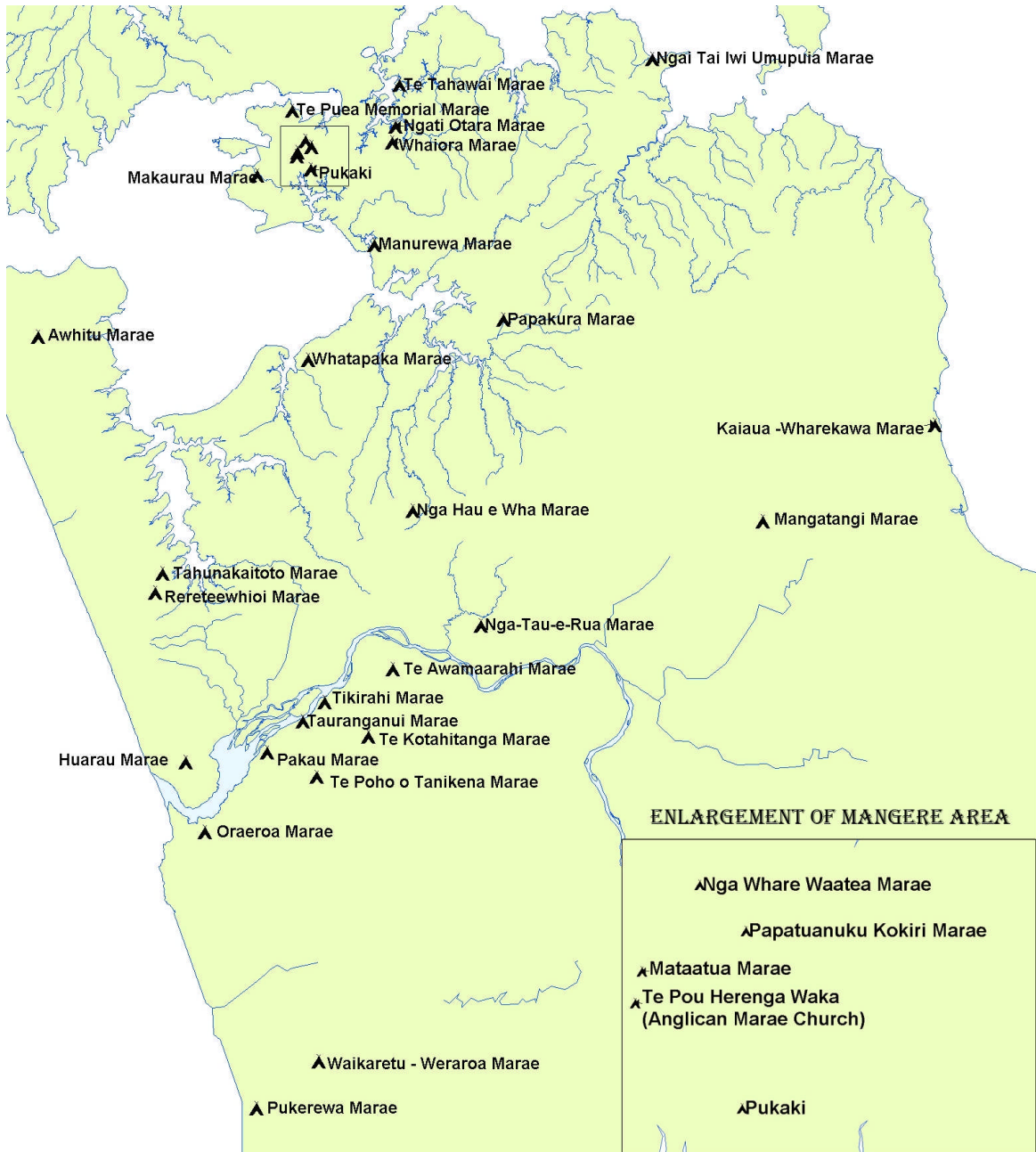


Source: Maaori Ethnic Group, usually resident population, Census 2001; data compiled by ARPHS

5.3 Marae in Counties Manukau district

The following map shows the location of 31 of the Marae in the Counties Manukau district. This does not include school Marae and may not be a comprehensive display of other Marae as it is suggested there are 43 Marae in the district (personal communication, Riripeti Haretuku June 2007).

Figure 5.3.1 Marae identified in the Counties Manukau region



Source: ARPHS Māori Public Health report and as identified by Te Kaahui Ora Team, July 2007

5.4 Access to Māori specific education

Preschool

In 2006 there were 43 Koohanga Reo registered in the Counties Manukau district, 10 more than in 2003 (Ministry of Education data). In 2003 approximately one in five Māori children were attending koohanga reo (1).

Primary and secondary level education

Kura Kaupapa Māori not only provide 100% Māori language immersion teaching, but also a whole school environment based on Māori ways of thinking and knowing and whānau involvement. In the Counties Manukau region in 2006 there were five Kura Kaupapa and one Kura Teina (operating under the Board of Trustees of a 'parent' school) attended by 484 tamariki and rangatahi. These schools are in Manurewa (two), Mangere, Otara, Waiuku and Port Waikato.

In addition secondary schools, intermediates and primary schools frequently have Maaori immersion units which teach in Te Reo for various proportions of the time. Research indicates that for bilingual education to be effective, the higher the level of immersion the better, and while full immersion is ideal, situations where at least 50% of the teaching is in Maaori can be effective (13). Maaori bilingual programmes are grouped by the Ministry of Education into four levels, based on their level of immersion:

- Level 1 has the highest level of teaching in Maaori (between 81% and 100%)
- Level 2, children are taught in Maaori for between 51% and 80% of the time
- Level 3 is between 31% and 50% teaching in Maaori
- Level 4 is between 12% and 30% teaching in Maaori.

Hence children in Levels 1 & 2 will be receiving bilingual education that is most likely to be effective. In Counties Manukau in 2006 in addition to the Kura Level 1 schools, there were 10 schools offering Level 2 education, with 459 tamariki and rangatahi participating in these programmes.

This means 943 or **5.2% of tamariki aged 5 – 15 years in Counties Manukau have the opportunity for effective bilingual education.**

Tertiary

There is a tertiary Maaori specific educational institution in the Counties Manukau district, Te Wānanga o Aotearoa in Mangere. In 2004 there were 727 Maaori men and 1,613 Maaori women enrolled at the campus.

5.5 Maaori specific leisure activities

Counties Manukau Sport do not have records of the involvement of Maaori in Counties Manukau in Maaori specific leisure activities (Personal communication, R Preston, CEO Counties Manukau Sport, 21 February 2007).

The Auckland Regional Health Service Maaori Public Health report estimated that in 2004 upward of 6,750 Auckland children and young people were involved in kapa haka festivals (1). This is an indication of the wider whaanau who support each group and an underestimate of the numbers participating as groups do not participate in every festival. In future sourcing local Counties Manukau data about involvement in kapa haka, waka ama, Maaori touch and netball would strengthen this section of the report.

6 Toiora (Healthy lifestyles)

Importance

The goal of Whaanau Ora for Maaori in Counties Manukau is challenged by whaanau members engaging in a number of behaviours which threaten their hauora; the complexity of social and physical environmental factors that influence these behaviours is certainly acknowledged. However one of the goals of the Whaanau Ora plan is to increase the proportion of Maaori who achieve healthier lifestyles; hence data to indicate the current levels of these behaviours is presented. The prevalence of important risk factors for current and future ill-health and premature death demonstrate major areas where the DHB can work with the Maaori community to positively influence the notable disparities.

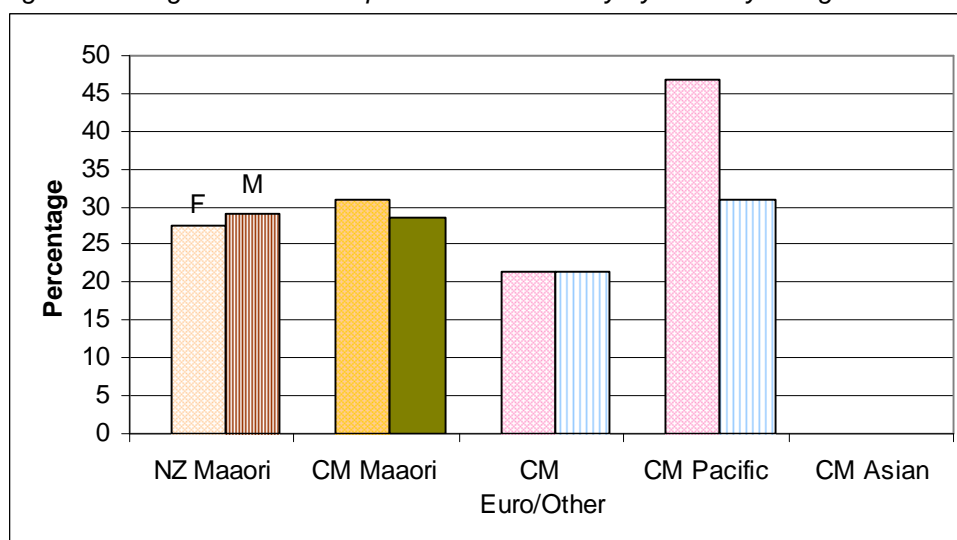
6.1 Risk factors for ill health

6.1.1 Overweight and obesity

Obesity is associated with an increased risk of heart disease, diabetes, stroke, high blood pressure and some cancers (14). The increase in the prevalence of obesity across all ethnic groups, but in particular Maaori and Pacific peoples, has been identified as a major cause of a projected increase in diabetes, both in Counties Manukau and nationally.

Obesity was defined in the NZHS as those with a BMI¹⁶ (Body Mass Index) ≥ 32.0 for Maaori and Pacific, or a BMI ≥ 30.0 for Europeans, Others and Asians. Both genders combined, 30% of Maaori adults in Counties Manukau are classified as obese compared to 21% of those of European/Other ethnicity, this difference being statistically significant.

Figure 6.1.1 Age-standardised prevalence of obesity by ethnicity and gender



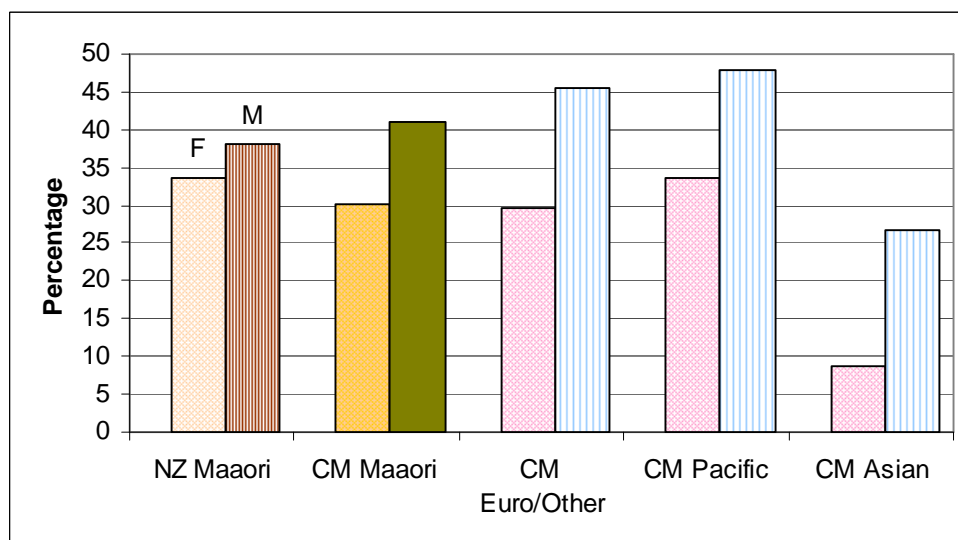
Source: NZHS 2002/03

13,100 Maaori adults in Counties Manukau are obese and therefore needing support to considerably reduce their weight to reduce their risk of serious health problems.

¹⁶ BMI = Weight (kg) / Height (m)². Healthy BMI is suggested as 18.5 – 26 for Maaori and Pacific peoples (25 for other ethnicities).

Overweight was defined in the NZHS as those with a BMI (Body Mass Index) ≥ 26.0 but < 32 for Maaori and Pacific, or a BMI ≥ 25.0 but less than 30 for Europeans, Others and Asians. Overall 35% of Maaori adults are classified as overweight compared to 37% of those of European/Other ethnicity, this proportion being higher in males of both ethnicity groups (41% and 45% respectively).

Figure 6.1.2 Age-standardised prevalence of overweight by ethnicity and gender (NZHS 2002/03)



Source: NZHS 2002/03

Added together these figures indicate an alarming prevalence of overweight or obesity for all ethnic groups except Asian women. For Maaori men in Counties Manukau the figures equate to over 14,670 men in this category.

Previous general New Zealand Health Surveys did not measure BMI. However the 2002/03 results can be compared to the national level results of the National Nutrition Survey 1996/97 which did measure BMI and documented 30% of Maaori males as being overweight and 27% obese, while 32.7% of Maaori females were overweight and 27.9% obese (14). These figures suggest that both nationally and in Counties Manukau the increase in Maaori males who have moved up to the overweight category who were previously of 'normal' weight is of particular concern, and if this increase continues is likely to result in even higher numbers moving up to the obese category in the future.

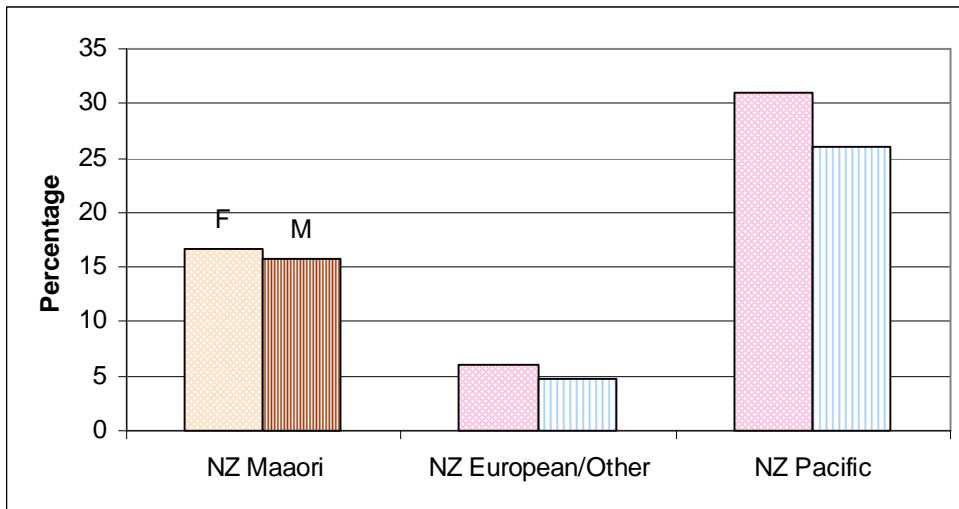
The prevalence of being overweight is increasing and this will reflect in increased associated morbidity and mortality, particularly related to diabetes and ischaemic heart disease, where Maaori are already overrepresented.

Childhood obesity and overweight

The 2002 National Children's Nutrition Survey data is national rather than Counties Manukau specific; however as shown above adult data suggests Counties Manukau figures for Maaori are likely to follow similar trends to those for Maaori nationally.

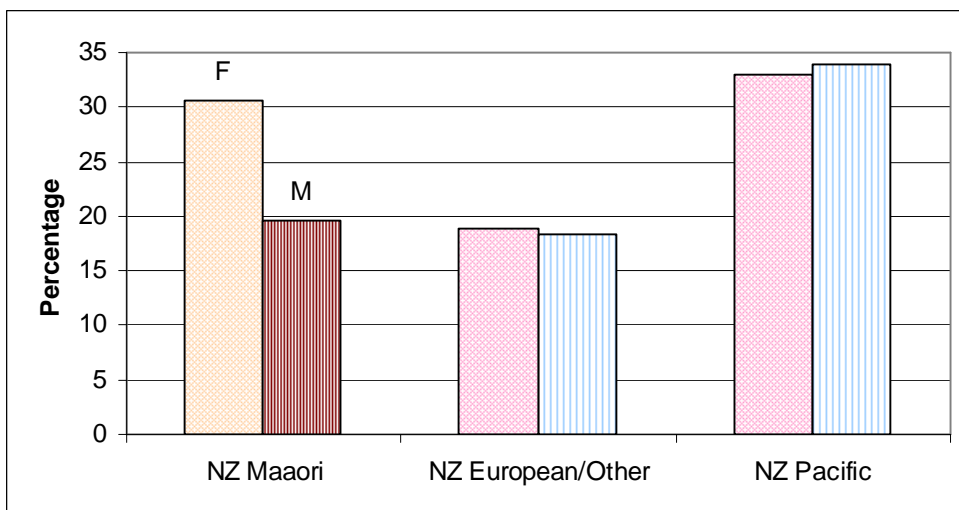
The 2002 National Children's Nutrition survey results suggest **the issues of obesity and overweight begin in childhood** but that in childhood it is girls rather than boys who are more likely to be overweight. In total nearly 50% of Maaori girls and 35% of Maaori boys were either overweight or obese. Information related to potential strategies to address this issue are discussed further in Part Two of this report.

Figure 6.1.3 Prevalence of obesity in children aged 5 – 14 yrs by ethnicity and gender, national level data



Source: National Children's Nutrition Survey 2002

Figure 6.1.4 Prevalence of overweight in children aged 5 – 14 yrs by ethnicity and gender, national level data



Source: National Children's Nutrition Survey 2002

6.1.2 Current Smoker

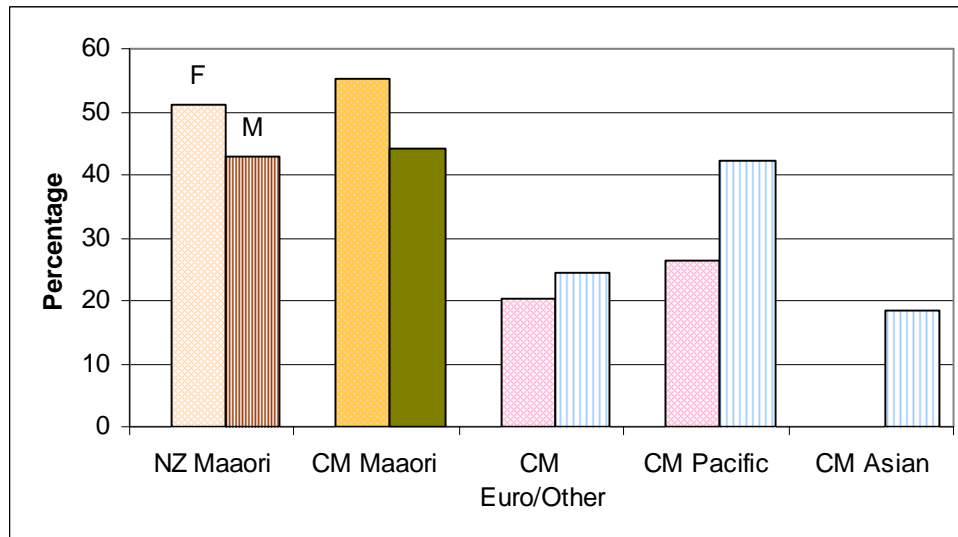
Smoking is a major risk factor for chronic diseases including cardiovascular and respiratory diseases and many types of cancer, which collectively account for approximately 15 percent of all deaths (15). In addition, second-hand cigarette smoke is now recognised to also be a substantial health hazard (14).

Smoking remains a very significant risk factor for ill health for Maaori. Current smoking was defined in the NZHS as those who smoked one or more tobacco cigarettes per day (cigars were excluded) and 50% of Maaori in Counties Manukau were reported to be current smokers compared to 22% of those of European/Other ethnicities. Maaori women in Counties are particularly at risk, with 55% currently smoking compared to 44% of Maaori men and 20% of European/Other women. These figures are higher than smoking rates for Maaori nationally but the

difference is not statistically significant. The figures compare to national level data in the 1996/97 NZ Health Survey indicating 48% of Maaori women smoking and overall 45% of genders combined. The 2001 ACNielsen national survey gave smoking rates for Maaori adults of 44% Maaori males, and 51.4% of Maaori females.

Approximately 14,750 Maaori women and 10,690 Maaori men in Counties Manukau are smokers, and need support to quit.

Figure 6.1.5 Age-standardised prevalence of current smoking by ethnicity and gender



Source: NZHS 2002/03

The New Zealand 2002/03 Health Survey documented that nationally 24% of Maaori smokers were thinking about or doing things to help them quit; this compares with 19% in the 1996/97 Health Survey. Forty three percent had no thoughts of quitting or believed they needed to consider quitting some say compared to 48% in 1996/97. In 2002/03, 33% thought they should quit but were not ready yet, very similar to the proportions in 1996/97. Of those who were smokers in the last 12 months, 44% had stopped for 24 hours or longer in an attempt to quit. Of these, 21% had used patches to help them, 16% had received advice from Quitline and 14.5% had received advice from a doctor.

This means at least 3,540 Maaori women and 2,560 Maaori men in Counties Manukau are already likely to be actively thinking about or trying to quit smoking. Finding effective strategies to support them is key as increasing the number of smokers quitting will impact significantly on health outcomes for Maaori in Counties Manukau.

Rangatahi smoking behaviour

Specific data about smoking habits is available for rangatahi from the ASH Year 10 survey, funded by the Ministry of Health. There has been a significant overall decline in daily smoking for Year 10 students of all ethnicities nationally reported by ASH, as in Table 6.1.1. However, the prevalence of smoking in Year 10 young Maaori women remains much higher (at 26.5%) in comparison with young women of other ethnicities (7.3% for European/Other, 14.5% for Pacific and 2.9% for Asian), and higher than Maaori boys (14%) (16).

Table 6.1.1 Percentage of Year 10 students smoking at least daily, 2005 compared to 1999 by ethnicity

At least daily smoking	1999		2005	
	Girls	Boys	Girls	Boys
Maaori	36.2	23.6	26.5	14
European/Other	13.1	12.6	7.3	5.4
Pacific	23	16.6	14.5	10.2
Asian	5.9	7.9	2.9	5.3

Source: Scragg for ASH (16)

The ASH Year 10 data has been analysed by DHB all ethnicities combined and as shown in Table 6.1.2 the total smoking rate for Counties Manukau has declined in parallel to the national trends, although this overall rate masks the disparities by ethnicity.

Table 6.1.2 Percentage of Year 10 students smoking at least daily, all ethnicities combined for Counties Manukau

Counties Manukau Year 10 smoking rates	2002	2003	2004	2005
At least daily smoking	14.3	12.3	9.5	8.8

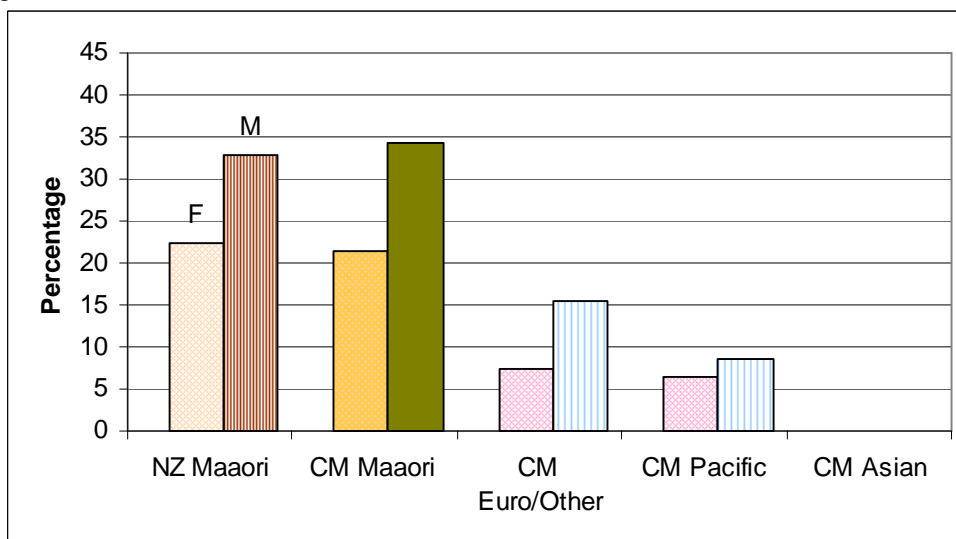
Source: Scragg for ASH (16)

Counties Manukau data was obtained from ASH to attempt ethnicity analysis within the CMDHB cohort. This analysis suggests that the daily smoking rate for young Maaori women in Counties Manukau remains in excess of 30% (reflecting the trends of their mothers) while smoking prevalence for Maaori boys in Counties is similar to national levels, at about 15%.

6.1.3 Marijuana use in the last year

Use of marijuana in the last year, as documented in the NZHS, demonstrates statistically significant disparity similar to that for cigarette smoking, with 27% of Maaori reporting use compared to 11% of European/Others. The proportion using marijuana is higher for males (34% of Maaori males compared to 15% of European/Other males).

Figure 6.1.6 Age-standardised prevalence of marijuana use in the last 12 months by ethnicity and gender



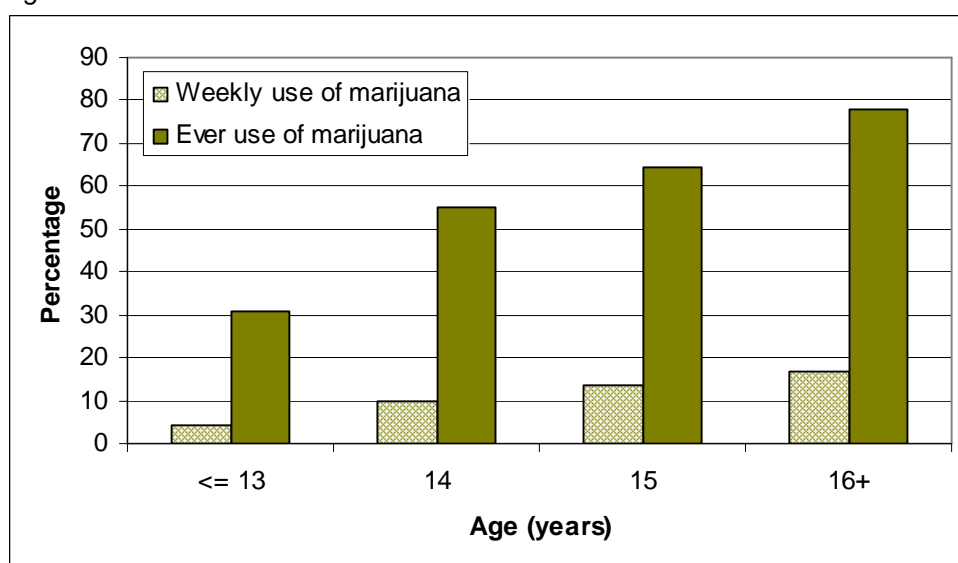
Source: NZHS 2002/03

The health significance of this behaviour is less clear than smoking tobacco, although there may be important issues related to role modelling behaviour to tamariki and rangatahi. However national level data from the New Zealand Health Survey is available for regular marijuana use (daily, weekly or fortnightly) in those aged 15 years and over, which is more likely to have significant health consequences. This confirms the higher prevalence in Maaori adults: 17% for Maaori males and 8.6% for Maaori females compared to 8.3% and 3.6% for the total New Zealand population.

Marijuana use by rangatahi

Auckland specific data for marijuana and alcohol use by rangatahi has been made available from the Youth2000 national survey of secondary school students¹⁷. As expected marijuana use by rangatahi increases with age; however a small but significant proportion of rangatahi (13.4%) are regularly using marijuana by age 15 years.

Figure 6.1.7 Use of marijuana by secondary school aged Maaori young people in the Auckland region



Source: Youth2000, analysed for ARPHS 2005

The Auckland Youth 2000 data suggests that 10% of Maaori 14 year olds report using marijuana weekly and given the long half life of the neurologically active ingredient of marijuana, this gives the potential for this behaviour to impact significantly on the learning of these students.

6.1.4 Hazardous drinking

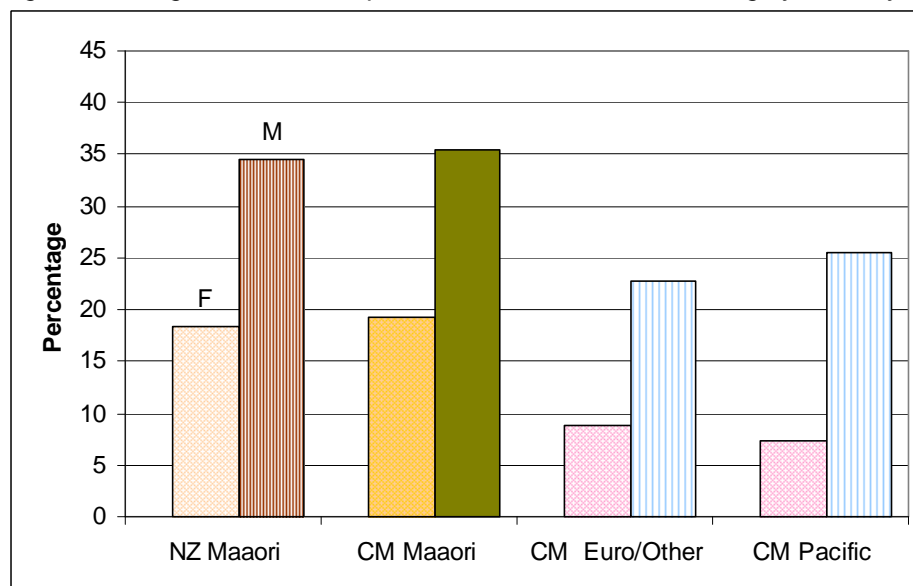
Hazardous drinking was defined in the NZHS as those with an established pattern of drinking that carries a high risk of future damage to physical or mental health. This was defined as an Alcohol Use Disorders Identification Test (AUDIT) score of eight or more. **In relation to hazardous drinking, Maaori males in Counties Manukau are particularly at risk**, with 35% likely to be drinking in a way that carries a high risk of health damage, compared to 23% of European/Other males. Nineteen percent of Maaori women were also identified as drinking hazardously compared to 9% of European/Other women. The difference between Maaori and European/Other both sexes combined for Counties Manukau is statistically significant.

Figures suggest there are 8,920 Maaori men and 5,540 Maaori women in Counties Manukau who need support to reduce their drinking to safe levels.

¹⁷ Undertaken for the ARPHS Maaori Public Health report.

These figures compare to national level data of 1996/97 indicating 33% of Maaori men and 20% of Maaori women adults were drinking in a potentially hazardous way.

Figure 6.1.8 Age-standardised prevalence of hazardous drinking by ethnicity and gender



Source: NZHS 2002/03

The results of a national survey specifically investigating Maaori drinking habits in 2000 verifies the magnitude of these results (17). Approximately one third of respondents reported three or more 'problems' from their own drinking (e.g. feeling the effects of alcohol after drinking the night before, unable to remember things they had done while drinking, effecting performance at work) and one third reported that consumption of alcohol by others had an effect on their home life. Nearly 20% of those surveyed indicating they were drinking more than they were happy with.

It has been calculated from national data that overall the alcohol-related death rate for Maaori is 4.2 times that for non-Maaori. This is in part because the shorter life-span for Maaori (see P 33) means there are less deaths from IHD and stroke prevented in old age by moderate alcohol intake, and the high injury related death rates (which account for 72% of Years of Life Lost due to alcohol) in younger age groups for Maaori (18).

The prevalence of hazardous and problem drinking in Maaori adults highlights the need for appropriate alcohol treatment services for Maaori, but also the need for broader approaches to the issue.

Alcohol use by rangatahi

In the Youth2000 survey 21% of rangatahi surveyed in the Auckland region used alcohol weekly, with 44% reporting binge drinking (defined as ≥ 5 drinks within a four hour period in the preceding month). As might be anticipated, these figures increased with age.

Figure 6.1.9 Use of alcohol by secondary school aged Maaori young people in the Auckland region



Source: Youth2000, analysed for ARPHS 2005

Alcohol use and binge drinking appears to be an accepted norm for many young people, reflecting similar culture in the adults in their lives. Over a third of rangatahi aged 14 years had had an episode of binge drinking in the preceding month.

6.1.5 Problem Gambling

The 2002/03 NZ Health Survey also included a set of questions to screen for problematic gambling. Problem gamblers were more likely than non-problem gamblers to report potentially hazardous drinking behaviour (53.5% compared to 16.8%) and daily cigarette smoking (58.3% compared to 22.5%). National level results analysed by ethnicity and logistic regression suggest Maaori adults are 3.5 times more likely than those of European ethnicity to be problem gamblers (19)b. This equates to approximately 3.3% of the adult Maaori population.

These figures suggest 1560 people Maaori adults in Counties Manukau are needing help to deal with their problem gambling, and are likely to have related issues with smoking and alcohol.

In particular Maaori were more likely to use non-casino gaming machines (21.7% compared to 12.3% of Europeans). However the density of such machines is actually lower in Counties Manukau than in all other DHBs except Waitemata (37.5 per 10,000 people compared to the average of 53.5 across all DHBs) (20).

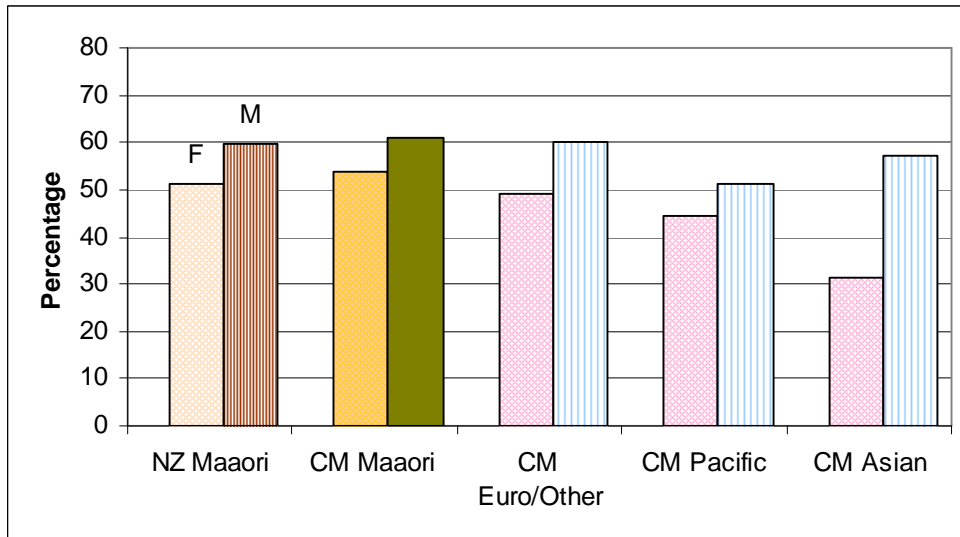
6.2 Behaviours to enhance hauora

6.2.1 Exercise

Overall NZHS data suggests similar proportions of Maaori (57%) and European/Other (54%) adults in Counties Manukau undertake at least 150 mins of physical activity per week comprising at least 30 minutes on five or more days of the week. Maaori men are more likely (61%) than Maaori women (54%) to be undertaking this amount of exercise, a gender pattern that is similar to other ethnicities although Maaori women tend to be more active than those of other ethnicities. These figures compare to 58% of Maaori exercising regularly in 1996/97.

The data available from 1996/97 and 2002/03 indicates Maori adults maintained their exercise levels, with approximately 60% involved in regular physical activity. However this means 40% of Maaori adults (19,000 in Counties Manukau) need support to increase their physical activity levels.

Figure 6.2.1 Age-standardised prevalence of regular exercise (at least 150 mins of physical activity per week comprising at least 30 minutes on five or more days of the week) by ethnicity and gender

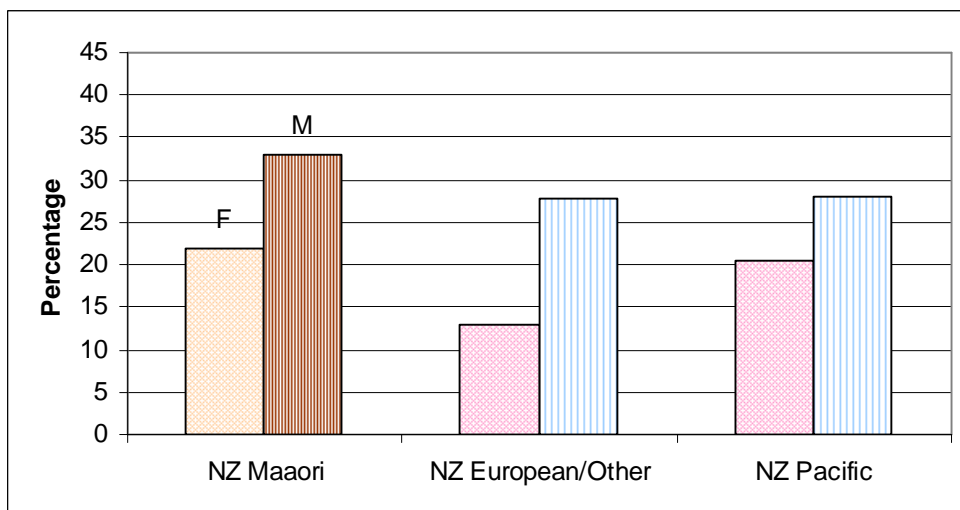


Source: NZHS 2002/03

Children's Activity Levels

The 2002 National Children's Nutrition Survey had a number of questions related to children's activity levels that give us an indication from national level data of the likely activity levels of tamariki in Counties Manukau.

Figure 6.2.2. Percentage of children in the most active quartile, national level data



Source: National Children's Nutrition Survey 2002

Overall tamariki had the highest proportion of children in the most active quartile (33% of males and 21.8% of females).

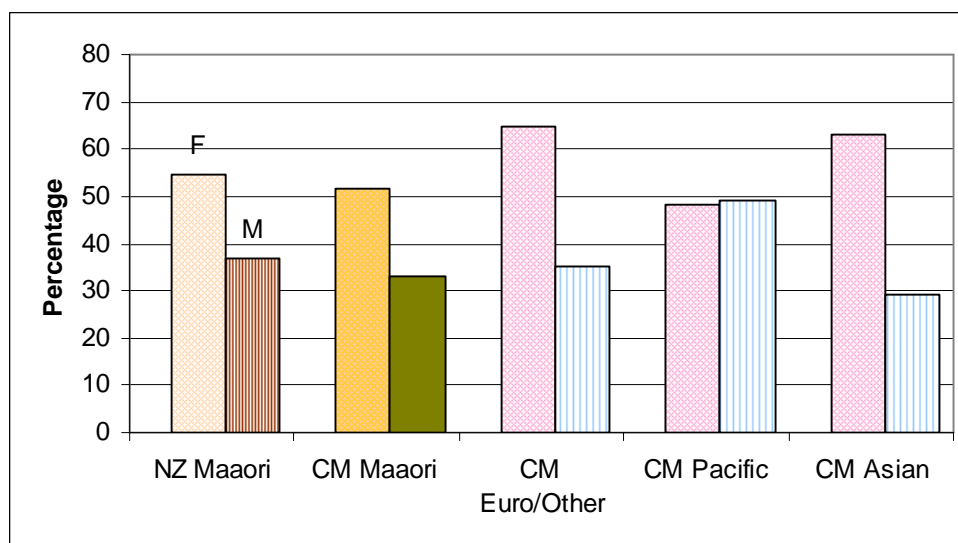
However while the survey does not report the number of children involved in 'sufficient physical activity', 58% of Maaori girls and 44% of Maaori boys were in the least active two quartiles.

Thirty three percent of Maaori boys and 39% of Maaori girls were involved in 'very active' activities at least four days after school, and half of both boys and girls in active activities at least four times over the weekend. Overall there was a tendency toward tamariki being more active than other children during the school day and less active in the evenings and weekends. Potential areas and strategies for improvement are included in Part Two of this report.

6.2.2 Fruit and Vegetable Intake

Overall 43% of Maaori adults in Counties Manukau consume the recommended daily fruit intake (two or more portions). There is a notable gender difference, with 52% of Maaori females meeting the recommended intake compared to 33% of males. This is a similar pattern to the European/Other group, where 65% of females eat the recommended intake compared to 35% of males. The difference between genders for both groups is statistically significant, as is the difference between Maaori and European/Other women. The results for Maaori are similar to those of the National Nutrition Survey in 1996 where 31% of Maaori men and 49% of Maaori women ate the recommended amount of fruit daily.

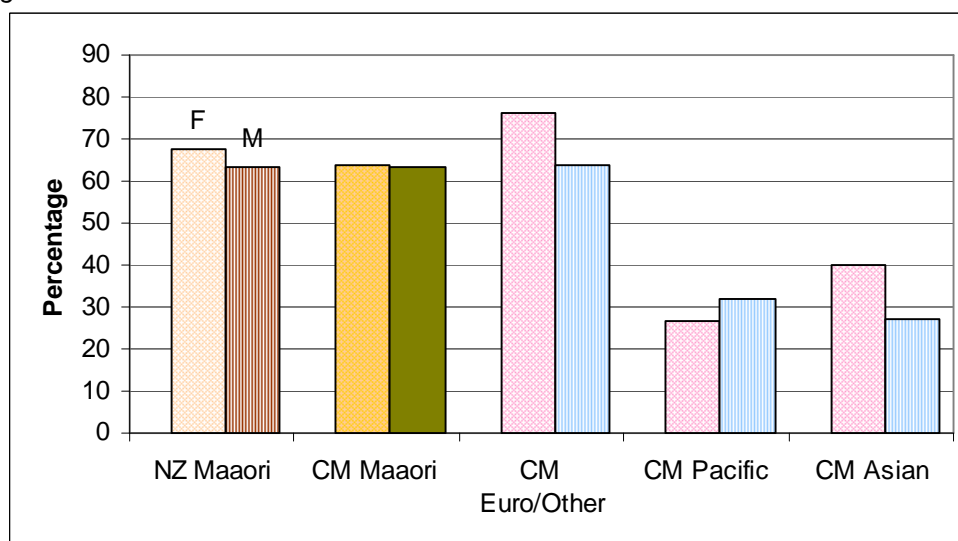
Figure 6.2.3 Age-standardised prevalence of recommended fruit intake by ethnicity and gender



Source: NZHS 2002/03

Vegetable consumption for Maaori is not gendered. Overall 64% of Maaori women and 63% of Maaori men in Counties Manukau consume the recommended daily vegetable intake (three or more portions). There is a notable gender difference for the European/Other group where 76% of females eat the recommended intake compared to 64% of males. This higher intake in European/Other women accounts for the overall higher vegetable intake by European/Other both genders combined at 70%. The European/Other women have a particularly high vegetable consumption compared to all other groups, and in general Maaori vegetable consumption compares favourably with those of Pacific and Asian ethnic groups. However given this may include substantial amounts of potatoes, the **cooking method would influence the health benefit of this consumption**. The results for Maaori compare to those of the National Nutrition Survey in 1996 where the results were more gendered, with 50% of Maaori men and 62% of Maaori women eating the recommended amount of vegetables daily.

Figure 6.2.4 Age-standardised prevalence of recommended vegetable intake by ethnicity and gender



Source: NZHS 2002/03

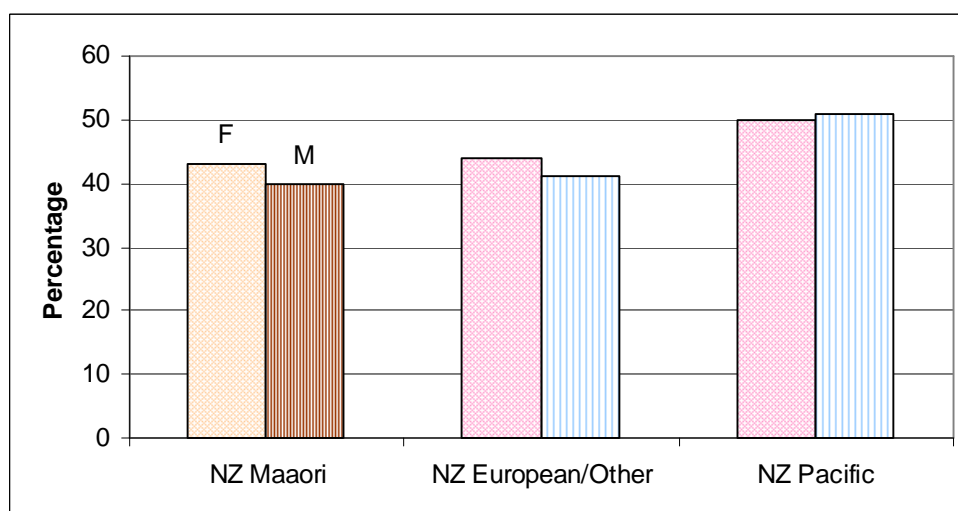
Overall results for combined fruit and vegetable intake (i.e. the proportion of people who get '5+ a day') are less favourable with only 33% of Maaori adults in Counties Manukau reaching the target, compared to 40% of European/Other similar to Maaori nationally (35%). The gender difference for fruit and vegetable intake influences the results, with 39% of Maaori females reaching the target compared to 26% of males.

Fruit and vegetable consumption by tamariki

National level data from the National Children's Nutrition Survey in 2002 for **tamariki fairly well reflects that of Maaori adults**, with just over 40% of tamariki eating the recommended 2+ servings of fruit per day, and just over 50% eating 3+ servings of vegetables daily.

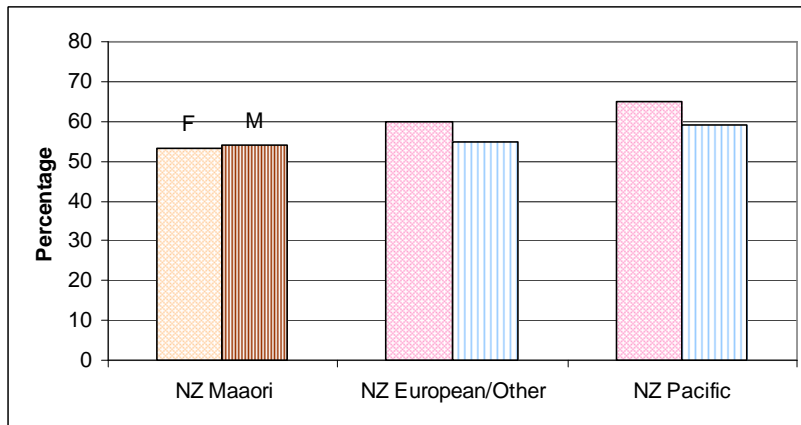
Whole of whaanau approaches to address fruit and vegetable intake are likely to be particularly important for Maaori given that the fruit and vegetable intake of Maaori children fairly well reflects that of Maaori adults.

Figure 6.2.5 Prevalence of recommended fruit intake by children ethnicity and gender, national level data



Source: National Children's Nutrition Survey 2002

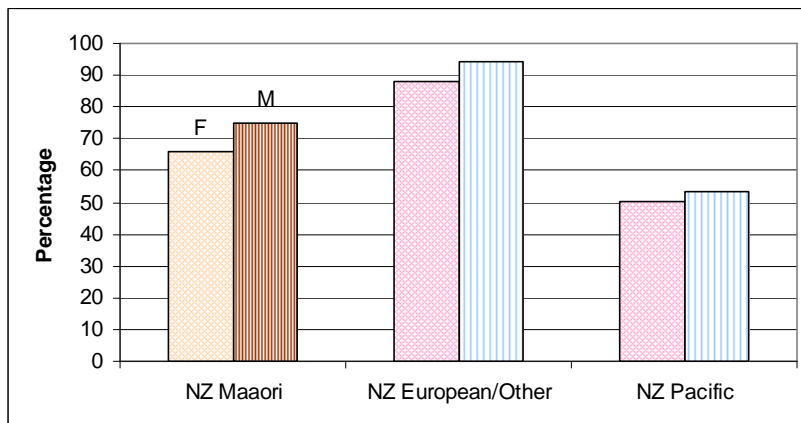
Figure 6.2.6 Prevalence of recommended vegetable intake by children by ethnicity and gender, national level data



Source: National Children's Nutrition Survey 2002

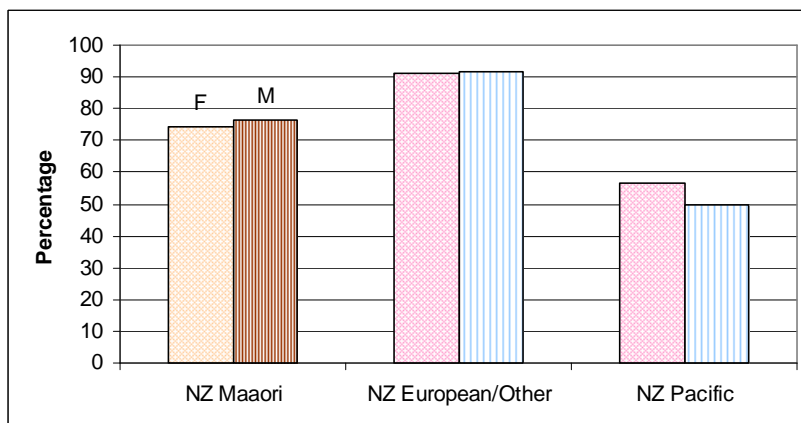
Other important and modifiable factors in children's eating habits include eating breakfast, and taking food to eat at school from home where there is more parental control over what food is eaten. As seen below Maaori children are intermediate between Pacific and European/Other children in these behaviours and there is room for improvement.

Figure 6.2.7 Prevalence of children who eat something at home before leaving for school, national level data



Source: National Children's Nutrition Survey 2002

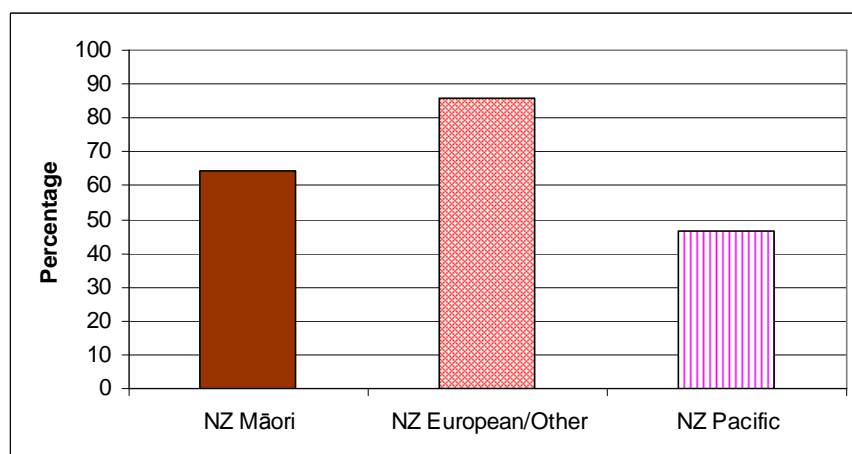
Figure 6.2.8 Prevalence of children for whom most of what they eat at school is taken from home, national level data



Source: National Children's Nutrition Survey 2002

Given recent reviews suggesting important associations between nutrition and school performance (21), and the important links between education outcomes and health more broadly, there is increasing recognition of the importance of childhood nutrition issues. However eating habits will in part be determined by food security, a notion that includes the ability of a household to afford nutritionally adequate foods. Consistent with previously cited socioeconomic data and adult data, only 64% of Maaori children reported that their household could always afford enough food.

Figure 6.2.9 Prevalence of children who report that their household can always afford to eat properly, national level data



Source: National Children's Nutrition Survey 2002

Continued advocacy to address food security, so that all households can afford nutritionally adequate foods, will be important to address Maaori nutrition issues.

6.3 Disability Adjusted Life Years

The patterns reported for risk factors for Maaori in Counties Manukau in this Toiora section are consistent with a PHI report, Priorities for Maaori and Pacific health: Evidence from epidemiology (22). This report combined mortality, morbidity and disability statistics from 1996 to calculate DALYs (Disability Adjusted Life Years) lost to rank important disease and risk factors for Maaori (22). This confirmed smoking was the leading modifiable risk factor for Maaori.

Table 6.3.1 Top five risk factors for Maaori ranked according to DALYs (Disability Adjusted Life Years) lost, based on 1996 data

Males	Females
Smoking	Smoking
Diabetes	Diabetes
Inadequate physical activity	Inadequate physical activity
Obesity (4 th =)	Obesity (4 th =)
High blood pressure (4 th =)	High blood pressure (4 th =)

Source: Public Health Intelligence, 2001

7 Tinana Ora (Healthy lives)

Importance

Current unacceptable inequalities between the health of Maaori and non-Maaori have been well documented nationally and in Counties Manukau, both in relation to longevity and quality of life. The Whaanau Ora plan focuses on moving towards reducing absolute and relative health and disability outcomes. The indicators below highlight the specific situation for Maaori in Counties Manukau in relation to life expectancy and disease-related outcomes.

Findings

Measures relating to all ages, or where it is helpful to look at patterns across age groups, are presented first, followed by specific sections for child and youth, and adult data.

7.1 All ages

7.1.1 Life expectancy

Life expectancy (LE) is a summary indicator of population health, reflecting mortality across all ages from all causes. Life expectancy at birth is an estimate of the average number of years a newborn could expect to live if they experienced the current age-specific mortality rates over the course of their life.

In 2005 life expectancy in Counties Manukau, reflecting the rest of the country, varied considerably by ethnicity. **Life expectancy for Maaori was lowest at 72 years**, compared with non-Maaori/non-Pacific at 82.4 years¹⁸ and Pacific at 77 years. Life expectancy nationally for Maaori was a little greater than for Maaori in Counties Manukau at 72.8 years, this being due to greater longevity for Maaori women nationally but with no difference for Maaori men.

Within each ethnicity, women outlive men. For Maaori in Counties Manukau the gender difference is 2.7 years, compared with a 5 year gap for non-Maaori/non-Pacific. This is reflected in a greater ethnic life expectancy gap for women compared to men: a non-Maaori/non-Pacific woman in Counties Manukau can expect to outlive her Maaori counterpart by 11.4 years whereas a non-Maaori/non-Pacific male will potentially outlive his Maaori neighbour by 9.1 years.

Table 7.1.1 Life expectancy at birth in 2005 by ethnicity and gender

Ethnicity	Female Life Expectancy	Male Life expectancy
CM Maaori	73.4	70.7
CM Non-Maaori/non-Pacific	84.8	79.8
CM Pacific	79.0	74.9
NZ Maaori	74.9	70.7

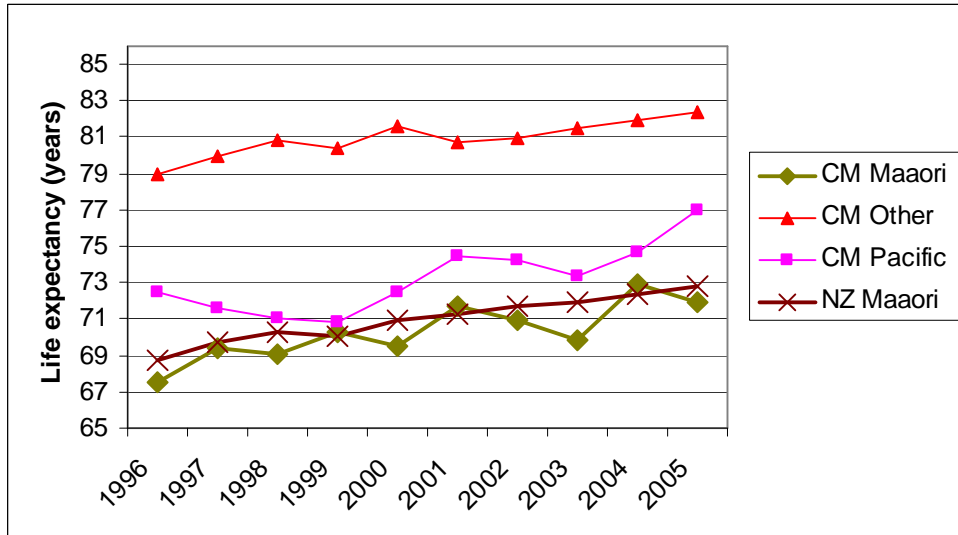
Source: NZHIS mortality data, CMDHB analysis

Maaori life expectancy has been steadily improving in CMDHB, gaining 4 years from 1996 to 2005. This is a greater rise than non-Maaori/non-Pacific (2.65 years), slightly greater than all New Zealand Maaori (3.72 years) but not as great as Pacific peoples in Counties Manukau (4.65 years).

¹⁸ Members of the non-Maaori/non-Pacific group living in CMDHB have a life expectancy 1 year higher than their counterparts in the rest of New Zealand.

Life expectancy for Maaori in Counties Manukau has improved 4 years over the past decade. This has reduced the gap between ethnicities; however significant disparity remains, with a 10.4 year gap between life expectancy of Maaori and that of non-Maaori/non-Pacific peoples.

Figure 7.1.1 Life expectancy at birth, both genders combined by ethnicity



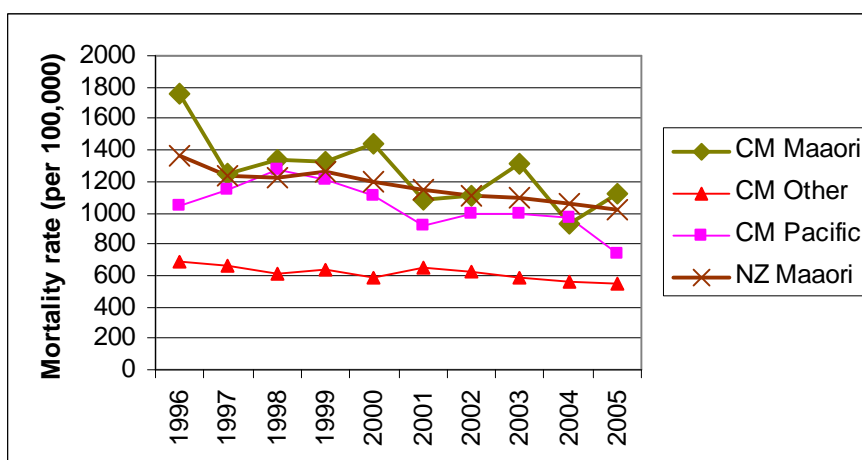
Source: NZHIS mortality data, CMDHB analysis.

7.1.2 Mortality

Mortality is the flipside of life expectancy so as would be anticipated mortality rates have decreased as life expectancy has increased.

In 2005 mortality rates in Counties Manukau, as with life expectancy, reflect the rest of the country and vary considerably by ethnicity. **Mortality rates for Maaori are twice that of non-Maaori/non-Pacific, and one and a half times that of Pacific peoples.** They are also ten percent higher than rates for Maaori nationally. Again within each ethnicity there is gender disparity with rates for men higher than those of women, but in Counties Manukau the gender difference is less for Maaori at 12%, compared to 33% for non-Maaori/non-Pacific, 25% for Pacific and 29% for New Zealand Maaori.

Figure 7.1.2 Total age standardised mortality rate, both genders combined, by ethnicity



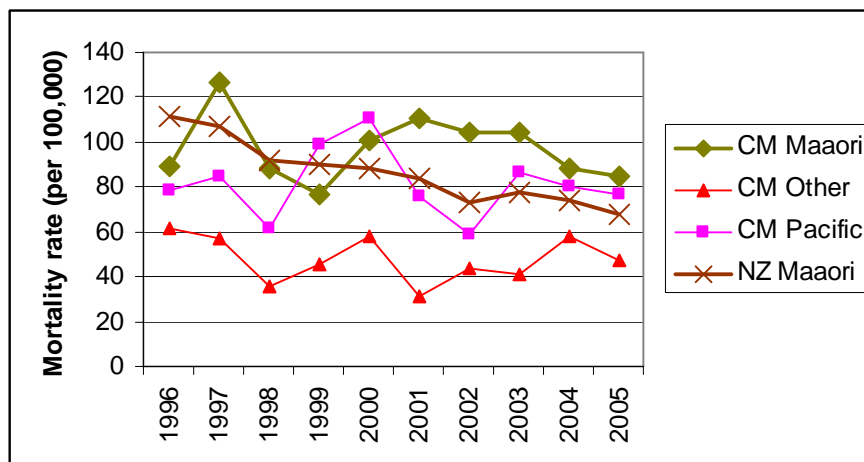
Source: NZHIS data, CMDHB analysis

Mortality causes vary by age, with injury being the main cause in the 15-44 year age group while for 45-74 year olds the impacts of smoking, diabetes and cardiovascular disease become more important.

Overall premature mortality aged 15 – 74 years has fallen dramatically in Counties Manukau over the past 10 years, averaging 2.2% per year, and paralleling the drop in all New Zealand mortality. This reduction has been even steeper for Māori at 5% per year, although this still leaves an 80% excess mortality [130].

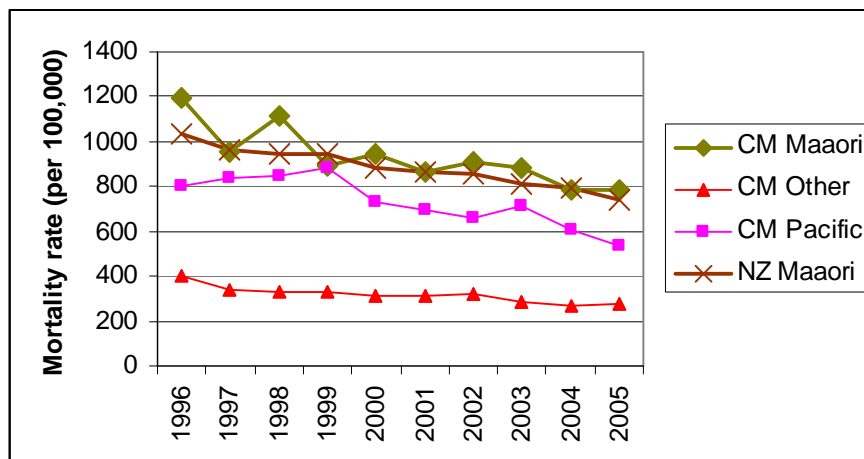
When interpreting mortality graphs for different age groups it is important to note while the trends are similar, the actual magnitude of the rates is very different for the different age groups (i.e. as expected much greater in older age groups). This is reflected in the different scales on the Y axes of the graphs.

Figure 7.1.3 Age adjusted mortality, 0 – 14 years, both genders combined, by ethnicity



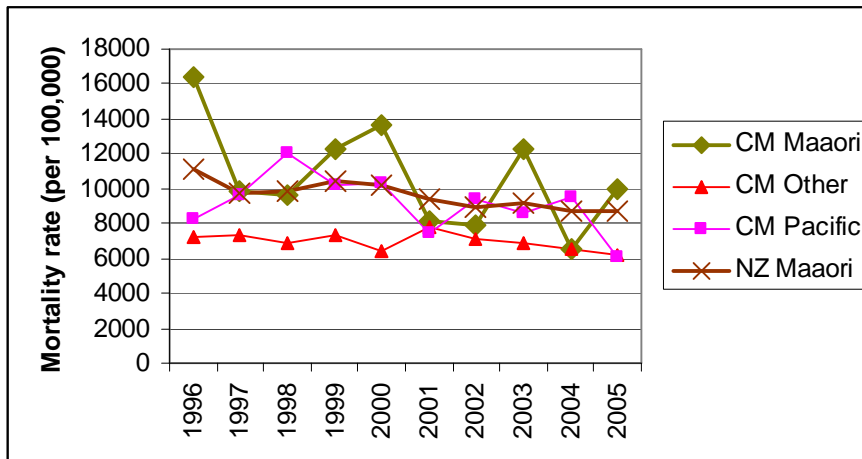
Source: NZHIS data, CMDHB analysis

Figure 7.1.4 Age adjusted mortality, 15 – 74 years, both genders combined, by ethnicity



Source: NZHIS data, CMDHB analysis

Figure 7.1.5 Age adjusted mortality, 75 years +, both genders combined, by ethnicity



Source: NZHIS data, CMDHB analysis

7.1.3 Potentially avoidable mortality

Potentially avoidable mortality (PAM) is the death of people aged 0 – 74 years from causes considered to be wholly or partly avoidable through preventive interventions (eg stopping smoking) or appropriate therapy (eg adequate treatment for angina); it includes death due to injury. It gives an indication of conditions and interventions that could be targeted to improve life expectancy. Important causes of potentially avoidable mortality for Maaori in Counties Manukau are considered under the child and youth and adult specific sections.

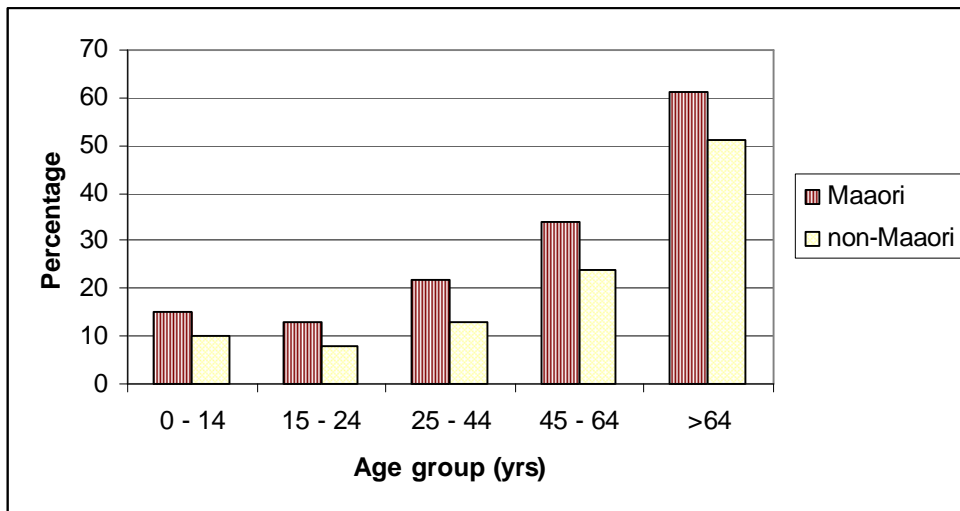
7.1.4 Potentially Avoidable Hospitalisations

Potentially avoidable hospitalisations (PAH) refer to patients being admitted to public hospitals with conditions that one might have expected to be preventable, either through public health interventions (eg stopping smoking) or good primary care (eg adequate preventive treatment for asthma); this includes hospitalisations due to injury. Currently about 30% of all public hospital admissions could be considered potentially avoidable. Important causes of potentially avoidable hospitalisation for Maaori in Counties Manukau are considered under the child and youth and adult specific sections.

7.1.5 Disability

The latest national disability survey (the New Zealand Disability Survey 2001) did not present data at a DHB level. For the CM 2005 population health indicator document, local disability data was obtained from WINZ via the Ministry of Social Development; this data was not categorised by ethnicity. The national level ethnic data from the 2001 New Zealand Disability survey is presented to give some indication of the likely situation in Counties Manukau for Maaori (23). Within each age group, the disability rates for Maaori were higher than the overall rates, and disability increased with age. **Overall 21 percent of Maaori living in households had disability** compared with 19% of non-Maaori. Fourteen percent of Maaori had a functional disability requiring assistance compared with 9 % of all non-Maaori.

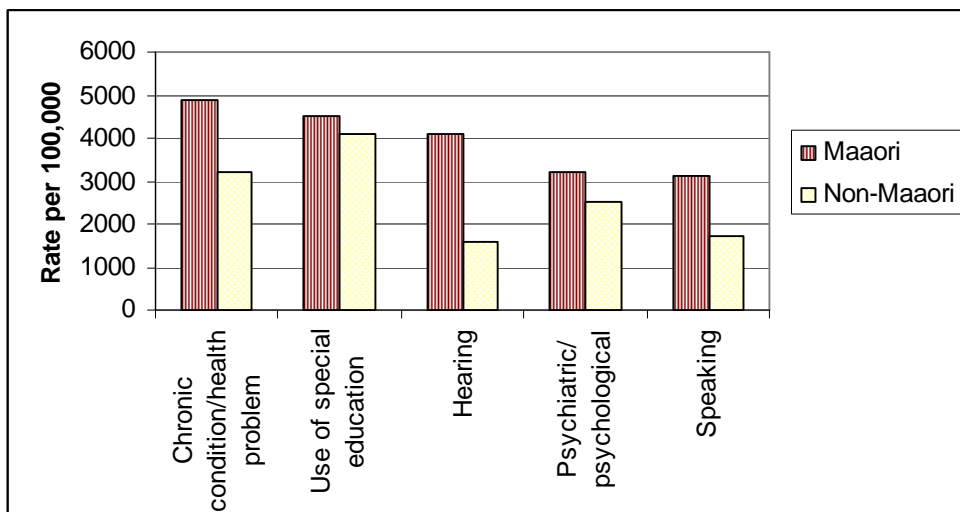
Figure 7.1.6 Age specific prevalence of disability, national level data, by ethnicity (2001).



Source: 2001 New Zealand Disability Survey

For Maaori adults the disability is most likely to be a physical one, limiting mobility or agility, while for children chronic health problems, special education and hearing types of disability are most common. The difference in the rates of hearing and speaking disabilities between Maaori and non-Maaori was large. This is important because these types of disability are related and affect learning and education.

Figure 7.1.7 Rates of selected disability types, Maaori children (national level data 2001)



Source: 2001 New Zealand Disability Survey

Twenty three percent of Maaori with disability used disability-related equipment compared to 31% of non-Maaori with disability Maaori, with the highest use being for mobility equipment at 14%.

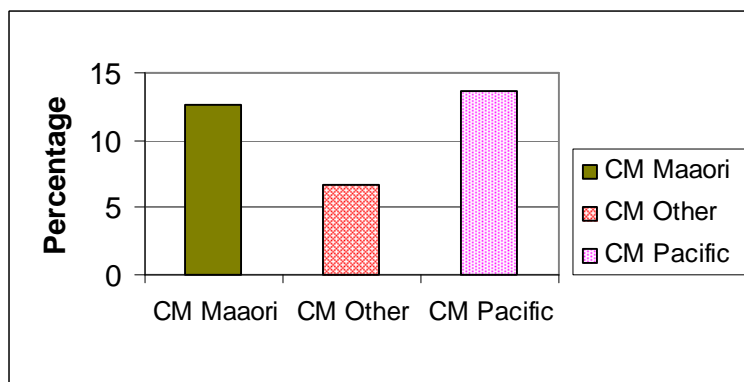
Maaori with disability were actually more likely to be in paid employment (44%) than non-Maaori with disability (39%) even though employment rates are lower in Maaori without disability.

Only 1 percent of all Maaori with disability were living in residential facilities, compared to 4 percent of non-Maaori with disability. This is likely to be due in part to the fact that 92% of disabled people in residential facilities are aged 65 and over, and Maaori are less likely to reach this age

Census data about unpaid activity adds further to the picture of the impact of disability in Maaori households. Maaori are more likely than European/Other groups to be looking after someone with

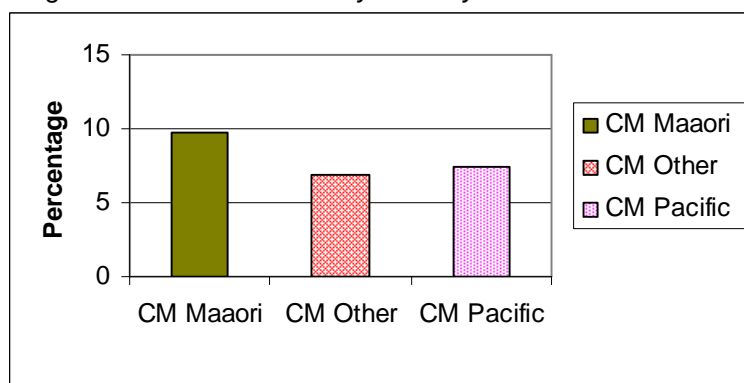
a disability, either a member of their own household (12.6% compared to 6.7%) or someone living in another household (9.7% compared to 6.9%).

Figure 7.1.8 Percentage of people looking after a member of their own household who is ill/has a disability by ethnicity



Source: Census 2001, analysed by CMDHB

Figure 7.1.9 Percentage of people looking after someone who is ill/has a disability who is not living in their own household by ethnicity



Source: Census 2001, analysed by CMDHB

Caring for those with disability is an important dynamic in Maaori households, both a tribute to whaanaungatanga but also a marker of higher levels of disability in the Maaori population.

7.2 Child and youth general data

7.2.1 Potentially avoidable mortality aged 0 – 14 years

As noted previously, potentially avoidable mortality (PAM) is death from causes considered to be wholly or partly avoidable through preventive interventions (eg stopping smoking) or appropriate therapy (eg adequate treatment for angina), including death due to injury.

Based on the combined data for 2001 - 2003 (the most current data available), the rate for Maaori SIDS in Counties Manukau was nearly twice that of Maaori nationally, four times that for Pacific peoples in Counties, and 30 times that of non-Maaori/non-Pacific populations in Counties. In the five years from 1999 – 2003 SIDS has been consistently in the top three causes of potentially avoidable mortality for tamariki in Counties Manukau, with rates from 6.5 – 30.3

per 100,000¹⁹, compared to 0 – 2.1 per 100,000 for non-Maori/non-Pacific populations. These figures equate to 2 – 9 whaanau dealing with the tragedy of a SIDS death each year. The rate for death from low birthweight for tamariki is similar to that for Pacific babies but one and a half times that of Maori nationally and four and a half times that of non-Maori/non-Pacific peoples in Counties Manukau.

SIDS is clearly the most important potentially preventable cause of death for tamariki both in Counties Manukau and nationally.

Table 7.2.1 Potentially avoidable mortality children aged 0 - 14 years, both genders combined, ranked by rates per 100,000 for CM Maori (2001 - 2003)

Cause of PAM 2001 – 2003, 0 - 14 years	CM Maori		CM Other		CM Pacific		NZ Maori	
	Rank	PAM Rate	Rank	PAM Rate	Rank	PAM Rate	Rank	PAM Rate
Sudden infant death syndrome	1	21.8	8=	0.7	4	5.1	1	12.4
Low birthweight babies	2	16.3	2	3.5	1	17.3	2	10.8
Other perinatal conditions ²⁰	3	8.7	4	2.8	3	7.1	3	5.7
Road traffic injury	4	6	3	3.4	7	2.3	5	4.8
Other infections	5	5.4			6	3	6	4.1
Congenital anomalies	6	4.4	1	6.2	2	7.4	4	5.6
Drowning	7	3.8					8	1.8
Asthma	8	2.6						
Birth trauma and asphyxia	9	2.2	7	2.1	5	4.1	7	2.3
Suicide	10	1.4			9	1.3		
Swimming pool injury			4=	2.8				
Neural tube defect			6	2.7	10	1.2		
Respiratory infections					8	2	9	1.7
Fire			8=	0.7			10	1.4

Source: NZHIS data, CMDHB analysis

7.2.2 Potentially avoidable hospitalisations aged 0 - 14 years

As noted previously, potentially avoidable hospitalisations (PAH) refer to patients being admitted to public hospitals with conditions that one might have expected to be preventable, either through public health interventions (eg stopping smoking) or good primary care (eg adequate preventive treatment for asthma), including hospitalisations due to injury. It is currently considered that about 30% of all public hospital admissions could be potentially avoidable.

Over the past 5 years, the top six causes of PAH for tamariki aged 0 – 14 years in Counties Manukau have consistently included the same categories – bronchiolitis, dental conditions, asthma, cellulitis, ENT infections and pneumonia - with rates greater than 500 per 100,000. These conditions resulted in 1356 admissions in the 2005/06 year.

Bronchiolitis has been the top cause of PAH for tamariki aged 0 - 14 years for the last 5 years, with rates from 845 to over 1200 per 100,000. This is over four times the rate for non-Maori/non-Pacific populations and amounted to 354 admissions in 2005/06. It is a viral lung infection which

¹⁹ There is significant variability because of small total numbers

²⁰ Respiratory disease and haemolytic disease

causes shortness of breath and wheezing and the incidence is influenced by second hand tobacco smoke and housing conditions.

For tamariki aged 0 – 14 years, bronchiolitis, dental conditions, asthma, cellulitis and ENT infections are the most important preventable causes of hospitalisation both in Counties Manukau and for Māori nationally.

Table 7.2.2 Potentially avoidable hospitalisations for children aged 0 – 14 years, both genders combined, ranked by rates per 100,000 for CM Maaori (2005/06)

Cause of PAH 2005/06, 0 - 14 years, both genders combined	CM Maaori		CM Other		CM Pacific		NZ Maaori	
	Rank	PAH Rate	Rank	PAH Rate	Rank	PAH Rate	Rank	PAH Rate
Acute bronchiolitis	1	1078	6	258	1	1265	3	828
Dental conditions	2	774	2	610	4	961	2	834
Asthma	3	715	4	418	3	1009	4	760
Cellulitis	4	651	8	215	5	679	5	496
ENT infections	5	634	3	583	7	609	1	842
Pneumonia	6	517	5	323	2	1022	8	383
Gastroenteritis	7	468	1	644	6	678	7	406
Other respiratory infections	8	248	9	192	8	499	6	431
Epilepsy	9	216	7	251	10	254	9	231
Kidney/urinary infection	10	140	10	139	9	342	10	114

Source: NZHIS data, CMDHB analysis

7.3 Tamariki specific data

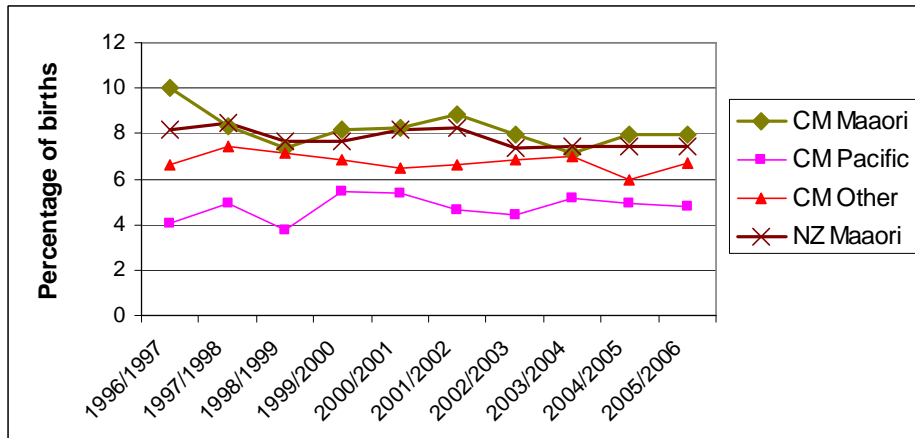
There is increasing recognition that conditions and experiences of children in the first three years of life have significant implications for their future well-being.

7.3.1 Low birth weight

Low birth weight (< 2500 gm) has traditionally been used as a perinatal indicator because it predicts neonatal mortality and morbidity, and is an indicator of antenatal environment and care. **The percentage of Maaori births where baby weighed less than 2500gms has remained relatively stable at approximately 8% for nearly the past decade.** This is higher than the percentage for Pacific and non-Maaori/non-Pacific populations in Counties Manukau.

In terms of numbers this equates to 120 – 140 Maaori babies born with the risks that accompany low birth weight per year in Counties Manukau.

Figure 7.3.1 Percentage of births where baby weighed < 2500 gm by ethnicity



Source: NMDS, analysed by CMDHB

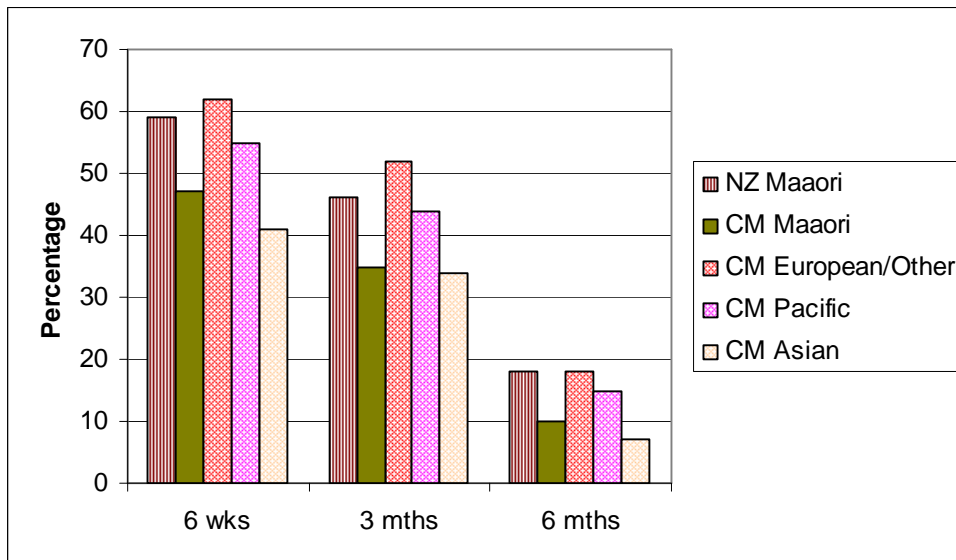
However low birth weight is determined both by gestational age (preterm defined as < 37 weeks) and intrauterine growth restriction. Since the prevention of these two conditions differs it has been suggested that it is potentially more helpful to consider the two conditions separately. National data demonstrates an increase in preterm births, while small for gestational age rates have decreased P 41 (7). When considered by ethnicity in Counties Manukau, Maaori rates for both per 100 live births were relatively stable from 1996 – 2004, with approximately 7 preterm births per 100 live births and 8 – 9 small for gestational age births per 100 live births (7).

7.3.2 Breast feeding

Breast feeding can supply the nutritional needs of full term infants for 4 – 6 months. Importantly it also reduces the risk of diarrhoea, respiratory infections, otitis media, SIDS, diabetes, asthma and allergies (7).

Breast feeding rates are available from Plunket data and local figures suggest currently in Counties Manukau Plunket see a very high percentage of tamariki under one year of age (personal communication Paula Sole, CMDHB August 2007). In 2005, according to Plunket data none of Counties Manukau ethnic groups reached the Ministry of Health targets of 74% full/exclusive breast feeding at 6 weeks, 57% at 3 months and 21% at 6 months. Over all ethnicities **Counties Manukau breast feeding rates are below the national rates, with Maaori rates below those of European/Other and Pacific.**

Figure 7.3.2 Full/exclusive breastfeeding rates (June 2004 to June 2005²¹) by ethnicity



Source: Plunket, from Paediatric Society of New Zealand 2005

These figures compare with previous Plunket data from 2001²² (24), which suggest there has been no improvement in breastfeeding rates for Maaori or European/Other populations in Counties Manukau. In Part Two of this report further breast feeding data will be sought from the B for Baby Counties Manukau breast feeding support service. This service was set up to particularly target Maaori and Pacific families but in the 2005/06 year only 22% of new enrollees were Maaori. This is thought to reflect complex issues in accessing Maaori families that will be further explored in Part Two of this report.

Breast feeding rates for Maaori in Counties Manukau are well below national targets, below those of European/Other and Pacific in the district and below those for Maaori nationally. Review of initiatives to improve breastfeeding would be appropriate.

7.3.3 Infant mortality

Numbers for infant mortality (age < 1 yr) data are too small at the DHB level to be meaningful if broken down by ethnicity. However national data suggests that overall SIDS & 'other causes' of postneonatal death are likely to be more significant for Maaori infants than congenital abnormalities and perinatal conditions (7), consistent with data previously presented.

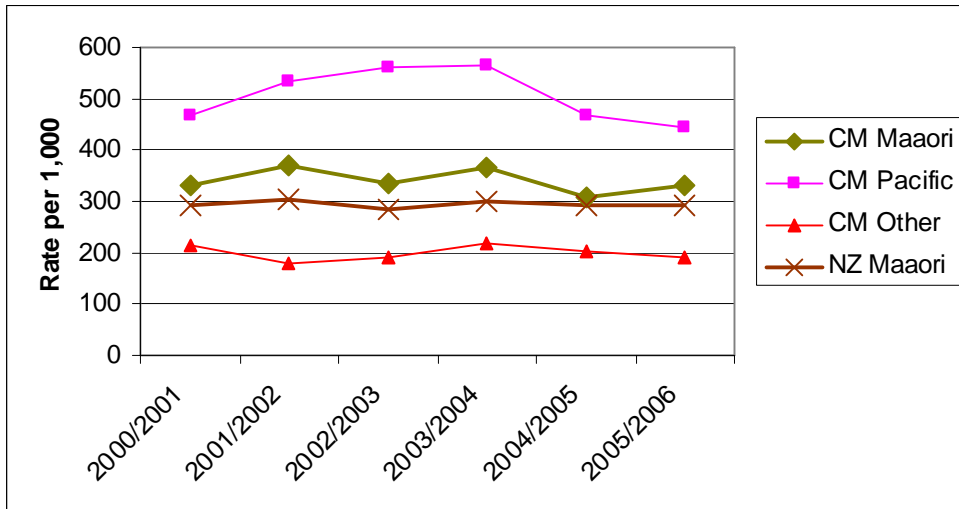
7.3.4 Hospitalisation under 1 year of age

The rate of hospitalisation for tamariki under 1 year is 1.6 – 2.3 times that of non-Maaori/non-Pacific children. As noted previously at least 30% of these hospitalisations are potentially avoidable. These rates equate to 660 – 790 children under 1 hospitalised each year, 220 – 260 at least of these admissions avoidable.

²¹ Maaori and Pacific rates to the end of 2005 were unchanged at 6 weeks and 6 months

²² In 2001 Plunket figures were thought to represent approximately 40% of Maaori births at 6 weeks, and 55% at 3 and 6 months.

Figure 7.3.3 Hospitalisation rates for children under 1 year by ethnicity



Source: NMDS, analysed by CMDHB

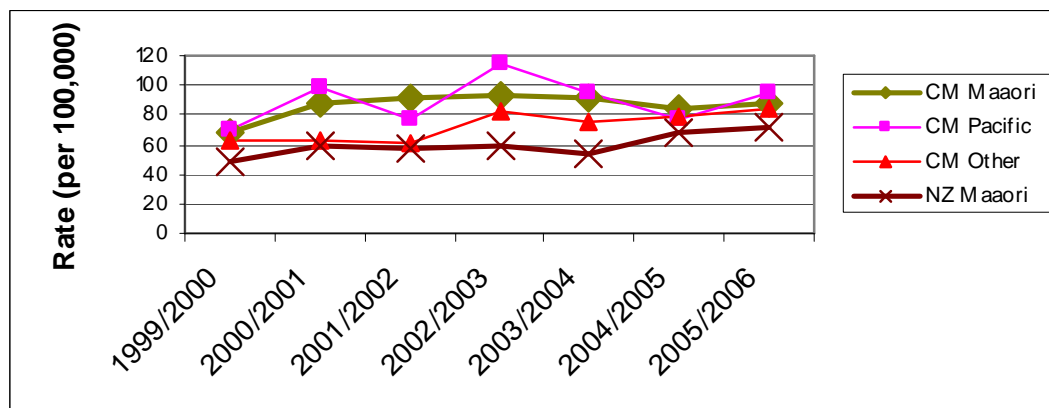
There are in the order of 250 admissions of tamariki aged under one year to Middlemore hospital annually that could be avoided by improved public health and primary care initiatives targeting both injury and illness.

7.3.5 Injury related childhood hospital admissions.

Rates of admission for tamariki aged 0 – 4 years from poisoning/falls/burns have been relatively stable since 2000. Rates for tamariki in Counties Manukau are higher than those of tamariki Maaori nationally but not dissimilar from children aged 0 – 4 of other ethnicities in Counties Manukau.

These rates equate to 110 – 130 tamariki aged 0 – 4 years admitted to hospital as a consequence of injury each year in Counties Manukau.

Figure 7.3.4 Hospitalisation from injury (poisoning/falls/burns) aged 0 – 4 years by ethnicity

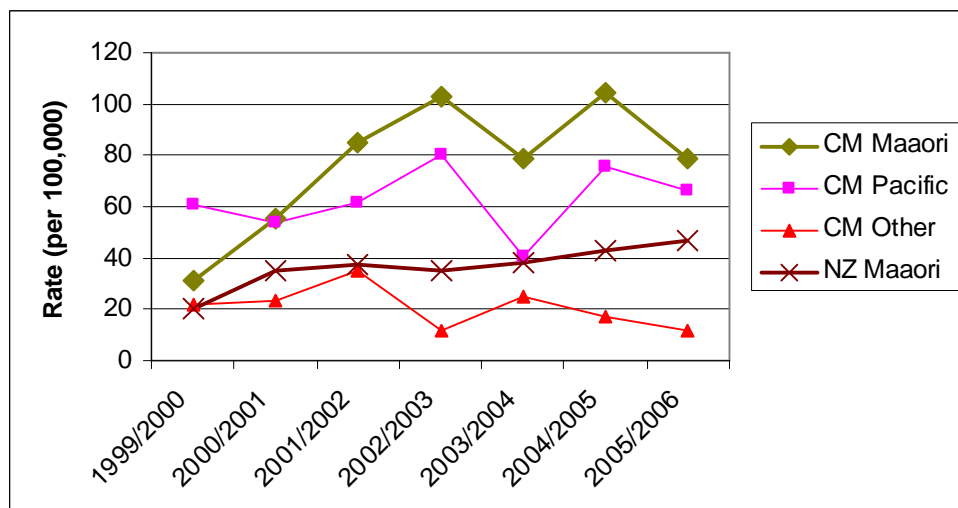


Source: NMDS, analysed by CMDHB

Injury is an important cause of childhood hospitalisation. There are in the order of 120 tamariki aged under five admitted to Middlemore hospital annually because of poisoning, falls or burns.

For the past five years there have been 20 – 30 admissions per year due to interpersonal violence for tamariki aged 0 – 14 years. The equivalent rates are higher than those of other ethnic groups and New Zealand Maaori, although the small numbers necessitate caution in interpreting the significance of this.

Figure 7.3.5 Admissions due to interpersonal violence for tamariki aged 0 – 14 years



Source: NMDS, analysis by CMDHB

7.3.6 Meningococcal disease.

Almost all cases of meningococcal disease are hospitalised. Overall rates of hospitalisation were higher in Counties Manukau than the rest of the country but declining from a peak in 1996 (7). By the close of 2005/06 hospitalisation rates were similar to the rest of New Zealand.

Nationally from 2000 – 2004 the relative risk of hospitalisation for meningococcal disease for Maaori children was 2.57 that of European children. **In Counties Manukau, rates of meningococcal disease (from Auckland Episurv notifications) in Maaori at all ages were approximately four times those of non-Maaori/non-Pacific children** (ARPHS data).

Data for ethnic specific vaccination rates against meningococcal disease have been complicated by the fact that this was probably one of the few times where parents and children were asked to state their ethnicity at the time of vaccination. In addition at the time of most recent collation of data at the end of November 2005 there were still some 2000 vaccinations missing on the National Immunisation Register and these were predominantly from small primary care providers with significant Maaori populations. Hence coverage for Maaori is probably higher than reported, and the ethnic specific rates tend to underrepresent Maaori²³. However data available indicates that **overall 85% of Maaori aged 0 – 19 years received their three doses of vaccine**, compared with 93% European/Other and 88% Pacific. It is particularly noteworthy that 81% of tamariki aged 1 – 4 years received their three doses given this had to be coordinated across the primary care sector, with significant input of outreach and mobile services (compared with those aged 5 – 17 years where vaccination primarily took place in schools).

A large majority of Maaori children have been successfully protected against meningococcal disease in Counties Manukau due to significant effort by primary care and community services.

²³ Some rates when broken down to ethnic groups gave over 100% coverage for Pacific and non-Maaori/non-Pacific, and therefore the denominators clearly underestimated the Maaori population.

7.3.7 Immunisation rates

A serum survey carried out in 1996 by North Health showed that by the age of 2 years only 45% of Maaori and 53% of Pacific children were fully immunised, compared with 72% of non-Maaori/non-Pacific. A major investment in immunisation coordination was made in CMDHB to address this. **By 2004 the fully completed immunisation rate of tamariki in Counties Manukau was 80%**, compared with Pacific 83%, and non-Maaori/non-Pacific 89% - i.e. there has been **very significant improvement but with remaining disparity for Maaori**. Seventy percent of tamariki had had their 6 week vaccination within 3 months of their due date, compared to 75% of Pacific and 76% non-Maaori/non-Pacific.

Unfortunately at present reports are not available past 2004; it is anticipated that these rates will be being maintained in the National Immunisation System, which took over from the CMDHB-developed KidsLink system.

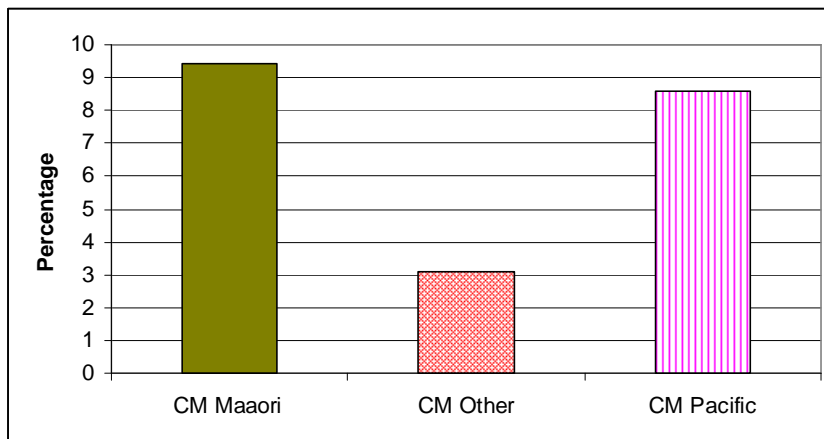
7.3.8 Hearing and vision at school entry

Hearing is essential to the development of the development of speech and language. Hearing loss in children is often caused by persistent otitis media with effusion (glue ear). Glue ear is associated with upper respiratory tract infections (URTIs) and other causes of nasal congestion, exposure to second-hand smoke, low rates of breastfeeding (see indicator concerning breastfeeding in this report), overcrowding, and attendance at childcare centres (14). A tympanometry test diagnoses glue ear. Since glue ear can resolve spontaneously over some months, a 'failed tymp' test is repeated after 3 – 4 months before the child is designated to have failed tympanometry, indicating persistent glue ear. Persistent glue ear is one cause of hearing loss but may exist without significant hearing loss. Other causes of hearing loss include congenital causes and previous meningitis and in these cases the tymp test will usually be normal. This means a child may fail a hearing test without failing a tymp test and vice versa.

While a schedule of screening by risk factor identification in infancy and early childhood is outlined in the Tamariki Ora framework, the most consistent screening takes place at school entry by mobile vision and hearing technicians and public health nurses employed by DHBs and regional Health Trusts. In 04/05 84% of children in the greater Auckland area had their hearing tested at school entry. The results of this screening are collected by the National Audiology Centre and reported annually. Preschool children do not routinely have a 'hearing test' as this requires facilities and cooperation not always achievable in preschool settings.

Results for the 05/06 year show that **nearly 10% of tamariki in Counties Manukau do not pass the new entrant hearing test**, a similar proportion to Pacific children but clearly in excess of non-Maaori/non-Pacific children at just over 3%. These figures compare to 7.3% of tamariki nationally not passing the hearing test in 04/05, with significant regional variation (over 15% in Northland/Waikato/Hawkes Bay). Nationally new entrant hearing failure rates have decreased significantly over past 10 years, from rates of 14% for Maaori in the early 1990s.

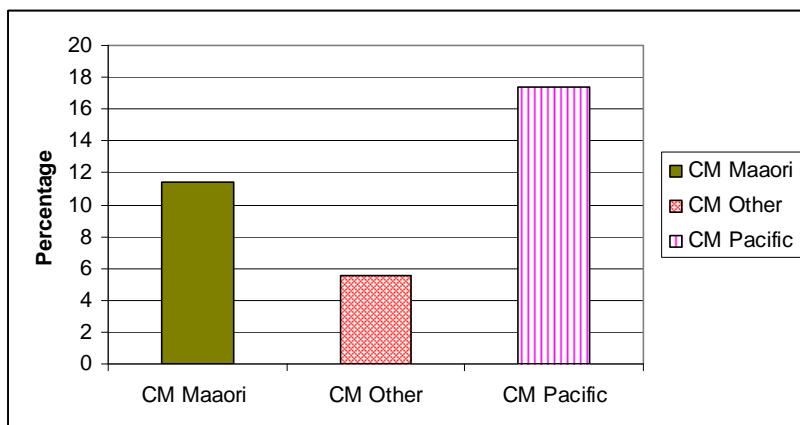
Figure 7.3.6 Percentage of children who did not pass the New Entrant Hearing Test 2005/06 year.



Source: National Audiology Centre, personal communication from Anne Greville Dec 06 (Consultant, Hearing & vision screening report)

A similar proportion of tamariki do not pass tympanometry as preschoolers (11.4%), again clearly in excess of non-Maaori/non-Pacific but less than Pacific children. However coverage is a concern in Counties Manukau, with only 24% of all preschoolers being tested in 04/05.

Figure 7.3.7 Percentage of children who did not pass the Preschool Tympanometry Test 2005/06



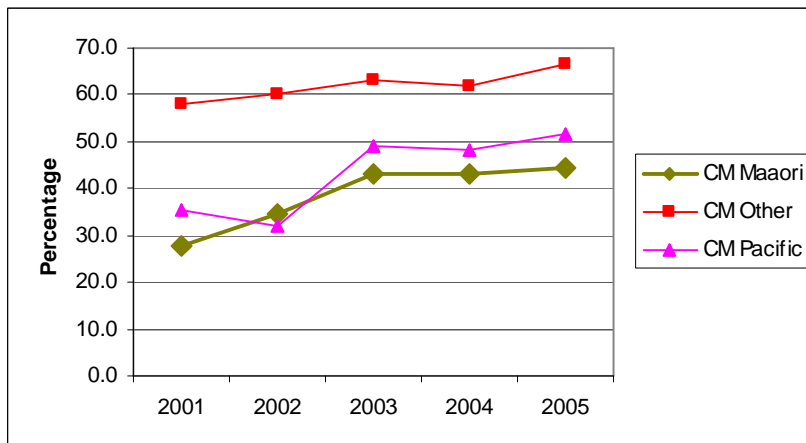
Source: National Audiology Centre, personal communication from Anne Greville Dec 06 (Consultant, Hearing & vision screening report)

Counties Manukau do not carry out preschool vision screening. Children are screened for vision as new entrants, but no ethnicity data are kept.

7.3.9 Oral health

Considerable efforts have been made to increase preschool dental enrolments across the Auckland region, targeting those groups with the highest dental need – Maaori and Pacific - and the data suggests these efforts are paying dividends. Maaori dental enrolments across the wider Auckland region increased by 128% from 2001 to 2005. **In Counties Manukau Maaori enrolments increased 77%, at a time when the Maaori preschool population was projected to increase only 12%.** Enrolment of Pacific children also significantly increased (71%), while non-Maaori/non-Pacific enrolments increased 15%. However there is still significant progress to be made, given in those enrolments still only represent approximately 44% of the eligible Maaori preschool population.

Figure 7.3.8 Preschool dental enrolments as percentage of preschool population by ethnicity



Source: Auckland Regional Dental Service 2005 Update data, analysed by CMDHB

Approximately a third of those children enrolled actually have a dental assessment recorded, the proportion being similar for all ethnicities.

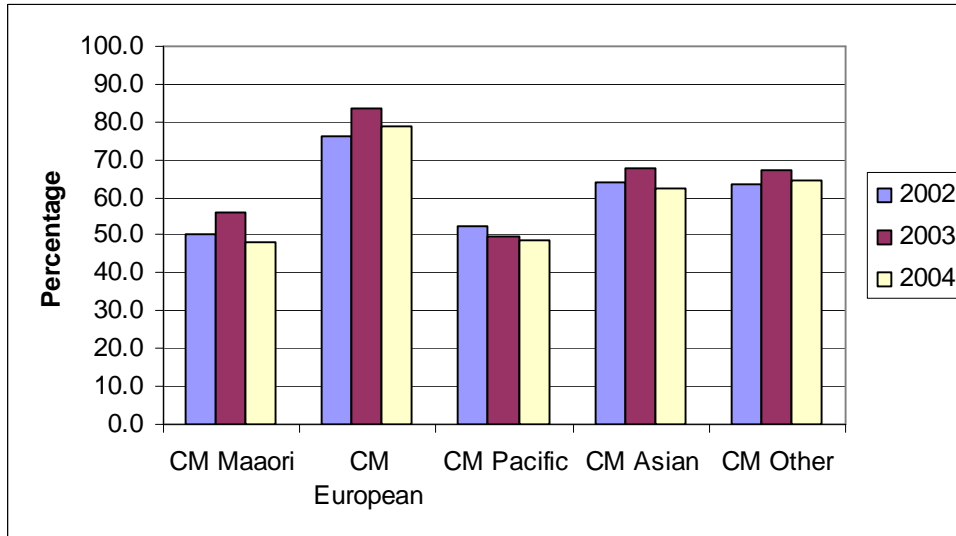
The Auckland Regional Dental Service 2005 Update reports that across the region ethnic disparities are greater than geographic disparities, and that Pacific children have the poorest dental health at preschool and age 5 yrs. However this regional data masks the Counties Manukau specific data, which suggest that in fact Maaori children fare similarly to their Pacific counterparts in this DHB.

Just over 70% of preschool tamariki in Counties Manukau were caries free in 2004 compared to just over 90% of their European neighbours. DMFT scores indicate the number of decayed/missing or filled teeth for each child examined. Tamariki averaged scores of 1.2, similar to their Pacific counterparts compared with 0.2 for European children.

New school entrants are usually enrolled with ARDS at school entry. Available figures for 5 yr old completed dental health checks and treatments compared to population numbers suggest approximately 31% of Maaori children complete this care, compared with 44% of non-Maaori/non-Pacific and 26% of Pacific children.

In New Zealand overall in 2004 53.6% of 5 yr olds were caries free, compared to 62.8% of Counties Manukau children overall. **However only 48.4% of tamariki in Counties Manukau and 48.8% of Counties Manukau Pacific children were caries free.** So tamariki in Counties do not fare badly by national standards but do by comparison with their non-Maaori/non-Pacific neighbours.

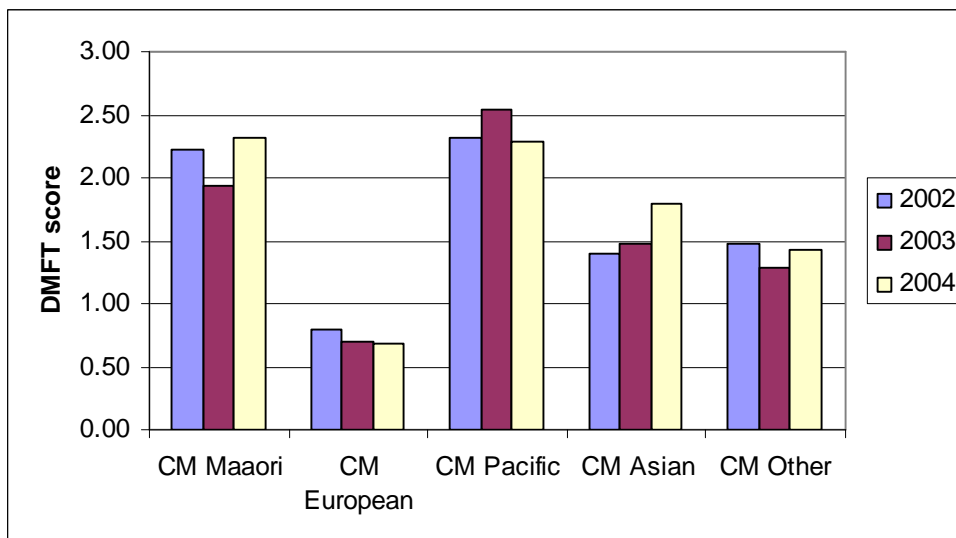
Figure 7.3.9 Percentage of 5 yr olds who are caries free by ethnicity



Source: Auckland Regional Dental Service 2005 Update data, analysed by CMDHB

In New Zealand overall in 2004 the average DMFT score (decayed/missing/filled teeth) for 5 yr olds was 2.06, compared to 1.56 for Counties Manukau children overall. However for tamariki in Counties Manukau, the average DMFT score was 2.32 and for Counties Manukau Pacific children, 2.29. So again, **tamariki in Counties do not fare badly by national standards but do by comparison with their non-Maori/non-Pacific neighbours.**

Figure 7.3.10 Five yr olds DMFT (decayed/missing/filled teeth) by ethnicity



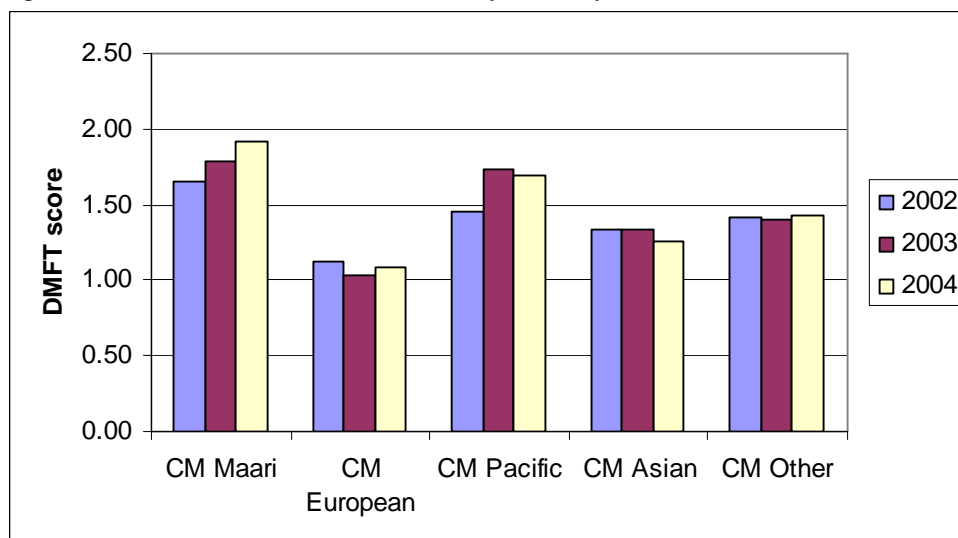
Source: Auckland Regional Dental Service 2005 Update data, analysed by CMDHB

The Form II year is the last opportunity for treatment with Auckland regional dental service. Attempts are made to complete all assessment and treatments before children are discharged from the service at the end of Form II. Compared to population projections, data suggests approximately 58% of tamariki complete dental assessment and treatment compared to 92% of non-Maori/non-Pacific (check not European), and 60% of Pacific children.

In New Zealand overall in 2004 45.3% of Form II children were caries free, compared to 49.5% of Counties Manukau children overall. However only 42.1% of tamariki in Counties Manukau and 45.2% of Counties Manukau Pacific children were caries free. In New Zealand overall in 2004 the average DMFT score for Form II children was 1.57, compared to 1.42 for Counties Manukau children overall, but 1.92 for tamariki in Counties Manukau and 1.69 for Counties Manukau Pacific

children. So tamariki in Counties Manukau do not fare well by national standards nor by comparisons with their neighbours.

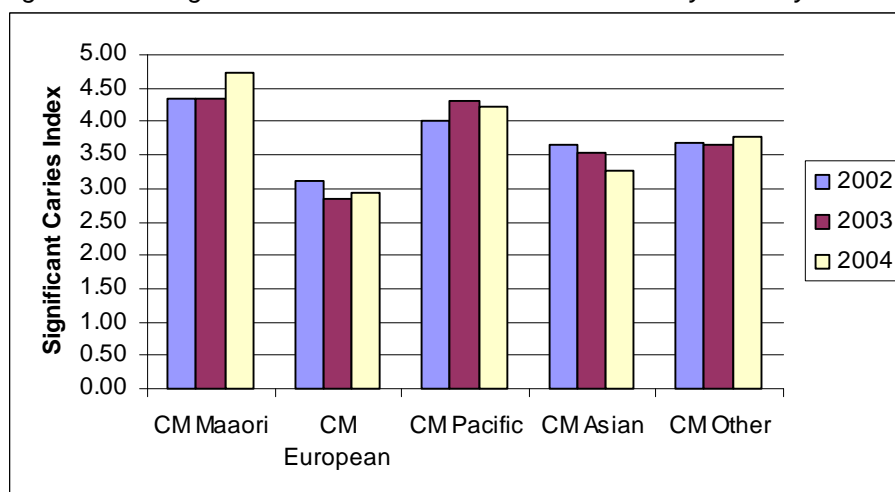
Figure 7.3.11 DMFT of Form II students by ethnicity



Source: Auckland Regional Dental Service 2005 Update data, analysed by CMDHB

The Significant Caries Index is the average DMFT score of the highest third DMFT in each population group; it thus gives a measure of the widest disparities in DMFT. In 2004 the overall index in the Auckland region was 3.24, higher in Counties at 3.71. This compares to 4.72 for tamariki in Counties and 4.23 for Pacific Counties children.

Figure 7.3.12 Significant caries index of Form II students by ethnicity



Source: Auckland Regional Dental Service 2005 Update data, analysed by CMDHB

Dental hygiene will be contributing to these disparities in oral health outcomes. The 2002 National Children's Nutrition Survey asked children about their dental hygiene habits. Considerably fewer Maaori children brushed their teeth at least once the previous day (males 71.8 percent; females 77.9 percent) than Pacific (86.9 percent; 89.9 percent) and European/Other children (90.4 percent; 93.7 percent) (4).

While efforts are being made to improve access to dental services and dental health promotion for tamariki across Counties Manukau, at present Maaori children have high rates of decayed, missing and filled teeth (DMFT) with less than 50% of tamariki being caries free at aged 5 years and at the end of Year 8 (Form 2),

7.4 Rangatahi specific data

7.4.1 Age at first menstruation

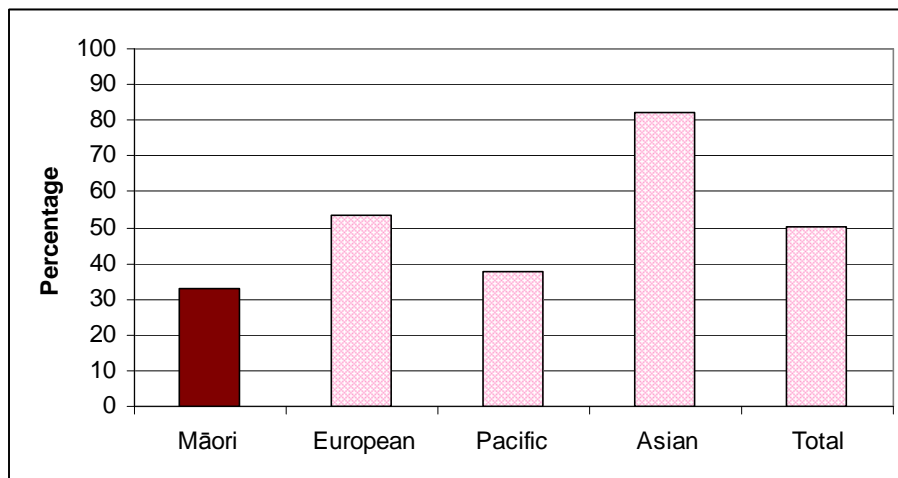
Among the children interviewed in the 2002 National Children's Nutrition Survey, 63% of Maaori females ages 11 – 14 years had reached menarche compared to 44% of European/Other girls of the same age, and 61% of Pacific girls. This has implications for sexual and reproductive health issues but also general health. For instance, among females 11–14 years, the prevalence of iron deficiency was higher for Maaori (11.2 percent) and Pacific (9.6 percent) females than European/Other females (3.2 percent) (4).

7.4.2 Teenage birth rate

There are **differing views about the issue of teenage pregnancy**; perspectives about the concerns that are expressed and whom this concern is for will be considered further in Part Two of this report. **The data presented here gives an indication of the scope of the issue.**

Births to teenagers represent only a portion of those who do get pregnant, national data suggesting that over all ethnicities approximately half of all pregnancies for young women under the age of 20 years end in abortion. However Maaori teenagers who become pregnant are less likely than all other ethnicities to have an abortion, with one third of pregnancies ending in abortion. However this still means that for every 10 young women and their whaanau who are dealing with the consequences of having a child as a teenager, there are another 5 who have had to consider these implications in making the choice to have an abortion.

Figure 7.4.1 Percentage of pregnancies ending in abortion by ethnicity for NZ women aged < 20 years



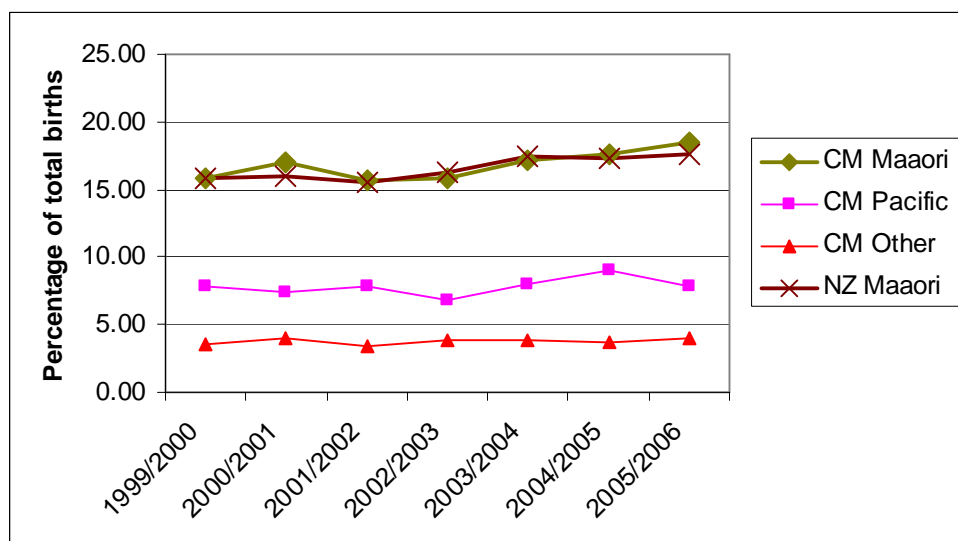
Source: 2002 data, Statistics New Zealand

For those young women who do continue their pregnancies calculating figures for deliveries in Counties Manukau is complicated by internal IT systems issues which have resulted in significant undercount for the NMDS data during 2005 and 2006 (this affects data for the second half of the 2004/05 year and all of the 2005/06 year). Estimated figures are used below based on manual recording of deliveries. In addition these figures only include deliveries taking place in a public hospital, and do not include private home births. However these are estimated to be less than 1% of total delivery numbers, and probably less than this for young women under 20 years.

In the 2005/06 year there were between 680 and 740 deliveries in public hospitals to CMDHB women under the age of 20 (230 - 250 to women aged 17 or less). Of these approximately 310 - 340 were to **Maaori young women, 120 - 130 of these aged 17 years or less, and approximately 50 aged 16 years or less.** As a percentage of total deliveries to Maaori women,

teenage deliveries have remained fairly stable in the range of 16 – 18% since 2000, which is very similar to all New Zealand Maaori.

Figure 7.4.2 Births to teenage mothers as percentage of total number of births by ethnicity



Source: NMDS, CMDHB analysis

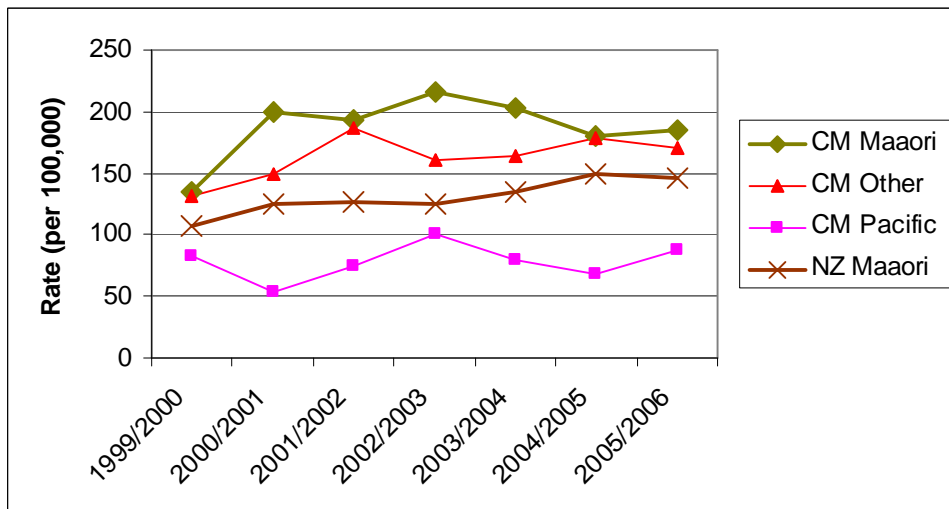
7.4.3 Rangatahi mental health and intentional self harm

There is no specific Counties Manukau data on mental health issues for rangatahi, but the Maaori specific analysis of the Youth2000 data does provide national level information which gives an indication of the possible situation in Counties Manukau. While most students did not report symptoms suggestive of mental health distress, in this survey, 16.2% of rangatahi did report significant depressive symptoms (using the RADS screening tool) compared to 11.7% of NZ European students. This figure was higher for female rangatahi (22.7%) compared to males (9.9%). Of concern rangatahi were also more likely to report that they had made a suicide attempt in the last year (11.5%) compared to NZ European students (5.7%). Again this figure was higher for female rangatahi (15.3%) compared to males (8.0%).

Admission numbers for intentional self harm aged 0 – 14 years are too small to calculate meaningful comparative rates (2 – 7 admissions per year). Hospital admissions for self harm all ethnicities combined those aged 15 – 24 years for Counties Manukau were consistently lower than national rates 1990 – 2004, while suicide rates were slightly higher (7).

When rates for self harm **aged 15+** are examined by ethnicity, Maaori rates in Counties Manukau were higher than Maaori rates nationally as well as highest for ethnic groups in Counties Manukau.

Figure 7.4.3 Admissions for intentional self harm aged 15+ years by ethnicity



Source: NMDS, analysis by CMDHB

7.4.4 Admission with mental illness

National level data for ethnic specific rates for admission of 15 – 24 years olds with various types of mental illness during 2000 – 2004 vary considerably, with a relative risk for admission with schizophrenia of 5.42 for Maaori compared to European, risk for admission with depression 0.59 and bipolar disorder 1.68 (7).

Further data about the use of mental health services by Maaori aged 15+ residing in Counties Manukau is given on Page 63.

7.5 Adult Data

7.5.1 Potentially avoidable mortality (PAM) aged 15+ years

As noted previously, potentially avoidable mortality (PAM) is death from causes considered to be wholly or partly avoidable through preventive interventions (eg stopping smoking) or appropriate therapy (eg adequate treatment for angina), including death due to injury.

Ischaemic heart disease has been the leading cause of potentially avoidable mortality for those aged 15+ years of all ethnicities in Counties Manukau since at least 1999, with rates for Maaori from 204 - 425²⁴ per 100,000, compared to 163 - 197 per 100,000 for non-Maaori/non-Pacific populations. These figures equate to approximately 40 - 45 whaanau facing a death from ischaemic heart disease each year.

Ischaemic heart disease is clearly **the leading** cause of preventable death for Maaori men and women, both in Counties Manukau and nationally.

²⁴ This range represents the variation in rates from year to year but gives an indication of the magnitude of the issue

In the five years from 1999 – 2003

- **ischaemic heart disease, lung cancer, diabetes, and CORD have been consistently the top four causes of potentially avoidable mortality for Maaori aged 15+ years in Counties Manukau**, except in 1999 when stroke displaced diabetes²⁵.
- rates for these four conditions have been clearly in excess of rates of other conditions.
- The death rate for ischaemic heart disease for Maaori in Counties Manukau is 1.3 times that of non-Maaori/non-Pacific peoples, while the lung cancer rate is approximately 4.5 times, diabetes 10 times and CORD 2.5 times that of non-Maaori/non-Pacific peoples.

The PHI report Tatau Kahukura also reports the top five causes of death 2000 – 2002 from national data, ranked by Years of Life Lost (YLL) to highlight the important causes of *premature* death:

- Ischaemic heart disease remains the leading cause of death for both Maaori males and females.
- Diabetes and lung cancer remain important for males, but motor vehicle injury and suicide also become important.
- For females, lung cancer, CORD and cerebrovascular disease remain in the top five, but breast cancer displaces diabetes.

Table 7.5.1 Potentially avoidable mortality aged 15+ years both genders combined, ranked by rates per 100,000 for CM Maaori (2001 - 2003).

Cause of PAM 2001 – 03, 15+ years	CM Maaori		CM Pacific		CM Other		NZ Maaori	
	Rank	PAM Rate	Rank	PAM Rate	Rank	PAM Rate	Rank	PAM Rate
Ischaemic heart disease	1	246.9	1	239.7	1	186.5	1	319.7
Lung cancers	2	158.9	5	68.5	4	36.5	2	127.7
Diabetes	3	153.3	2	120.7	7	15.4	4	110.7
Chronic obstructive respiratory diseases	4	136.5	4	74.3	3	53.3	3	114.2
Stroke	5	59.1	3	85.5	2	58.9	5	73.8
Colorectal cancer	6	45.3	7	24.8	5	35	7	29.3
Breast cancer	7	34.5	9	15.1	8	14.5	6	31.3
Rheumatic fever/heart disease	8	34.2	10	14.6				
Road traffic injury	9	29.1					8	25.7
Suicide	10	21.2			6	16.1		
Hepatitis and liver cancer			6	26.6				
Stomach cancer			8	24	10	9.8	9	22.3
Hypertensive disease							10	19.4
Skin cancers		12.5			9	12.5		

Source: NZHIS data, CMDHB analysis

²⁵ Rates for diabetes are likely to underestimate its impact as diabetes is less frequently listed as a cause of death on death certificates than clinical experience would indicate appropriate (personal communication Dr Tom Robinson)

7.5.2 Potentially avoidable hospitalisations (PAH) aged 15+ years

As noted previously, potentially avoidable hospitalisations (PAH) refer to patients being admitted to public hospitals with conditions that one might have expected to be preventable, either through public health interventions (eg stopping smoking) or good primary care (eg adequate preventive treatment for asthma), including hospitalisations due to injury. It is currently considered that about 30% of all public hospital admissions could be potentially avoidable.

PAH for Maaori women

Over the past 5 years, the top seven causes of PAH for Maaori females in Counties Manukau aged 15+ have consistently included the same categories – angina/chest pain, CORD²⁶, kidney/urinary infection, diabetes, cellulitis, congestive heart failure, pneumonia - with rates greater than approximately 400 per 100,000. These conditions resulted in 873 admissions in the 2005/06 year, this figure increasing to 936 if myocardial infarction (which could be aggregated with angina/chest pain) is also included. This amounts to 62% of the total potentially avoidable hospitalisations for Maaori women aged 15+ in Counties Manukau. Angina/chest pain and myocardial infarction together accounted for 20% of potentially avoidable admissions in 2005/06.

Angina/chest pain and CORD have been the top two causes of PAH for Maaori females 15+ for four of the last five years.

Admission rates for angina/chest pain and CORD for Maaori females have been in excess of 950 per 100,000, and amounted to 357 admissions in 2005/06 (420 if myocardial infarction is included).

Table 7.5.2 Potentially avoidable hospitalisations **females** aged 15+ years, ranked by rates per 100,000 for CM Maaori (2005/06)

Cause of PAH, 2005/06, 15+ years, female	CM Maaori		NZ Maaori		CM Other		CM Pacific	
	Rank	PAH Rate	Rank	PAH Rate	Rank	PAH Rate	Rank	PAH Rate
Angina and chest pain	1	1437	1	1065	1	725	1	1076
CORD	2	969	2	916	4	236	5	626
Kidney/urinary infection	3	725	8	428	2	259	4	627
Diabetes	4	627	3	549	9	166	2	702
Cellulitis	5	587	6	441	5	231	6	544
Congestive heart failure	6	531	4	453	10	164	9	323
Pneumonia	7	437	7	432	8	166	3	667
Sexually transmitted infections	8	432	9	307	7	181	8	417
Myocardial infarction	9	418	5	446	6	214	11	259
Asthma	10	411	10	303	12	109	7	527
Stroke	12	206	11	277	11	117	10	318
Skin cancers					3	249		

Source: NZHIS data, CMDHB analysis

²⁶ Chronic Obstructive Respiratory Disease, predominantly emphysema and chronic bronchitis secondary to smoking

PAH for Maaori men

Over the past five years, the top six causes of PAH for Maaori males in Counties Manukau aged 15+ year have consistently included the same categories - angina/chest pain, CORD, cellulitis, congestive heart failure, pneumonia, diabetes - with rates greater than 500 per 100,000. These conditions resulted in 692 admissions in the 2005/06 year, this figure increasing to 776 if myocardial infarction (which could be aggregated with angina/chest pain) is also included. This amounts to 67% of the total potentially avoidable hospitalisations for Maaori men aged 15+ in Counties Manukau. Angina/chest pain and myocardial infarction together accounted for 20% of potentially avoidable admissions in 2005/06.

Angina/chest pain and CORD have been the top two causes of PAH for Maaori males 15+ for the last three years.

Admission rates for angina/chest pain and CORD for Maaori males have been in excess of 1000 per 100,000, and amounted to 260 admissions in 2005/06 (344 if myocardial infarction is included).

Table 7.5.3 Potentially avoidable hospitalisations males aged 15+ years, ranked by rates per 100,000 for CM Maaori (2005/06)

Cause of PAH, 2005/06, 15+ years, male	CM Maaori		NZ Maaori		CM Other		CM Pacific	
	Rank	PAH Rate	Rank	PAH Rate	Rank	PAH Rate	Rank	PAH Rate
Angina and chest pain	1	1209	1	971	1	1001	1	1713
CORD	2	1023	2	739	5	317	2	1479
Cellulitis	3	917	3	646	4	342	5	857
Congestive heart failure	4	809	4	642	9	182	7	639
Pneumonia	5	776	7	505	6	243	6	752
Diabetes	6	754	5	622	7	219	3	933
Myocardial infarction	7	565	6	596	2	461	4	859
Epilepsy	8	320	9	211	11	148	12	185
Asthma	9	239	10	167	16	64	11	207
Peptic ulcer	10	219	12	123	19	52	10	209
Stroke			8	231	8	194	8	381
Kidney/urinary infection			11	159	12	134	9	307
Skin cancer					3	451		
Other IHD					10	179		

Source: NZHIS data, CMDHB analysis

7.5.3 Disability Adjusted Life Years

The patterns noted are consistent with a PHI report, Priorities for Maaori and Pacific health: Evidence from epidemiology (22), which combined mortality, morbidity and disability statistics from 1996 to calculate DALYs (Disability Adjusted Life Years) lost to rank important disease and risk factors for Maaori (22). This confirmed Ischaemic Heart Disease as the leading individual disease cause of DALYs lost for both Maaori males and females.

Table 7.5.4 Important diseases/conditions for Maaori ranked according to DALYs (Disability Adjusted Life Years) lost, based on 1996 data

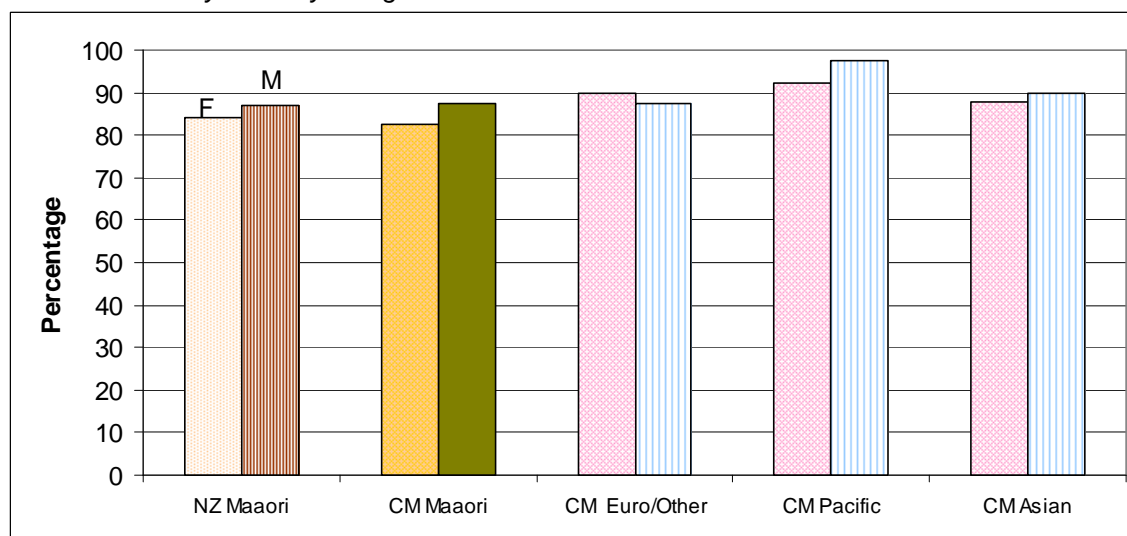
Diseases	
Males	Females
IHD	IHD
Diabetes	Diabetes
CORD	CORD
Road traffic injuries	Lung cancer
Lung cancer	Mood disorders

Source: Public Health Intelligence, 2001

7.5.4 Self reported health status

New Zealand Health Survey results indicate that when both genders are combined 85% of Maaori adults rate their health as 'good, very good or excellent', compared to 89% of their European/Other counterparts. In fact there is no difference between the ratings for men, but for women there is a statistically significant difference between Maaori and European/other females (83% versus 90%) in Counties Manukau, which mirrors the situation for women nationally.

Figure 7.5.1 Age-standardised prevalence of those reporting their health status to be Good/Very Good/Excellent by ethnicity and gender



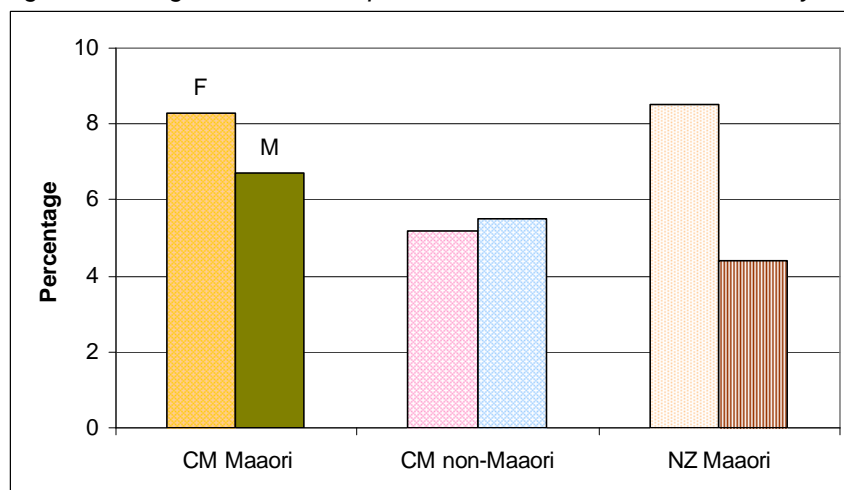
Source: NZHS 2002/03

The difference between Maaori and the higher ratings of Pacific for both genders combined is significant in Counties Manukau, but not in fact nationally where Pacific peoples do not rate their health so highly.

Going forward determining whether there are appropriate measures of whaanau ora that could be documented at an individual level such as a health survey could be an important complement to collective measures for monitoring the implementation of the Whaanua Ora Plan and the well being of Maaori in Counties Manukau.

The New Zealand Health Survey also asked whether people were limited ‘a lot, at little or not at all’ by their health in various aspects of self care, including bathing, dressing, grooming, eating, using the toilet and being able to stay by themselves for a few days. Results for Maaori both genders combined indicated that 7.6% were limited at least a little in self care compared to 5.4% of non-Maaori, most of the difference being due to the difference for women – 8.3% for Maaori women compared to 5.2% for non-Maaori women in Counties Manukau, while for men 6.7% of Maaori and 5.5% of non-Maaori reported this degree of limitation. None of the differences were statistically significant at the Counties level.

Figure 7.5.2 Age-standardised prevalence of limitation of self care by ethnicity²⁷ and gender



Source: NZHS 2002/03

7.5.5 Self Report of important illnesses

The prevalence of the self-reported risk factors for ill health in Maaori are reflected in the prevalence of self report of important illnesses. Differences in self-reported illness may be due to differences in true prevalence, or differences in diagnosis and/or provider discussion of diagnosis with their patients. Thus differences need to be interpreted with caution, especially for raised cholesterol and hypertension. For example where the prevalence of some of these illnesses is higher for Maaori in Counties Manukau than Maaori nationally, this could be a positive phenomenon in that Maaori in Counties Manukau may be more likely to be being diagnosed with, and hopefully treated for, these illnesses than Maaori elsewhere in New Zealand. However it could also represent true differences in prevalence, or difference in provider behaviour in discussing illness diagnoses. To verify this would require further study.

Heart Disease

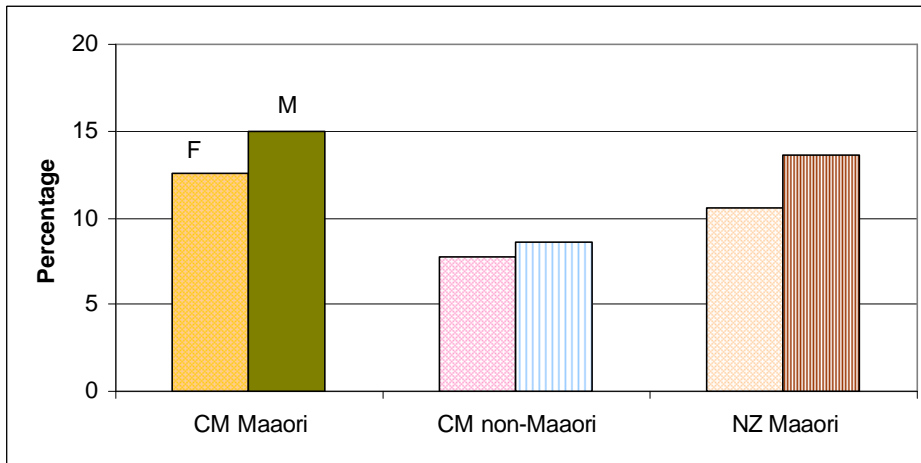
Heart disease was defined in the NZHS as ‘doctor diagnosed heart disease (heart attack, angina, heart failure, abnormal heart rhythm or disorder of the heart valves)’. 14% of Maaori in Counties Manukau are likely to report a diagnosis of heart disease, compared to 8% of their non-Maaori counterparts²⁸. The difference between Maaori and non-Maaori both sexes combined for CM is statistically significant.

This equates to approximately 4,690 Maaori adults with diagnosed heart disease of some sort in Counties Manukau.

²⁷ Reported Maaori/non-Maaori, not broken down further for ethnicity

²⁸ Results for Health Survey questions about specific diseases are only available broken down to Māori/non-Māori, not further to separate out Pacific and European/Other.

Figure 7.5.3 Age-standardised prevalence of self reported heart disease by ethnicity and gender



Source: NZHS 2002/03

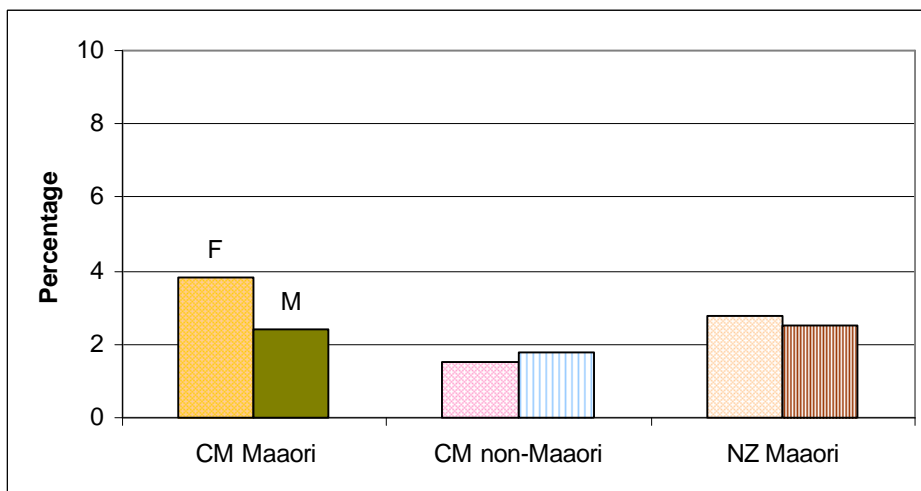
National level data from the New Zealand Health Survey suggests that approximately 70% of those Maaori diagnosed with heart disease are likely to be receiving medical treatment (medication or surgical intervention) for their condition; this is not significantly different from other ethnic groups, although this does not take into account any differences there might be in severity of disease.

Access for Maaori to cardiology procedures, which has improved considerably in the last ten years both nationally and even more rapidly in Counties Manukau, will be considered further in Part Two of this report.

Stroke

A diagnosis of stroke ('doctor diagnosed stroke, excluding "mini stroke" or transient ischaemic attack') is much less prevalent than heart disease, but as the graph below demonstrates there are still disparities for Maaori. 3.2 % of Maaori are likely to report a diagnosis of stroke, compared to 1.6% of non-Maaori.

Figure 7.5.4 Age-standardised prevalence of self reported stroke by ethnicity and gender

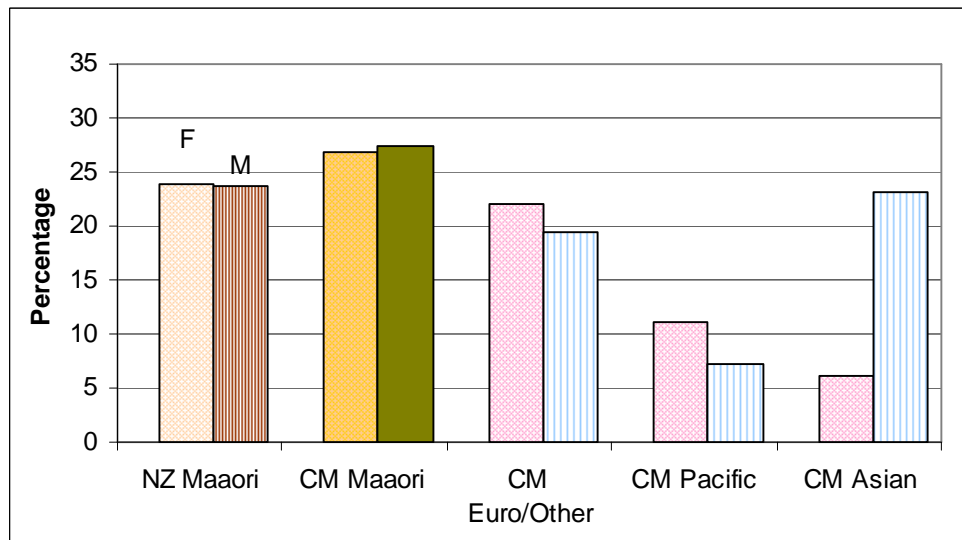


Source: NZHS 2002/03

Hypertension (high blood pressure)

The results below show the prevalence of hypertension, which was defined in the NZHS as those for whom a doctor had diagnosed high blood pressure at any time except during pregnancy. The difference between Maaori and European/Other both sexes combined (27% for Maaori, 21% for European/Other) for Counties Manukau is statistically significant. As noted previously this could represent a higher rate of diagnosis and treatment but elucidating that would require further study.

Figure 7.5.5 Age-standardised prevalence of self reported hypertension by ethnicity and gender

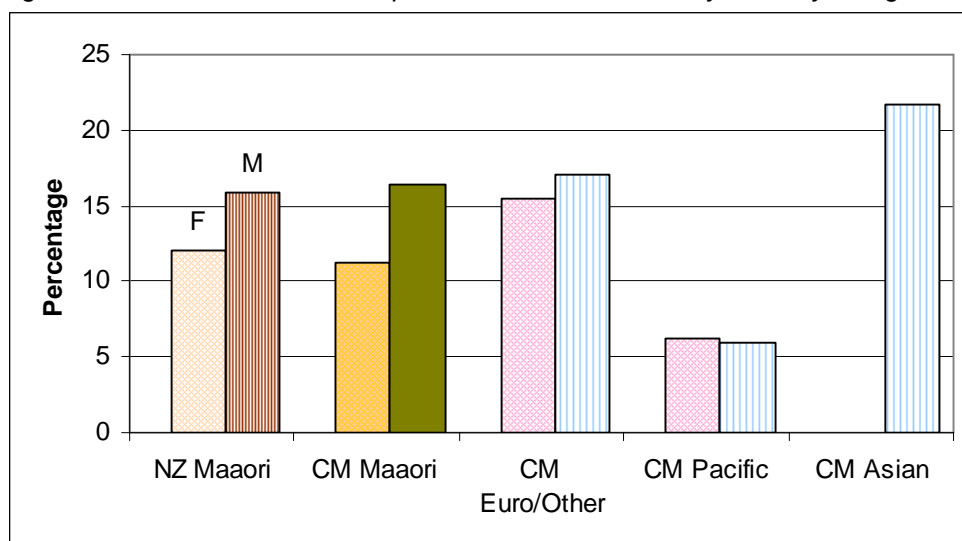


Source: NZHS 2002/03

Raised cholesterol

Cholesterol is a fat-like substance found in our blood stream. It is important to have some cholesterol to have a healthy body, but having too much of the wrong kind of cholesterol can contribute to heart disease and stroke. Blood LDL cholesterol (the damaging kind of cholesterol) can lead to a build up on the inner walls of the arteries to the heart and brain, narrowing those arteries. If a clot forms blocking the narrowed arteries, it can result in heart attack or stroke. The age-standardised prevalence for raised cholesterol (defined in the NZHS as those for whom a doctor had diagnosed high blood cholesterol) did not show a significant difference between Maaori and European/Other, at 14% for Maaori and 16% for European/Other.

Figure 7.5.6 Prevalence of self reported raised cholesterol by ethnicity and gender



Source: NZHS 2002/03

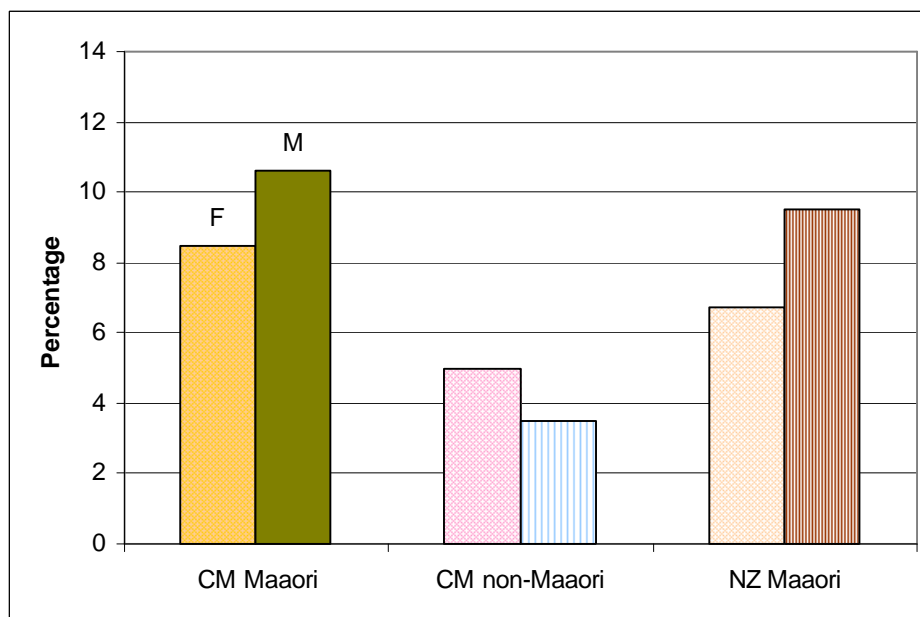
This compares with results from the 1996/97 National Nutrition Survey which documented the percentage of those with a total blood cholesterol > 6.5 (the test being taken as part of the survey): Maaori males 27.6% and Maaori females 10.0% compared to 22.9 for European males and 25.6 for European females.

Self report of raised cholesterol is likely to significantly under estimate the prevalence of this risk factor, but does give an indication of how many people may have been screened and diagnosed.

Diabetes

The prevalence of self reported doctor diagnosed diabetes (excluding in pregnancy) in the NZHS was 9.5% for Maaori compared to 4.3% for non-Maaori. The difference between Maaori and non-Maaori both sexes combined for Counties Manukau is statistically significant.

Figure 7.5.7 Age-standardised prevalence of self reported diabetes by ethnicity and gender



Source: NZHS 2002/03

Self reported diabetes is twice as common in Maaori compared to non-Maaori in Counties Manukau. Based on 2002/03 data, 3170 Maaori adults in Counties Manukau are likely to report a diagnosis of diabetes.

This has important implications for other disease states related to diabetes (e.g. cardiovascular and renal disease).

National level data from the New Zealand Health Survey suggests that approximately 65 - 70% of those Maaori diagnosed with diabetes are likely to be receiving medication for their condition²⁹; this is not significantly different from other ethnic groups, although this does not take into account any differences there might be in severity of disease. Part Two of this report considers processes and current outcomes of projects targeting diabetes such as the national Get Checked programme and Counties Manukau Chronic Care Management.

²⁹ Some people with diabetes can control their condition with dietary changes alone and so do not need medication so the proportion taking medication may be appropriate.

7.5.6 Diabetes related illness

Renal disease

National level data is available by ethnicity from the Australia and New Zealand Dialysis and Transplant Registry until the end of 2004 (25). Since 2001, Maaori have consistently made up 30 – 32% of new patients receiving dialysis or transplant. However the age distribution of the patients is changing. The proportion in the peak age group for Maaori of 45 – 64 yrs (10 years younger than the peak age for Pakeha) has dropped from 68 to 53%, while the proportion in the 65 – 74 yr age group has risen from 13 to 24%.

The primary renal disease responsible for dialysis for Maaori in 2004 was diabetes in 54% of cases. This compares to only 10% of cases being due to diabetes in Pakeha. In contrast 22% of Maaori had a primary diagnosis of glomerulonephritis, compared with 34% of Pakeha, and 7% hypertension compared to 16% in Pakeha.

Only 9% of functioning transplant patients in 2004 were Maaori.

Of the deaths of those on the registry, 56% were due to cardiac causes for Maaori, compared to 41% for Pakeha.

Data related to renal disease and the deaths of those being treated for renal disease highlight the importance of diabetes and cardiac disease for Maaori.

7.5.7 Gout

Gout is a chronic condition that causes recurrent episodes of severe joint inflammation (arthritis) but with inadequate treatment also causes chronic joint damage. Gout can be successfully treated, with both symptomatic pain-relieving treatment and preventive medication. Recent studies have also demonstrated that a high blood level of uric acid (which precedes actual gout attacks) and gout may be independent risk factors for cardiovascular disease, and certainly frequently coexist with risk factors for cardiovascular disease and diabetes (26,27). Thus gout has links with several of the priority issues identified in the Whaanau Ora Plan – obesity, diabetes and cardiovascular disease, and in some instances alcohol use. Lifestyle factors (e.g. nutrition) are important in precipitating gout but there is also a predisposition among Maaori and Pacific peoples to develop high uric acid levels (28).

Primary care data supplied by one of the large Counties PHOs (Total Healthcare Otara) suggests that symptomatic gout is more common in Maaori men in their population, with a prevalence of 9.3%, than diabetes (diabetes prevalence figures for the same PHO are given in Table 7.5.5 for comparison, along with figures for Pacific and European populations in that PHO). Like diabetes there will also be many men in the community who have a high uric acid who are at risk of developing symptomatic gout in the future, but importantly who may be at increased risk for CVD both from their high uric acid and because of shared risk factors such as obesity.

Table 7.5.5 Prevalence of gout in a Counties Manukau PHO, with diabetes prevalence for comparison

Prevalence (age >18 yrs)	Gout: Males	Diabetes: Males	Gout: Females	Diabetes: Females
Maaori	9.3%	7.3%	2.6%	6.8%
Pacific	14.9%	9.7%	3.0%	10.8%
European	4.1%		0.08%	

Source: Dr Richard Hulme, Total Healthcare Otara, 2006

Gout is now the most frequent cause for new patient referral to the rheumatology outpatient clinic in South Auckland, with 84 new patient attendances for gout in 2005/06 and 360 follow up

attendances. The burden of disease for gout is primarily an issue in the community and primary care but secondary care admissions are still important. In the past four years, as a primary diagnosis gout has accounted for 110 – 150 admissions in Counties each year in the 15 – 64 yr (working age) age group (40 – 60 of these people being Maaori), with a further 120 – 180 admissions (40 – 60 Maaori) where gout was a secondary diagnosis. As shown in Figure 7.5.8 the rate for admission with gout as a primary diagnosis has doubled for Maaori of working age in the past 6 years.

Figure 7.5.8 Admission rates for gout as a primary diagnosis in Counties Manukau by ethnicity, aged 15 – 64 yrs



Source: NMDS analysed by CMDHB

The average length of stay for acute gout is approximately 4 days. When considering the wider age group of 15 yrs+ the gout admission rate (primary or secondary diagnosis) for Maaori in Counties Manukau has ranged from 160 - 300/100,000 in recent years for a primary diagnosis of gout and a further 230 – 500/100,000 with a secondary diagnosis of gout. This compares to >1000/100,000 for Angina/Chest pain and CORONARY DISEASE, and 750/100,000 for diabetes, but note that uric acid abnormalities will contribute to some of these other admissions.

Links to other priority conditions

Comorbidities occur frequently; recent data from diabetes clinics in South Auckland show that 22.3% of patients with type 2 diabetes also have gout (Personal communication, Dr Nicola Dalbeth June 2007 on behalf of Ravi Suppiah; paper submitted for publication 2007). Gouty arthritis may hinder attempts at exercise and weight loss, and treatments for acute gout can have adverse effects on diabetes.

In addition, among Counties Manukau clinic patients with gout, 89% patients have the metabolic syndrome (at high risk of diabetes, high blood pressure and ischaemic heart disease), and 59% are at high risk of cardiovascular events in the next five years (based on Framingham risk assessment). Cardiovascular disease risk factor targets are frequently not achieved; for example,

- target body mass index achieved in 5% high risk patients
- target blood pressure achieved in 34% high risk patients
- target HbA1c achieved in 39% diabetic patients (29).

Engaging early with those with gout has the potential to improve screening and management of CVD and diabetes.

The hidden nature of gout in Maaori and Pacific communities

Recent research by Rheumatology fellow Dr Karen Lindsay highlighted the 'normalisation' of gout among Maaori and Pacific communities. Gout is not talked about as something treatable, but rather there is a tolerance of pain and disability, and low expectations of treatment (30).

Work disability due to gout is frequent; in a study of Counties Manukau clinic patients almost two-thirds of patients are men of working age, and 56% have had work absences due to gout in the preceding six months (29,31). Recent international research has indicated that gout leads to an average of 4.56 additional health-related absence days per annum, and causes reduced work productivity (32). In addition young men aged 18 – 30 yrs are increasingly being diagnosed with gout and giving up sport and physical activity which increases their other health risks (Personal communication, Dr Nicola Dalbeth, Rheumatologist, June 2007).

Gout is an important cause of morbidity for Maaori men in Counties Manukau, with significant implications for work absenteeism and ability to be involved in recreational exercise. It is also linked with risk factors for heart disease and diabetes.

7.5.8 Access to care for mental illness or addiction

The recent release of a mental health and addiction health needs analysis for Counties Manukau provides some valuable local level data about service access for those with mental ill health in the region (33).

Overall 24.5% of Counties Manukau clients seen by DHB mental health services³⁰ (2064 of 8424 people in 2005) are Maaori. This access rate is higher than access rates for Maaori residing elsewhere in New Zealand. Given that efforts are being made to increase access, this could be interpreted positively. The age-standardised rate for Counties Manukau Maaori in 2005 was 3055 per 100,000 compared to 2710 for New Zealand Maaori and 2395 for European/Other groups in Counties Manukau – note these are rates for those accessing care, not prevalence rates for the mental health conditions in the population. Nine percent of Counties Manukau Maaori clients saw the general Kaupapa Maaori Mental Health team and a further 6.1% saw the Alcohol and Drug Kaupapa Maaori team; 60% saw the generic/mainstream Community Team.

Maaori rates for access to mental health services are higher than would be expected from population demography and only a minority of whaiora-whaanau are under the care of kaupapa Maaori mental health services. This makes the cultural competence of generic mental health services particularly important.

In relation to access for care for specific illnesses or issues, as in Table 7.5.6 Maaori account for 32% of Counties Manukau residents seen for schizophrenia, 12% of those seen for depression³¹, 27% of those seen with bipolar disorder, and 38% of alcohol and drug clients. Forty-six percent of Counties Manukau Maaori alcohol and drug clients saw a kaupapa Maaori A&D service. Age-standardised rates for access to services for those with schizophrenia, bipolar disorder and A&D issues are significantly higher for Maaori from Counties Manukau than those of non-Maaori/non-Pacific ethnicity.

³⁰ Some mental health services are provided on a regional basis so information is provided on access to a mental health service in any DHB by Counties Manukau residents

³¹ Evidence would suggest this lower rate of access for care for depression is unlikely to reflect a lower prevalence of depression in the population. The recent national mental health survey which included 2,600 Maaori suggests that major depression has a similar prevalence in Maaori as in non-Maaori/non-Pacific populations (33).

Table 7.5.6 Access for care for specific mental health illnesses or issues for Counties Manukau resident Maaori (2005)

Condition	% of Counties Manukau residents seen for this condition who identified as Maaori	Number of Counties Manukau Maaori residents seen for this condition	Age-standardised access rate for Maaori Counties Manukau residents ³² (per 100,000)
Schizophrenia	32%	322	620
Major Depression	12%	102	212
Bipolar disorder	27%	95	246
Alcohol and drug issues	38%	629	900

Source: MHINC data, analysed by CMDHB

Suicide trends

Numbers are too small to allow the calculation of ethnic specific suicide rates at a DHB level. The Maaori rate for New Zealand 2001-2003 was approximately 17.8 per 100,000 compared to 13.7 for European other, 11.1 for Pacific and 9.4 for Asian.

Forensic mental health services

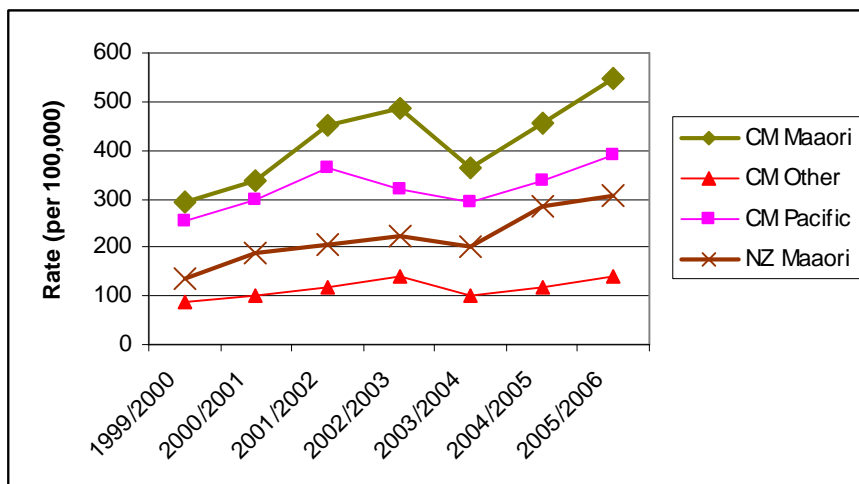
The accuracy of domicile data for inpatient forensic service contacts and any data related to non-inpatient forensic contacts is not adequate to present DHB level data. What data is available at a national level suggests Maaori are significantly overrepresented in use of forensic mental health services.

7.5.9 Injury – intentional and unintentional

Interpersonal violence

Injury is a significant cause of morbidity for Maaori and admission rates for interpersonal violence have increased since 2000. These rates equate to 250 – 300 admissions per year for Maaori aged 15+ due to interpersonal violence.

Figure 7.5.9 Admission rates for interpersonal violence for age 15+ by ethnicity



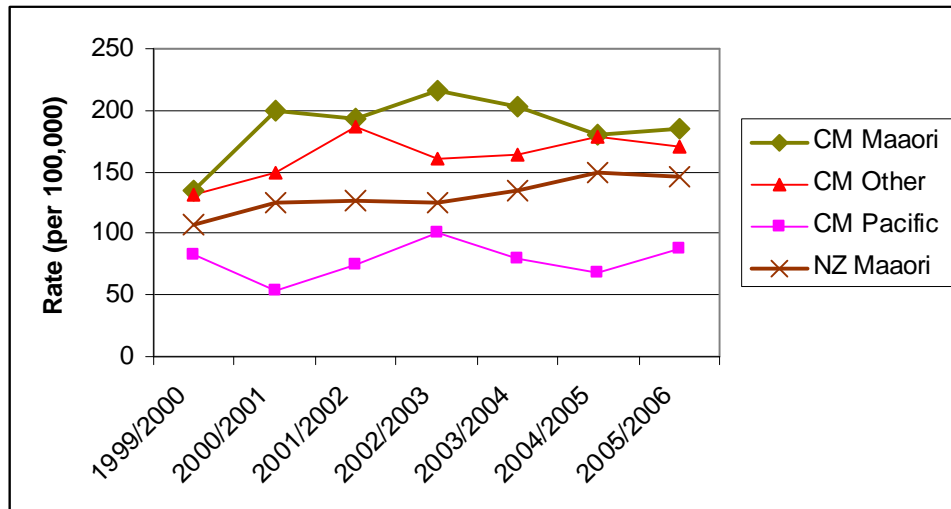
Source: NMDS, CMDHB analysis

³² note these are rates for those accessing care, not prevalence rates for the mental health conditions in the population

Intentional self harm

Admission rates for intentional self-harm have been relatively stable since 2000. These rates equate to 100 – 110 admissions per year for Maaori aged 15+ due to intentional self harm.

Figure 7.5.10 Admission rates for intentional self harm for age 15+ by ethnicity



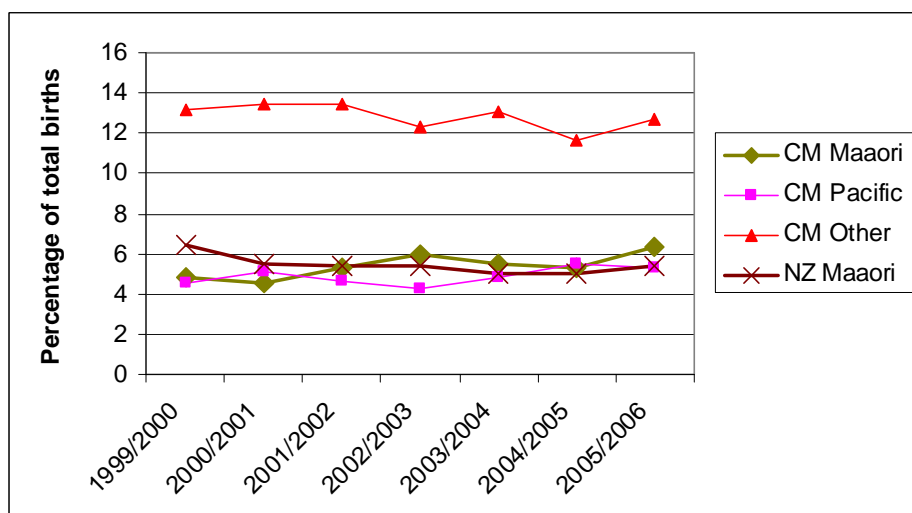
Source: NMDS, CMDHB analysis

7.5.10 Women's Health

Maternal health

Assisted deliveries are vaginal deliveries that require vacuum or forceps assistance. The percentage of deliveries requiring assistance for Maaori women in Counties Manukau has remained consistently at 5 - 6% for the past 7 years, very similar to rates for Maaori women nationally and lower than that of non-Maaori/non-Pacific women in Counties Manukau (12 – 13%).

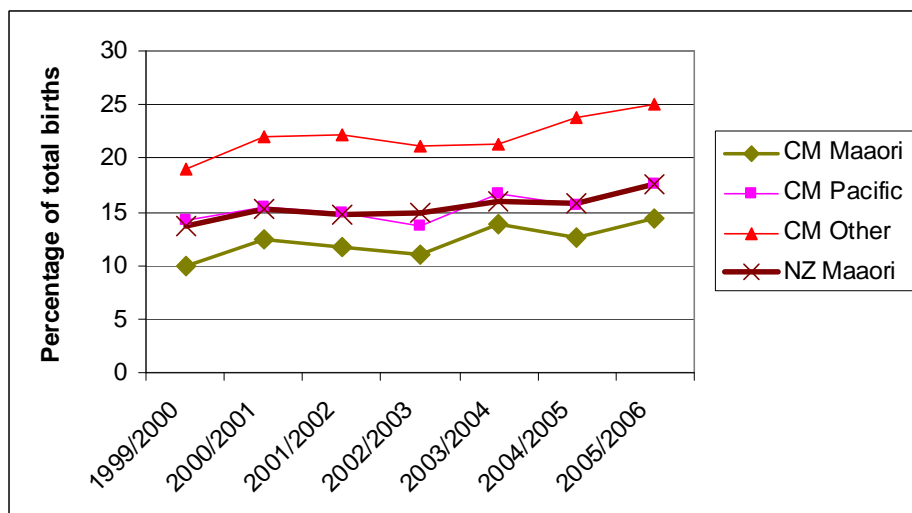
Figure 7.5.11 Percentage of total deliveries requiring assistance (e.g. forceps, Ventouse) by ethnicity



Source: NMDS, CMDHB analysis

While the optimum rate for caesarean section (CS) is unknown, the World Health Organisation recommends that not more than 15% of all deliveries should be caesarean. The proportion of deliveries that are by caesarean for Maaori women in Counties Manukau remains below this, at 12 – 14% for the last 5 years. This is the lowest proportion for the 3 ethnic groups examined in Counties Manukau, the non-Maaori/non-Pacific rate being considerably higher at 20 – 25%.

Figure 7.5.12 Percentage of total deliveries requiring Caesarean Section by ethnicity



Source: NMDS, CMDHB analysis

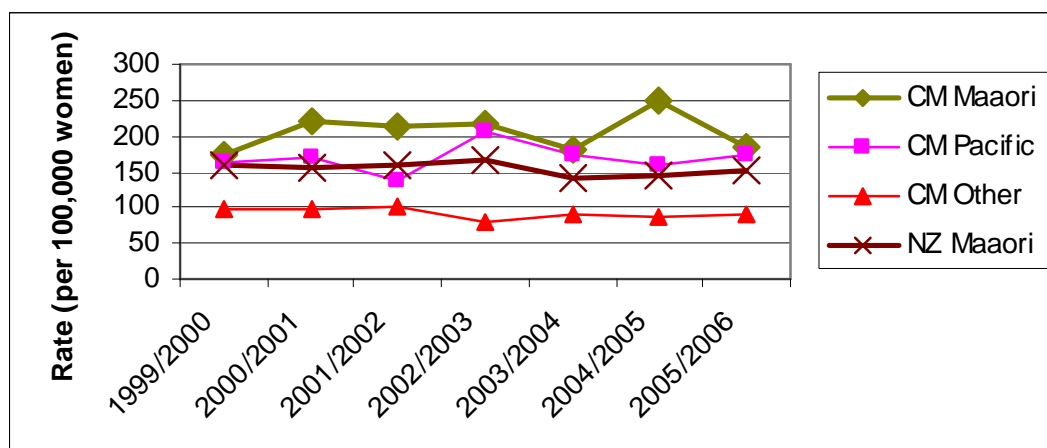
Discussion with the child and maternal health team at Counties Manukau DHB indicates that in future better markers of maternal health for Maaori, such as gestation at booking / smoking during pregnancy / antenatal admissions / gestational diabetes, are likely to be available from local data sources. In the meantime standard 'maternal health indicators' are reported from the National Minimum Data Set.

Sexual health

Pelvic inflammatory disease (PID) is a consequence of genitourinary infection, predominantly sexually transmitted infections such as chlamydia and gonorrhoea. As such it is an indicator of sexual health. As seen below, the rate for Maaori women in Counties Manukau is approximately double that of non-Maaori/non-Pacific women. These rates equate to 70 – 100 women per year being admitted to Middlemore with PID.

The majority of these admissions could have been prevented by reducing sexual risk (delaying onset of first intercourse, limiting the number of sexual partners, using condoms consistently) and early diagnosis and treatment of STIs. The national Sexual and Reproductive Health Strategy recognises that Maaori women are particularly at risk for bacterial STIs and recommends targeted activity to reduce this risk.

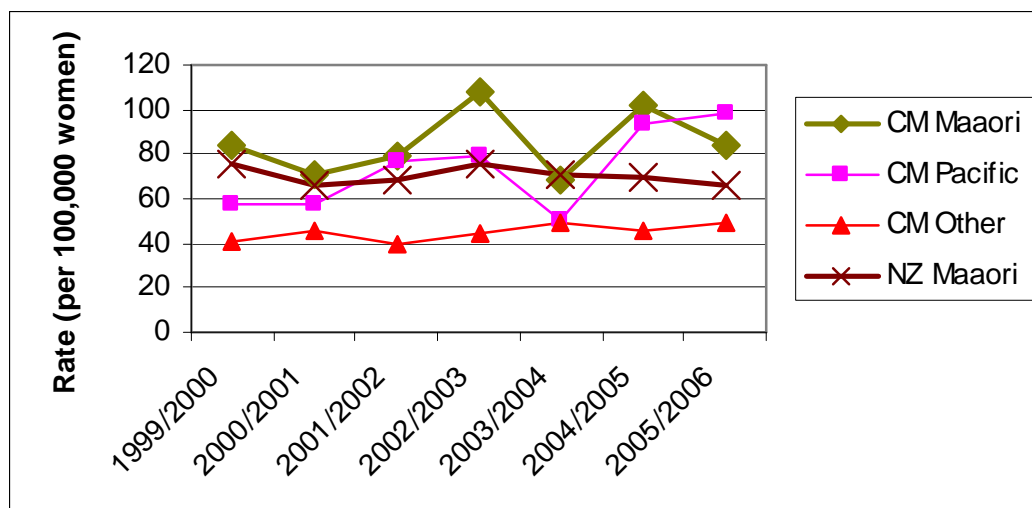
Figure 7.5.13 Hospitalisation rate for pelvic inflammatory disease by ethnicity, women aged 15+ years



Source: NMDS, CMDHB analysis

Ectopic or tubal pregnancy is usually a complication of pre-existing tubal damage, most commonly from pelvic inflammatory disease (which may have been asymptomatic). The rate for Maaori women in Counties Manukau is approximately twice that of non-Maaori/non-Pacific women, in line with similar disparities in PID noted above. Again measures to reduce the rates of sexually transmitted infections would contribute to a reduction in the rates of ectopic pregnancy. The rates below equate to approximately 30 – 45 Maaori women per year being admitted to Middlemore Hospital with ectopic pregnancy, and while these numbers are not large, ectopic pregnancy does carry significant risks. In addition it decreases future fertility, a taonga for Maaori.

Figure 7.5.14 Hospitalisation rate for ectopic pregnancy by ethnicity, woman aged 15 + years



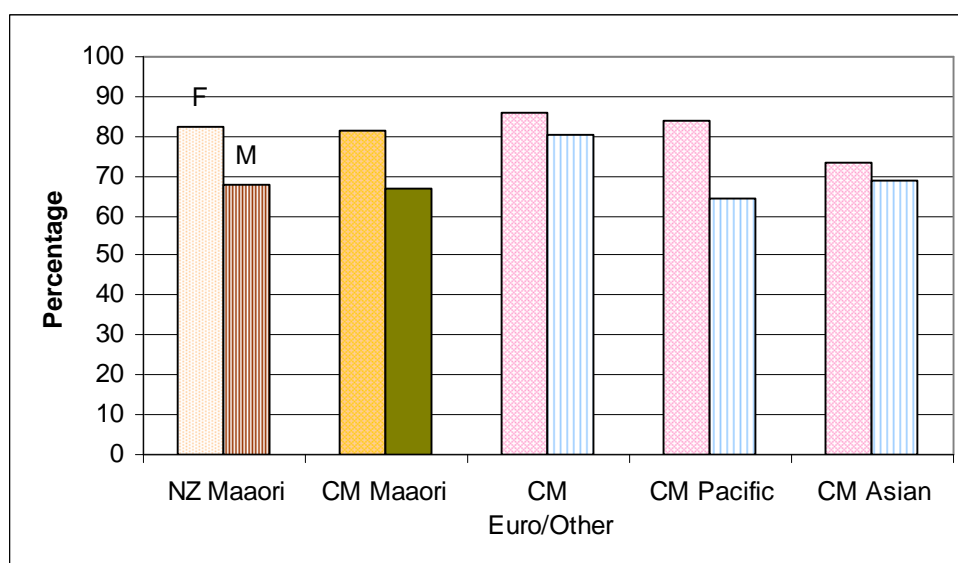
Source: NMDS, CMDHB analysis

7.5.11 Health Service Use

Use of general practice services

At the time of the New Zealand Health Survey in 2002/03, overall approximately 75% of Maaori adults in Counties Manukau report visiting a GP in the last 12 months. This is significantly less than the rate for those of European/Other ethnicity of 83%. The difference is largely attributable to the difference in consultation rates for males (67% for Maaori males and 80% for European/Other males).

Figure 7.5.15 Age-standardised prevalence of visit to a GP in the last 12 months by ethnicity and gender



Source: NZHS 2002/03

Although the average number of visits is greater for Maaori, these figures do not take account of need, and national level data from the 2002/03 Health Survey suggests 15 – 20% of Maaori adults say they needed to see a GP in the last 12 months but did not see one, compared to 10 – 15% of the total New Zealand population (34).

In Counties Manukau between 7,100 and 9,460 Maaori adults may have had unmet need for a GP within the past 12 months (as below these figures relate to circumstances prior to the implementation of the Primary Health Care Strategy and may have improved).

In the national data the most common reasons cited for not seeing a GP were cost, not wanting to make a fuss, inability to get an appointment soon enough or at an appropriate time, or lack of time. Given this data was collected early into the implementation of the Primary Health Care Strategy, if the Strategy is achieving its goal of improving access to primary care, one would hope these figures will be reduced in the next survey.

The Ministry of Social Development / City Councils' 2004 Quality of Life Survey also asked about experience of barriers to the use of GP services (35). This survey was undertaken in the latter part of 2004 (2 years into the implementation of the Primary Health Care Strategy). Twenty two percent of the Manukau City population reported experiencing barriers to accessing GP services (national average 21%), the most predominant reason cited being cost for 58% of those citing difficulties. Eighteen percent were too busy or unable to take time off work (second highest among major New Zealand cities following Porirua city) and 8% said their GP was too busy or there was too long a wait (in the top four of 12 cities). In the national level ethnic specific data Maaori living in the 12 cities surveyed were more likely than other ethnic groups to have experienced barriers

accessing general practice care – 35% compared to 25% for Pacific, 22% Aian, 20% NZ European.

Use of Maaori provider services

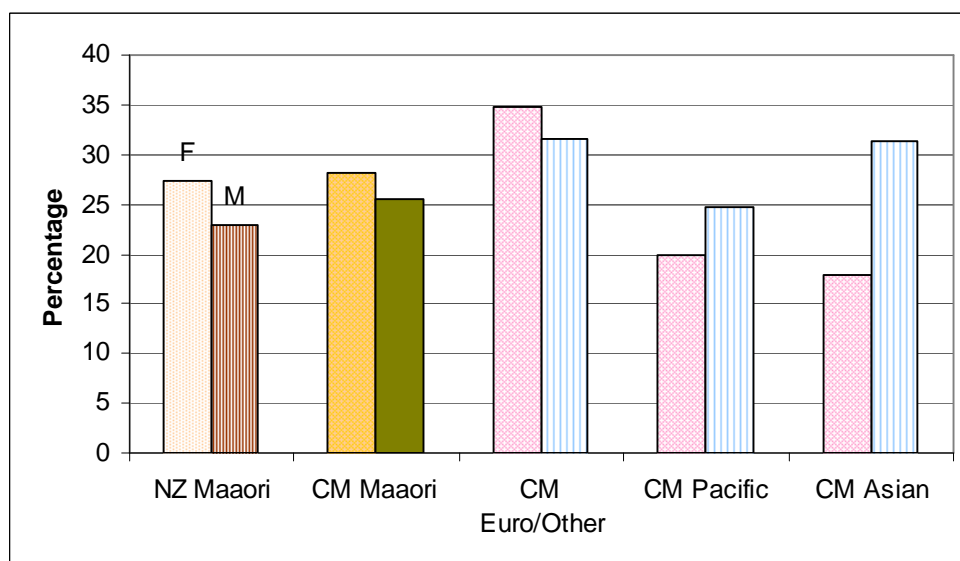
New Zealand Health Survey data suggest 17% of Maaori in Counties Manukau are likely to report having visited a Maaori health provider in the last 12 months, with national level data suggesting a further 6% are likely to report unmet need to see a Maaori health provider (34). The most common reasons given for unmet need for a Maaori provider were not being able to get an appointment soon enough or at a suitable time, or not having transport to get there.

Approximately 2,840 Maaori adults in Counties Manukau may have had unmet need to see a Maaori health provider within the past 12 months (again based on data prior to implementation of the PHCS).

Use of specialist / hospital services

Overall 27% of Maaori adults in CM are likely to report having visited a medical specialist in the last 12 months, compared to 33% of those stating their ethnicity as European/Other. This difference is not statistically significant because of wide confidence intervals; it does not take account of need.

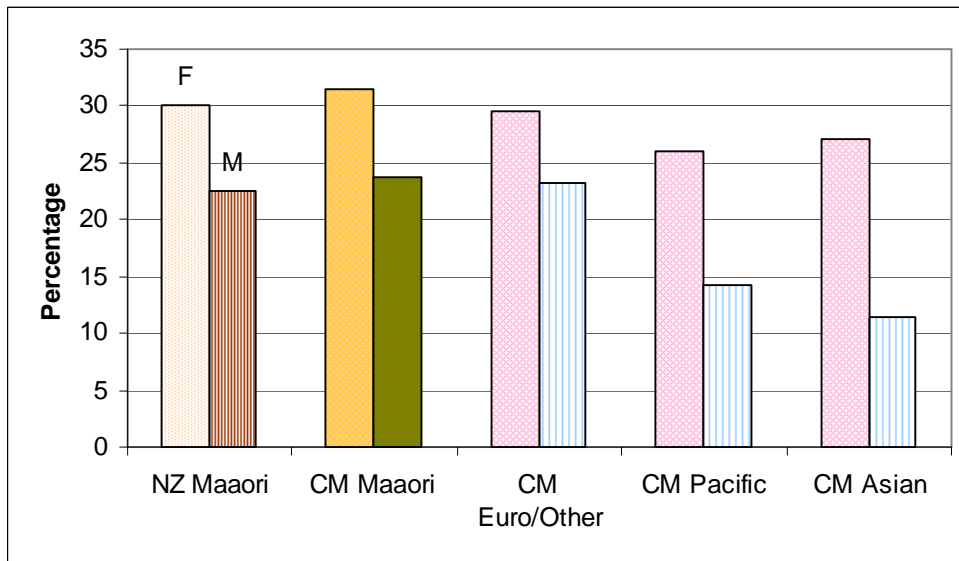
Figure 7.5.16 Age-standardised prevalence of visit to specialist in the last 12 months by gender and ethnicity



Source: NZHS 2002/03

Overall 28% of Maaori adults in Counties Manukau are likely to report having used a private or public hospital in the last 12 months compared to 26.5% of those of European/Other ethnicity, not a significant difference. This survey question did not differentiate between the use of private and public hospital facilities.

Figure 7.5.17 Age-standardised prevalence of having used a private or public hospital in the last 12 months by gender and ethnicity



Source: NZHS 2002/03

In adult oral health, national level data is available for self reported dental visit in the previous year (NZHS). Tatau Kahukura reports that 43.1 % of non-Maori reporting visiting the dentist in the last year compared to 28.4% of Maaori (but note this is using a different population for age standardisation (2)).

8 Te Mana Kaawanatanga (Governing in partnership with integrity)

Importance

Te Tiriti o Waitangi places obligations on the DHB for responsible governance in partnership with Maaori. This involves promoting the Maaori-responsiveness of those in DHB governance and management roles and those providing generic/mainstream services in addition to supporting Kaupapa Maaori services.

8.1 Maaori involvement in governance in CMDHB

As noted previously in Section Four, Ngaa Manukura, Counties Manukau DHB has established POU, the Maaori Governance Group. This group is a non-statutory sub-committee of the Board, with members appointed by and accountable to the Board. The role of POU is to ensure that the priorities and needs of Maaori communities are reflected in DHB planning, to provide advice to the Board on strategies to reduce health disparities for Maaori and matters relating to Te Tiriti o Waitangi³³, and ensure governance level partnership with Maaori.

Members of the Maaori community are involved in various DHB-led Steering Groups and Advisory Groups.

³³ within the framework of the New Zealand Public Health & Disabilities Act

9 Waiora (Interconnection with the environment and environmental protection)

Importance

Māori understandings of human well-being and development are integrally and spiritually connected with the environment. Hence considering environmental harms, and environmental protection and sustainability are important facets of hauora.

9.1 Urban Physical Environment

The 2004 Quality of Life in New Zealand's Largest Cities survey does not have ethnic specific city level data, but does suggest that Manukau City residents overall do have significant concerns about their urban environment. 54% perceived a problem with rubbish/litter compared to 44% of people living in cities nationally, and 38% were concerned about noise pollution compared to 31% of other urban dwellers nationally. Similar proportions of Manukau residents were concerned about air and water pollution to national averages – 22% concerned about air pollution and 28% concerned about water pollution (35).

9.2 Water supply and sewage disposal

Almost all residents in Manukau City and Papakura are supplied by Local Authority (LA) operated or contracted drinking water supplies, which have very high compliance with bacteriological standards (99% of Manukau City residents are LA supplied, with 100% of those supplied from these sources receiving water that meets bacteriological compliance; 97% of Papakura are LA supplied, with 100% of those supplied from these sources receiving water that meets bacteriological compliance). In Franklin, 84% of the population are supplied by LA supplies, with 96% of those supplied by these sources receiving water that meets bacteriological compliance (36). Few supplies met protozoan compliance.

Traditional sources for water used for drinking on marae, especially in rural areas, may no longer be as unpolluted as they once were. The Healthy Environments Team from ARPHS is currently working with marae in the rohe to ensure that water used on the marae and their onsite koohanga reo and kaumaatua units is safe to drink. The ARPHS Drinking Water Assessment Unit is available for testing, advice and assistance.

In New Zealand (and internationally) oral health indicators correlate with the fluoridation of water supplies. Territorial authorities determine whether fluoride is added to reticulated water supplies. In Counties Manukau much of Franklin, and parts of Papakura and Manukau city have a reticulated water supply which is not fluoridated. This is in addition to the supply to Onehunga which is not fluoridated. Given the poor oral health of tamariki in Counties Manukau (see P 47), this is an issue on which the DHB could advocate.

On-site wastewater treatment and disposal systems that are not properly designed or maintained can be a health risk as they can expose people to raw or poorly treated sewage effluent, potentially causing illness (predominantly infectious diseases)(1). 2% of those living in Manukau City, 12% of those in Papakura and 21% in Franklin live in properties with on-site wastewater systems.

A recent report by Auckland Regional Public Health Service for Local Authorities highlighted a number of other issues in the physical and built environment that are important considerations as part of a broader picture of health for Māori in Counties Manukau (37).

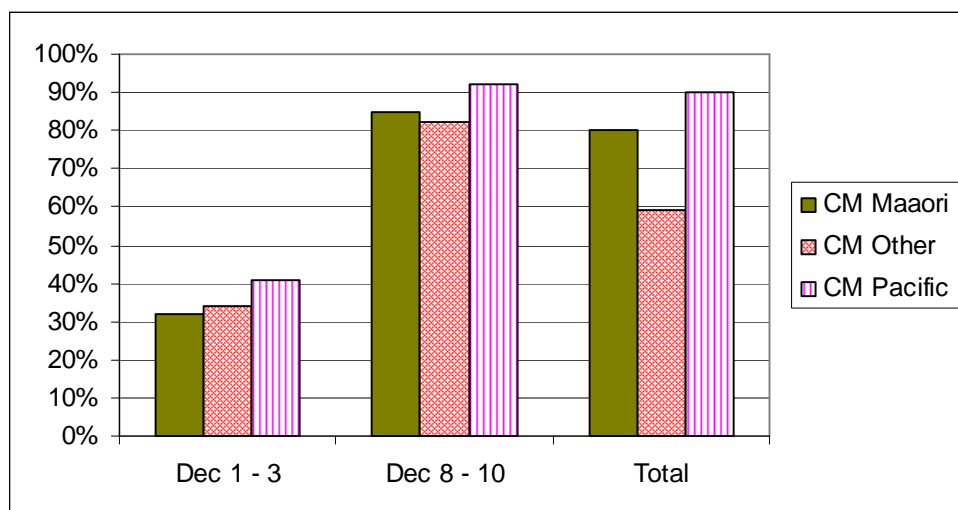
9.3 Access to factors which may influence health-related behaviour.

In relation to physical activity and nutrition, proximity to various food retailers and space for physical activity may influence the choices people make. Auckland Regional Public Health Service has analysed spatial data to show the number of people who live within a certain distance of both fast food/takeaway outlets and fruit and vegetable retailers. The data are confounded by the fact that for complex reasons, people living in lower socioeconomic areas tend to live closer to commercial centres and industrial zones, rather than rural or less commercial zones. However, consideration does need to be given to the effect that increased access may have on the health and wellbeing of the population.

Household proximity to food outlets

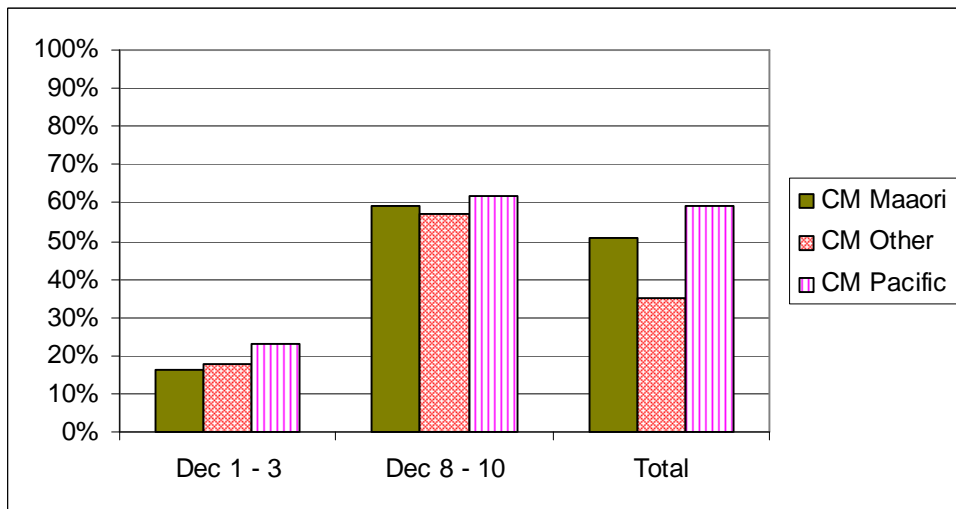
It is interesting to note that while higher decile areas (those most socio-economically deprived) are closer to takeaway retailers, they also have better accessibility to fruit and vegetable retailers, and this pattern for Counties Manukau was consistent with other territorial authorities across the wider Auckland area. There are a number of factors that could be confounding this picture, for example possibly multiple small retailers selling a very limited range of fruit and vegetables of variable quality and price. However, given that the consumption of fruit and vegetables is lower for Maaori and Pacific peoples who predominate in these higher decile areas, this does suggest that proximity alone is not sufficient to ensure healthy behaviour.

Figure 9.3.1 Proportion of population within 1 km of takeaway and fast food outlets by ethnicity



Source: GAS coded census data, compiled by ARPMS, analysed by CMDHB

Figure 9.3.2 Proportion of population within 1 km of fruit and vegetable retailer by ethnicity

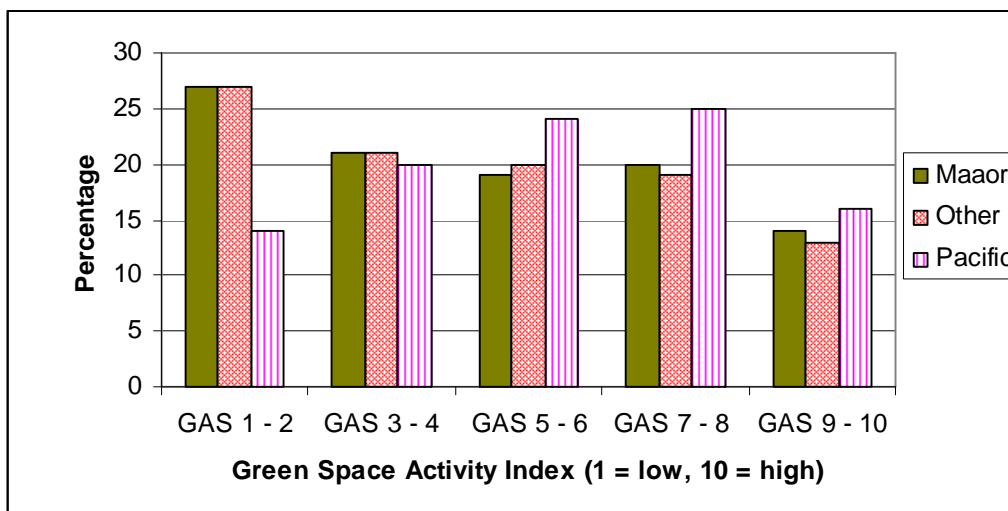


Source: GAS coded census data, compiled by ARPMS, analysed by CMDHB

Household proximity to green activity space

Green activity space is publicly available space that facilitates physical activity in 'green areas', with accessibility taking into account distance, size and choice. As shown below Maaori are over-represented among those who have least access to green activity areas. This is consistent with data in the Auckland Regional Public Health Service local authority report demonstrating that those living in the most socio-economically deprived areas are least likely to have access to green activity space (37).

Figure 9.3.3 Access to Green Activity Space by ethnicity

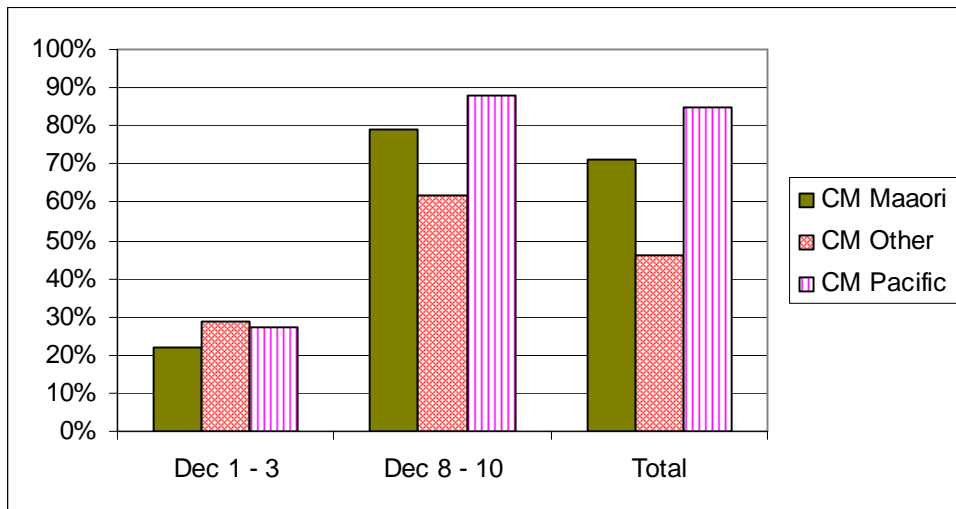


Source: GAS coded census data, compiled by ARPMS, analysed by CMDHB

Household proximity to liquor outlets

Again, it needs to be remembered that for complex reasons people living in lower socioeconomic areas will tend to live closer to commercial centres and industrial zones and hence be closer to liquor outlets. However, the influence this increased access may have on alcohol related behaviour needs to be considered, and this data would suggest that access is higher for Maaori and Pacific peoples than for non-Maaori/non-Pacific within the higher decile areas.

Figure 9.3.4 Proportion of population within 1 km of an off-licence liquor outlet by ethnicity



Source: GAS coded census data, compiled by ARPHS, analysed by CMDHB

In addition, given the association between gambling and alcohol and smoking behaviour (19), it is also noteworthy that the concentration of gaming machines is consistently higher in areas of higher economic deprivation (after controlling for the deprivation-commercial association) within all TAs across the Auckland region except Papakura District (37).

There are a number of features of the environment which may be impacting the broader health of Maaori in Counties Manukau. These are issues on which the Maaori community may wish to have the support of DHB for advocacy.

10 Whaiora (Maaori participation in society)

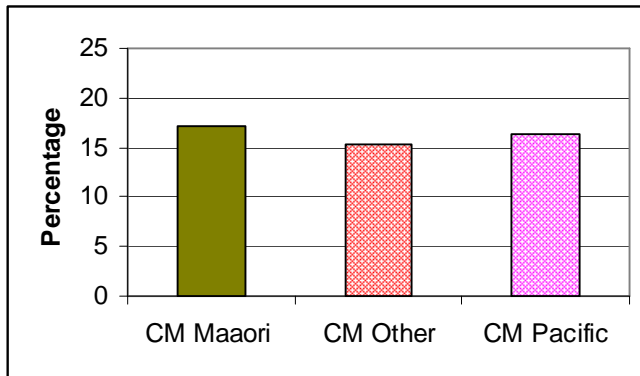
Importance

Hauora depends on active participation in society; hence education and employment are key to improving health outcomes and measures of participation in education are important indicators of current and future health.

10.1 Education

Census data about time spent in unpaid activities does indicate that a significant proportion of Maaori adults are involved in study, similar to the proportion for adults of other ethnicities – in total 17% F 15% non-Maaori/non-Pacific, and 16% Pacific.

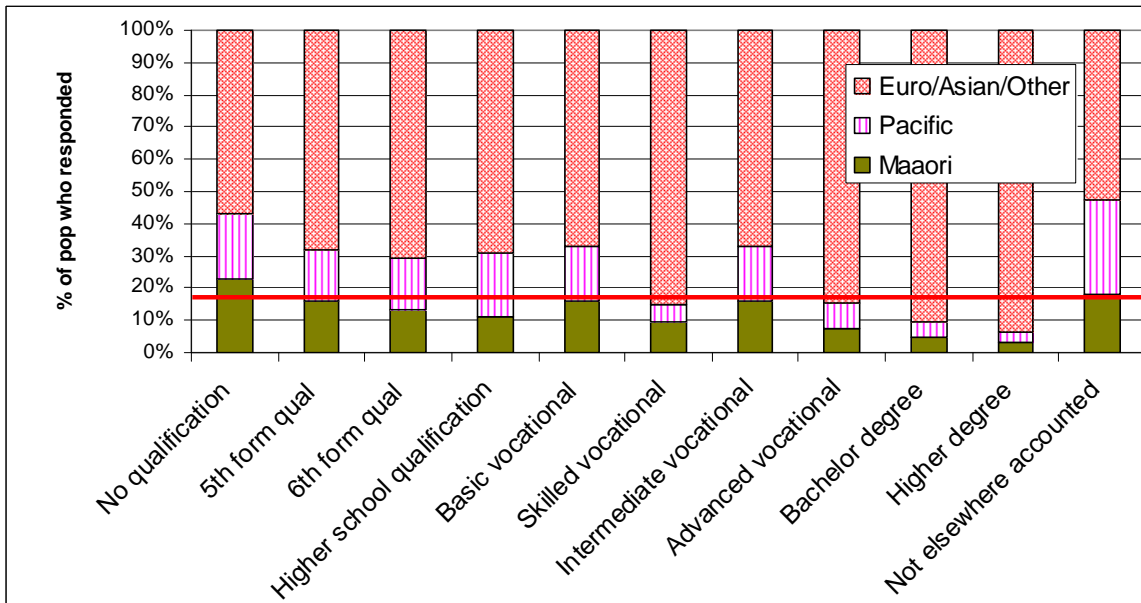
Figure 10.1.1 Time spent by those aged 15+ pursuing study by ethnicity³⁴



Source: Census 2001, analysed by CMDHB

However there is still progress to be made before Maori are adequately represented in those who have advanced vocational or tertiary level qualifications. As demonstrated below, of those who nominated various levels of highest qualification in 2001, Maori aged 15 years and over were overrepresented in those who had no qualification and only 5.5% reported having an advanced vocational or tertiary level qualification (the red line represents the percentage of Maori in the Counties Manukau population for comparison with the percentage with particular qualifications).

Figure 10.1.2 Highest qualification of Counties Manukau usually resident population aged 15 years and over, 2001 Census³⁵



Source: Census 2001, analysed by CMDHB

³⁴ This data is the percentage of those answering the question about unpaid activities who identified as Maaori, Pacific or other ethnicities (non-prioritised ethnicity). Less Maaori and Pacific people responded to this question than those of European/other ethnicities (of the population aged over 15 in Counties Manukau in 2001, 82% of Maaori, 80% of Pacific and 94% of non-Maaori/non-Pacific answered the question about unpaid activity).

³⁵ Not formally prioritised ethnicity, but Maaori and Pacific prioritised in drawing graph

Table 10.1.1 Highest qualification of Counties Manukau usually resident population aged 15 years and over 2001 census by ethnicity³⁶

Highest qualification	% of the CM population aged 15+ who state that they hold this level of qualification who identified as		
	Maaori	Pacific	Non-Maaori/ non-Pacific
No qualification	22.8	20.5	64.6
5th form qual	15.9	16.1	77.2
6th form qual	13.1	16.0	80.5
Higher school qualification	11.2	19.8	78.9
Overseas secondary school qual	0.5	22.2	78.6
Basic vocational	15.8	17.1	76.6
Skilled vocational	9.4	5.3	91.3
Intermediate vocational	15.7	17.3	76.5
Advanced vocational	7.4	7.9	89.8
Bachelor degree	4.7	4.6	95.0
Higher degree	3.2	3.2	96.5
Not elsewhere accounted	18.3	28.8	60.1

Source: Census 2001, analysed by CMDHB

Table 10.1.2 Percentage of the Counties Manukau usually resident Maaori population holding various levels of qualification

Highest qualification	% of CM Maaori population who answered the qualification question in the 2001 census who hold this level of qualification
No qualification	41.8
5th form qualification	15.4
6th form qualification	8.6
Higher school qualification	3.8
Overseas secondary school qual	0.4
Basic vocational	4.1
Skilled vocational	2.8
Intermediate vocational	2.2
Advanced vocational	3.3
Bachelor degree	1.8
Higher degree	0.4
Not elsewhere accounted	15.3

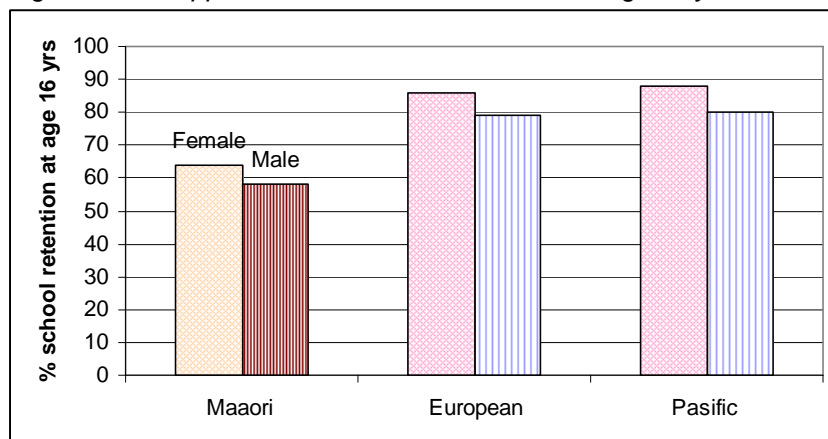
Source: Census 2001, analysed by CMDHB

Continued education for those who become parents at a young age is considered an important way to help mitigate potential adverse social effects from early parenthood. Teen Parent Units (TPUs) are a relatively new initiative to cater for this need, providing supervised correspondence school lessons alongside childcare facilities and social support. Currently there are TPUs at Clendon (Taonga Education Centre under the umbrella of James Cook High School) and Tangaroa College. In 2006, 17 of 23 students at Clendon were Maaori and 8 of 18 at the Tangaroa Unit. Te Kupenga o Hoturoa PHO provides a whaanau ora service for the Clendon unit.

³⁶ Total response rather than prioritised ethnicity so some categories add up to more than 100%

While attending school doesn't necessarily result in achieving qualifications, it is an important first step towards doing so, and additionally evidence suggests it is also associated with lower rates of substance abuse, other health risk behaviours and crime (38). Concern has therefore been expressed that Maaori boys have the lowest school retention rates³⁷ of the major ethnic groups at a national level. Engaging rangatahi in school has been identified as a key focus in the education sector and various programmes (e.g. Te Kotahitanga) are in place to improve current rates; in the longer term this will have a positive influence on health outcomes.

Figure 10.1.3 Apparent School Retention Rates at age 16 years at July 2006, national data



Source: Ministry of Education, 2006³⁸

10.2 Occupation

Occupation can influence health in a number of ways, including its influence on income along with exposure to occupational health and safety hazards. Occupational group and industry sector of employment are collected by the national census. Consistent with higher unemployment rates and lower levels of qualifications, Maaori are under-represented in many occupational groups³⁹, the exceptions being Plant/Machine Operators and Assemblers, and Elementary⁴⁰ occupations (the red line represents the percentage of Maaori in the Counties Manukau population for comparison with the percentage in particular occupational groups).

³⁷ Retention rates are calculated by taking the number of 14 year olds as a base population and calculating how many of these students are still attending school when they are 15, 16 17 year olds etc. Because this calculation takes no account of migration it is called an 'apparent' retention rate

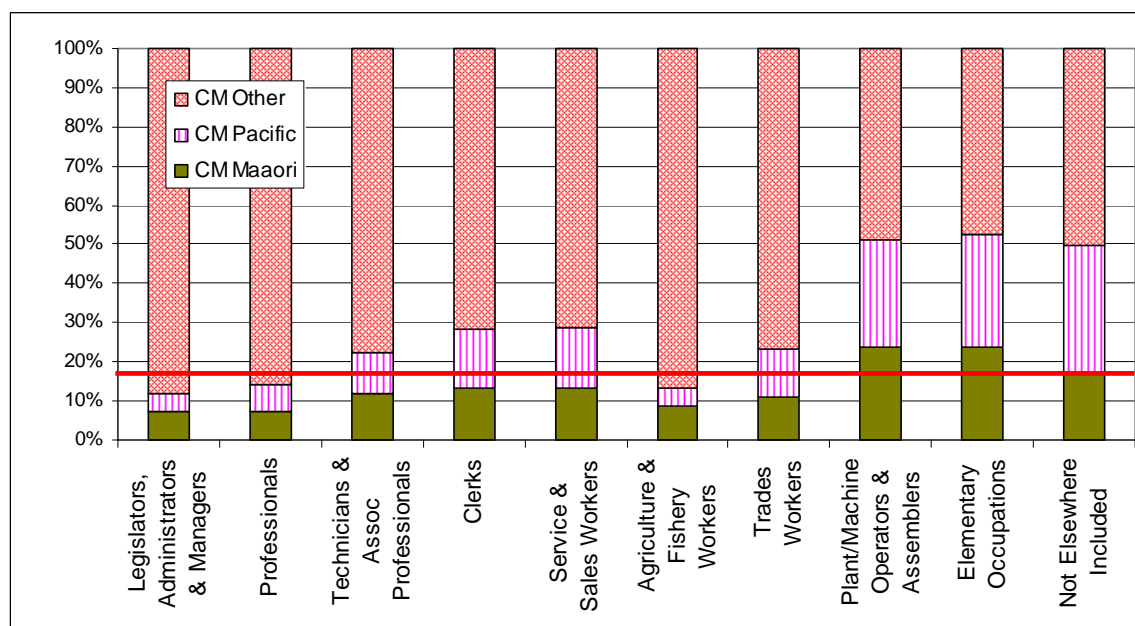
³⁸ Accessed March 19 2007 from 'Education Counts' website,

<http://educationcounts.edcentre.govt.nz/statistics/schooling/senior-student-retention-2006.html>

³⁹ At the time of the 2001 Census 14.4% of the employed population in Counties Manukau identified as Maaori. 16% of the population aged 15 – 64 yrs (the closest approximation to working age obtainable from the census data) identified as Maaori.

⁴⁰ Elementary occupations involve 'the use of handheld tools and physical effort, and the knowledge and experience to perform elementary and routine tasks' (Census NZ glossary)

Figure 10.2.1 Occupational Group of the employed Counties Manukau usually resident population by ethnicity⁴¹



Source: Census 2001, analysed by CMDHB

Table 10.2.1 Percentage of the employed Counties Manukau usually resident population in various occupational groups by ethnicity⁴²

Occupational Group	% of the CM employed population stating they work in this occupational group who identified as		
	Maaori	Pacific	Non-Maaori /non-Pacific
Legislators, Administrators & Managers	7.4	4.5	93.2
Professionals	7.4	6.9	91.0
Technicians & Assoc Professionals	12.1	10.3	85.2
Clerks	13.2	15.0	80.2
Service & Sales Workers	13.1	15.6	80.1
Agriculture & Fishery Workers	8.7	4.7	90.5
Trades Workers	11.1	12.0	83.1
Plant/Machine Operators & Assemblers	23.6	27.5	57.1
Elementary Occupations	23.6	28.7	57.1
Not Elsewhere Included	17.1	32.6	56.5

Source: Census 2001, analysed by CMDHB

⁴¹ Not formally prioritised ethnicity, but Maaori and Pacific prioritised in drawing graph

⁴² Total response rather than prioritised ethnicity so some categories add up to more than 100%

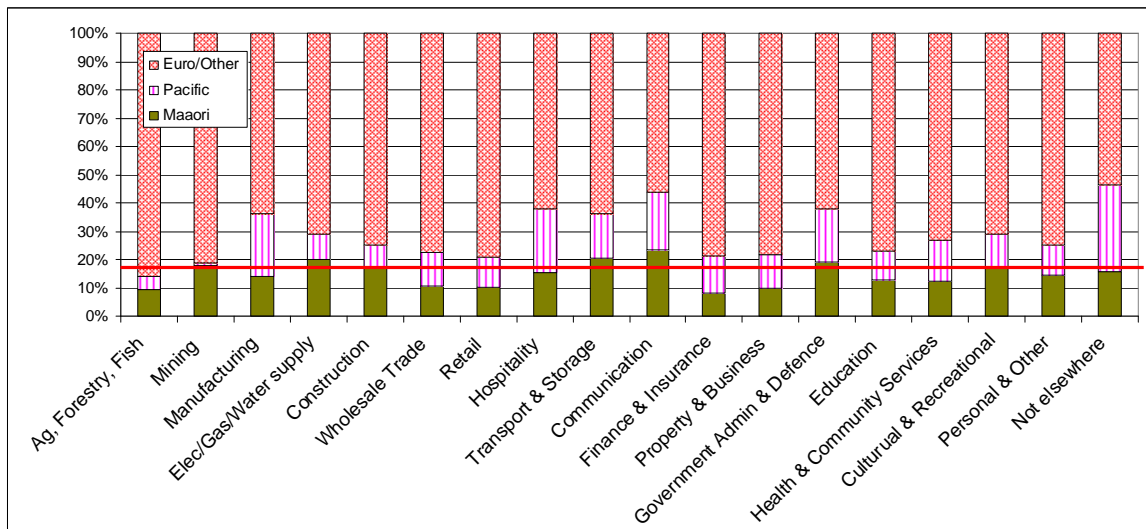
Table 10.2.2 Percentage of the Counties Manukau usually resident Maaori population working in various occupational groups

Occupational Group	% of CM Maaori population who answered the occupational group question in the 2001 census who work in this occupational group
Legislators, Administrators & Managers	7.0
Professionals	6.3
Technicians & Assoc Professionals	9.5
Clerks	15.3
Service & Sales Workers	12.0
Agriculture & Fishery Workers	2.5
Trades Workers	8.2
Plant/Machine Operators & Assemblers	18.2
Elementary Occupations	12.4
Not Elsewhere Included	8.5

Source: Census 2001, analysed by CMDHB

Transport and Storage, Communication and Electricity/Gas/Water supply feature as industry sectors that employ significant proportions of Maaori in Counties Manukau (the red line represents the percentage of Maaori in the Counties Manukau population for comparison with the percentage employed in particular industries).

Figure 10.2.2 Industry of the employed Counties Manukau usually resident population by ethnicity



Source: Census 2001, analysed by CMDHB

Table 10.2.3 Percentage of the employed Counties Manukau usually resident population working in various industries by ethnicity⁴³

Industry Area	% of the CM employed population answering they work in this industry who identified as		
	Maaori	Pacific	Non-Maaori / non-Pacific
Ag, Forestry, Fish	9.3	4.5	90.0
Mining	17.7	0.8	89.5
Manufacturing	13.9	22.4	70.4
Elec/Gas/Water supply	20.1	8.9	82.2
Construction	17.2	8.1	82.3
Wholesale Trade	10.8	11.6	84.0
Retail	10.2	10.5	86.8
Hospitality	15.4	22.5	72.0
Transport & Storage	20.6	15.5	72.1
Communication	23.6	20.4	67.8
Finance & Insurance	8.1	13.2	85.8
Property & Business	10.0	11.8	84.2
Government Admin & Defence	19.1	18.7	73.5
Education	12.9	9.9	83.7
Health & Community Services	12.3	14.4	79.9
Cultural & Recreational	16.9	12.2	81.8
Personal & Other	14.6	10.5	82.6
Not elsewhere included	15.7	30.9	59.7

Source: 2001 census, analysed by CMDHB

Table 10.2.4 Percentage of the employed Counties Manukau usually resident Maaori population working in various industries

Industry Area	% of CM Maaori population who answered the industry area question in the 2001 census who work in this industry
Agriculture, Forestry, Fish	2.5
Mining	0.3
Manufacturing	18.8
Elec/Gas/Water supply	0.5
Construction	8.6
Wholesale Trade	7.1
Retail	9.2
Hospitality	4.1
Transport & Storage	8.7
Communication	2.5
Finance & Insurance	1.7
Property & Business	8.0
Government Admin & Defence	2.6
Education	6.3
Health & Community Services	5.7
Cultural & Recreational	2.3
Personal & Other	3.7
Not elsewhere included	7.2

Source: 2001 census, analysed by CMDHB

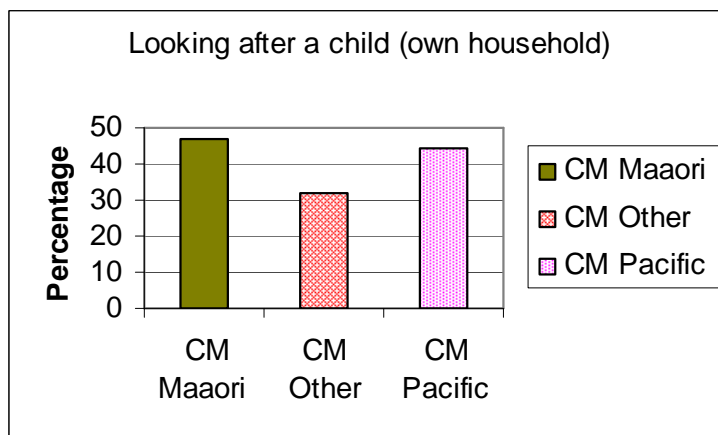
⁴³ total response rather than prioritised ethnicity so some categories add up to more than 100%

Employment data points to areas where attention to occupational health and safety issues may be particularly important for Maaori, and also highlights the importance of addressing educational disparities for Maaori. A significant proportion of Maaori are pursuing study as adults; given Maaori are less likely to leave school with a qualification, this is an indication of their determination to improve their education status.

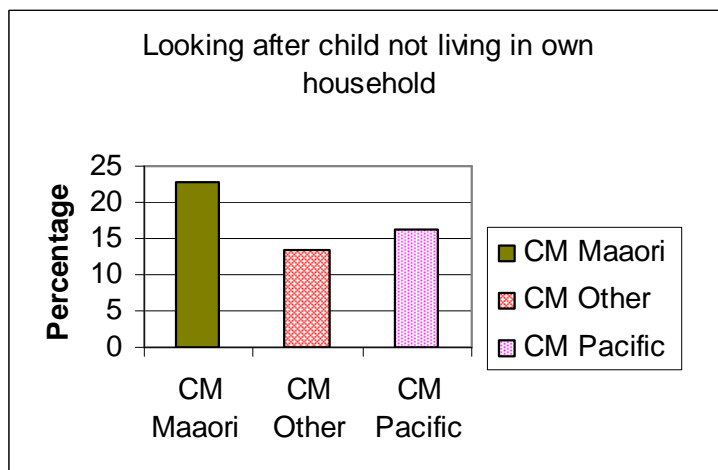
10.3 Unpaid activities

Census data about unpaid activities give a fuller picture of the responsibilities in Maaori households. As demonstrated below, Maaori adults are more likely than their non-Maaori/non-Pacific counterparts to be looking after a child in their own or another household, and as cited previously under disability, more likely to be looking after someone who is disabled. They are also more likely to be involved in other helping/voluntary activities.

Figure 10.3.1 Time spent by those aged 15+ in various unpaid activities⁴⁴

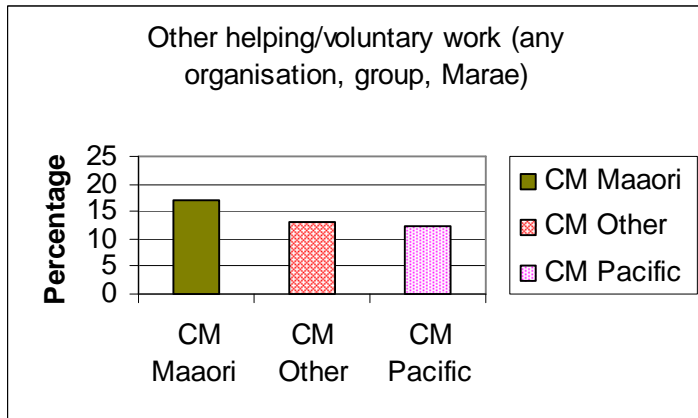


Source: Census 2001, analysed by CMDHB



Source: Census 2001, analysed by CMDHB

⁴⁴ This data is the percentage of those answering the question about unpaid activities who identified as Maaori, Pacific or other ethnicities (non-prioritised ethnicity). Less Maaori and Pacific people responded to this question than those of European/other ethnicities (of the population aged over 15 in Counties Manukau in 2001, 82% of Maaori, 80% of Pacific and 94% of non-Maaori/non-Pacific answered the question about unpaid activity).



Source: Census 2001, analysed by CMDHB

Part Two: Literature Review

Evidence to support efforts to improve the health status of Maaori in Counties Manukau

11 Introduction to Literature Review

This literature review has attempted to answer the question: 'in future planning, what could the DHB do/where should it invest, if it wishes to use approaches which are most likely to reduce health inequalities for Maaori?' Finding an answer to this question is very challenging. At present there is quantitative data available about existing Maaori health status, such as that presented in Part One, which can be (and has been) used to guide prioritisation of health issues. However there is very limited quantitative data available to indicate what approaches have been shown to positively change health status outcomes for Maaori, or other indigenous peoples.

There is however a broad range of qualitative evidence about processes, experiences, attitudes and behaviours available which could be used to inform service review and future programme planning. This could increase the likelihood that initiatives will lead to the achievement of measures of well-being as defined by Maaori, as well as biomedically defined measures of health status. Such an approach would use the qualitative evidence available as a supportive part of the process of engaging the Maaori community in Counties Manukau in the task of creating programmes which reflect their priorities and realities in addressing the health issues they face.

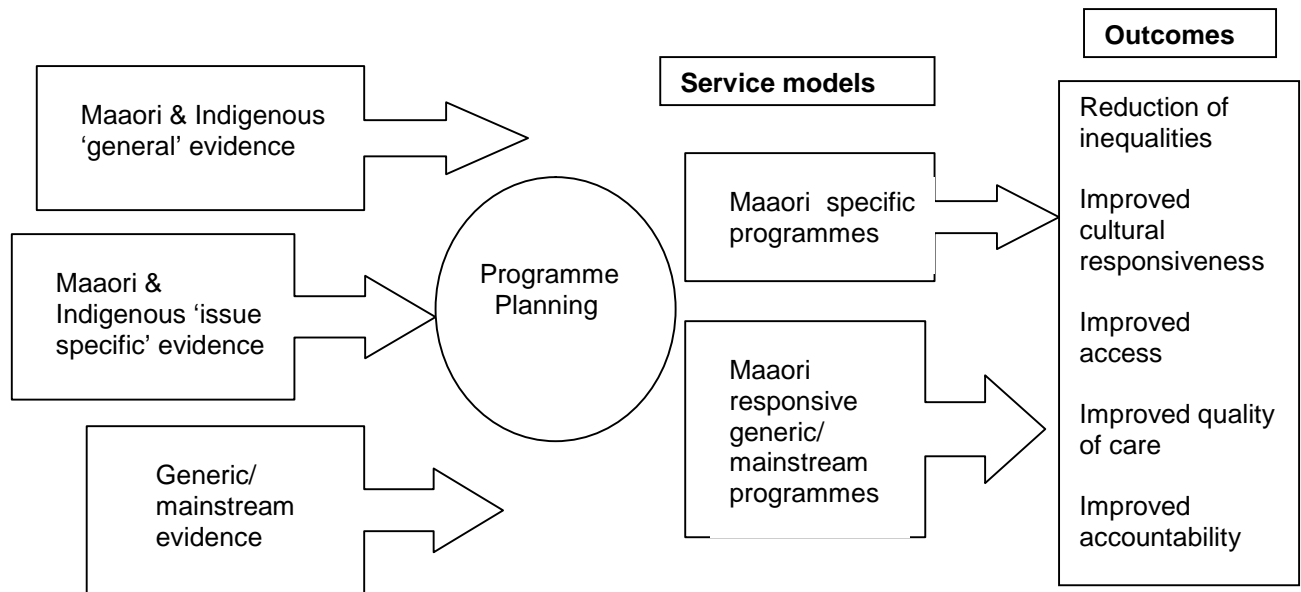
11.1 How might 'best practice' look?

If the health status evidence about outcome inequalities is to continue to be used to advocate for improved responsiveness of health services to Maaori, health services will need to collect similar 'evidence' to demonstrate whether or not new and existing initiatives are actually improving outcomes. However if more holistic measures of health which reflect Te Ao Maaori are to become accepted as important and valid, these also need to be collected with some sense of 'routineness'. Best practice could therefore be seen to be represented by projects which have attempted to collect **both quantitative and qualitative data reflecting the priorities of both Te Ao Maaori and generic/mainstream health service management**. This is consistent with feedback received in the Ministry of Health's consultation on the monitoring framework and strategic research agenda for He Korowai Oranga (39).

Examples of this approach which are detailed further in this report include the Wairarapa marae-based asthma project (P 89), and the community injury prevention projects (P 106). In these projects the Maaori communities concerned were intimately involved in the design and evaluation of the mahi, and measures of well-being such as cultural affirmation, sense of control for participants, and impacts on extended families were documented alongside morbidity such as hospitalisation rates. Similarly the Maaori SIDS programme has documented quantitative data about improvement in Maaori SIDS rates, while also commissioning research into Maaori infant care practices and experiences of grief following SIDS which have informed programme development (40,41).

The importance of community engagement and empowerment, and a whaanau-centred approach is reiterated in numerous of the qualitative studies available. For health service provision, community partnership in combination with a structured approach to care and appropriate audit seems a particularly powerful combination. This is consistent with Maaori concerns about institutionalised racism, which recognises that the embedding of expectations and behaviours into systems and institutions influences the processes and outcomes of those institutions. It is therefore appropriate to recognise the importance of embedding alternative expectations and behaviours in systematic ways. At present quality improvement programmes represent an opportunity to systematically embed Maaori priorities into health services provision. Evidence from both Aotearoa and overseas (P 92 & 99) suggests positive gains can be made by investing in this area of work.

11.2 How can evidence be used in programme planning?



As suggested in the model above, both evidence about general approaches that are important for Maaori, and issue-specific evidence can be used together with generic evidence about effective approaches to contribute to programme planning. This approach needs to influence both Maaori specific and generic service models to impact Maaori health outcomes.

11.3 The importance of quality monitoring and reporting

If the management and governance of the DHB wish to be able to measure the impact of their influence on health inequalities for Maaori, extending the use of programme logic and working closely with service providers and recipients to identify performance indicators that capture both qualitative and quantitative data could significantly enhance the ability of the DHB to monitor and report changes, and providers to review their own work. Programme logic would build on the evidence, both qualitative and quantitative, that is available to ensure that interventions are planned in ways that maximise the likelihood of 'success', as defined by the Maaori community. Identifying indicators for monitoring could be aided by all those involved being familiar with national level attempts to begin to identify such measures⁴⁵; in addition Hapai Te Hauora Tapui are also currently involved in regional work to identify appropriate Maaori indicators for health promotion programmes and their expertise could be utilised⁴⁶.

Careful planning is needed to ensure that the data required for monitoring and evaluation indicators is appropriately collected in the course of programme implementation and service provision. The recently released evaluation of the Reducing Inequalities Contingency Funding (RICF) projects to improve access to primary care noted that in many projects the evaluation team needed to provide significant training and support in the use of IT systems and reporting processes (42). Even with such input evaluation data was not always collected consistently, reflecting the challenges of integrating information collection with service implementation realities.

⁴⁵ For example:

Ratima, M, Edwards, W and Crengle, S Maaori health indicators. A background paper for the project 'Action oriented indicators for health and health systems development for indigenous people's in Canada, Australia and New Zealand'. 2005, University of Auckland: Auckland.

Durie, M et al. Maaori Specific outcomes and indicators. A report prepared for Te Puni Kokiri, The Ministry of Maaori Development. 2002, Te Putahi a Toi, School Maaori Studies, Massey University: Palmerston North.

⁴⁶ Personal communication, Megan Tunks, 28 November 2006

11.4 The role of formal evaluation

In addition, partnerships with Maaori researchers could provide valuable external evaluations but also strengthen the Maaori community in Counties Manukau, as capacity building of those working on the projects being evaluated is an integral part of a Kaupapa Maaori evaluation process (43). One of the challenges is to develop simple ways to document broader outcomes which are easily applied by those 'working on the ground' in monitoring processes so that the resource (both people and funding) for external evaluations can be targeted to the most appropriate situations.

11.5 Structure of this literature review

The evidence found in this review is divided into an initial section about general approaches, and then a second section with information related to specific health issues. While this whole report has tried to focus on a more integrated approach rather than an issues focus, much of the literature found relates to specific issues so it has been presented in this way. However an example of how the available evidence could be integrated into a Whaanau Ora approach, using the approach outlined in the model above is given on Pages 110 - 114. The approach outlined considers aspects of what a Whaanau Ora approach for tamariki might look like particularly in relation to the impact of smoking. The goal of smokefree has been highlighted in this example as effective interventions to reduce smoking and exposure to second hand smoke do exist, and the importance of smoking for hauora in Maaori whaanau in Counties Manukau is beyond comparison if a prioritisation is made on the basis of epidemiological impact.

12 Scope of this literature review

Data presented in Part One of this report reiterates that fact that while progress has been made, there continue to be significant inequalities in health outcomes for Maaori compared to those of other ethnicities in the Counties Manukau population. This is consistent with outcomes for Maaori more widely in Aotearoa New Zealand. These inequalities are both in terms of life expectancy and people's experience of well-being, illness and their quality of life. These inequalities are similar to those for indigenous peoples in other countries.

This raises the questions...

What can be learned from initiatives here in Counties Manukau, and elsewhere, that can help those working to improve the health status of Maaori in Counties Manukau?

What evidence do we have about what can be done to make a difference to health inequalities for Maaori in Counties Manukau?

While seemingly simple questions, these do raise complex issues about what constitutes 'evidence', how transferable evidence is between populations within the same country and populations in different countries, and indeed how much credence should be given to research performed by non-kaupapa Maaori methods.

Discussion within the Maaori team of Counties Manukau DHB established the most important priority was improving health outcomes, and being able to demonstrate and track such improvement in ways that are understandable for management and the Maaori community. It was deemed appropriate to gather whatever evidence is available locally and internationally, and then to present this information in such a way that those in the team, and more widely in the Maaori community of the DHB, can decide how best to use it. Obviously seeking evidence based on Maaori research, or at least involving Maaori populations, was a priority; evidence from the experience of other indigenous peoples and disadvantaged groups was also seen to be potentially of most benefit.

As for the data collection for Part One, attention was focused on the priority health areas identified by the Maaori health plan. 'Evidence' from a public health point of view is seen to include not only quantitative data about biological outcomes such as blood pressure or the presence or absence of a particular behaviour, but also qualitative data about people's experience of health and illness. This broad understanding of evidence is in keeping with Maaori understandings of health and well-being, and measures of success such as whaanaunatanga, and manaakitanga (44). Kaupapa Maaori research also emphasises the importance of engagement of the affected community in the research process and their ownership of whatever results are achieved. This is supported by overseas approaches, where qualitative and participatory action research have been advocated as appropriate to understand and reduce health disparities (45,46), and to engage affected communities (47).

12.1 Method

The advice of Maaori colleagues involved in research and Maaori health interventions was sought, and information followed up as recommended by them. In addition database searches were undertaken in:

- Te Puna
- INNZ
- Social Sciences Citation Index (includes Science Citation Index)
- Science Direct
- CINAHL
- Medline

using the following search terms as mapped terms as well as key words in various combinations:

- Maaori
- Indigenous
- Inequalities
- Disparities
- 'Ethnic groups'
- 'Minority groups'
- Disadvantaged
- Intervention
- 'Health care delivery'
- Plus smoking, alcohol, diabetes, cardiovascular, and immunisation.

The following websites were also searched using the above terms:

New Zealand Ministry of Health, the Cochrane Collaboration, the National Institute for Health and Clinical Excellence. The journals 'International Journal of Equity in Health', 'Ethnicity and Health' and the New Zealand Medical Journal were searched manually.

However while there is an increasing and large amount of literature documenting the presence of health inequalities, the task of finding evidence about actions which have been shown to be successful in addressing these inequalities is far from straightforward, and this has previously been recognised in New Zealand and Australasia as well as internationally (48-51).

The kinds of issues that make the search for this evidence challenging include:

- many of the studies come from countries where the indigenous population represent less than 5% of the total population and have historically had little voice in policy, so the focus has been on other minority populations who represent larger proportions of the total population (e.g. African American and Hispanic in the US). In other settings even non-indigenous minority populations may represent only a small proportion of the population (e.g. Indian continent populations in the UK) and so again have received limited focus in the past.
- frequently when there has been a new initiative set up to address inequalities, structures have not been set up to collect baseline data about the health issues in question with which to compare subsequent findings

- processes (what is being done and how it is done) are measured, which is important, but outcomes are not measured, which is also important if we want to see if we are making a difference
- there are no standardised ways of measuring important concepts such as cultural competence to allow comparisons between studies, and countries
- data is not collected in a way that enables the description of potential different impacts of an intervention between population groups and thus any changes in health inequalities between the groups
- studies which involve several different actions to address an issue do not examine the influence of the separate components so it is difficult to tell what is really making the difference
- most studies have no data on costs.

These issues meant 'promising leads' frequently ended up just highlighting similar constraints of the evidence base. For example the Netherlands attempted to use a research-based approach to tackling inequalities and funded 12 interventions aiming to reduce health inequalities in an attempt to improve the evidence base for policy making (52). However the small size of the projects, their specific nature, and issues with experimental design (including the time needed before changes in outcomes could be expected and the difficulty of evaluating broad policy changes) limited the usefulness of this approach (52,53).

Thus one of the potential learnings from the process of this literature review is the need to **encourage, and support with funding and training, the evaluation** of new approaches to address health issues for Maaori, in Counties Manukau and nationally. This will enable initiatives with positive results, as well as lessons learned about things which haven't been helpful, to be shared more easily.

To support new approaches to address health issues, evidence was also sought about what is known about Maaori attitudes, behaviour and knowledge about health issues that might inform programme planning going forward. The evidence is both qualitative (for example what are the ways in which Maaori are making sense of their health, what are things that might influence behaviours such as smoking for Maaori, what do they believe should be different about health services), and quantitative (how many Maaori...). Again issues of transferability need to be recognised in relation to how appropriate approaches suggested by Maaori in smaller, more rural communities might be for the urban communities of Mangere, Otara and Manurewa.

As noted previously, the evidence found is divided into an initial section about general approaches, and then a second section with information related to specific health issues. This is followed by an example of how such evidence could be used to build a Whaanau Ora approach in this instance emphasising work towards smokefree.

13 General approaches

Overseas systematic reviews of studies to improve the health of disadvantaged populations have highlighted the challenge of determining effectiveness as discussed above but have suggested important factors associated with success include

- ensuring community and stakeholder involvement and commitment
- prior needs assessment to allow better understanding of actual barriers to care and participation in health-related programmes
- intensive recruitment and follow-up approaches, including face-to-face interactions
- cultural appropriateness and competence of all facets of the programme, including media used, the settings in which programmes are provided and the people involved
- multifaceted and multidisciplinary approaches, often involving community health workers or other 'peer led' approaches
- systems level support, including prompts and reminders both to health care providers and participants
- and resource to ensure sustainability (54-59).

These factors are consistent with recommendations from the New Zealand Ministry of Health in designing interventions to reduce disparities:

- take a comprehensive approach targeting individuals, whaanau, population groups and the environment
- foster social cohesion and minimise stigmatisation
- actively involve users of health services and communities
- work with and build the capacity of local organisations and community networks
- increase the control people have over their lives (60).

No specific advice was given in a more recent guide for PHOs to improve Maaori health (61).

However as is well recognised in Counties Manukau, in addition Maaori have specifically voiced concern that to be effective for Maaori, health and disability support needs a system which

- recognises the relationship between culture and behaviour and therefore emphasises the importance of cultural engagement
- is based on a holistic Maaori view of health
- enables users to access a wider range of traditional health modalities in addition to Western medical approaches
- gives Maaori a greater role in the planning and management of service delivery and in service delivery itself, supporting autonomy and self-determination
- increases the emphasis on health promotion and disease prevention rather than hospital-based services
- allows flexible use of resources to address the wider determinants of health through intersectoral collaboration and community development models (40,41,62,63).

A specific example of an intervention based on Maaori community engagement and a broader approach which has demonstrated success for Maaori was an asthma self management project in Wairarapa in the 1990s. The initiative was held on the marae, participants were invited by marae committees, and Community Health Workers were a key part of the project. Results showed a significant reduction in asthma morbidity at 1 & 2 years, although this was dropping off by 6 yrs (64). Importantly other benefits were also documented – cultural affirmation (Maaori processes were followed throughout), improved access to other health services, a greater sense of control for participants, and positive impacts on extended families. Unfortunately the methodology did not allow separation of the effects of various aspects of the project, so for instance how significant the involvement of the Community Health Workers was compared with other aspects of the project was not able to be determined.

Consultation with the Aboriginal community in New South Wales about overcoming barriers to accessing general practice services identified similar general approaches to those identified by Maaori (and Pacific peoples) in Aotearoa – outreach clinics, cultural training for staff, employment of Aboriginal staff, closer interaction between clinicians and Aboriginal health workers, addressing financial barriers (65). Meetings to air such concerns were seen as positive for those involved; however definitive improvements in health outcomes were not reported. A wider review of improved primary health care for indigenous Australians identified projects which had implemented the kinds of solutions suggested in NSW and was able to identify improved access, quality of care, and in some cases reduced morbidity (e.g. hospitalisation for infections in people with diabetes, reduced need for dialysis) (66). A review of coordinated care trials in indigenous Australian communities identified similar strategic lessons: the importance of local adaptation, building community capacity, flexible funding approaches and consideration of workforce development implications (67). Outcomes reported were those of access, 'appropriateness of care' and organisational and community capacity rather than individual health outcomes.

Evaluation of a number of other Maaori and indigenous projects have specifically highlighted the importance of community engagement and self-determination, opportunities to share stories and experiences with whaanau and communities, and the affirmation of cultural identity.

13.1 Community engagement and self-determination.

Formative and process evaluation from the formation of the Whaiora Marae diabetes project in the 1990s in Otara highlighted the importance of self-determining processes for Maaori and the need to recognise the continued influence of historical abuses of trust and power (68). More recent research into the Maaori experience of diabetes and its management in South Auckland reiterated the importance of community empowerment and autonomy; of the need for programmes which arise from the Maaori community and which encourage community, whaanau-focused solutions (69).

The Maaori SIDS programme also highlights the importance of self-determining processes for Maaori, formed in response to unchanged rates for Maaori SIDS in the face of declining rates for non-Maaori. It has demonstrated the importance of culturally appropriate dissemination of health education messages, strong community networks for the mahi, building on community beliefs and behaviours, addressing multiple issues across the continuum of personal and public health, advocacy for appropriate data collection and agency processes, and the challenges in engaging in this broad spectrum of work (40,41).

13.2 Opportunities to share experiences and stories with whaanau and communities

The potential to impact both individual and collective well-being by opportunities to talk about and share with whaanau the lived experiences of a condition like diabetes were seen to be very significant in the Maaori experience of diabetes in South Auckland (69), and this is in keeping with overseas experience (70). It is these collective opportunities for story telling and action that are seen to be key to the prevention and management of conditions such as diabetes.

13.3 Affirmation of cultural identity

The affirmation of cultural identity is seen to be a key part of any initiative to address health disparities for Maaori (71). One overseas study which tried to specifically demonstrate the influence of cultural identity for an indigenous population was a lifestyle education programme to modify diabetes risk factors in a group of indigenous American Indians. One group in the study, in addition to receiving pamphlets about physical activity and nutrition, had regular discussions about culture and history with their elders and had better weight and glucose outcomes than a similar group who received physical activity and nutrition interventions without the cultural component (72). There were however methodological issues in this study, including recruitment difficulties and low attendance at the groups organised for participants, even in the cultural pride group.

13.4 Cultural competence

As noted above, cultural engagement is considered to be a high priority for health services to improve health outcomes for Maaori. Early evaluation of the establishment of the primary care services (initially entitled Maaori Case Management Clinic) of Raukura Hauora o Tainui in Clendon showed that the main reasons for choosing the service were cultural appropriateness, proximity and cost (73). Seventy percent of the patients were Maaori, 74% lived in areas Decile 8-10 and 84% within 3 km of the clinic.

Concerns for cultural appropriateness may relate to unhelpful perspectives of tauwiwi general practitioners about Maaori and their health noted in Auckland research, with a tendency to frame the issues in ways which blame Maaori for their position and/or justify current health service provision (74). However this research was conducted at least 4 - 5 years ago, and it would be appropriate to understand now how some of the perspectives voiced might have been influenced

by the increasing attention given in recent years to the importance of addressing health inequalities for Maaori.

Another qualitative study of Maaori recruited from urban marae-based health services reiterated the importance of practitioners taking a holistic approach to providing health care for Maaori, including an emphasis on wairua (75).

There is limited information available about the impact of improving the cultural competence of healthcare systems. One overseas systematic review of literature from 1965 – 2001 found there were too few comparative studies, or studies did not measure the outcomes being sought in that review (e.g. client satisfaction, improvements in health status, received treatment) (76). Another review noted the limited available evidence, with the majority of studies being descriptive rather than interventive, but did suggest that factors supportive of culturally competent services were the use of peer leaders, community involvement, use of native tongue and intensive ongoing support (77). A number of the intervention studies cited in these papers were related to faith-based programmes for African Americans, rather than indigenous peoples.

13.5 Community Health Workers

In Aotearoa, Maaori Community Health Workers are seen as integral to current investment in delivery of culturally competent health services (78).

Internationally the roles of Community Health Workers (CHWs) vary from very specific to very broad community health and development functions (79). A survey in the US identified seven core roles:

- cultural mediation
- informal counselling and social support
- delivering culturally appropriate health education
- advocating for individual and community needs
- helping people to access care
- building individual and community capacity
- providing direct services (79).

A review of indigenous community health workers in Canada, the US, Australia and New Zealand similarly revealed a wide array of roles, but with a strong emphasis on cultural aspects of care (80). The Reducing Inequalities Contingency Funding projects evaluation noted that perhaps there were two distinct roles for CHWs, a more individually focused CHW role and a Community Development Worker (42). It further suggested that perhaps the development role might sit appropriately at the PHO level, while the individual role fits well at a primary care practice level. This distinction may not be so appropriate if an integrated Whaanau Ora model of care is being pursued.

Given the broad array of functions of CHWs, it is not surprising that measuring outcomes of their work is complex, and formulating and recruiting appropriate control groups is challenging. Therefore to date most of the literature available is descriptive and there is little specific evidence of effectiveness (79,81). What evidence is available suggests their impact is most helpful in improving access to care (although not necessarily appointment keeping behaviour), in particular for immunisation, cancer screening, infectious disease and follow-up visits for chronic illness care (79,82-84). Some success in community health education is also documented (85).

In Aotearoa, it has been estimated that there are approximately 20,000 Maaori Community Health Workers (MCHWs), employed by Maaori health providers, PHOs and DHBs (78). These workers constituting 50% of the total Maaori health workforce, are most commonly aged in their 40s and come from a variety of previous backgrounds. Some will have completed the NZQA level 4 qualification 'Hauora Ahu Whenua'. There is currently a drive to improve the career path, training and recognition given to the work of MCHWs. It is important workforce development mahi recognises the strengths but also the challenges presented by the older age of most MCHWs. Anecdotally they are attributed with a significant contribution to the improvement of the health

status of Maaori; however as overseas, there has been little formal evaluation of their activities. Further definition of the role of and competencies for Maaori Community Health Workers is being undertaken by Te Whiringa Trust.

13.6 Importance of good general communication skills

A qualitative study of Maaori families accessing health care for unwell children suggested that feelings of vulnerability because of treatment previously received when accessing care influenced parental behaviour – in particular sensing they were perceived as over-reacting or a nuisance because of health professionals minimising the severity of their child's illness and not acknowledging the parent's concerns, or having to wait for long periods before their child was seen (86). Some of these issues could potentially be remedied by improved communication by clinicians as well as cultural competence.

13.7 Nurse-led initiatives

It has been suggested that nurses have a significant capacity for leadership to reduce indigenous health disparities by virtue of their number and variety of place of work within health care systems and the community (87). For this leadership to be effective skills in business, change management, community engagement, programme planning and evaluation will all be important alongside clinical knowledge and skills, along with a 'strong sense of realism and humility' (87)⁴⁷.

13.8 Quality initiatives

In the US generic quality improvement initiatives, with at least some attention to cultural appropriateness, have been shown to improve the quality of care for minority patients to the same extent as other ethnic groups, so at least disparities are not increased (88). However disparities may not be improved as minority patients may still continue to receive lower quality care than other groups (88), and/or achieve poorer health outcomes.

The impact of quality initiatives on health outcomes and inequalities has been most extensively reported in relation to diabetes and is discussed further under that section subsequently.

13.9 Social marketing

A report commissioned to inform the early work of the Counties Manukau Let's Beat Diabetes project reiterated the importance of understanding that use of the media for social marketing can raise community consciousness about an issue, but should not, by itself be expected to engender behaviour change. That said, learnings from analysis of the MeNZ B rollout and other recent major social marketing campaigns (Quitline, Like Minds/Like Mine, One Heart/Many Lives, and Push Play) suggest to engage the Maaori community messages need

- to be developed in partnership
- have personal relevancy
- be directed at those who have reason to care
- engage on an emotional level
- and the whole programme needs to be structured to strengthen community action to support behaviour change (89).

13.10 Community resilience

The importance of focusing on community level resilience rather than just individual level resilience, and risk for individuals and communities has been emphasised. In the US a tool to encourage such an approach, THRIVE, has been devised (90). Such an approach is consistent with the collective approach of Maaori health models.

⁴⁷ P 189

14 Specific issues

14.1 Smokefree

“It’s got to be a whaanau thing - how the whaanau embrace the wellness of the child” (91)⁴⁸.

These words of a Maaori parent participant in research about parental attitudes towards the uptake of child smoking capture the essence of the research about smokefree for Maaori.

14.1.1 Smoking initiation

Children who start smoking at a young age are more likely to smoke into adulthood. National data suggests tamariki start smoking earlier than other children. The more tamariki are surrounded by smokers, the more likely they are to smoke – where young people are exposed to smoking daily at home their risk of daily smoking is 7 times that of those not exposed to smoking at home (92). Young people seem particularly vulnerable to nicotine dependence, and do not need to smoke daily to develop dependence. Relatively little is known about what helps young people to quit smoking, so that makes it all the more important to prevent them beginning to smoke in the first place.

The Framework for Reducing Smoking Initiation in Aotearoa-New Zealand (93) recognises the priority that needs to be given to addressing smoking initiation for Maaori. It supports the action plans of the National Maaori Tobacco Control strategy to

- strengthen legislation and regulatory control (increasing the price of tobacco products, smoke free environments, and decreasing access to cigarettes)
- health promotion activities
- cessation programmes
- supporting Maaori tobacco control research (94).

14.1.2 Population level influences

It is acknowledged that both socioeconomic deprivation and ethnicity are important for any efforts to reduce Maaori smoking. Using 1996 census data, Crampton et al determined there is a clear gradient between area level socioeconomic deprivation and the proportion of people who smoke at all ages (95). The figures in the table below show the difference between the most and least deprived areas, but the gradient is continuous so the effect of relative deprivation is still apparent even if the two most or two least deprived area groups are compared. However in all deprivation deciles Maaori are still more likely to smoke than those in the ‘European and other’ group; as below this is particularly apparent for women in keeping with the high levels of smoking by Maaori women.

⁴⁸ P 22

Table 14.1.1 Proportion of the population who are regular smokers by deprivation and ethnicity

Proportion of population who are regular smokers	Maaori men 25 – 44 years	Maaori women 25 – 44 years	Total population men 25 – 44 years	Total population women 25 – 44 years
Decile 1 (least deprived)	25.3%	29.3%	17%	14.4%
Decile 10 (most deprived)	52.9%	62.3%	44.8%	44.8%

Source: 1996 census data, analysed by Crampton, Salmond, Woodward and Reid (2000) (95).

These figures highlight the importance of programmes to reduce smoking taking into account both ethnicity and socioeconomic deprivation in their design and evaluation, and also the need to operate at the level of populations and environments as well as individuals (95).

14.1.3 Auahi Kore Marae

One of the environment/population level approaches taken by Maaori has been the Auahi Kore Marae (Smokefree Marae) programme. An evaluation of the Auahi Kore Marae programme in Northland highlighted the importance of ownership of the issue by the marae community, in particular the kaumatua who are central in promoting the auahi kore message (96). Kaimahi health workers can support and resource the work, but ultimately it is the passion of the kaumatua and marae community who drive the kaupapa. This is consistent with approaches by indigenous groups overseas. For example in Australia a consortium of indigenous and tobacco control organisations, the Centre for Excellence in Indigenous Tobacco Control (CEITC), seeks to build national capacity for effective Indigenous tobacco control programs. The two principle strategies are

- health worker training - supporting Indigenous health workers to become leaders in the area of tobacco control; this includes elements directly related to tobacco control practice such as brief intervention training along with leadership elements to improve skills in advocacy, and attaining funds.
- development of health promotion resources for indigenous tobacco control with local community input in the development process (97).

This consortium has recognised that because of the many immediate health issues facing their indigenous communities, one of the major issues in Indigenous tobacco control is its lack of priority within Aboriginal and Torres Strait Islander communities and organisations. Their hope is that training existing and potential leaders to advocate for tobacco control and raise the priority of the this issue within communities 'will help to alleviate this problem by building community ownership of the issue and supporting community initiated and controlled action'.

14.1.4 Smokefree homes

Parental smoking is a primary determinant of the decisions children and young people make about smoking, alongside the influence of their friends. However smoking or not, parental attitudes about smoking, the information they convey to their children and the rules about smoking in their home also influence these decisions (91). Analysis of the 2001 ASH fourth form survey demonstrated that 68% of Maaori adolescent smoking could be attributable to parental smoking, smoking in the home and pocket money over \$5 (98). This ratio is similar to that of European young people. In this survey young Maaori smokers were more likely than other young people to be given cigarettes by their parents (22% compared to 13 – 16% for other ethnicities).

A review of the evidence about knowledge and attitudes regarding secondhand smoke in New Zealand noted that surveys demonstrate over 80% of all Maaori, including smokers, agree that people have a right to a smokefree home (99). This is similar to the rate for other ethnicities, but across the population is not always matched by action – less than 45% of fourth form students with at least one parent who smokes report having a smokefree home. A New Zealand survey in 2004 indicated that Maaori were more likely than non-Maaori to allow smoking in some areas of the home (45% compared to 32%), while 32% of non-Maaori do not allow smoking anywhere in the home compared to 24% of Maaori (100). National analysis of the AHS Year 10 smoking surveys has also indicated that student smoking patterns are improving more for those living in homes where smoking is not allowed inside compared to those that live in smokey homes (16). Given the high rates of rangatahi smoking, the evidence that the risk of death for *never smokers* is increased at least 15% for those aged 45 – 74 yrs if they live with a smoker, and the multiple negative health outcomes for children living in homes where they are exposed to second-hand smoke (101), this **issue of secondhand smoke is a significant one for Maaori whaanau.**

In December 2006 Te Hotu Manawa Maaori launched their new poster 'Te Whare Tupuna, Te Whare Tangata, He iho ihi e!', which aligns to a Maaori world view of the national Smokefree Homes and Cars campaign (102). It focuses on the sacredness of the woman as the 'vehicle of the child and first home of man', and marae as the traditional home of Maaori, and hopes to stimulate korero at all levels to facilitate smokefree change.

Research with parents about their beliefs about child uptake of smoking suggests that parents who smoke need to know they can influence their child to not start smoking (91). The Maaori participants promoted a whaanau focus for interventions and believed healthy alternatives such as kapa haka and sport needed to be accessible and promoted.

A new school-based project to support parents in their role in keeping children smokefree, 'Keeping Kids Smokefree', has recently been commenced in two South Auckland intermediate school with large roles of Maaori and Pacific students, and will be offered over three years (103). It aims to change parental smoking behaviour and attitudes to in turn reduce smoking uptake by their children, and includes resources to help parents learn how to talk to their children about smoking, cessation support for parents and school staff, increased health promotion in sports clubs and marae in the schools' areas, and support for new approaches by the schools in dealing with smoking students. Students and parents will be surveyed at the beginning and end of each year, and results compared to two control intermediates.

14.1.5 Smoking cessation

The evaluation of the Maaori specific cessation programme Aukati Kai Paipa demonstrated good success, with quit rates of 26% at 6 months and 23% at 12 months, compared with a latent quit rate of 12.5% in a similar population (104). These rates compare favourably with other smoking cessation programmes. The programme also increased the number of smokefree homes, whether the participating smoker managed to quit or just reduce their cigarette intake. Primary reasons for quitting were cited as concerns about tamariki, health or money. Key factors in the success of the programme were seen to be

- strong ties to the Maaori community
- whakawhaanaunatanga between providers
- diversity of providers allowing adaptation to the needs of local communities
- provision of the programme in the setting of holistic health and social service provision.

Recommendations for programme expansion included continuing to target Maaori women and their whaanau, particularly waahine haapu, and to ensure that providers had adequate and ongoing training and support.

Aukati Kai Paipa used nicotine replacement therapy (NRT) alongside support and behavioural techniques. It is important that practitioners understand that evidence suggests that Maaori are more likely to metabolise nicotine slowly, which means NRT doses need to be tailored to the individual to avoid symptoms related to excessive nicotine replacement (105).

The Noho Marae residential programme achieved a 35% quit rate at four months (106); longer term follow-up is not available. This programme required participants to spend 5 – 7 days at a hui where they stopped smoking on the first day of the hui, and did not use NRT.

Devising culturally relevant methods for smoking cessation and prevention of smoking in young people will also require creativity in programming and evaluation. In Aotearoa mobile phone text message support for quitting has been shown to be at least as effective for rangatahi as other young people (107), although there were some methodological issues in the calculation of the absolute levels of quitting this study (ref Personal Communication, Robyn Whittaker, 29 Nov 2006). In the US a rap contest for economically disadvantaged minority youth was evaluated by smoking attitude and behaviour prediction (108) and shown to have a positive influence, although such studies are difficult to organise to have comparison groups to see how much difference the intervention actually made.

Quit and Win is an international programme, which uses a positive incentive in a competition format, to encourage people to stop smoking. In 2000 a Quit and Win pilot was undertaken across the central North Island involving 1795 participants – the equivalent of 1.8% of smokers across the regions involved (Hawkes Bay, Tairāwhiti, Taranaki, Wanganui, and Manawatu) ⁴⁹. In the Hawkes Bay region a twelve month participant evaluation of the programme reported that 22% of Māori had completely quit and a further 17% had smoked since the competition but were not smoking at the time of the evaluation interview (109). Māori were more likely than non-Māori to say the programme had helped them. However this evaluation was based on a total sample of 101 of whom only 18 were Māori, so the numbers are too small to draw any significant conclusions, or compare quit rates with other programmes. Also the sample demographics suggest Māori were underrepresented in the participants (18% of randomly chosen participants) as approximately 22.5% of the Hawkes Bay population are Māori, especially if higher smoking rates in Māori are taken into account. The feedback from participants did suggest higher levels of support and follow-up could have improved the programme.

Quitline evaluation found that quit rates at 6 months for Māori, at 17.4% 7-day point prevalence and 10.2% continuous quit rate, were not significantly different from those for non-Māori (21.7 and 13.5%) when controlled for other variables (110). Self-belief, high contact with Quitline advisors, and redemption of NRT cards were important variables associated with quitting for Māori.

14.1.6 Smokefree pregnancy and post partum

It has been suggested that in communities with a high prevalence of smoking and socioeconomic disadvantage there may not be an “established culture of quitting”, particularly among women (111)⁵⁰. However smoking in pregnancy is of considerable importance given its multiple negative consequences on pregnancy outcomes. Smoking cessation interventions in pregnancy have been shown to reduce preterm birth and low birthweight by up to 20% (112). Unfortunately studies have not been analysed to see whether there is a difference in this impact for women of different ethnicities or social groups.

Marewa Glover’s research on smoking during pregnancy among Māori women suggests that while most are advised to stop smoking by a health professional, few are offered cessation support or referral to cessation services (113). Similarly most of those she interviewed had seen a pamphlet about smoking during pregnancy, but few had been given the booklet specifically designed for pregnant Māori women, He Hapuunga Auahi Kore: A smokefree pregnancy. Their knowledge of the range of risks from smoking during pregnancy was limited, but concern for their babies’ health was the primary motivator for those who did want to quit. Evidence suggests that for pregnant women motivation to quit is highest in the early weeks of pregnancy (6 – 12 weeks). Given that many women do not get to meet with their lead maternity carer until after this time, it is vital that those in primary care who see Māori women for pregnancy tests are aware of the important ‘window of opportunity’ that early pregnancy presents to encourage smoking cessation,

⁴⁹ Data from <http://www.hsc.org.nz/chat/may2002.html>, accessed 5th march 07)

⁵⁰ P 22

and are equipped to support women in this decision (personal communication Marewa Glover, Nov 24 2006). In addition, since many pregnancies are unplanned, and many pregnant Maaori women are living with smoking partners and whaanau, efforts to promote the benefits of smokefree pregnancy and accompanying cessation support need to target the whole whaanau, not just focus on pregnant women in isolation (113).

These findings and recommendations are consistent with overseas experience with smoking cessation for pregnant women (114), and a Wellington study of smoking in pregnancy which acknowledged the importance of Maaori specific initiatives to address the disparity in smoking and cessation rates in pregnancy and also engaging partner support for cessation (115). A nurse researcher working on the Zyban for Maaori smokers trial, Carmen Timu-Parata commented that "Smoking can be a very sociable thing. For many smokers, it's the way they make connections with others. Learning new ways to make these connections or making new smokefree friends is often the key to giving up" (116)⁵¹.

While there is not yet consensus about the role of NRT to assist smoking cessation in pregnancy, where efforts based on behavioural therapy alone have been unsuccessful, is likely to be less harmful to the unborn child and/or breast feeding infant than mother continuing to smoke (117).

Smokechange is a national programme particularly targeted to pregnant women (65% of clients). At 6 months Maaori participants (34% of the group) reported similar rates to the total group of being smokefree for more than 7 days at the time of the assessment (33% compared to the total group at 34%), having all rooms at home smokefree (89% compared to 91%) and having smoke free cars (82% compared to 82%) (118). The programme report states it is built on 'evidence of a dose effect of increased risk from increased smoking' (P 3). Smokechange accepts all people regardless of their stated readiness and works to build confidence in participants to become smokefree (Personal Communication, Ingrid Minett, August 2007). This is reflected in qualitative feedback comments included in the report: 'made it easier to quit, gradually quitting' and 'no pressure, your choice'. International evidence that suggests that cutting down does not reduce the risk of smoking (119)⁵² but programme experience suggests that this behavioural approach helps people move to a place of readiness to become smokefree. The programme report does not mention any particular features of the service targeted to/for Maaori.

Relapse to smoking post partum is common for women who do manage to quit during pregnancy so intensive support for cessation and reducing smoking triggers in the environment needs to continue for women and their whaanau for up to 6 months post partum (113). In further research about breast feeding and smoking, Glover et al found that two-thirds of women were not sure or actively thought that women should not breast feed if they smoked, highlighting the importance of promoting breast milk as the best kai for baby whether or not mum smokes. This research also underlined the importance of promoting smokefree homes and cessation support to all whaanau with a new baby (120).

14.1.7 Targeting cessation services

In the UK, the current significant investment in cessation services is intended to contribute to reducing health disparities, and so government policy directs smoking cessation services to target three priority groups: pregnant women, the economically disadvantaged and young people. Research suggests that because of the difficulty in directing services to particular socioeconomic groups, services have tended to use geographical targeting to reach the economically disadvantaged. This has led to 'success' in that higher percentages of cessation service clients are coming from economically deprived areas (121,122). One year outcomes studies of the services provided has indicated biochemically validated cessation rates of 14.6%, with an odds ratio of 0.86 for those from economically deprived areas (123).

⁵¹ No page numbers given

⁵² There is no evidence that cutting down or smoking low tar cigarettes reduces the health risks of smoking (119). McNeill A. ABC of smoking cessation: Harm reduction. *British Medical Journal*. 2004;328:885 - 887.) This is presumed to be due to the addictive nature of nicotine causing the smoker to inhale more deeply in compensation to maintain nicotine levels, thus also maintaining pre-existing tar level.

However providers relate the urgency of 'through put targets' inhibiting their being able to give much attention to actually addressing other potential access barriers for such populations (124,125). Concern that this increases the potential to increase inequalities if the broader context of people's lives is not recognised and addressed has been raised (124). Lack of evidence about what would be effective strategies to target the priority groups, and lack of implementation guidance about what evidence is available was also seen by providers as inhibiting improved targeting of these populations (125). Also a recent report noted that while doing well in reaching smokers in the community, many Primary Care Trusts were not providing programmes for their staff to stop smoking and 42% did not provide information to new staff on either their role in promoting smoke free workplaces or stop smoking services (126). These omissions highlight the importance of systematic, organisation-wide approaches to smokefree which emphasise policy and structural level actions to achieve comprehensive provider level action, such as the System First approach (127).

It is also important to ensure that Maaori patients receive consistently high levels of engagement in discussion about smoking cessation by health services. In the US, Hispanic and African American patients are less likely to receive smoking cessation advice (Odds Ratios of 0.62 and 0.72 respectively) than white patients (128). No equivalent data was found for the situation in New Zealand.

In relation to wider social marketing to reduce tobacco use, evaluation of television campaign advertising that promoted cessation by the number of Quitline call rates suggests both approaches used can be effective in motivating quitting behaviour for Maaori:

- the 'threat appeal' approach, emphasising the negative consequences of smoking and promotion of quitting
- and the 'Its about Whaanau' approach emphasising collective whaanau-related reasons for quitting (129).

14.2 Cardiovascular Disease (CVD) – particularly heart attack and stroke

Patient participants in a qualitative study about ischaemic heart disease (IHD) and Maaori in Northland highlighted the importance of whaanau in health care (130), with important whaanau roles seen to include

- gathering information for, and contributing information about, the person with the heart condition
- advocating for the patients in clinical settings
- coercing the patient into seeking medical advice
- assisting with lifestyle changes necessary for treatment of their heart disease.

This importance of involving whaanau was also recognised by the practitioners participating in the study, although comments from those with heart disease and their whaanau suggest this was better practiced in primary care and Maaori health service settings than in secondary care. Information sharing was a strong theme in the solutions proposed by those interviewed to the challenges facing Maaori and health services around heart disease. This was seen to need improved communication between health professionals and whaanau, and more communication within and between whaanau about issues to do with heart disease – both prevention, early recognition of the signs and managing treatment options. Marae based approaches and involving kuia and kaumaatua were seen as very important. Practitioners also advocated increased utilisation of a team approach to service delivery, particularly noting the need to better involve community health workers, Maaori providers and the Maaori community.

14.2.1 Rehabilitation after cardiovascular events

In a 2002 study in New Zealand, attendance at cardiac rehabilitation was not associated with ethnicity, although numbers of Maaori overall were small (131). This is in part because the numbers overall of those who attended at least one cardiac rehabilitation session were only 16%

of those eligible at the time of the study. Given the higher burden of heart disease for Maaori, ideally being Maaori should be positively associated with attendance. The patient participants in the Northland study about IHD implied that transport issues and the way the rehab classes were delivered were responsible for Maaori not attending, with the content not seeming applicable to them (130). More recently the Waikato District Health Board has established a Maaori specific Cardiac and Stroke Rehabilitation programme through on of its Maaori providers, Te Kohao Health (132); evaluation of this programme is not yet available. In the UK numbers of patients from ethnic minorities attending cardiac rehabilitation services is low. A range of interventions is reported by the services to improve this, but currently evidence has not been collected about these interventions to allow appropriate evaluation of their effectiveness (133).

14.2.2 Cardiovascular screening

The implementation of web-based support for CVD screening has been shown to be at least as effective in improving documentation of risk assessment and risk factors for Maaori as for non-Maaori in an Auckland population. However overall rates are still low at only 15% of the eligible population, suggesting the need for introduction of such a tool to be part of a comprehensive quality programme (134). In addition targeted approaches will be needed to improve screening for Maaori, as of 18,000 patients screened in an Auckland study, only 7% were Maaori (135).

14.2.3 Access to cardiological procedures

In the 1990s access to cardiological interventional procedures (angioplasty and coronary artery bypass) in the public hospital system were shown to be poor for Maaori and Pacific peoples (136) with intervention rates for Maaori 30 – 40% of those in the non-Maaori/non-Pacific group for most parameters in the face of rates of cardiovascular disease mortality that were at least double. Since then intervention rates have risen significantly both in Counties Manukau and nationally. In Counties Manukau rates for Maaori have increased five-fold in the last 10 years so that they are now higher than rates for those identified as European and Others in the district. This has been attributed to significant improvements in the referral pathways and assessment of cases based on needs (137).

14.3 Diabetes

Recent evidence from a rural Maaori community suggests that not only is diabetes prevalent in Maaori populations, but that insulin resistance which is a precursor to Type 2 diabetes is even more prevalent. Of nearly 600 Maaori adults, 10.6% had known or newly diagnosed (as part of the research) diabetes, but even more importantly, 37% had insulin resistance with a peak age-specific incidence of 44% in 30 -39 year olds (138). The results of the community intervention programme to address this issue to prevent diabetes (Ngati and Healthy, managed by Ngati Porou Hauora) are awaited with interest.

14.3.1 Systematic approaches to diabetes care

Findings from the South Auckland Diabetes Project of the 1990s about barriers to care for those with diagnosed diabetes have been written about quite extensively, and were drawn on in recommendations to the New Zealand Guideline Group to improve diabetic care for Maaori (139). There is less information about outcomes of interventions based on such recommendations. The Whaiora Marae project demonstrated that a lifestyle programme established at a marae and connected venues could self managed and was attractive to participants (140). Unfortunately funds were not available for a related outcomes based study. In South and West Auckland, an external audit of diabetes care revealed that Maaori who were engaged with general practice care were receiving examinations and investigations at least as frequently as non-Maaori, and being treated more aggressively in some instances. However they still had poorer indicators of diabetes

control (HbA1c⁵³ and microalbuminuria) and higher levels of risk factors for complications such as smoking (141). It is suggested this requires more intensive health services support for Maaori to aggressively manage their diabetes, along with broader community level interventions. Community partnership, in particular with Maaori, in combination with a structured approach to care and appropriate audit, has been demonstrated to improve diabetes indicators in a rural New Zealand community (142).

A review of Get Checked results for approximately 60% of the South Island analysed the results by ethnicity. However only 4.7% of those receiving checks were Maaori and 1% Pacific, and compared with the numbers for Europeans, these numbers indicate that Maaori and Pacific people's were less than half as likely to be participating in the checks as were Europeans (143). The data provided was descriptive information from the baseline checks performed at the beginning of the Get Checked quality improvement programme so does not indicate what improvements might be achieved. More recent analysis of Get Checked data, as yet unpublished, suggests that indicators of care are at least equivalent for Maaori, but again participation rates are significantly lower⁵⁴ suggesting engagement in the process of care needs significant attention.

Improved structured systems for diabetes care (community provider use of registers, recall systems, and the use of basic care plans, with specialist outreach service support) has been demonstrated to improve diabetes outcomes (glycaemic and hypertension control, and hospital related diabetes admissions) in remote indigenous communities in Australia (144). However this success did not extend to weight control (on average patients gained 4.5 kg), and the absolute rate of good glycaemic control was still only 25%. The need for sustained management attention, adequate resourcing, and regular 'revitalisation' for systematic approaches to be successful has also been noted (145).

Data from the Chronic Care Management programme in Counties Manukau shows that Maaori and Pacific peoples have higher levels of HbA1c and cholesterol at entry to the programme, indicating less well controlled disease, but do show a larger drop by one year, so that there are some reductions in disparities for those on the programme (137).

Recent review of the Maaori Disease State Management services in Counties Manakau and introduction of the He Puna Oranga framework for the service identified the importance of a systematic approach to service development (146,147). The He Puna Oranga framework incorporated the feedback of those involved in/with the service, along with review of potential 'best practice models' to identify a number of areas of work needed to improve facets of the services

- greater clarity about levels of care, and role definitions
- improved access and discharge guidelines
- redefinition of caseload requirement
- further progression of workforce development
- development of meaningful indicators for reporting.

An impact evaluation of the revised services is planned for the end of 2007 (147).

In the US a quality initiative based on the use of information systems in a large primary care group practice has been shown to reduce some aspects of ethnic disparities in diabetes care (148). Disparities in testing rates and control for LDL cholesterol diminished but differences in the use of statins and glycaemic level control persisted. The initiative consisted of computer generated personalised letters to patients reminding them they were overdue for specific diabetes checks, along with electronic reminders to clinicians. These reminders were presented to clinicians in a way that required some action before they could proceed in using their electronic medical record. This initiative did not have any specific focus on minority populations and there were no provider incentives, or target related feedback reports. The report noted that a number of studies in the US have now shown that generic quality improvement initiatives have the potential to minimise disparities in process indicators such as rates of testing and initiation of appropriate therapy. However it is suggested 'more complex interventions with a specific focus on minority populations

⁵³ Haemoglobin A1c (HbA1c) is a measure of a persons blood glucose levels over the preceding several weeks. For well-controlled diabetes the target is to get below 7

⁵⁴ Personal communication Raina Elley, Dept General Practice & Primary Health Care, School of Population Health, University of Auckland; 15 November 2006

will likely be required to eliminate differences in these [intermediate] outcome measures' – for example glucose control. It is suggested these interventions may need to include specific exploration about whether dose intensification of therapy is a factor in these disparities or patient treatment preferences and wider contextual issues.

Quality initiatives within the indigenous Indian Health Service in the US involving system-wide improvements in diabetes care, increased resource and increased emphasis on measurement and recording, have been demonstrated to improve intermediate outcomes for diabetes (149). Indicators measured changes in glucose control, hypertension and lipid control, with HbA1c's decreasing from an average of 8.9 to 7.9% between 1995 and 2001, diastolic blood pressure from 79 to 76 mmHg and mean total cholesterol from 208 mg/dL to 193 (5.38 mmol/L to 4.99). Services were provided through both federally managed and tribally managed programmes.

14.3.2 Community based interventions

Efforts to improve diabetes care and outcomes for African Americans have included coalitions between health services, academic institutions and community groups. In one setting where the strategies employed included health service changes (primarily annual audit with feedback), community and systems changes (community and outreach based multidisciplinary team with Community Health Advisors being key to linking health services and the people in the community) and advocacy, disparities in markers of care reduced significantly (150). However 2 years after implementation, HbA1c levels remained inadequately controlled in over 40% of patients, and hypertension inadequately controlled in over 50%.

A lifestyle intervention among indigenous American Indians, consisting primarily of health education, along with skill building and social support all delivered with attention to cultural appropriateness either one-on-one or in a group setting with family and friends achieved stabilisation of HbA1c levels, while a comparison usual care group's HbA1c levels increased in the same time period. However the groups were dissimilar at the beginning of the study, with the usual care group having lower HbA1cs, and all groups had HbA1cs in excess of 8 at the end of the study indicating poor control (151).

14.3.3 Empowerment/patient-focused models

In New Zealand, as overseas there is an increasing drive to promote patient self management as key to the care of chronic conditions (152). In the US there is evidence that doctors may be less inclined to support disease self-management for minority and low income patients (153). This is particularly important given a study of such patients demonstrated an important relationship between their perception of support for self management by their medical provider, and their ability to engage in such behaviour (153). The measure of provider support used in this study included promotion of partnership, encouraging the patient about their ability to meet the challenges self management provides and enhanced accessibility (e.g. spending more time with the patient, being available for urgent advice during crises). These factors were all seen to be important facets of provider support by patients.

In a small study in the US, monthly group visits for 'medically and economically disadvantaged patients' (approximately 20 patients together) for Type 2 diabetes care over 6 months were as effective as usual care (shorter individual visits 3 monthly) in improving process measures of care. The service was not targeted at any specific ethnic group, but three quarters of the attendees were African American. There were trends to improving outcomes such as glucose control but these were not significant; this may have been due to the small sample (approximately 60 patients in each group) or short duration of the study, but may reflect similar issues to studies cited previously (154).

Importantly, in terms of engaging patients in the process of care for diabetes, didactic teaching aimed at improving diabetes knowledge without attention to broader issues relating to diabetes has, at least in some instances, been demonstrated to have a negative influence (57).

14.3.4 Measuring outcomes more broadly

It is noteworthy that of the 17 studies related to diabetes care for disadvantaged populations identified by Glazier et al for review⁵⁵, not one measured social and mental well-being among their indicators. Instead indicators focused on biomedical outcomes such as HBA1c, BP, weight; one measured physician trust (57).

14.4 Hypertension

In population survey of adults aged 35 – 74 years in Auckland in 2002/03, 43% of Maaori men and 31% of Maaori women had raised blood pressure, defined as BP \geq 140/90 or on antihypertensive medication (155). Nine percent of Maaori men and 5% of Maaori women has undetected raised blood pressure ($>170/100$ and not on medication). Raised BMI was the most important modifiable risk factor identified. Given the importance of hypertension as a risk factor for stroke and heart attack, this survey highlights the need for better screening for hypertension in Maaori population. As discussed previously systematic approaches embedded in IT data collection systems could facilitate this.

14.5 Nutrition and physical activity

Data from a national mail survey about nutrition and physical activity undertaken by the Cancer Society and SPARC demonstrated that Maaori are aware of the importance of fruit and vegetables for health, although the link between fruit and vegetable consumption and heart disease was much better understood than the link with cancer (156). Cost was identified as a significant barrier to increased fruit and vegetable intake. Interventions most likely to improve fruit and vegetable intake of those Maaori who 'don't but might' eat the recommended daily intake included a free cookbook about fruit and vegetables, free advice from a dietician, low cost fruit and vegetables at work, increased availability of fruit and vegetables where they buy lunch and advice from a doctor or nurse.

Some indication of strategies likely to increase physical activity further among Maaori can be gained from the Obstacles to Action survey undertaken by SPARC and the New Zealand Cancer Society in 2003, which examined the motivators and barriers to physical activity and the consumption of a healthy diet (157). National level Maaori data from the survey suggest that of the target group for the survey⁵⁶ Maaori were aware of the importance of physical activity for health and were more likely than the total respondents to be thinking about becoming more active in the next 6 months or actually intending to become more active in the next month (36.6% compared to 29.7%). Environmental barriers such as lack of street lighting, high crime and dog nuisance were more of a barrier for Maaori than others, particularly Maaori women.

Popular options that were seen to have potential to encourage more activity by Maaori respondents included a number of options that address cost barriers (e.g. toll free number for advice, free advice pamphlet, lower cost gym memberships, rewards points) but also a third would be more physically active if they thought it would make their children more active (compared to 22% of the total group), and Maaori women believed someone to be active with/someone to check their progress and/or someone to watch their children would help them be more active. Lack of facilities did not seem to be a particular issue with over 80% of Maaori respondents having a public park with playing fields (88.2%), swimming pool, beach or lake (81.3%) and organised sports (79.4%) in their neighbourhood. However while these facilities may already be available in communities and need enhanced promotion, barriers to activity that were rated more highly by Maaori included cost of clothing and equipment to exercise (18% compared to 8%), facilities such as parks/gyms being hard to get to (14% compared to 7%). Lack of time due to work or family

⁵⁵ The main findings of this review were similar to other general approaches for indigenous/minority/disadvantaged populations as summarised on P 88

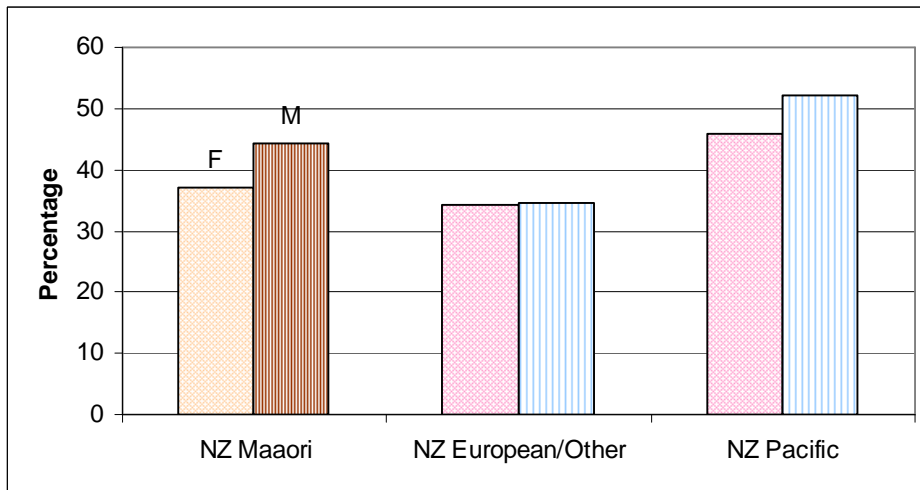
⁵⁶ the 45% not already active but not resistant to the idea of becoming more active

commitments and lack of energy were the principle reasons cited for lack of physical activity for Maori respondents, in keeping with responses from the general population.

National level data relating specifically to tamariki is available from the activity questions of the National Children's Nutrition Survey in 2002. Potential areas for improving activity levels are

(a) the proportion of children who actively travel to school (walk, bike, skate or scooter). Tamariki are intermediate between Pacific and European/Other children at 44% for males and 37.2% for females.

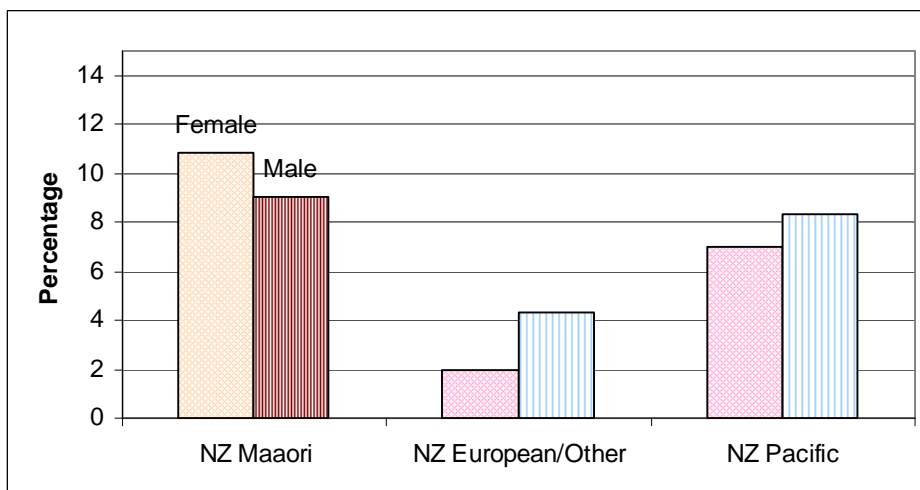
Figure 14.5.1 Percentage of children who actively travel to school, national level data



Source: National Children's Nutrition Survey 2002

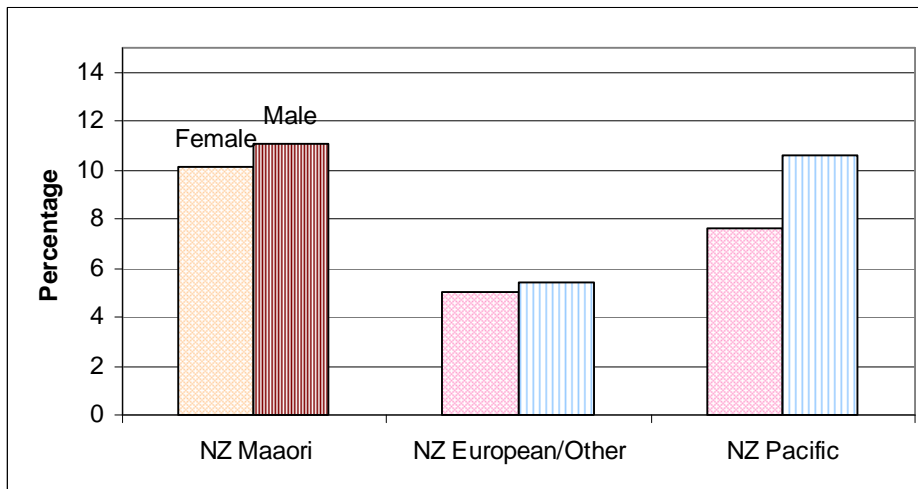
(b) the amount of time tamariki watch television and videos. Tamariki watch more television and videos than other children both during the week and the weekend.

Figure 14.5.2 Percentage of children who watch > 20 hours television or videos during the week, national level data



Source: National Children's Nutrition Survey 2002

Figure 14.5.3 Percentage of children who watch > 8 hours television or videos during the weekend, national level data



Source: National Children's Nutrition Survey 2002

14.5.1 Maori specific nutrition and physical activity health promotion

A recent evaluation of Whai Ao Kaupapa, the Maori nutrition and physical activity health promotion programmes co-ordinated by Hapai Te Hauora Tapui, highlighted the importance of further development of Kaupapa Maori frameworks to inform programme and evaluation planning (44). Participants and stakeholders alike valued the whaanaunatanga and manaaki tangata offered by the programme and affirmed the tuakana/teina model of practice and the use of Te Reo. Participants valued the health and social benefits they had received from the programme and providers saw these changes as being multileveled, including the desire to take up leadership roles as a consequence of the learning and support gained. The ability to support others in the tuakana/teina process in itself was regarded as an indicator of well-being. A Kaupapa Maori framework would allow these important outcomes to be more clearly outlined. Providers saw education and use of the media to be important for Maori health promotion, with barriers they identified to participation including lack of education regarding wellbeing and the impact of nutrition and alcohol, and limited knowledge about how and where to gain support and help. The lack of knowledge about the impact of nutrition on wellbeing is somewhat at odds with the SPARC survey results, but may reflect the participants being drawn from a different population from that answering the SPARC survey. Relationship building and nurturing were seen as key to successful programme development and sustainability.

The national 'Push Play' media campaign has been evaluated for message impact, but data was not evaluated to separate out the Maori response. Alongside the media campaign and Green prescription there have been kaiwhakahaere roles sponsored by SPARC under the umbrella of He Oranga Poutama, to specifically recognise the cultural identity of Maori within sport and physical activities in New Zealand. These roles have supported Maori to participate in sport and recreation in their own environments with other Maori, and have included working with Koohanga Reo and Kura Kaupapa⁵⁷. To date there has not been a specific evaluation of these roles⁵⁸.

In 1995, Te Puni Kokiri supported and monitored a number of projects designed to target Maori who were sedentary or susceptible to becoming so, and reported the findings under the umbrella Omangia Te Oma Roa, Māori Participation in Physical Leisure. The programmes reported that the

⁵⁷ Further detail available at <http://www.sparc.org.nz/partners-programmes/he-oranga-poutama/success-stories/more-Maori-more-active-more-often-in-taranaki>, accessed 17 Jan 2007

⁵⁸ Personal Communication Paula Jones, SPARC, 19 January 2007

two most important motivating factors for participants were a desire to 'get physical' and to be involved with whaanau and haapu (158). While addressing practical barriers such as cost and location were acknowledged, the feedback from programme organisers also noted that while a relaxed and non-competitive environment was important, participants also needed identifiable and achievable goals so that they could record personal measurable results over time to motivate their continued involvement. It was suggested that a series of short-term programmes allowed organisational flexibility, variety, and continued refinement of programmes by participant feedback, but organisers need to ensure continuity is maintained so that motivation is not lost.

14.5.2 Programmes based on health worker referral

'Green prescription' physical activity advice in general practice with telephone exercise specialist follow-up has been shown to be a cost effective means of increasing physical activity in sedentary people (159). The Green prescription randomised control trial did not have sufficient Maaori to allow separate analysis, but trends for Maaori were as positive as for other ethnic groups⁵⁹.

A small study promoting weight loss in people with diabetes in the US (152 individuals randomised into 3 groups), in a medically underserved rural community of primarily African American ethnicity, demonstrated a modest but significant weight loss (2.2 kg on average) in the group given intensive individual and group nutrition and physical activity support (160). This compared with no significant loss in the usual care and less intensive groups. There was a reduction of HbA1c of 1.56% in the intensive group but this was not significantly more than the 1.12% in the usual care group, which may have been attributable to an additional quality initiative that took place at the same time. Cost effectiveness data was not presented, but the intensive intervention would have come at significant cost since the participants in the intensive group met weekly for 4 months, fortnightly for 2 months and monthly for the last 6 months. The third group received a less intensive 'reimbursable' (under the Medicaid payments at the time for diabetics) intervention in which they met 4 times over the year, and their weight loss was not significant. Focus groups with participants identified potential barriers to making positive changes for their health, including multiple caregiving responsibilities, tiredness, general life stress, and organisers noted the importance of addressing issues like transport to enable participants to attend scheduled activities.

14.5.3 School based interventions

Overseas studies have demonstrated the feasibility of multi-component, culturally appropriate school-based interventions to address the need for improved nutrition and physical activity, but results have been disappointing in actually effecting outcomes. For instance, the Pathways study was undertaken in schools where greater than 90% of pupils were of American Indian ethnicity, was supported by tribal organisations and is reported to have incorporated American Indian cultural practices including traditional games (161). However although fat intake decreased in the intervention schools and there was some improvement in knowledge and attitudes, there was no significant difference in the percentage body fat between control and intervention schools or in physical activity as judged by 24 hour motion sensor measures. In fact the percentage body fat of children in both control and intervention schools increased on average 7% over the 3 year implementation of the project; there was a similar percentage increase in the number of children above the 85% for BMI for both sets of schools by the end of the project. These results are consistent with other multi-component but not culturally specific primary prevention projects in schools, where some behaviour changes have been noted, but only one was able to influence obesity, and then only in girls (Gortmaker et al cited in (161)). Similarly nutrition education targeting low income children in the US, 43% of whom were Hispanic, has been shown to influence knowledge more than behaviour (162), while actual change in body habitus was not measured.

⁵⁹ Personal communication Raina Elley, Dept General Practice & Primary Health Care, School of Population Health, University of Auckland; 15 November 2006

14.5.4 Community interventions

A recent Cochrane review of interventions of any type⁶⁰ designed to increase active and/ or non-active participation in sport was unable to find any studies which tested the effects of interventions organised through sporting organisations to increase participation in sport by recording outcomes in terms of a change in the number of participants, or change in participation status (163).

A study by SPARC and the Ministry of Health in 2002/03 has produced New Zealand specific metabolic equivalents (METs) for culturally specific activities such as kapa haka (164). This can assist in assessing energy expenditure when physical activities are being compared.

14.6 Injury Prevention

Evaluations of community injury prevention projects in a provincial New Zealand town (Turanganui-a-kiwa Community Injury Prevention Project) and a dispersed rural community (Ngati Porou Community Injury Prevention Project), suggest that in those environments adopting a holistic lifespan model that addresses Maaori aspirations operating in a Maaori framework can successfully increase awareness of injury prevention and reduce injury related hospitalisations (165,166). The strategies used in these projects included

- marae-based driver licensing courses
- Drivewise campaigns involving collaboration with local police
- promotion of injury prevention through koohanga reo (including hireage of child car restraints)
- safer alcohol use at all sporting events
- hui with secondary school students
- playground safety audits
- smoke alarm installation and resources
- and support networks to address domestic violence.

Other measures of success such whaanaungatanga, mana, tinorangatiranga (167) and community capacity building would also be necessary to get a broader indication of the 'success' or otherwise of such a model.

14.6.1 Alcohol related injury

In more urban settings similar attention to operating in a Maaori framework and community control over the development and implementation of strategies to meet agreed objectives⁶¹ has been deemed important in projects targeting the prevention of alcohol-related traffic injury (168,169). In the both the Tipu Ora project in South Auckland and the Uru Atua project in West Auckland, messages were positively received as effectively delivered in a positive Maaori framework. In Tipu Ora the messages highlighted the impact of premature mortality on whakapapa, lost whakapapa,

⁶⁰ These could include: mass media campaigns; information or education sessions; management or organisational change strategies; policy changes, for example to improve the socio-cultural environment to encourage people of specific age, gender or ethnicity to participate; changes to traditional or existing programs, for example club or association-initiated rule modification programs; provision of activities beyond traditional or existing programs, for example 'Come and Try' initiatives (teaser or taster programs); skill improvement programs; volunteer encouragement programs.

⁶¹ The four agreed objectives were to:

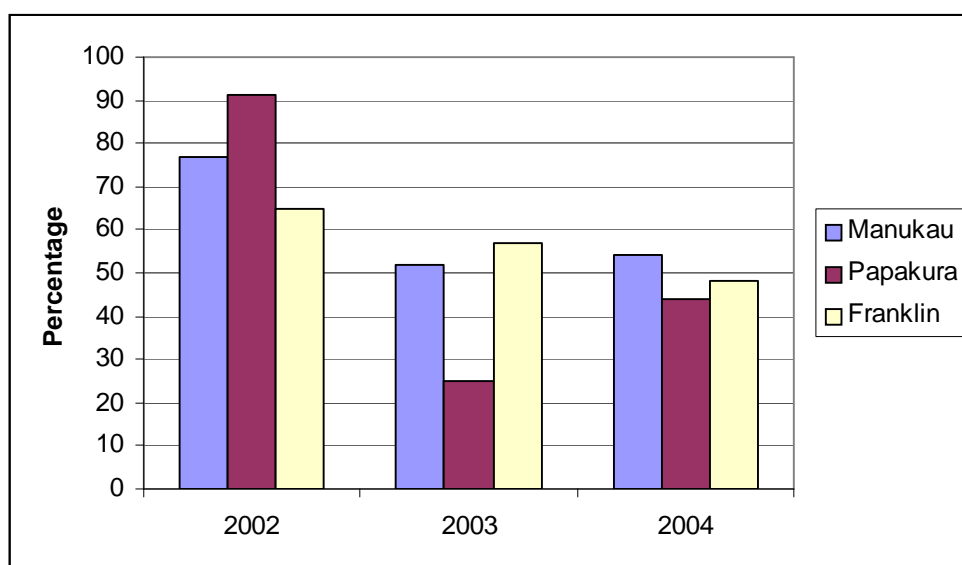
- develop and implement a marae focused programme aiming to raise awareness and support among Maaori for culturally appropriate strategies to prevent alcohol-related traffic crashes
- develop and implement a coordinated mass media strategy including media advocacy and paid Maaori mass media to raise awareness of alcohol-related traffic crashes
- develop and implement strategies aimed to reduce drunkenness in the drinking environments in which Maaori drink
- develop strategies aimed to increase the mutual supportiveness of Compulsory Breath Testing by police and the programme components

including the 'Lost Generations Taonga'. Community ownership was perceived to be very important, the project linking with an existing organisation (Huakina Development Trust) and people such as Maaori Wardens with strong community profiles. Also hui on local marae were used to inform processes and content, and local media used to advertise community events.

In relation to alcohol related injury prevention, recent attention has been given to drinking patterns rather than just overall ingestion figures. Patterns of drinking have been noted to be significantly different between Maaori and non-Maaori. Maaori of all ages and both genders are less likely to drink overall, but non-Maaori drink 40% less (on average) per drinking occasion than Maaori (170). This is consistent with NZ Health Survey results indicating the higher likelihood of hazardous drinking patterns among Maaori. This drinking pattern contributes to the considerably higher burden of mortality from alcohol born by Maaori compared to non-Maaori, the age-standardised alcohol-related death rate for Maaori being 4.2 times that of non-Maaori (18).

Alcohol-related injury affecting young age groups is a major contributor to this death rate. In relation to the availability of alcohol for young people, the Auckland Pseudo Patrons Survey investigated the age verification practices at off-licence premises in the Auckland Region over three years, 2002 – 2004 (171). Over the wider Auckland region there was an increase in the total proportion of successful purchases without ID in 2004 to 56% from 46% in 2003, after a decrease from the 2002 figure of 61%. However in Counties Manukau, while the Papakura rate increased in 2004, those of Manukau and Franklin were relatively stable after the decrease from 2002. However the figures indicate there were still approximately 50% of purchases being made without age verification in the Counties Manukau district. This is an issue which requires further action and advocacy.

Figure 14.6.1 Percentage of off-licence premises who sold alcohol to young people without age verification ID



Source: Pseudo patrons survey 2004 report (171)

14.7 Sexual and reproductive health

Analysis of the Maaori specific data from Youth2000 survey suggests that consistent use of contraception/STI protection is associated with getting enough time with parents and negatively associated with weekly marijuana use. These factors highlight the potential importance of broad resilience-based programmes which enhance protective factors as well as address risk factors to influence outcomes for young people (172).

14.7.1 Pregnancy outcomes

As demonstrated in Part One, Maaori women in Counties Manukau have higher rates of preterm and Small for Gestational Age (SGA) births than women of Pacific and non-Maaori/non-Pacific ethnicity, and this is consistent with national data (173). An analysis of the trends in preterm births nationally from 1980 – 2001 shows a non-significant decline for Maaori women (7%) while rates for European/other women rose 30%. Over the same time period, SGA births fell by 25% for Maaori women compared to 19% for European/other women (173). Importantly when the data from 1996 – 2001 was analysed there was a very significant gradient for SGA by socioeconomic group for Maaori women (women in Decile 10 were twice as likely to have a SGA child as women in Decile 1) that was not present for European/other women and not present for preterm births for Maaori women (174). It has been suggested that maternal smoking and nutrition are likely to contribute to this gradient for SGA, although specific data related to these issues in pregnancy is very limited (174). This would add to the importance of increasing efforts to promote and support smoking cessation in pregnancy, along with broader social policies to impact socioeconomic factors.

Further analysis of birth outcomes from 1996 – 2001 by ethnicity demonstrated that in distinction from the experience of European and Pacific women, teenage child-bearing did not increase the risk of preterm or Small for Gestational Age (SGA) birth for Maaori women. This suggests that the social implications of early childbearing, in particular its influence on education for both mother and child, may be more appropriate for attention in Maaori communities than reproductive outcomes. This would support the current expansion of services such as the Teen Pregnancy Units in Counties Manukau.

The importance of identifying these differential outcomes is supported by a 1999 review of programmes intended to reduce rates of low birth-weight deliveries. This review suggested the success of programmes is highly variable and is related to characteristics both of the programmes themselves (which are frequently inadequately defined and measured) and the populations targeted (175). The authors stated their belief that it was not that elements of the programmes weren't effective when applied to specific groups of women, but that indiscriminate application at a population level without appropriate targeting was ineffective.

This need for targeting of programmes highlights the place of quality needs assessment that takes into account both qualitative as quantitative measures of need to guide programme planning. As above quantitative data may differ between populations of different ethnicity, but also for indigenous peoples the importance of cultural appropriateness would be part of this needs assessment, and can lead to programmes that seek to address this potential barrier. For example, antenatal care for Aboriginal and Torres Strait Island women has been provided in the context of an indigenous managed service that delivers a range of social and health services in Northern Australia and demonstrated significantly reduced preterm births, with a non-significant trend to reduced low birth-weight deliveries, compared to a contemporary control group (176). Unfortunately it is not clear which aspects of the programme, which focused on a care plan incorporating screening, education, nutritional supplementation and recalls in the setting of the availability of culturally safe wrap around support, were most important in contributing to the result, and little is known about the care offered to the control group.

14.8 Well Child and Immunisations

The advantages for infants of breast feeding are well documented, and as documented in Part One, further effort needs to be given to increasing breast feeding for Maaori women. Recent research by Glover et al highlights the need for all approaches to promoting breastfeeding acknowledging the important role of whaanau in supporting Maaori women's decisions to breast feed and overcome barriers to breastfeeding in the post partum period (120). In addition Glover et al recommend a focus on re-establishing breastfeeding as a cultural norm rather than it being seen as a lifestyle choice, in line with pre-European Maaori infant feeding practices (177).

The original evaluation of the B for Baby service in Counties Manukau documented improved breast feeding rates for those Maaori women and babies still engaged with the programme at 3 and 6 months (178). At the time of the evaluation, 21% of total enrolments were Maaori, compared to 22% in a recent monitoring report. For Maaori infants, 221 infants had reached 6 weeks of age, information was available on 165 of these (75%), and 73% were fully or exclusively breast feeding. By 3 months, 52% were still fully or exclusively breast feeding, and by 6 months information was available on 70% of 163 Maaori infants, and indicated 31% were still fully or exclusively breast fed. These results compare very favourably with the Plunket data presented in Part One, which indicate that in 2004/05 of the families Plunket was involved with, only 35% of Maaori infants were fully or exclusively breast fed at 3 months, and 10% at 6 months.

In relation to immunisations, partnerships between health providers and community organisations, involving improved structure and quality of care and expanded outreach, have been demonstrated to improve but not eliminate disparities in immunisation rates in low income and ethnic minority communities (179). However some evidence suggests these strategies may still be challenging and have limited success in socio-economically deprived and mobile populations (180).

14.9 Cancer screening

In addition to the evidence cited previously suggesting Community Health Workers can play a role in increasing cancer screening, in the US a trial of reminder phone calls for cancer screening (breast, cervical and colon) among minority and low-income women demonstrated a 7% increase in cervical screening and 12% for mammography, although these differences were not statistically significant. The women received at least one phone call, with an average of four (181).

14.10 General strategies for health education for Maaori

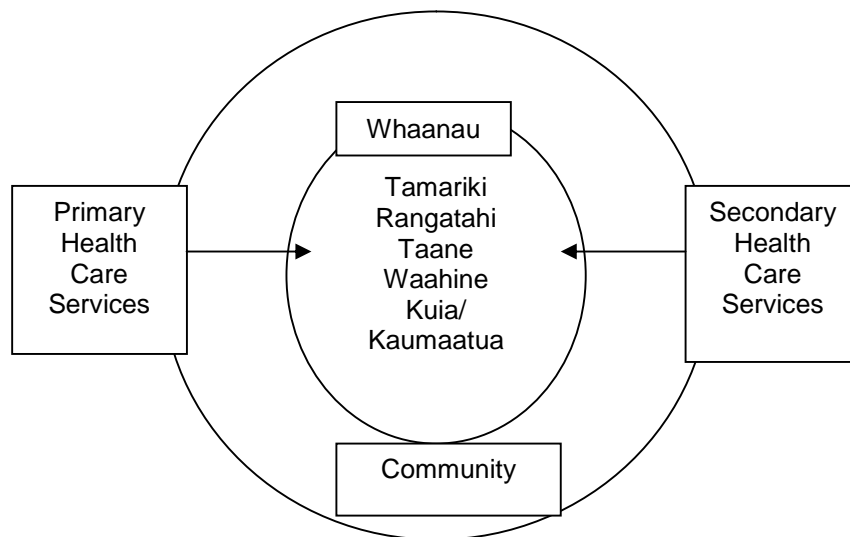
Analysis of the national level Maaori data from the SPARC Obstacles to Action survey suggests the top five trusted sources for information about nutrition and physical activity are people's own doctor and nurse, a dietician, the Heart Foundation and Diabetes New Zealand (182). As for the general population, over 90% of Maaori reported using the internet for health information never, or only a few times per year.

15 Important potential learnings: Example of a Whaanau Ora smokefree approach for tamariki

The Whaanau Ora Plan has identified the need to accentuate positive Maaori health and disability gain, and build on the collective wisdom and strength of Maaori and non-Maaori to make a difference. The following example of a potential Whaanau Ora approach that emphasises smokefree goals seeks to describe how whaanau, community, primary and secondary health care services might look from the perspective of tamariki if Maaori in Counties Manukau collectively decided the 'legal genocide' of Maaori by tobacco (183) was to cease.

It asks, if I am a 6 month old tamariki who is immunised appropriately for my age and has had no significant illnesses or accidents to date, what are the things in my whaanau, community, available primary and secondary care services that have potentially contributed to my positive outcomes to date?

Figure 15.14.10.1 Influences on whaanau hauora



A story from he tamariki ...

My mother is 19 years old and living with my father down the road from my nanny. She nearly left school at 16 because most of her friends thought school 'sucked', but her kapahaka leader persuaded her to stay so she could lead the kapahaka group for the regional competitions. Her health teacher really encouraged her as well, so eventually she got NCEA level three and started a nursing course at the local polytech this year. When I am a bit older my nanny and dad will help her to carry on her study.

She used to smoke but when she got pregnant the nurse at the local health centre gave her a book He Hapuunga Auahi Kore about how important it is to give up smoking if you are hapu. She got referred to a lady at the Maaori health centre who helped her work out how to give up; the lady was really helpful because its her job to help Maaori whaanau, especially wahine hapu, give up smoking . The lady asked if my dad and my nanny could come with her to talk about how they might be able to give up together so that my mum wasn't trying by herself. My dad cut down, but it's really hard for him because all his friends smoke and when he goes out everyone else is smoking, whereas my nanny has managed to give up altogether. But my dad doesn't smoke inside the house or car because he knows that is better for me, and that it makes it easier for my mum not to smoke.

Mum really wanted to start smoking again after I was born, but the midwife talked with her and dad and nanny a lot about how important it was for me that she didn't smoke, and how good it is for me to be breastfed which is easier if she doesn't smoke. One of her friends still smokes but she is breastfeeding her baby too because the midwife said that is the best kai for babies even if mum still smokes. Mum had visit from someone the other day who wanted to talk with her about what things helped her give up smoking and what would help her stay smokefree. She said it would be good if the kuia and kaumatua supported smokefree and worked towards making the marae smokefree.

When my mum was pregnant, her midwife persuaded her to go to a group with some other young mums who lived in the area to learn about looking after me. That was good because it helped her get to know some other young mums because lots of her school friends aren't having babies yet. There was a lady working at the same place as her midwife who helped her get the money she needed to get a pram so I could go with her on walks.

My mum remembered to take me for my first vaccinations because the midwife helped her make the appointment (we don't have a phone), and nanny drove us there. She missed the appointment for my next vaccinations because we had to go to a tangi up North, but the community health worker came to visit us to make sure mum knew how important it was to take me for my injections and helped us make the appointment. She also talked with mum and dad and nanny about being careful with their hot drinks around me, showed them how to turn down the temperature on the hotwater cylinder and made sure we had smoke alarms at home.

My mum is trying to loose some extra weight she put on when she was pregnant with me. Her and nanny go to a walking group that was started by one of the ladies at the marae. They had a lady come to talk about how to make boil-ups that aren't so fatty, and nanny tries to buy cheap veges for mum when she goes to the markets. When summer comes mum is going to try playing touch with some of her old school friends down at the local park.

15.1 Using the evidence: What things could the DHB do to support the outcomes represented in this story?

15.1.1 Maaori and indigenous 'general evidence'

As presented on Pages 88 - 92, Maaori & indigenous generic evidence highlights the need for any response from the DHB to

- involve Maaori integrally in the planning and management of service delivery and in service delivery itself, recognising the diversity of the Maaori community itself in Counties Manukau
- recognise the relationship between culture and behaviour and therefore emphasise the importance of cultural engagement. This would include addressing cultural competence of all health care providers, increased access to culturally specific providers such as community health workers, and attention to culturally appropriate systems and environments such as the use of tikanga protocols and provision of services in marae settings
- be based on a holistic Maaori view of health and enable access to traditional health approaches alongside Western medical approaches
- emphasise health promotion and community-based initiatives
- allow flexible use of resources to address the wider determinants of health through intersectoral collaboration and community development models (e.g. advocacy and work with schools to enhance engagement with rangatahi with education).

15.1.2 Maaori and indigenous smoking-specific evidence

As presented on Pages 93 - 98, Maaori and indigenous smoking-specific evidence suggests a DHB response which particularly focuses on the goal of smokefree would need to

- be embedded in a whaanau focused approach
- support parents and whaanau to achieve smokefree environments for their tamariki and give them positive smokefree messages
- emphasise the importance of smokefree for waahine haapu and their whaanau
- engage kuia and kaumatua in supporting smokefree marae
- strengthen Aukati Kai Paipa/other Maaori specific smoking cessation services
- direct generic cessation services to focus resource towards engaging Maaori

15.1.3 Generic evidence

There is extensive evidence that smokefree environments and smoking cessation interventions do protect individuals and communities from the harmful impacts of smoking (127,184-186). However interventions need to be multifaceted, systematic and provide consistent messages across the community.

15.2 Potential community and whaanau level responses by the DHB

Health promotion programmes prioritise smokefree mahi, to include

- Health promotion programmes give clear and consistent messages, developed with the Maaori community, about the importance of smokefree environments, both for health and to reduce initiation of smoking.
- Health promotion programmes empower parents to understand they can influence the smoking behaviour of tamariki (it is not just about the influence of friends).
- Health promotion programmes work with the Maaori community to present smokefree as a cultural norm for Maaori, and work to establish a 'culture of quitting'.

Resource is committed to support all marae to be smokefree, which supports those whaanau members who are smokefree and also gives a clear message to all whaanau connected to or who visit the marae about smokefree being the best option. This will also help to reestablish smokefree as a cultural norm. Resource is committed to support marae health committees to consider how they can best work with their whaanau towards smokefree.

Smokefree sport/music/cultural events are organised and promoted.

Public health social marketing campaigns are built on by linkages to personal support for cessation and smokefree environments.

15.2.1 Potential goals for these responses

Whaanau

Maaori whaanau are supported and encouraged to make their homes and cars smokefree.

Parents are supported to give all tamariki and taitamariki (including those whose whaanau smoke) clear messages about the benefits of being smokefree.

Whaanau are encouraged to support each other in cessation efforts.

The Community

All marae are smokefree.

Marae health committees are supported to aim to reduce smoking levels in their whaanau to at least that of their non-Maori neighbours, establishing a 'culture of quitting' (i.e. acknowledging the link between geographic deprivation level and smoking and how challenging it can be to give up smoking when it is a neighbourhood norm and potentially one of the few pleasures in life over which you have some control, but also saying 'enough is enough' – we want to stop this legal genocide).

Smokefree sport/music/cultural events help to re-establish smokefree as a cultural norm, and also give rangatahi positive options and goals.

15.3 Potential primary and secondary health care services responses by the DHB

15.3.1 Maaori specific services

The current systematic approach to smokefree (Systems First) being developed in the DHB is strengthened to ensure that Maaori provider services

- are smokefree environments and display smokefree signage
- ask about and record smoking behaviour and smokefree whaanau and environments at every opportunity. Particular attention is paid to discussing smokefree at immunisations and well child/person visits, visits related to pregnancy, and illness visits where smoking may contribute to poor outcomes (e.g. respiratory /ENT illnesses, diabetes)
- promote understanding of both the knowledge of the negative consequences of smoking and positive collective whaanau-related reasons for staying smokefree and/or quitting
- take a whaanau approach to smokefree, recognising the need to work with the whole whaanau and their various levels of commitment to smokefree
- have available and offer to parents Te Reo (where possible) and English written information related to smoking in pregnancy, and helping children not to start smoking (messages to convey, rules about smoking in their home)
- provide support for all staff but particularly those who are Maaori to get training and leadership opportunities to support smokefree
- provide or refer to cessation support programmes including Aukati Kai Paipa and/or other Maaori specific providers
- follow-up intention or actions towards cessation with the same thoroughness as should be accorded to any long term health condition.

Aukati Kai Paipa (AKP) providers are geographically placed to enhance access for Maaori, have strong links with other health and social services, and tailor NRT to client need. Providers meet regularly for professional and personal support and upskilling. Expansion of AKP service occurs in the context of holistic health and social service provision and targets waahine haapu and their whaanau.

15.3.2 Maaori responsive generic services

The current systematic approach to smokefree (Systems First) being developed in the DHB is strengthened to ensure that all generic services

- have the cultural competence to work with Maaori patients around smokefree issues
- understand the importance of tobacco to Maaori health and the creation of health inequalities

- are smokefree environments and display smokefree signage
- ask about and record smoking behaviour and smokefree whaanau and environments at every opportunity. Particular attention is paid to discussing smokefree at immunisations and well child/person visits, visits related to pregnancy, and illness visits where smoking may contribute to poor outcomes (e.g. respiratory /ENT illnesses, diabetes)
- promote understanding of both the knowledge of the negative consequences of smoking and positive collective whaanau-related reasons for staying smokefree and/or quitting
- take a whaanau approach to smokefree, recognising the need to work with the whole whaanau and their various levels of commitment to smokefree
- have available and offer to parents Te Reo (where possible) and English written information related to smoking in pregnancy, and helping children not to start smoking (messages to convey, rules about smoking in their home)
- provide support for all staff but particularly those who are Maaori to get training and leadership opportunities to support smokefree
- provide or refer to cessation support programmes but also ensure Maaori patients are offered and have access to Maaori specific programmes such as Aukati Kai Paipa
- follow-up intention or actions towards cessation with the same thoroughness as should be accorded to any long term health condition.

Smoking cessation providers are geographically placed to enhance access for Maaori, and promote and tailor their services to improve their responsiveness for Maaori (e.g. take a whaanau approach, develop strong links with other health and social services, tailor NRT to client need).

15.3.3 Potential goals for these responses

All health care services demonstrate policy and operational commitment to smokefree.

All health care services have clear systematic processes to monitor smoking behaviour and smokefree environments of their patients and staff.

All health care services have systematic processes to promote and provide or refer to smoking cessation support.

All clinical staff in health care services are trained to provide culturally appropriate, whaanau-focused brief interventions for smokefree.

All staff in health care services understand the impact of smoking, particularly for Maaori whaanau, and rationale for smokefree.

Smoking cessation providers, both Aukati Kai Paipa and generic providers, are resourced and equipped to provide high quality, culturally appropriate cessation support, at volumes adequate to cope with referrals generated by DHB wide increased emphasis on Maaori smokefree.

16 References

1. Auckland Regional Public Health Service. Te hau o te whenua, te hau o te tangata. A report on Maori public health in the Auckland region. Auckland: Auckland Regional Public Health Service; 2005.
2. Ministry of Health. Tatau Kahukura: Maori health chart book. Public Health Intelligence Monitoring Report No. 5. Wellington: Public Health Intelligence Unit, Ministry of Health.; 2006.
3. Ratima M, Edwards W, Crengle S. Maori health indicators. A background paper for the project 'Action oriented indicators for health and health systems development for indigenous peoples in Canada, Australia and New Zealand'. Auckland: University of Auckland; 2005.
4. Ministry of Health 2003 [cited 2006 6 September]. NZ Food NZ Children - Key results of the 2002 National Children's Nutrition Survey (online version). Available from: <http://www.moh.govt.nz/moh.nsf/ae8bff4c2724ed6f4c256669006aed56/ba4c83a4abaf34d5cc256de90078b9fe?OpenDocument#Contents>
5. Ministry of Social Development. New Zealand Living Standards 2004. Nga Ahuatanga Noho o Aotearoa. Wellington: Centre for Social Research and Evaluation, Ministry of Social Development.; 2006.
6. Ministry of Health, University of Otago. Decades of Disparity III: Ethnic and socio-economic inequalities in mortality, New Zealand 1981-1999. Wellington: Ministry of Health, New Zealand; 2006.
7. Paediatric Society of New Zealand. The health status of children and young people in Counties Manukau. Wellington; 2005.
8. Auckland Regional Public Health Service. Housing and health in Auckland. Auckland: Auckland Regional Public Health Service; 2005.
9. Keepa T. Maaori workforce census 'a brief analysis'. Powerpoint presentation. Auckland: Maaori Health Team, Counties Manukau DHB; 2005.
10. New Zealand Institute of Economic Research. CMDHB: Health service needs and labour force projections - Implications for the development of the Maaori workforce. Wellington; 2006.
11. Keepa T. Maaori Mental Health Workforce Survey, Counties Manukau DHB Auckland: Maaori Health Team, Counties Manukau DHB; 2005.
12. Counties Manukau District Health Board Auckland: 2003 [cited 2007 15 May]. Maaori Health Advisory Committee, Terms of Reference, CMDHB, Estab under Sched 3, Clause 38, SS (1) (a) of the New Zealand Health and Disability Act 2000. . Available from: http://www.cmdhb.org.nz/Counties/About_CMDHB/Governance/Board-Committees/TOR-MHAC.htm
13. May S, Hill R, Tiakiwai S. Bilingual Education in Aotearoa/New Zealand. Wellington: Ministry of Education.; 2006.
14. Ministry of Health. An indication of New Zealander's Health 2004. Wellington: Public Health Intelligence, Ministry of Health, New Zealand; 2004.

15. Ministry of Health. Our health, our future - Hauora pakari, koiora roa - The health of New Zealanders 1999. Wellington: Ministry of Health, New Zealand; 1999.
16. Scragg R Auckland: School of Population Health, University of Auckland; 2006 [cited 2007 25 May]. Report of the 1999 - 2005 Year 10 smoking surveys. Prepared for ASH (Action on Smoking and Health). Available from: http://www.ash.org.nz/system/_doc.php?id=860
17. Moewaka Barnes H, McPherson M, Bhatta K. Te Ao Waipiro 2000. Maori National Alcohol Survey. Auckland: Massey University and The University of Auckland; 2003.
18. Connor J, Broad J, Rehm J, Vander Hoorn S, Jackson R. The burden of death, disease, and disability due to alcohol in New Zealand. New Zealand Medical Journal. 2005;118(1213).
19. Ministry of Health NZ. Problem gambling in New Zealand: Analysis of the 2002/03 New Zealand Health Survey. Wellington: Ministry of Health; 2006.
20. Ministry of Health NZ. Problem gambling geography of New Zealand 2005. Wellington: Ministry of Health; 2006.
21. Quigley R, Watts C. A rapid review of the literature on the association between nutrition and school pupil performance. Wellington: Quigley & Watts Ltd; 2005.
22. Ministry of Health. Priorities for Maori and Pacific health: Evidence from epidemiology. Public Health Intelligence Occasional Bulletin No 3. Wellington: Public Health Intelligence Unit, Ministry of Health; 2001.
23. Ministry of Health Intersectoral group, Ministry of Health; 2004 [cited 2006 12 October]. Living with Disability in New Zealand. Available from: <http://www.moh.govt.nz/moh.nsf/0/35C56E093758B96FCC256F320007BDFB>
24. Ministry of Health Wellington: Ministry of Health, New Zealand; 2002 [cited New Zealand's breastfeeding rates - statistics from Breastfeeding: A Guide to Action. Available from: <http://www.moh.govt.nz/moh.nsf/238fd5fb4fd051844c256669006aed57/b2c10ff5e960e1edcc256dc10077c608?OpenDocument>
25. McDonald S, Excell L. ANZDATA Registry 2005 report. The 28th Annual Report. Appendix III, New Zealand. Adelaide: Australia & New Zealand Dialysis and Transplant Registry; 2005.
26. Baker J, Krishnan E, Chen L, Schumacher H. Serum uric acid and cardiovascular disease: recent developments, and where do they leave us? . American Journal of Medicine. 2005;118(8):816 - 26.
27. Krishnan E, Baker J, Furst D, Schumacher H. Gout and the risk of acute myocardial infarction. Arthritis and Rheumatology. 2006;54(8):2688 - 96.
28. Gibson T, Waterworth R, Hatfield P, Robinson G, Bremner K. Hyperuricaemia, gout and kidney function in New Zealand Maaori men. British Journal of Rheumatology. 1984;23(4):276 - 82.
29. Colvine K, Kerr A, McLachlan A, Gow P, Kumar S, Ly J, et al. Cardiovascular Risk Factor Assessment and Management in Gout: An Analysis Using Guideline Based Electronic Clinical

Decision Support. In: American College of Rheumatology Annual Scientific Meeting; 2006; Washington DC, United States of America; 2006.

30. Lindsay K. Gout in South Auckland. Presentation to Sciencefest from qualitative study of patients with gout in South Auckland. In. Auckland Counties Manukau District Health Board; 2007.

31. Dalbeth N, Kumar S, Stamp L, Gow P. Dose adjustment of allopurinol according to creatinine clearance does not provide adequate control of hyperuricemia in patients with gout. *Journal of Rheumatology*. 2006;33(8):1646-50.

32. Kleinman N, Brook R, Patel P, Melkonian A, Brizee T, Smeeding J, et al. The impact of gout on work absence and productivity. *Value Health*. 2007;10(4):231-7.

33. Lindsay G. Mental health and addiction in Counties Manukau: Health needs assessment. Final draft. . Auckland: Counties Manukau District Health Board; 2007.

34. Ministry of Health. A portrait of health: Key results of the 2002/03 New Zealand Health Survey. Public Health Intelligence occasional bulletin No. 21. Wellington: Public Health Intelligence Unit, Ministry of Health; 2004.

35. Gravitas Research and Strategy Ltd. Quality of life in New Zealand's largest cities. Residents' survey. Wellington: Gravitas Research and Strategy Ltd and Ministry of Social Development; 2005.

36. Ministry of Health. Annual review of drinking-water quality in New Zealand 2004. Wellington: Ministry of Health, New Zealand; 2004.

37. Auckland Regional Public Health Service. Improving health and wellbeing: A public health perspective for local authorities in the Auckland region. Auckland: Auckland Regional Public Health Service,; 2006.

38. The Princes Trust. The cost of exclusion. Counting the cost of youth disadvantage in the UK. London: The Princes Trust; 2007.

39. Ministry of Health. Developing a monitoring framework and strategic research agenda for He Korowai oranga. Summary of submissions. Wellington: Ministry of Health; 2005.

40. Tipene-Leach D, Abel S, Haretuku R, Everard C. The Maori SIDS Prevention Programme: Challenges and implications for Maaori health service development. *Social Policy Journal of New Zealand*. 2000;14:65 - 77.

41. Haretuku R. Mokopuna ora. Maori SIDS. Presentation to the Child & Youth Mortality Review Committee. Wellington; 2006.

42. CBG Health Research Ltd. Improving access to primary health care: An evaluation of 35 reducing inequalities projects.: CBG Health Research Ltd, prepared for the Ministry of Health; 2005.

43. Smith LT. Decolonizing methodologies : research and indigenous peoples. Dunedin: University of Otago Press; 1998.

44. Taki M, Pihama L. A process and impact evaluation of the Whai Ao Kaupapa. Maori nutrition and physical activity programmes co-ordinated by Hapai Te Hauora Tapui. Report to the Ministry of Health Public Health Locality Team. Auckland: Hapai Te Hauora Tapui; 2006.
45. Olshansky E, Sacco D, Braxter B, Dodge P, Hughes E, Ondeck M, et al. Participatory action research to understand and reduce health disparities. *Nursing Outlook*. 2005;53(3):121 - 126.
46. Sullivan-Bolyai S, Bova C, Harper D. Developing and refining interventions in persons with health disparities: The use of Qualitative Description. *Nursing Outlook*. 2005;53:127 - 33.
47. Bisset S, Cargo M, Delormier R, Macaulay A, Potvin L. Legitimizing diabetes as a community health issue: a case analysis of an Aboriginal community in Canada. *Health Promotion International*. 2004;19(3):317 - 327.
48. Simpson S, Mahoney M, Harris E, Aldrich R, Stewart-Williams J. Equity-focused health impact assessment: A tool to assist policy makers in addressing health inequalities. *Environmental Impact Assessment Review*. 2005;25(7/8):772 - 782.
49. Barwick H. Improving access to primary care for Maori, and Pacific peoples. A literature review commissioned by the Health Funding Authority: Health Funding Authority; 2000.
50. Beach M, Cooper L, Robinson K, Price E, Gary T, Jenckes M, et al. John Hopkins University Evidence-based Practice Center, Baltimore; for the Agency for Healthcare Research and Quality; 2004 [cited 2007 17 January]. Strategies for improving minority healthcare quality. Summary, Evidence Report/Technology Assessment No. 90. Available from: <http://www.ahrq.gov/clinic/epcsums/minqusum.pdf>
51. Tugwell P, Petticrew M, Robinson V, Kristjansson K, Maxwell L, Team ftCEFE. Cochrane and Campbell Collaborations, and health equity. *Lancet*. 2006;367(9517):1128 - 30.
52. Mackenbach J, Stronks K. The development of a strategy for tackling health inequalities in the Netherlands. *International Journal for Equity in Health*. 2004;3(11).
53. Krasnik A, Rasmussen N. Reducing social inequalities in health: evidence, policy, and practice. *Scandinavian Journal of Public Health*. 2002;30(Suppl 59):1 - 5.
54. Cooper L, Hill M, Powe N. Designing and evaluating interventions to eliminate racial and ethnic disparities in health care. *Journal of General Internal Medicine*. 2002;17(477 - 486).
55. Arblaster L, Lambert M, Entwistle V. A systematic review of the effectiveness of health service interventions aimed at reducing inequalities in health. *Journal of Health Services Research and Policy*. 1996;1:93 - 103.
56. Gepkins A, Gunning-Schepers L. Interventions to reduce socio-economic health differences. A review of the international literature. *European Journal of Public Health*. 1996;6:218 - 26.
57. Glazier R, Kennie N, Bajcar J, Willson K. A systematic review of interventions to improve diabetes care in socially disadvantaged populations. *Diabetes Care*. 2006;29(7):1675 - 1688.

58. Aspinall P, Jacobson B London: London Health Observatory; 2004 [cited 2007 21 January]. Ethnic disparities in health and health care: A focused review of the evidence and selected examples of good practice. Available from: http://www.lho.org.uk/Download/Public/8832/1/Ethnic_Disparities_Exec_Summary_4.pdf
59. Yancey A, Kumanyika K, Ponce N, McCarthy W, Fielding J, Leslie J, et al. Atlanta: Centres for Disease Control and Prevention; 2004 [cited 2007 21 January]. Population-based interventions engaging communities of colour in healthy eating and active living: A review. Available from: http://www.cdc.gov/pcd/issues/2004/jan/pdf/03_0012.pdf
60. Ministry of Health. Reducing inequalities in health. Wellington: Ministry of Health, New Zealand; 2002.
61. Ministry of Health. Improving Maori health: A guide for Primary Health Organisations. Wellington: Ministry of Health, New Zealand; 2004.
62. Te Kete Hauora. Co-ordinated care for Maori: Issues for development. Wellington: Te Kete Hauora, Maaori Policy Unit of the Ministry of Health, New Zealand; 1998.
63. Lawson-Te Aho K. A review of evidence: A background document to support Kia Piki Te Ora o Te Taitamariki. Wellington: Te Puni Kokiri; 1998.
64. Ratima M, Fox C, Fox B, Te Karu H, Gemmell T, Slater T, et al. Long-term benefits for Maori of an asthma self-management program in a Maori community which takes a partnership approach. Australian and New Zealand Journal of Public Health. 1999;23(6):601 - 6.
65. Andrews B, Simmons P, Long I, Wilson R. Identifying and overcoming the barriers to aboriginal access to general practitioner services in rural New South Wales. Australian Journal of Rural Health. 2002;10:196 - 201.
66. Commonwealth Department of Health and Aged Care. Better health care. Studies in the successful delivery of primary health care services for Aboriginal and Torres Strait Islander Australians. Canberra: Commonwealth Department of Health and Aged Care; 2003.
67. Commonwealth Department of Health and Aged Care. The Aboriginal and Torres Strait Islander Coordinated Care trials: National evaluation summary. Canberra: Indigenous and Public Health Media Unit, Commonwealth Department of Health and Aged Care; 2001.
68. Voyle J, Simmons D. Community development through partnership: promoting health in an urban indigenous community in New Zealand. Social Science and Medicine. 1999;49:1035 - 1050.
69. Mantell C, Richards D, Bennett P, McKendrick J, Wade D, Takinui D, et al. 'Kimihiā Nga Mea Kua Ngāro' Community Report. A collaborative research project between Pukaki ki Te Akitai & Te Kupenga Hauora Maori, Faculty of Medical and Health Sciences, The University of Auckland. Auckland: Pukaki ki Te Akitai & Te Kupenga Hauora Maaori, funded by the Health Research Council of New Zealand; 2005.
70. Kock R, Kralik D. Chronic illness: reflections on a community-based action research program. Journal of Advanced Nursing. 2001;36(1):23 - 31.
71. Durie M. Whaiora : Maori health development. 2nd ed. Auckland: Oxford University Press; 1998.

72. Narayan K, Hoskin M, Kozak D, Kriska A, Hanson R, Pettitt D, et al. Randomized clinical trial of lifestyle interventions in Pima Indians: a pilot study. *Diabetic Medicine*. 1998;15:66 - 72.
73. Maniapoto T, Gribben B. Establishing a Maori case management clinic. *New Zealand Medical Journal*. 2003;116(1169).
74. McCreanor T, Nairn R. Taiwi general practitioners' talk about Maori health: Interpretative repertoires. *New Zealand Medical Journal*. 2002;115(1167).
75. Cram L, Smith L, Johnstone W. Mapping the themes of Maori talk about health. *New Zealand Medical Journal*. 2003;116(1170).
76. Anderson L, Scrimshaw S, Fullilove M, Fielding J, Normand J, Task Force on Community Preventive Services. Culturally competent healthcare systems. A systematic review. *American Journal of Preventive Medicine*. 2003;24(3S):68 - 79.
77. Chyun D, Amend A, Newlin K, Langerman S, Melkus G. Coronary heart disease prevention and lifestyle interventions. Cultural influences. *Journal of Cardiovascular Nursing*. 2003;18(4):302 - 318.
78. Rei K. Moving forward. In: *Making a Difference, Access and Maori PHO Forum*; 2006; Wellington; 2006.
79. Swider S. Outcome effectiveness of Community Health Workers: An integrative literature review. *Public Health Nursing*. 2002;19(1):11 - 20.
80. McCulla K. A comparative review of community health representatives. Scope of practice in international indigenous communities. Kahnawake, Quebec: The National Indian and Inuit community Health Representatives Organization; 2004.
81. Zuvekas A, Nolan L, Tumaylle C, Griffin L. Impact of Community Health Workers on access, use of services, and patient knowledge and behavior. *Journal of Ambulatory Care Management*. 1999;22(4):33 - 44.
82. Krieger J, Collier C, Song L, Martin D. Linking community-based blood pressure measurement to clinical care: A randomized controlled trial of outreach and tracking by Community Health Workers. *American Journal of Public Health*. 1999;89(6):856 - 861.
83. Lewin S, Dick J, Pond P, Swarenstein M, Aja G, van Wyk B, et al. Cochrane Column: Lay health workers in primary and community health care: Cochrane systematic review. *International Journal of Epidemiology*. 2005;34(6):1250 - 1253.
84. Freeborn D, Mullooly J, Colombo R, Burnham V. The effect of outreach workers' services on the medical care utilization of a disadvantaged population. *Journal of Community Health*. 1978;3(4):306 - 320.
85. Kim S, Koniak-Griffin D, Flaskerud J, Guarnero P. The impact of Lay Health Advisors on cardiovascular health promotion: Using a community-based participatory approach. *Journal of Cardiovascular Nursing*. 2004;19(3):192 - 199.
86. Bolitho S, Huntington A. Experiences of Maori families accessing health care for their unwell children: A pilot study. *Nursing Praxis in New Zealand*. 2006;22(1):23 - 32.

87. Keltner B, F K, Smith D. Leadership to reduce health disparities. A model for nursing leadership in American Indian communities. *Nursing Administration Quarterly*. 2004;28(3):181-190.
88. Miranda J, Duean N, Sherbourne C, Schoenbaum M, Lagomasino I, Jackson-Triche M, et al. Improving care for minorities: Can quality improvement interventions improve care and outcomes for depressed minorities? Results of a randomized, controlled trial. *Health Services Research*. 2003;38(2):613 - 630.
89. Sheehan N. Social marketing in action: What we can learn to benefit Maori and Pacific communities in CMDHB. Final Report. Auckland: Sheehan and Associates.; 2005.
90. Davis R, Cook D, Cohen L. A community resilience approach to reducing ethnic and racial disparities in health. *American Journal of Public Health*. 2005;95(12):2168 - 2173.
91. Glover M, Nosa V, Paynter J, Wong G, Scragg R, Freeman B. Parental attitudes towards the uptake of smoking by children. Auckland: University of Auckland, ASH & AUT, The Auckland Tobacco Control Research Group; 2004.
92. The Quit Group - Me Mutu. Youth and smoking fact sheet. Wellington: The Quit Group - Me Mutu; 2005.
93. Health Sponsorship Council. Framework for reducing smoking initiation in Aotearoa-New Zealand. Wellington: Health Sponsorship Council; 2005.
94. Aparangi Tautoko Auahi Kore (ATAK) Maori Smokefree Coalition. Action plans for the National Maori Tobacco Control Strategy 2003 - 2007. Wellington: Aparangi Tautoko Auahi Kore (ATAK) Maori Smokefree Coalition; 2003.
95. Crampton P, Salmond C, Woodward A, Reid P. Socioeconomic deprivation and ethnicity are both important for anti-tobacco health promotion. *Health Education & Behavior*. 2000;27(3):317 - 327.
96. Schwanen A, Masters-Awatere B, Duirs A, Barnett A, Snell D, Henry J. Evaluation of Auahi Kore Marae Programme. A report for Auahi Kore Mare Tobacco Service Programme, Northland Health. Hamilton: Maaori & Psychology Research Unit, Department of Psychology, University of Waikato; 2005.
97. Centre for Health and Society School of Population Health, University of Melbourne; 2004 [updated March 2006; cited 2006 5 December]. Centre for Excellence in Indigenous Tobacco Control. Available from: <http://www.chs.unimelb.edu.au/programs/indtobacco.html>
98. Scragg R, Laugesen M, Robinson E. Parental smoking and related behaviours influence adolescent tobacco smoking: Results from the 2001 New Zealand national survey of 4th form students. *New Zealand Medical Journal*. 2004;116(1187).
99. Thomson G, Wilson N, Howden-Chapman P. Attitudes to, and knowledge of, secondhand smoke in New Zealand homes and cars. *New Zealand Medical Journal*. 2005;118(1213).
100. Gillespie J, Milne K, Wilson N. Secondhand smoke in New Zealand homes and cars: exposure, attitudes, and behaviours in 2004. *New Zealand Medical Journal*. 2005;118(1227).

101. Thomson G, Wilson N, Howden-Chapman P. Smoky homes: a review of the exposure and effects of secondhand smoke in New Zealand homes. *New Zealand Medical Journal*. 2005;118(1213).
102. Te Hotu Manawa Maori Te Hotu Manawa Maori; 2006 [updated 15 December 2006; cited 2007 12th February]. Release of new poster 'Te Whare Tupuna, Te Whare Tangata, He iho ihi e! Available from: <http://tehotumanawa.org.nz/news/news.asp?newsID=101>
103. Bullen C Clinical Trials Research Unit, School of Population Health, University of Auckland; 2006 [cited 2007 12th February]. Keeping Kids Safe. Innovative interventions tackling major risks to health. Available from: <http://www.health.auckland.ac.nz/population-health/social-community/KKS.htm>
104. Ministry of Health. Evaluation of culturally appropriate smoking cessation programme for Maori women and their whaanau. Aukati Kai Paipa 2000. Wellington: Ministry of Health; 2003.
105. Lea R, Benowitz B, Green M, Fowles J, Vishvanath A, Diskson S, et al. Ethnic differences in nicotine metabolic rate among New Zealanders. *New Zealand Medical Journal*. 2005;118(1227).
106. Glover M. The effectiveness of a Maori Noho Marae smoking cessation intervention: Utilising a kaupapa Maaori methodology [PhD]. Auckland: University of Auckland,; 2000.
107. Bramley D, Riddell R, Whittaker R, Corbett T, Lin R, Wills M, et al. Smoking cessation using mobile phone text messaging is as effective in Maori as non-Maori. *New Zealand Medical Journal*. 2005;118(1216).
108. Cella D, Tulsy D, Sarafian B, Thomas CJ, Thomas CS. Culturally relevant smoking prevention for minority youth. *The Journal of School Health*. 1992;62(8):377 - 380.
109. Forsyte Research. Quit and Win pilot competition participant evaluation twelve month follow up. Prepared for The Health Sponsorship Council. Auckland: Forsyte Research; 2001.
110. Salmon P. Improving effectiveness of smoking cessation telephone helplines through the provision of NRT: A cohort study with Maori and non-Maori populations. In: Third Australian Tobacco Control Conference; 2005; Sydney; 2005.
111. International Network of Women against Tobacco - Europe. Searching for the solution. Women, smoking and inequalities in Europe. London: Health Development Agency; 2003.
112. Lumley J, Oliver S, Chamberlain C, Oakley L *Cochrane Database of Systematic Reviews*; 2004 [cited 2007 18 January]. Interventions for promoting smoking cessation during pregnancy. Available from: <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/CD001055/frame.html>
113. Glover M. Smoking during pregnancy among Maori women. Auckland: School of Population Health, University of Auckland; 2004.
114. Devries K, Greaves L. Smoking cessation for pregnant women: Current Canadian programs and future development. *Canadian Journal of Public Health*. 2004;95(4):278 - 280.

115. McLeod D, Pullon S, Cookson T. Factors that influence changes in smoking behaviour during pregnancy. *New Zealand Medical Journal*. 2003;116(1173).
116. Manchester A. Trialling smoking cessation drug among Maori: a nurse researcher is encouraged by preliminary results from a research project assessing the effectiveness of the smoking cessation medication Brupopion within a Maori client group. *Kai Tiaki: Nursing New Zealand*. 2004;10(1):12 - 13.
117. Benowitz N, Dempsey D. Pharmacotherapy for smoking cessation during pregnancy. *Nicotine & Tobacco Research*. 2004;6(Suppl 2):S189 - 202.
118. Cowan S. *Smokechange. Service report to the Ministry of Health. 2005 Results*. Christchurch: Education for Change; 2006.
119. McNeill A. ABC of smoking cessation: Harm reduction. *British Medical Journal*. 2004;328:885 - 887.
120. Glover M, Waldon J, Biddle H. The role of the whanau in breastfeeding decisions. *AlterNative*. In Press.
121. Chesterman J, Judge K, Bauld L, Ferguson J. How effective are the English smoking treatment services in reaching disadvantaged smokers? *Addiction*. 2005;100(Suppl 2):36 - 45.
122. Lowey H, Tocque K, Bellis MA, Fullard B. Smoking cessation services are reducing inequalities. *Journal of Epidemiology & Community Health*. 2003;57(8):579 - 580.
123. Ferguson J, Bauld L, Chesterman J, Judge K. The English smoking treatment services: one-year outcomes. *Addiction*. 2005;100(Suppl 2):59 - 69.
124. Woods S, Lake J, Springett J. Tackling health inequalities and the HAZ smoking cessation programme: the perfect match? *Critical Public Health*. 2003;13(1):61 - 76.
125. Pound E, Coleman T, Adams C, Bauld L, Ferguson J. Targeting smokers in priority groups: the influence of government targets and policy statements. By: . *Addiction*. 2005;100(Supple 2):28 - 35.
126. The Healthcare Commission The Healthcare Commission, NHS, United Kingdom; 2007 [updated 18 January 2007; cited 2007 5 February]. NHS efforts to reduce smoking more successful in areas of deprivation says healthcare watchdog. Available from: http://www.healthcarecommission.org.uk/newsandevents/pressreleases.cfm?cit_id=4925&FAArea1=customWidgets.content_view_1&usecache=false
127. Cowan S, Smith D. *Systems First - supporting smokefree leadership in New Zealand hospitals. Guidelines for district health boards*. Christchurch: Education for Change; 2005.
128. Houston T, Scarinci I, Person S, Greene P. Patient smoking cessation advice by health care providers: The role of ethnicity, socioeconomic status and health. *American Journal of Public Health*. 2005;95(6):1056 - 61.
129. Wilson N, Grigg M, Graham L, Cameron G. The effectiveness of television advertising campaigns on generating calls to a national Quitline by Maori. *Tobacco Control*. 2005;14:284 - 286.

130. Penney L. Maori and health practitioners talk about heart disease. Draft summary report on phase one findings. Auckland: Te Ropu Whariki, Massey University; 2005.
131. Doolan-Noble F, Broad J, Riddell T, North D. Cardiac rehabilitation services in New Zealand: access and utilisation. *New Zealand Medical Journal*. 2004;117(1197).
132. Ministry of Health. Nga Kawai. Implementing Whakatataka 2002 - 2005. Wellington: Ministry of Health; 2006.
133. Rees K, Victory J, Beswick A, Turner S, Griebisch I, Taylor F, et al. Cardiac rehabilitation in the UK: uptake among under-represented groups. *Heart*. 2005;91:375 - 6.
134. Whittaker R, Bramley D, Wells S, Stewart A, Selak V, Furness S, et al. Will a web-based cardiovascular disease (CVD) risk assessment programme increase the assessment of CVD risk factors for Maori? *New Zealand Medical Journal*. 2006;119(1238).
135. Bannink L, Wells S, Broad J, Riddell T, Jackson R. Web-based assessment of cardiovascular disease risk in routine primary care practice in New Zealand: the first 18,000 patients (PREDICT CVD-1). *New Zealand Medical Journal*. 2006;119(1245).
136. Tukuitonga C, Bindman A. Ethnic and gender differences in the use of coronary artery revascularisation procedures in New Zealand. *New Zealand Medical Journal*. 2002:179 - 182.
137. Jackson G. Counties Manukau District Health Board Progress 2001 - 2006. What have we achieved? Auckland; 2006.
138. Tipene-Leach D, Pahau H, Joseph N, Coppell K, McAuley K, Booker C, et al. Insulin resistance in a rural Maori community. *New Zealand Medical Journal*. 2004;117(1207).
139. Baxter J. Barriers to health care for Maori with known diabetes: A literature review and summary of issues: Prepared for the New Zealand Guidelines Group; 2002.
140. Simmons D, Voyle J. Reaching hard-to-reach, high-risk populations: piloting a health promotion and diabetes disease prevention programme on an urban marae in New Zealand. *Health Promotion International*. 2003;18(1):41 - 50.
141. Robinson T, Simmons D, Scott D, Howard E, Pickering K, Cutfield R, et al. Ethnic differences in Type 2 diabetes care and outcomes in Auckland: a multiethnic community in New Zealand. *New Zealand Medical Journal*. 2006;119(1235).
142. O'Grady A, Simmons D, Tupe S, Hewlett G. Effectiveness of changes in the delivery of diabetes care in a rural community. *Australian Journal of Rural Health*. 2001;9:75 - 79.
143. Tomlin A, Tilyard M, Dawson A, Dovey S. Health status of New Zealand European, Maori, and Pacific patients with diabetes in 242 New Zealand general practices. *New Zealand Medical Journal*. 2006;119(1235).
144. McDermott R, Tulip F, Schmidt B, Sinha A. Sustaining better diabetes care in remote indigenous Australian communities. *BMJ*. 2003;327:428 - 430.

145. Bailie R, Robinson G, Kondalsamy-Chennakesavan S, Halpin S, Wang Z. Investigating the sustainability of outcomes in a chronic disease treatment programme. *Social Science and Medicine*. 2006;63:1661-1670.
146. Shea S. Maori Disease State Management services in Counties Manukau. The current situation and future options (unpublished). Auckland: Counties Manukau District Health Board.; 2005.
147. Counties Manukau District Health Board. He Puna Oranga framework. Auckland: Counties Manukau District Health Board; 2006.
148. Sequist T, Adams A, Zhang F, Ross-Degnan D, Ayanian J. Effect of quality improvement on racial disparities in diabetes care. *Archives of Internal Medicine*. 2006;166(6):675-681.
149. Wilson C, Gilliland S, Cullen T, Moore K, Roubideaux Y, Valdez L, et al. Diabetes outcomes in the Indian Health System during the era of the special diabetes program for Indians and the Government Performance and Results Act. *American Journal of Public Health*. 2005;95(9):1518 - 1523.
150. Jenkins C, McNary S, Carlson B, King M, Hessler C, Magwood G, et al. Reducing disparities for African Americans with diabetes: progress made by the REACH 2010 Charleston and Georgetown Diabetes Coalition. *Public Health Reports*. 2004;119:322 - 320.
151. Gilliland S, Azen S, Perez G, Carter J. Strong in body and spirit: Lifestyle intervention for Native American adults with diabetes in New Mexico. *Diabetes Care*. 2002;25(2):78 - 84.
152. Bycroft J, Tracey J. Self-management support: A win-win solution for the 21st century. *New Zealand Family Physician*. 2006;33(4):243 - 248.
153. Greene J, Yedidia M. Provider behaviors contributing to patient self-management of chronic illness among underserved populations. *Journal of Health care for the Poor and Underserved*. 2005;16(4):808 - 824.
154. Clancy D, Brown S, Magruder K, Huang P. Group visits in medically and economically disadvantaged patients with Type 2 diabetes and their relationships to clinical outcomes. *Topics in Health information management*. 2003;24(1):8 - 14.
155. Gentles D, Metcalf P, Dyal L, Scragg R, Black P, Schaaf D, et al. Blood pressure prevalences and levels for a multicultural population in Auckland, New Zealand: results from the Diabetes, Heart and Health Survey 2002/2003. *New Zealand Medical Journal*. 2006;119(1245).
156. ACNeilsen. Pulp fiction - the facts harvested. A study of New Zealanders' physical activity and nutrition. Maori nutrition analysis. Wellington: Te Hotu Manawa Maaori and the Cancer Society; 2004.
157. SPARC, New Zealand Cancer Society 2003 [updated 9 September 2006; cited 2006 21 August]. Obstacles to Action: A study of New Zealanders' Physical Activity and Nutrition. Available from: <http://www.sparc.org.nz/research-policy/research-obstacles-to-action>
158. Te Puni Kokiri. Omangia Te Oma Roa. Maori participation in physical leisure. Wellington: Te Puni Kokiri; 1995.

159. Elley R, Kerse N, Arroll B, Swinburn B, Ashton T, Robinson E. Cost-effectiveness of physical activity counselling in general practice. *New Zealand Medical Journal*. 2004;117(1207).
160. Mayer-Davis E, D'Antonio A, Smith S, Kirkner G, Levin Martin S, Parra-Medina D, et al. Pounds Off With Empowerment (POWER): A clinical trial of weight management strategies for black and white adults with diabetes who live in medically underserved rural communities. *American Journal of Public Health*. 2004;94(10):1736 - 1742.
161. Caballero B, Clay T, Davis S, Ethelbah B, Rock B, Lohman T, et al. Pathways: a school-based, randomized controlled trial for the prevention of obesity in American Indian schoolchildren. *American Journal of Clinical Nutrition*. 2003;78:1030 - 1038.
162. Townsend M, Johns M, Shilts M, Farfan-Ramirez L. Evaluation of a USDA nutrition education program for low-income youth. *Journal of Nutrition Education and Behavior*. 2006;38:30 - 41.
163. Jackson N, Howes F, Gupta S, Doyle J, Waters E Cochrane collaboration; 2006 [updated Feb 2005; cited 2007 18 January]. Interventions implemented through sporting organisations for increasing participation in sport. Available from: <http://www.cochrane.org/reviews/en/ab004812.html>
164. Moy K, Scragg R, McLean G, Carr H. Metabolic equivalent (MET) intensities of culturally-specific physical activities performed by New Zealanders. *New Zealand Medical Journal*. 2006;119(1235).
165. Brewin M, Coggan C. Evaluation of a New Zealand indigenous community injury prevention project. *Injury Control and Safety Promotion*. 2002;9(2):83 - 88.
166. Brewin M, Coggan C. Evaluation of the Ngati Porou Community Injury Prevention Project. *Ethnicity & Health*. 2004;9(1):5-15.
167. Waiti J. Tikanga-based motivation for physical activity. In: National Maori Nutrition and Physical Activity Hui; 2006; Huria Marae, Tauranga; 2006.
168. Moewaka Barnes H, Casswell S, Compain T, Waa A, Spinola C, Stanley P, et al. Te Tipu Ora. Community Action to reduce alcohol related traffic injury among Maori: a collaborative project. Process/Impact evaluation report on WHIRIWHIRI TE ORA to the Accident Rehabilitation and Compensation Insurance Corporation. Auckland: Alcohol & Public Health Research Unit, University of Auckland; 1996.
169. Moewaka Barnes H, Casswell S, Compain T, Waa A, Spinola C, Stanley P, et al. Uru Atu. Community action to reduce alcohol related traffic injury among Maori: a collaborative project. Process/Impact/Evaluation Report on Whaanau / Tu BADD to the Accident Rehabilitation and Compensation Insurance Corporation. Auckland: Alcohol & Public Health Research Unit, University of Auckland; 1996.
170. Bramley D, Broad J, Harris R, Reid P, Jackson R. Differences in patterns of alcohol consumption between Maori and non-Maori in Aoteaora (New Zealand). *New Zealand Medical Journal*. 2003;116(1184).
171. Huckle T, Broughton D, Pledger M. Auckland pseudo patrons survey 2004. Auckland: Centre for Social and Health Outcomes Research and Evaluation, Te Runanga, Wananga, Hauroa me te Paekaka, and Te Ropu Whariki; 2004.

172. Clark T, Robinson E, Crengle S, Watson P. Contraceptive use by Maori youth in New Zealand: associated risk and protective factors. *New Zealand Medical Journal*. 2006;119(1228).
173. Craig E, Mantell C, Ekeroma A, Stewart A, Mitchell E. Ethnicity and birth outcome: New Zealand trends 1980 - 2001. Part 1. Introduction, methods, results and overview. *Australian and New Zealand Journal of Obstetrics and Gynaecology*. 2004;44:530 - 536.
174. Mantell C, Craig E, Stewart A, Ekeroma A, Mitchell E. Ethnicity and birth outcomes: New Zealand trends 1980 - 2001: Part 2. Pregnancy outcomes for Maori women. *Australian and New Zealand Journal of Obstetrics and Gynaecology*. 2004;44:537 - 540.
175. Stevens-Simon C, Orleans M. Low-birthweight prevention programs: The enigma of failure. *Birth*. 1999;26(3):184 - 191.
176. Panaretto K, Lee H, Mitchell M, Larkins S, Manassis V, Buettner P, et al. Impact of a collaborative shared antenatal care program for urban indigenous women: A prospective cohort study. *Medical Journal of Australia*. 2005;182(10):514 - 520.
177. Glover M, Waldon J, Biddle H. Influences that affect Maori women breastfeeding. *Breastfeeding Review*. In Press.
178. Vogel A. Evaluation of B4Baby Auckland: Kidz First Community Health, Counties Manukau District Health Board; 2003.
179. Findley S, Irigoyen M, See D, Sanchez M, Chen S, Sternfels P, et al. Community provider partnerships to reduce immunization disparities: Field report from Northern Manhattan. *American Journal of Public Health*. 2003;93(7):1041 - 1444.
180. Hambidge S, Davidson A, Phibbs S, Chandramouli V, Zerbe G, LeBaron C, et al. Strategies to improve immunization rates and well-child care in a disadvantaged population. *Archives of Pediatric and Adolescent Medicine*. 2004;158:162 - 169.
181. Dietrich A, Tobin J, Cassells A, Robinson C, et al. Telephone care management to improve cancer screening among low-income women: A randomized, controlled trial. *Annals of Internal Medicine*. 2006;144(8):563 - 572.
182. Jones P. Obstacles to Action. *Maaori Profile*. DRAFT. Wellington: SPARC; 2006.
183. Te Reo Marama 2006 [cited 2007 17 January]. Maori murder. Te Reo Marama Maori smokefree coalition campaign. Available from: <http://www.tereomarama.co.nz/Site/campaignnews/news.aspx>
184. Ministry of Health. Clearing the smoke: A five-year plan for tobacco control in New Zealand (2004-2009). Wellington: Ministry of Health; 2004.
185. The Tobacco Use and Dependence Clinical Practice Guideline Panel, Staff, and Consortium Representatives. A clinical practice guideline for treating tobacco use and dependence: A US Public Health Service report. Consensus statement. *JAMA*. 2000;283(24):3244 - 54.
186. Wilson N. Review of the evidence for major tobacco control interventions. Wellington: Ministry of Health; 2003.