



**Cancer Control
Action Plan
2006-2010**

August 2007

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Executive Summary

Cancer Control is an organised and systematic approach to the reduction of cancer incidence, morbidity and mortality. The New Zealand Cancer Control Strategy (Minister of Health 2003) provides a framework for reducing the incidence, impact and inequalities of cancer along the whole cancer control continuum, including prevention, early detection, effective diagnosis and treatment, rehabilitation, support and palliative care.

The aim of this plan is to provide a strategic direction for an integrated and coordinated Lakes Cancer Control service. The plan will guide services delivery and development between the years 2006-2010.

The Ministry of Health requires District Health Boards (DHBs) to submit Cancer Control Action Plans by February 2007. Guidance from the Ministry of Health during development of this plan indicated that developing DHB and regional cancer control plans is an iterative process. The Ministry of Health requested that DHBs use the NZCCS Action Plan as a template for developing plans, identifying local cancer control activities in progress, indicating local priorities and advancement towards the establishment of regional cancer networks to meet regional priorities.

Lakes DHB has been working with the Midland DHBs to advance cancer control within the DHB and the Midland region. There are already many cancer control services and programmes that are working well and have provided the foundation for developing this Action Plan.

Key recent cancer control developments for Lakes include:

- The establishment of the Midland Cancer Network with Waikato DHB as the lead. This is the first regional cancer network and action plan to be endorsed within New Zealand.
- Age extension of Breast Screen Midland service.
- The commencement of comprehensive patient mapping of the major tumour groups across Lakes, Bay of Plenty and Waikato DHBs is a significant achievement and lays the foundation for service improvement to patients and family/whanau.
- The advancement of the Midland Region Non-Surgical Cancer Treatment Services Plan (Barber 2004) with continued work to implement the recommendations through the Midland Region Non-Surgical Cancer Treatment Services Operations Network.
- The development of Cancer Care Co-ordination services.

This plan focuses on improvements to cancer control which can be achieved within existing resources and/or known new targeted funding.

Lakes DHB will align itself with national directions and participate in a Midland region approach to the NZCCS and Action Plan. To successfully implement national priority goals and objectives, Lakes DHB will continue to participate in local approaches with health providers, including Toi te Ora Public Health, primary health organisations, non-government organisations, secondary–tertiary providers and inter-sectoral agencies. Lakes DHB is committed to effective planning, co-ordination and integration of resources and activities, and monitoring and evaluation of cancer services across the cancer continuum.

To implement the Lakes Cancer Control Action Plan it is important that the various facets of the health and disability sector, and the wider inter-sectoral community, work in a co-ordinated and collaborative fashion and contribute to achieving improvements across the cancer control continuum.

Strategies

Cancer Control in New Zealand

Cancer is a major health issue for New Zealanders. One in three New Zealanders will have some experience of cancer, either personally or through a relative or friend.

Cancer is the second leading cause of death (29 percent) and a major cause of hospitalisation (7 percent) in New Zealand. There are about 17,000 new registrations of cancer each year, with the highest rates in the middle and older age groups.

New Zealand Cancer Control Strategy and Action Plan

Cancer control is an organised approach to reducing the burden of cancer through prevention; screening and early detection; treatment; support and rehabilitation; palliative care; and data and research. New Zealand has developed the Cancer Control Strategy, which sets principles and goals to guide existing and future actions to control cancer.

Overall purposes of the New Zealand Cancer Control Strategy

The overall purposes of the New Zealand Cancer Control Strategy are to:

- reduce the incidence and impact of cancer
- reduce inequalities with respect to cancer.

The principles of the New Zealand Cancer Control Strategy

All activities undertaken to meet these purposes should:

- work within the framework of the Treaty of Waitangi to address issues for Maori
- reduce health inequalities among different population groups
- ensure timely and equitable access for all New Zealanders to a comprehensive range of health and disability services, regardless of ability to pay
- be of high quality
- be sustainable
- use an evidence-based approach
- reflect a person-centred approach
- actively involve consumers and communities
- recognise and respect cultural diversity
- be undertaken within the context of a planned, co-ordinated and integrated approach.

The goals of the New Zealand Cancer Control Strategy

The goals of the New Zealand Cancer Control Strategy are to:

1. reduce the incidence of cancer through primary prevention
2. ensure effective screening and early detection to reduce cancer incidence and mortality
3. ensure effective diagnosis and treatment to reduce cancer morbidity and mortality
4. improve the quality of life for those with cancer, their family and whanau through support, rehabilitation and palliative care
5. improve the delivery of services across the continuum of cancer control through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation

-
6. improve the effectiveness of cancer control in New Zealand through research and surveillance.

Following the release of the Strategy in August 2003, the Cancer Control Taskforce was established to produce the Cancer Control Action Plan, which describes in detail how the objectives of the Strategy will be achieved.

Phase One Priorities

The NZCCS Action Plan outlines the immediate priorities for phase one¹ implementation. These are:

- establish regional cancer networks
- expand smoking cessation services and programmes for Maori women
- implement Healthy Eating – Healthy Action
- implement strategies to improve coverage of BreastScreen Aotearoa in areas where the need for increased coverage has been identified
- ensure timely and acceptable access to cancer services by establishing standards
- establish multidisciplinary care for patients
- pilot studies to map and analyse cancer patients' journey and clinical pathway
- establish groups to develop guidance for children, adolescents and adults
- implement and evaluate pilot survivorship programmes for children and adolescents
- implement the New Zealand Palliative Care Strategy
- develop a workforce plan for cancer control, ensuring consideration of cancer workforce shortages for Maori and Pacific people
- plan for capital expenditure on cancer control, including equipment, drugs and new initiatives
- apply the Heat Equity Assessment Tool to policy and funding decisions regarding cancer control
- support Maori-led cancer services where possible and ensure all mainstream cancer services have a cultural framework for Maori that aligns with He Korowai Oranga
- develop a five year rolling plan for research to cancer control
- develop a nationalised, standardised clinical cancer data set.

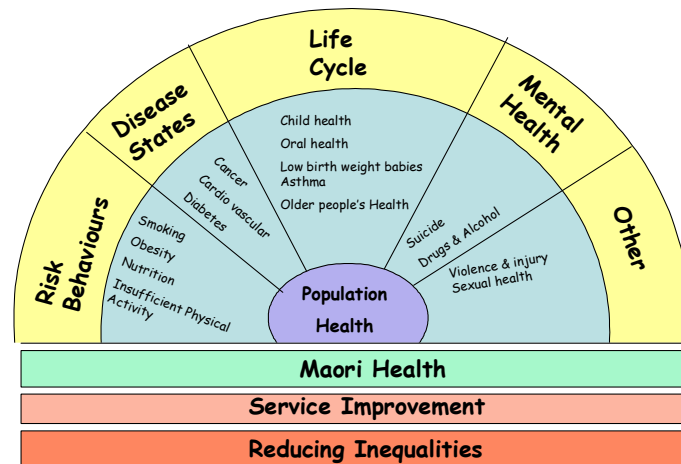
A proportion of the phase one priorities is being addressed at a national level.

¹ The NZCCS Action Plan phase one priorities generally means actions to occur within one to two years; phase 2 within three to five years

Lakes District Health Board Strategic Plan Update 2005-2015- July 2006

Cancer features highly in the Lakes District Health Board Strategic Plan, both from a risk behaviour perspective and in relation to chronic disease. The following extract from the Strategic Plan demonstrates a strong link to the New Zealand Cancer Control Strategy.

Lakes DHB Summary of Priorities 2005 – 2015



Environment

Population Profile

There are about 102,000 people living in the Lakes DHB region. Health needs in the Lakes district are determined by the characteristics of this population (age, sex, ethnicity, and rurality) together with a summation of influences (socio-economic and environmental determinants). The proportion of Maori, at around 35% is more than twice the proportion in the total New Zealand population (15%).

Strategies and Objectives

Overarching strategies

The Minister of Health has developed two overarching strategies. For the New Zealand health sector the overarching strategy is the New Zealand Health Strategy 2000, while for disability the equivalent is the New Zealand Disability Strategy, which provides a vision for a fully inclusive society.

Objectives

The goals and objectives of the Lakes DHB are consistent with the objectives and functions of DHBs as set out in the New Zealand Public Health and Disability Act 2000, and with the goals and objectives of the New Zealand Health Strategy and the New Zealand Disability Strategy.

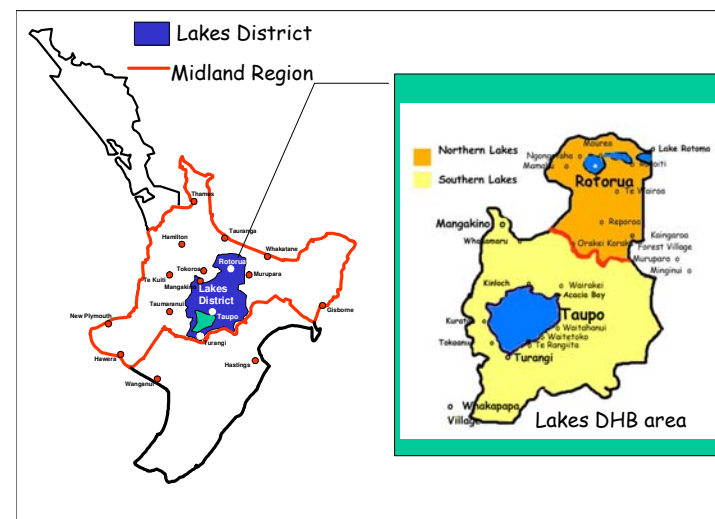
Public Health

Public health services in the Lakes district are delivered through a number of non government organisations, iwi providers and one regional Public Health Unit (Toi Te Ora Public Health). Lakes DHB will support continuous quality improvement of health promotion programmes by these providers at the national, regional and district levels, and in particular ensure programme responsiveness to Maori and Pacific peoples. Progress will be monitored through programme evaluations. Opportunities for collaborative work will be exploited.

Lakes DHB priorities

Timeframes:

Short term	2005 - 2008
Medium term	2009 - 2012
Long term	2013 – 2015 and beyond



Reducing Inequalities



Reducing inequalities is at the centre of Lakes DHB's health agenda, and approaches to reduce inequalities are considered under each of the priority headings that follow. Recent research by the Public Health Intelligence Unit² using both life expectancy and distribution of life expectancy (i.e. variation in health across individuals in a population) to calculate health inequality shows Lakes DHB as ranking 20th out of the country's 21 DHBs. Lakes has the second worst level of health inequality in New Zealand. This accounts for the fact that we have a larger number of priority areas than those DHBs that enjoy less health inequality.

That notwithstanding, to reduce inequalities Lakes DHB's greatest focus until 2015 and beyond, will be on reducing inequalities in the area of child and foetal health and better management of chronic diseases.

We believe the focus on child health will ultimately lead to reduced health inequalities across the wider population, as healthy children grow and develop into healthy adults. Better managing chronic disease in the Lakes area will also yield significant benefits. Healthy Communities, Mauriora!

Risk Factors

Smoking, nutrition, obesity and physical activity

	New Zealand Issues Tobacco smoking is the major cause of preventable death in New Zealand and is currently responsible for approximately 18% of all deaths in New Zealand. Maori women have the highest smoking rate of all sub-population groups in New Zealand. Nutrition plays a major role in the leading three causes of death in the western world – ischaemic heart disease, cancer and stroke.
	Lakes Health Needs Assessment In 1996 the proportion of people in Lakes in the over-15 age group who smoked was 30% compared to 24% nationally. Overall, the 2002/2003 New Zealand Health Survey results estimate that 50.1% of the Lakes Maori population smoke compared with 25.2% of the non-Maori population. Maori women in Lakes have an even higher smoking rate (55.3%) than Maori women nationally (51.5%). The last ASH survey showed Rotorua high schools to have the highest rate of tobacco uptake in New Zealand – it is likely Taupo figures will be similar.

² Monitoring Health Inequality Through Neighbourhood Life Expectancy – (2005) Public Health Intelligence Occasional Bulletin No 28

Smoking - Outcomes

Short term

- An increased proportion of Maori access smoking cessation services
- The smoke-free status of our own sites and other public facilities is supported
- Maori, young people and pregnant women are targeted to become smoke free

Medium term

- Health promotion programme evaluation will have been undertaken
- Increased numbers of smoke free environments
- Whanau ora smoking cessation programmes supported by rongoa are in place and evaluation is underway

Long term

- Reduced levels of tobacco smoking within the Lakes DHB population
- Maori smoking prevalence reduced to at least the same as level as non-Maori
- A reduced number of people, particularly tamariki Maori, exposed to second-hand smoke
- Reduced number of smoking related medical conditions including respiratory disease with Maori rates the same as for non-Maori rates

How we will monitor our progress

- Hospitals and NGO provider patient/client identification of smoking data for analysis.
- Hospitalisation data for smoking related disorders including respiratory disease and cardiovascular disease, and smoking influenced conditions such as low birth weight babies, and bronchiolitis and asthma in children

Nutrition - Outcomes

Short term

- Lakes DHB Healthy Eating Health Action policy implementation is supported
- There is ongoing collaborative work with the Rotorua Physical Activity and Nutrition Network (PANN)
- Primary care providers are encouraged to develop lifestyle coaching programmes

Medium term

- Increased rate and duration of breastfeeding particularly for Maori and Pacific women
- Raised awareness of the benefits of good nutrition, especially in priority groups
- Support community programmes that support breast feeding
- Maori peer-supported breast feeding programmes are in place

Long term

- Improved nutrition, including increased uptake of fruit and vegetables intake in the Lakes region
- Maori and Pacific breastfeeding rates are the same as those for non-Maori

Obesity – Outcomes

Short term

- See as for Nutrition

Medium term

- Support implementation of the recommendations from the 'Obstacles to Action: A Study of New Zealanders' Physical Activity and Nutrition' national research.
- Raised awareness of obesity issues within the high priority populations in the Lakes district

Long term

- Reduced incidence of obesity amongst the Lakes DHB population
- Reduced rates of obesity-related non-communicable diseases and illnesses
- Ethnic differences are reduced significantly

Physical Activity - Outcomes

Short term

- Green prescriptions in primary care are promoted
- Activity programmes targeted to Maori and Pacific are linked to diabetes prevention and management programmes

Medium term

- There are increased physical activity levels in the Lakes DHB population



Long term

- Ongoing support for the implementation of the Getting There – On Foot, By Cycle Strategy
- Increased awareness of the health benefits and desirable levels of physical activity, particularly in priority population groups

How we will monitor our progress

- Monitor delivery of physical activity initiatives, including Green Prescriptions in primary care

CANCER

	New Zealand Issues Cancer is one of the leading causes of death in New Zealand, accounting for approximately one in four deaths.
	Lakes Health Needs Assessment Cancer mortality rates overall for Lakes are generally higher than the national rates and Lakes Maori cancer mortality rates are significantly higher than Lakes overall rates.

Outcomes

Short term

- Ensure screening programmes that will detect cancer at its early stages are responsive to priority groups (Maori, Pacific) particularly breast and cervical screening programmes
- Ensure that community and clinical breast and cervical screening services are closely aligned
- Develop an action plan to implement the New Zealand Cancer Control Strategy

Medium term

- Continue to implement the NZ Cancer Control Strategy action plan, Midland Regional Non-surgical Cancer Treatment Services Implementation Plan (MRNSCTSIP) and the New Zealand Palliative Care Strategy

Long term

- Ensure the Lakes district population has equitable access to cancer prevention, detection and treatment services in line with the New Zealand Cancer Control Strategy and its successor documents
- Reduction in cancer related mortality rates in the Lakes district
- Ensure cancer mortality rates for Maori do not exceed those for non-Maori

How we will monitor our progress

- Implementation of the Lakes District Cancer Control Strategy action plan
- Implementation of the MRNSCTSIP
- Trends in uptake of screening programmes
- Trends in hospitalisation and mortality data
- Trends in cancer staging at diagnosis

Lakes District Health Board Health Needs Assessment

The following is an extract from “An Assessment of Health Needs in the Lakes District Health Board Region” 2004, which was based on data from the 2001 NZ Census. The recently released 2006 Census showed a small increase in usually resident population of 2325.

Geographic Overview

Territorial Authorities

The Lakes District Health Board (DHB) area is made up of the Rotorua and Taupo territorial authorities (TAs). Rotorua TA covers an area of 2614.908 square kilometres and the Taupo TA covers an area of 6954.838 square kilometres.

Territorial authorities are local council areas for which a range of statistics are available. Within the DHB there is likely to be geographical variation in needs, which will not be picked up unless the statistics are broken down by TA region.

Towns and Major Urban Areas

In Lakes DHB there are two major urban areas – Rotorua and Taupo. There are also a number of townships - Turangi and Mangakino – for which some statistics are available and useful as indicators of health need.

The Midland Region

Lakes DHB is part of the larger Midland DHB region which also includes the Waikato, Bay of Plenty, Tairāwhiti and Taranaki DHBs. The Midland area covers 56,738 km², comprising 22% of New Zealand's total land area.

The regional approach to planning, regional human resource programmes, purchasing groups, Midland Regional Mental Health Network (MRHN) and the formalised Strategic Alliance between Waikato and Lakes have all led to efficiencies and to enhanced relationships.

Midland DHBs will continue to explore, investigate and evaluate further participation in shared services arrangements across the region, which would result in an anticipated cost reduction and improvement in quality. Such arrangements would include sharing resources, generating purchasing power and standardising processes.

Sociodemographic Determinants of Health

Population Numbers and Growth

On census night in 2001 there was a total of 103,329 people staying in the Lakes DHB area and 95,994 people were “usually resident” in the District³. There were 64,473 usual residents living in the Rotorua TA; 31,521 usual residents living in the Taupo TA; 3,441 usual residents living in Turangi; and 1,281 usual residents living in Mangakino⁴. The population of Rotorua TA decreased by 0.1% between 1996 and 2001; the Taupo TA population increased by 2.7%; and the Turangi population decreased by 8.1%. In comparison, the population for New Zealand as a whole increased by 3.3% between 1996 and 2001.

³ All statistics on this page are Statistics New Zealand 2001 census statistics, or Statistics New Zealand medium-series population projections.

⁴ Turangi; and Mangakino are townships of Taupo TLA

In 2004 it is estimated that there are 102,225 people living in the Lakes DHB area. Rotorua TA is projected to increase by 8% (5,500 people) between 2001 and 2021 with more rapid growth expected in the eastern suburbs, northern rural areas and eastern lakeside areas. Taupo TA is also projected to increase by 8% (2,500 people) between 2001 and 2021. Lakes DHB's moderate population growth over the coming decade reflects a national trend.

While rapid growth places strain on health services, declining populations are a risk to the economic and social sustainability of local communities which are key determinants of a healthy population. The total New Zealand population is projected to decline from around 2050 and as the national population declines the ability of the Lakes District to attract and hold people will become increasingly important.

Between 2001 and 2016 the Maori population is projected to increase by 18% (4,400 people) in the Rotorua TA and 14% (1,400 people) in the Taupo TA. The Rotorua TA Pacific people's population is projected to increase by 33% (900 people). In contrast, the European population of the Rotorua TA is projected to increase by 1% (400 people) between 2001 and 2016 and the Taupo TA European population is projected to increase by 4% (1,100 people). Higher projected increases in the Maori and Pacific peoples populations within Lakes DHB compared with the European population reflects the younger population and higher birth rates of Maori and Pacific ethnic groups. Social interaction (for example inter-marriage) is also contributing to ethnic diversity at present.

Economy and tourism

Tourism, forestry and agriculture contribute significantly to total economic output in the Lakes district. Fast growing sectors over the coming years are expected to include trade and tourism, manufacturing, health, education and transport.

Tourism is one of New Zealand's largest and fastest growing industries and the Rotorua and Taupo TAs are established destinations for domestic and international visitors. The table below shows that the populations of both Rotorua and Taupo TAs are inflated by visitors to both destinations. Knowing the usually resident population of the Lakes district is not enough for health planning. Planning to meet health need in the Lakes district requires some knowledge about the number of visitors to the region, they do place increased demand on health services.

Table 1: Tourism in the Lakes District Health Board

Estimated visitor impact	Year ended June 03 Taupo TA	Year ended June 03 Rotorua TA
Commercial	1,078,390	1,782,454
Private	416,469	1,091,082
Total annual guest nights	1,494,859	2,873,536
Average daily guest nights	4,096	7,873
Estimated usually resident population 2003	33,300	67,600
Estimated average daily population	37,396	75,473

Source: Rotorua and Taupo Tourism Monitors, APR consultants & Statistics New Zealand population estimates.

Population composition - age and sex

Age, sex, hereditary factors and ethnicity are key determinants of health and are relatively unchangeable. The age structure by sex of the Lakes DHB population is shown below to closely mirror the national structure. It is projected that there are more females (51,970) than males (50,170) living in Lakes DHB in 2004. Females in New Zealand as a whole have outnumbered males since the late 1960s. The excess of females becomes very marked among those aged over 65 years reflecting the higher mortality rates amongst males and the longer life expectancy of females.

Lakes DHB's population is relatively youthful; at the 2001 census 25.8% of people in the Rotorua TA; 24.4% of people in the Taupo TA; 28.3% of people in Mangakino; and 26.3% of people in Turangi were less than 15 years old compared with 22.7% of the total New Zealand population.

Chart 1: Lakes DHB Usually Resident Population, 2004 (Projected)

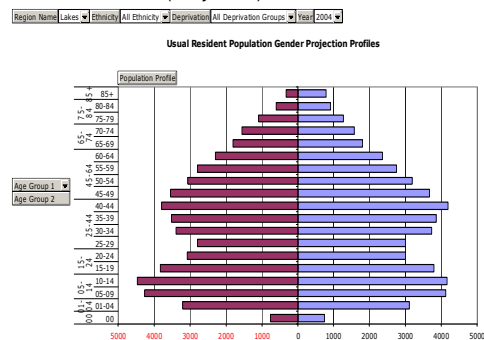
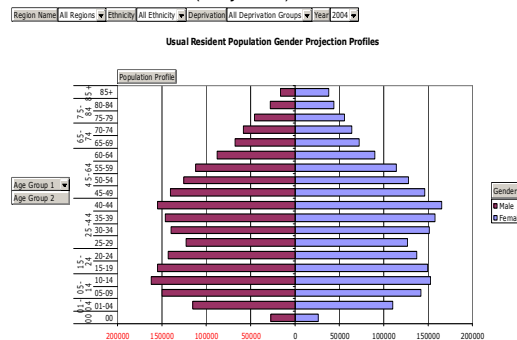


Chart 2: New Zealand Usually Resident Population, 2004 (Projected)



Source: Central Region's Technical Advisory Services Ltd (data from Statistics New Zealand)

As shown in the graphs below, the age structure by sex of Lakes and New Zealand is projected to change dramatically by in 2026. These graphs show the effect of 'population ageing' or transition from a younger to an older population structure. Population ageing reflects the combined impact of sub-replacement fertility (when live birth rates are below the level that the population needs to replace itself without migration), longevity gains (longer life expectancy) and the ageing of the large "baby-boom" cohorts of the 1950s-1970s⁵. Since the over 65 age group has high health needs and consumes more health services than younger age groups, the increasing proportion of older people is likely to place a higher demand on health and disability services.

Chart 3: Lakes DHB Usually Resident Population, 2026 (Projected)

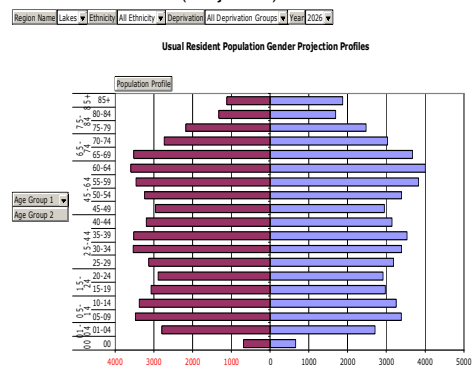
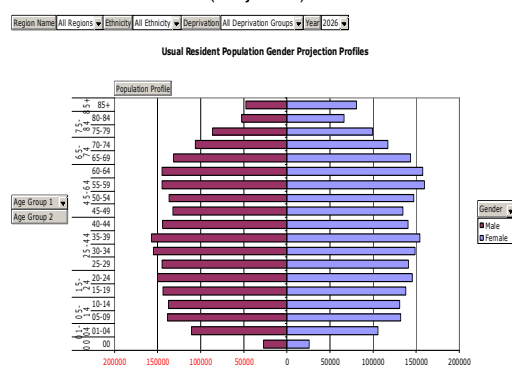


Chart 4: New Zealand Usually Resident Population, 2026 (Projected)



Source: Central Region's Technical Advisory Services Ltd (data from Statistics New Zealand)

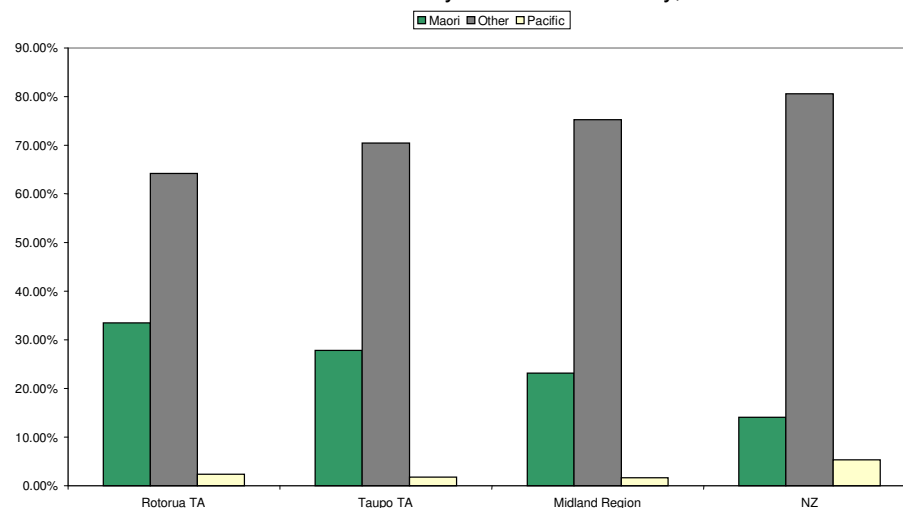
⁵ STATISTICS NEW ZEALAND. 2004. *Older New Zealanders – 65 and beyond*. Wellington: Statistics New Zealand.

Population composition - ethnicity

The Lakes DHB population is becoming increasingly multicultural with increases in the number of residents from the Pacific Islands, Asian countries and many other parts of the world. The Lakes Pacific peoples population of approximately 3600 comprises established Cook Island, Tokelauan, Samoan, Tongan, Fijian and Niuean communities in Rotorua, and the Tokelauan and Samoan communities in Taupo.

The charts below show that the proportion of Maori in the Lakes population is significantly higher than in the national population. In Lakes DHB overall the proportion of Maori is approximately 35% compared with 15% nationally.

Chart 5: Lakes DHB Ethnic Distribution by Territorial Authority, 2001



Source: Central Region's Technical Advisory Services Ltd (data from Statistics New Zealand)

Please note that ethnic group numbers are based on all people who identified with a particular ethnic group. People may identify with more than one ethnic group.

Age and ethnicity

Throughout New Zealand, Maori and Pacific populations have higher proportions of younger people and less older people than other ethnic groups due to their higher birth rates and lower life expectancy. Maori under 25 years of age make up approximately half of the total Lakes population - the population age structures of the three major ethnic groups in Lakes are contrasted in the charts below.

Chart 6: Lakes DHB Usual Resident Maori Population 2004 (Projected)

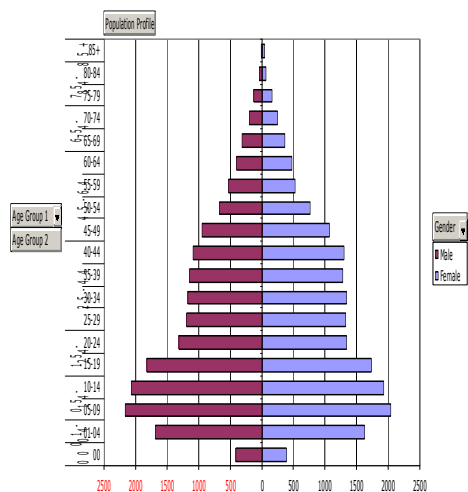


Chart 7: Lakes DHB Usual Resident Pacific Peoples Population 2004 (Projected)

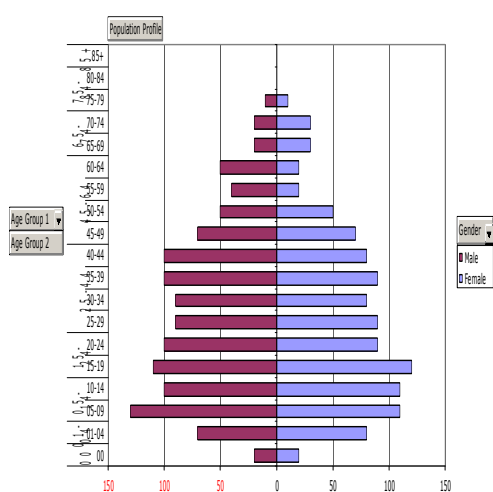
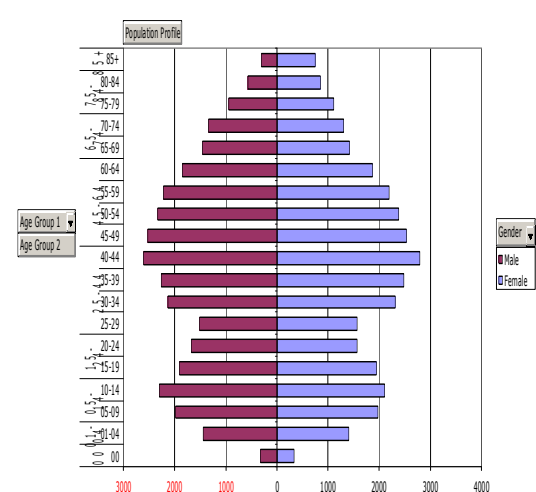


Chart 8: Lakes DHB Usual Resident Other Ethnic Groups Population 2004 (Projected)

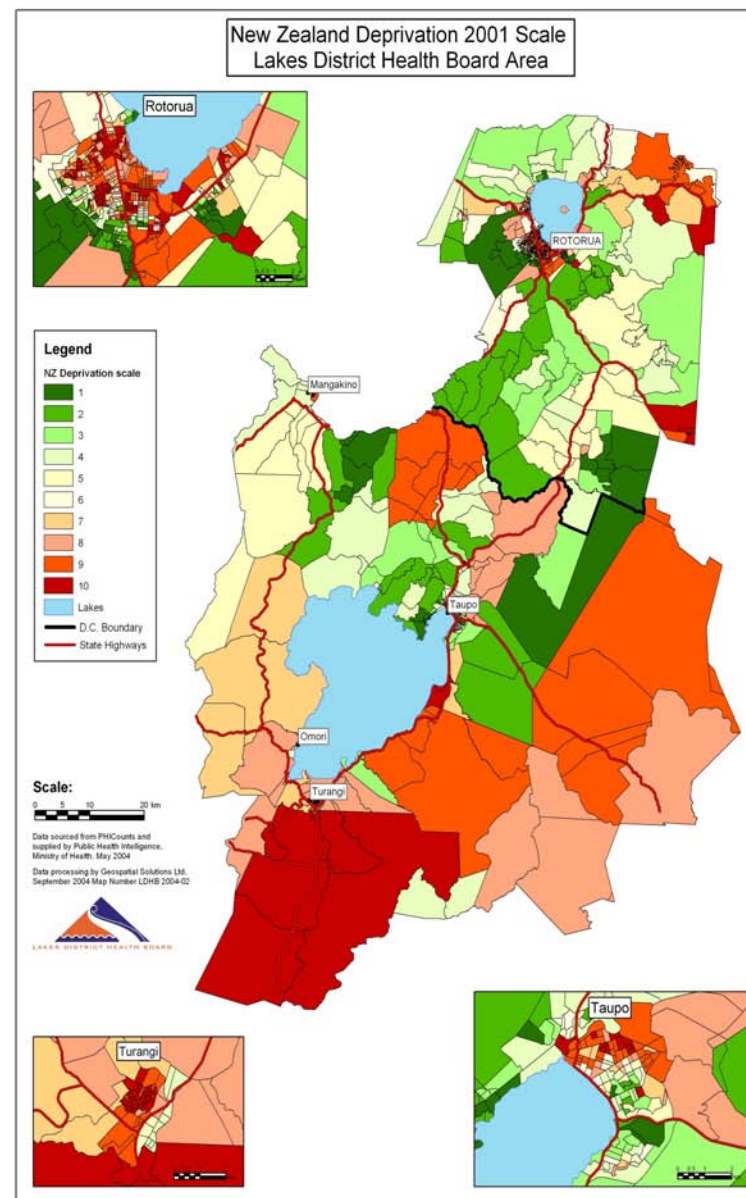


Source: Central Region's Technical Advisory Services Ltd (data from Statistics New Zealand)

Lakes District Deprivation Profile

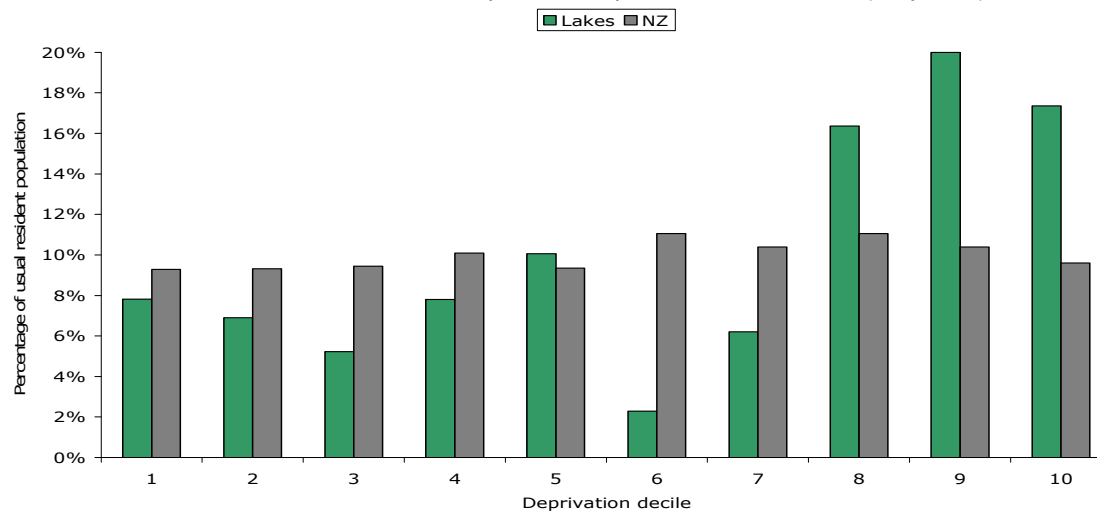
A map showing the deprivation index score for areas within the Lakes DHB is presented opposite. The areas in red represent areas of very high deprivation. From the map it can be seen that the deprivation picture differs between the two TAs. In the Rotorua TA the areas with the highest average deprivation are spread through the township, whereas in the Taupo TA they tend to be on the outskirts of the town and in the more remote rural areas on the western side of Lake Taupo and the south-east area of the region which includes Turangi. In the Taupo TA then the issue of the proportion of households without cars in the more deprived areas, and travelling times to health providers, are more likely to be of concern.

Map 1: New Zealand Deprivation 2001 Scale Lakes District Health Board Area



In the graphs below the horizontal axis shows the NZDep index of deprivation from 1 (least deprived) to 10 (most deprived) and the vertical axis shows the number of people in each decile. Comparing the even distribution of people at the national level and the Lakes DHB distribution which is heavily skewed towards the most deprived deciles, presents a stark contrast. The charts show that the New Zealand population has roughly equal numbers of people living in areas at each level of deprivation (see below), while the Lakes DHB has a disproportionately large number of people in deciles 8, 9 and 10. Lakes DHB presents a more socio-economically deprived picture than overall New Zealand, with a very high proportion of the population showing a high level of deprivation.

Chart 9: Lakes DHB & NZ Usual Resident Population Deprivation Profile, 2004 (Projected)



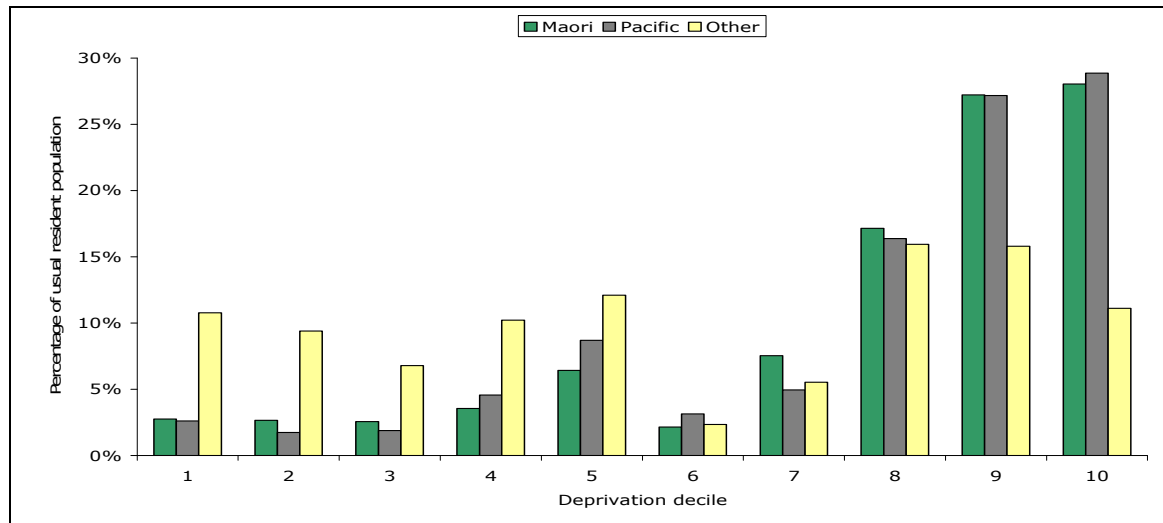
Source: Central Region's Technical Advisory Services Ltd (data from Statistics New Zealand)

Deprivation and ethnicity

If socioeconomic deprivation were independent of ethnicity, Maori and non-Maori would be equally distributed through the deprivation deciles. However, as the graphs below show, distribution is highly unequal with more than half of the Maori population in the Lakes DHB area living in very deprived neighbourhoods and the Pacific population being even more skewed towards the most deprived deciles. Such findings demonstrate the 'distribution gap', a distinct type of ethnic inequality in health in New Zealand⁶.

⁶ MINISTRY OF HEALTH. 2002. *Reducing Inequalities in Health*. Wellington: Ministry of Health.

Chart 10: Lakes DHB Usual Resident Population Deprivation Profile, by Ethnicity, 2004 (Projected)



Source: Central Region's Technical Advisory Services Ltd (data from Statistics New Zealand)

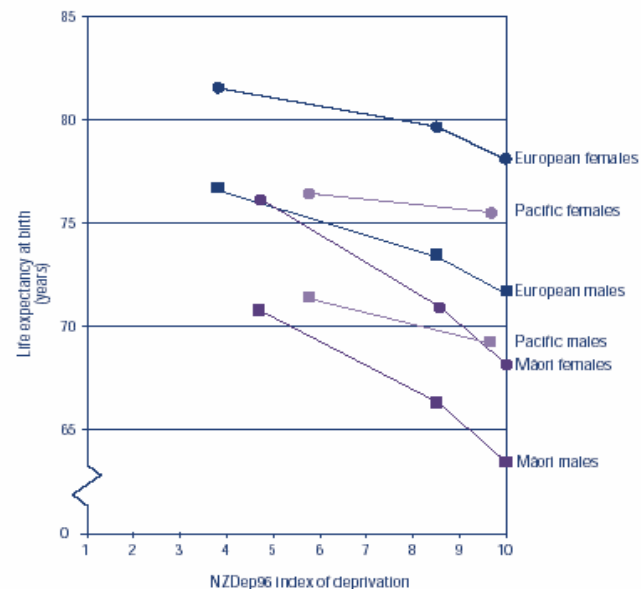
Deprivation, ethnicity and life expectancy

There is a consistent and pervasive correlation between increasing deprivation and worsening health and risk factor measures including shorter life expectancy, higher mortality rates, higher hospitalisation rates and higher smoking rates.

Health outcomes for Maori and Pacific peoples are in most instances worse than those for non-Maori and non-Pacific peoples, even after controlling for deprivation. The chart below shows that average life expectancy at birth for Maori and Pacific peoples at the national level is consistently less than that of non-Maori in each of these deprivation strata for both men and women.

Chart 11: Life Expectancy at Birth, by Aggregated Deprivation Decile, for Maori, Pacific and European Ethnic Groups

Figure 4: Life expectancy at birth, by aggregated deprivation decile, for Māori, Pacific and European ethnic groups*



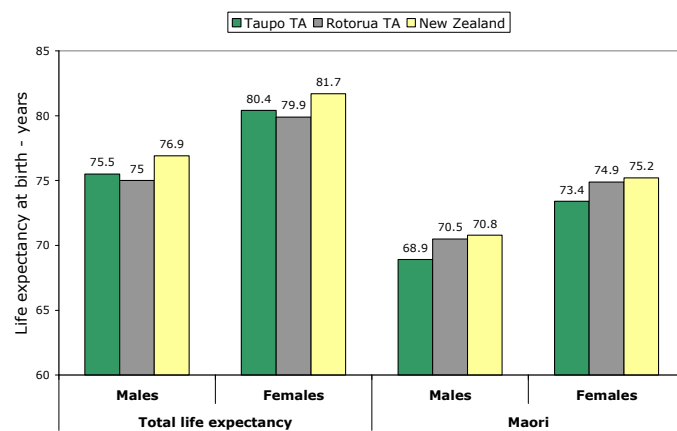
* Population-weighted midpoints of aggregated NZDep96 deciles differ for each ethnic group.

Source: Ministry of Health

MINISTRY OF HEALTH. 2002. Reducing Inequalities in Health. Wellington: Ministry of Health.

The large number of Maori people in the Lakes district living in very deprived neighbourhoods (deciles 8-10) is reflected in the lower life expectancy of Maori compared with the total Lakes population as shown below. Pacific people's life expectancies are inaccurate when calculated by region because of small numbers.

Chart 12: Projected Life Expectancy at Birth, 2002-2026



Source: Statistics New Zealand

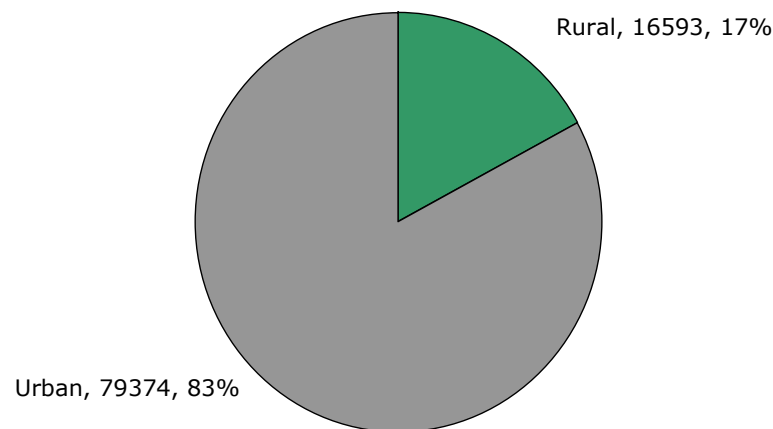
Access to health services

Transport

Rural populations often have more difficulty accessing health services as transport costs and travel times to health services are greater for them. A population density map on the following page shows the distribution of the Lakes DHB population between urban and rural areas.

In Lakes DHB numbers living in rural areas (shown below) increased marginally between 1996 and 2001 but the percentage of the total DHB population living in rural areas (17%) remained the same over this period.

Chart 13: Lakes DHB Urban-Rural Population Proportions Census Usual Resident Counts, 2001



Source: Statistics New Zealand, 2001 census

Lakes DHB transport and accommodation assistance

The National Travel Assistance Policy 2005 replaced regional policies from 1 January 2006. Eligibility criteria include Community Services Card holders travelling more than 80km (adult, one way) or more than 25km (child under 18, one way) This allows for assistance for Taupo and Turangi and Mangakino patients travelling to Rotorua Hospital. Further eligibility criteria depending on frequency of visits and distance travelled also enables support for patients.

Distance to GPs and Hospitals

The majority of the Lakes DHB population live within 10km from the nearest GP or hospital. Overall the population has reasonable access to GPs and hospital level care, however, this should not disguise the fact that there is a large total number of people living in highly deprived rural areas of Lakes who do experience difficulty accessing hospital level care; particularly those rural residents without access to a vehicle.

Smoking

Why a priority?

Tobacco smoking is the major cause of preventable death in New Zealand and is currently responsible for approximately 18% of all deaths in New Zealand⁷. Smoking is a risk factor for cancer of the lung, mouth, pharynx, oesophagus, larynx, pancreas and kidney. Smoking also increases the risk of heart disease, stroke and chronic respiratory diseases⁸. Parental tobacco smoke and environmental tobacco smoke are related to several conditions (for example, SIDS and the childhood risk of croup, pneumonia and asthma) and smoking during pregnancy adversely affects foetal development.

Smokefree New Zealand

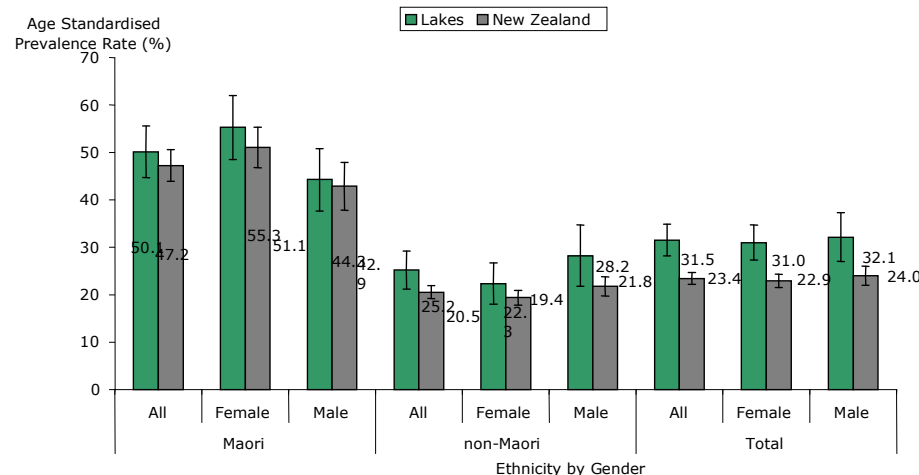
There is good evidence that smoking related morbidity and mortality can be substantially reduced using preventative approaches. On 10 December 2004 workplaces (including Lakes DHB), clubs, bars and restaurants in New Zealand went 'smokefree'.

Outcome measures

In 1996 the proportion of people in Lakes in the over 15 age group who smoked was 30% compared to 24% nationally. The 2002/2003 New Zealand Health Survey found that 31.3% of people in Lakes in the over 15 age group smoked compared with 22.9% nationally.

Tobacco disproportionately impacts on Maori and Pacific people, and is a substantial contributor to inequalities in health. The chart below shows that there is a significant difference between Maori and non-Maori smoking rates. Overall, the 2002/3003 New Zealand Health Survey results estimate that 50.1% of the Lakes Maori population smoke compared with 25.2% of the non-Maori population. Maori women have the highest smoking rate of all sub-population groups in Lakes and New Zealand. The graph below shows that Maori women in Lakes have an even higher smoking rate (55.3%) than Maori women nationally (51.5%).

Chart 14: Prevalence of Current Smokers (%) by Gender & Ethnicity, 2002/2003 NZ Health survey Data



Source: Central Region's Technical Advisory Service Limited (data from) 2002/03 NZHS DHB snapshot "datacube"

⁷ MINISTRY OF HEALTH. 2004. *An Indication of New Zealanders' Health 2004*. Wellington: Ministry of Health.

⁸ MINISTRY OF HEALTH. 2004. *A Portrait of Health: Key Results of the 2002/2003 New Zealand Health Survey*. Wellington: Ministry of Health.

Note that smoking prevalence rates do not measure the cumulative hazards of smoking, which depend on several factors including the age at which smoking began, duration of smoking, number of cigarettes smoked per day, degree of inhalation, and cigarette characteristics such as tar and nicotine content or the type of filter⁹.

In Lakes during 1999-05, the proportion of Year 10 students who were daily smokers declined, from 21.1% in 1999 to 11.7% in 2005, while the proportion who had never smoked increased, from 22.7% in 1999 to 39.8% in 2005. Throughout this period, daily smoking rates in Lakes were higher than the New Zealand average, while the proportion who had never smoked was lower.” (ASH Smoking Survey data reported in “The Determinants of Child and Youth Health in Lakes 2006”) This indicates a significant reduction in the uptake of smoking.

⁹ MINISTRY OF HEALTH. 2004. *A Portrait of Health: Key Results of the 2002/2003 New Zealand Health Survey*. Wellington: Ministry of Health.

Cancer

Why a priority?

Cancer is one of the leading causes of death in New Zealand, accounting for approximately one in four deaths. In 2000 cancer accounted for 28.5% of total deaths in New Zealand¹⁰. Leading causes of cancer death in New Zealand include cancer of the lung, cancer of the breast, colorectal cancer and cancer of the prostate.

The age of the population most at risk of developing cancer are those in the middle to older age groups. Of the cancer deaths nationwide in 2000, 95.1% occurred at 45 years and over, with 70.9% aged 65 years and over¹¹. Less than 1% of cancer deaths occurred under 25 years of age¹². In Lakes, like New Zealand overall, the proportion of the population over 40 is predicted to increase and the number of people over 65 years continues to increase at a significantly greater rate than the overall population. Population demographics and increasing cancer cases means the demand for cancer treatments will continue to rise, placing increasing pressure on healthcare services.

Midland Region Non-surgical Cancer Treatment Service Plan

A comprehensive non-surgical cancer treatment service plan for the Midland Region was completed in August 2004. The plan supports Midland DHBs in delivering non-surgical cancer treatment services which meet the needs of their populations and to work towards achieving the goals of the New Zealand Cancer Control Strategy. The plan reviews the national and DHB position in relation to cancer care, the impact of demographic changes and future options for service delivery for regional cancer services, in particular – medical oncology, radiation oncology and haematology.

The Regional Cancer Centre located in Hamilton and based on a 'hub and spoke' model of service, provides clinical haematology, medical oncology, and radiation oncology services to the Bay of Plenty, Lakes, and Waikato DHB populations. Recommendations are made in the plan to strengthen this approach and to enable the service to meet the increasing needs of cancer services for this population.

Outcome measures

Cancer prevalence

A detailed report entitled 'Cancer: New Registrations and Deaths'¹³ is published annually by the New Zealand Health Information Service. This publication provides information about all cases of primary malignant cancer reported to the New Zealand Cancer Registry, as well as information about deaths from cancer. This report indicates that there is a relatively high proportion of registrations where ethnicity is not recorded. The majority of these are where the diagnosis of cancer has been made in the private sector and the only information available may be the laboratory form, which does not include information about ethnicity. These registrations have been omitted from the analysis and therefore the rates indicated below may be understated.

The Ministry of Health published Cancer in New Zealand: Trends and Projections in 2002. This document identifies that an increased risk of cancer has been identified, with two-thirds of that increase due to demographic changes and, in particular, growth in the adult population. The incident rate of 'all adult cancer' (i.e. all adult cancers treated as a single entity) is predicted to increase for both genders over the next decade but at a slower rate than the past decade. A 6% increase is predicted for females between 1996 and 2011 to an incidence rate of 450 per 100,000 and 7% for males to an incidence rate of 510 per 100,000.

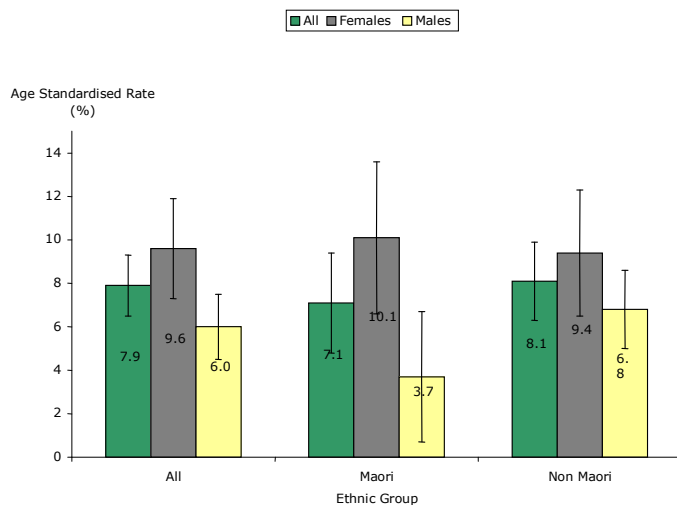
¹⁰ NEW ZEALAND HEALTH INFORMATION SERVICE. 2004. *Mortality and Demographic Data 2000*. Wellington: Ministry of Health.

¹¹ Ibid.

¹² Ibid.

¹³ <http://www.nzhis.govt.nz/publications/cancer.html>

Chart 15: Lakes DHB Cancer Prevalence Rates



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

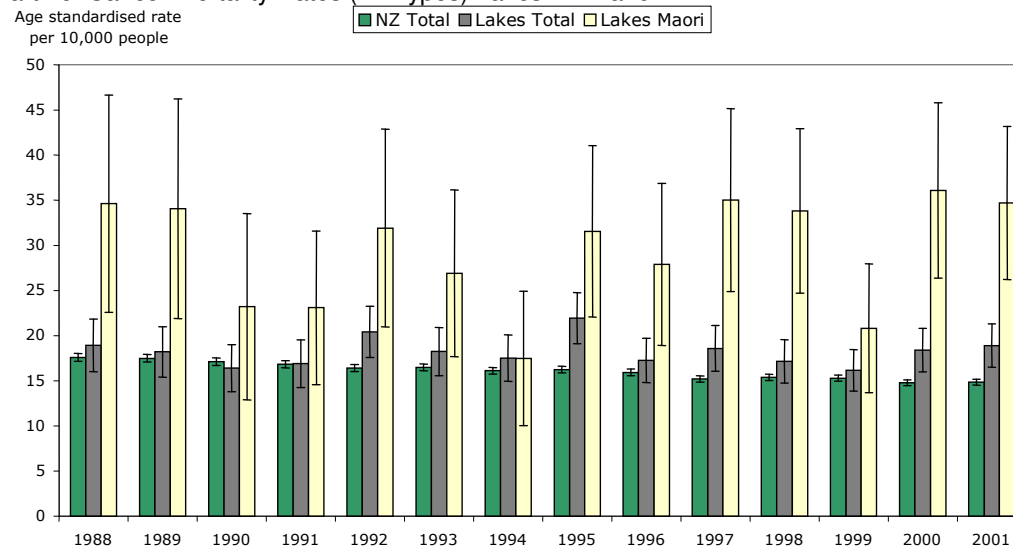
Lakes DHB current cancer prevalence rates indicate similar rates for Maori and non Maori.

Cancer mortality

At the national level in 2000 Maori males had an age standardised cancer death rate that was 51.3% higher than the non-Maori male rate, while the Maori female aged standardised rate was 82.1% higher than the non-Maori female rate¹⁴. The chart below shows that cancer mortality rates overall for Lakes are generally higher than the national rates and Lakes Maori cancer mortality rates are significantly higher than Lakes overall rates.

¹⁴ NEW ZEALAND HEALTH INFORMATION SERVICE. 2004. *Mortality and Demographic Data 2000*. Wellington: Ministry of Health.

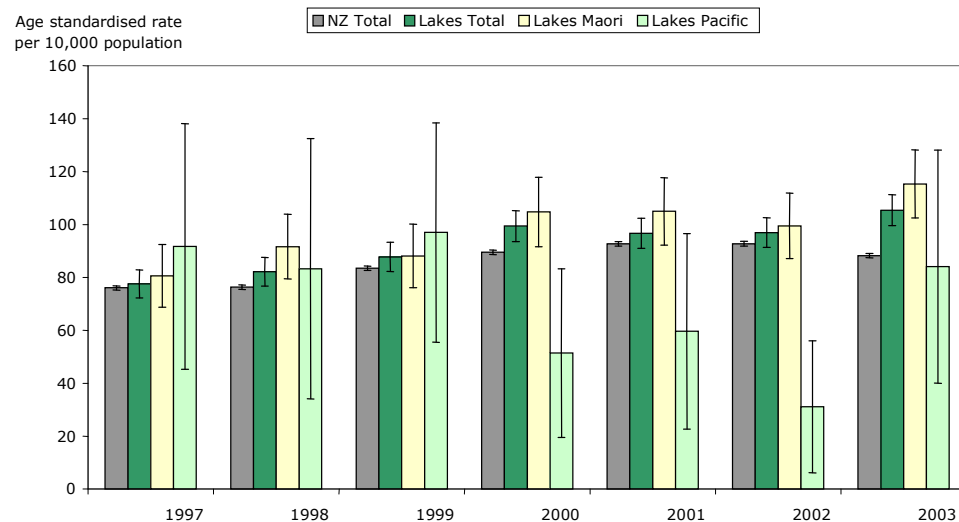
Chart 16: Cancer Mortality Rates (All Types) Lakes DHB and NZ



Source: Central Region's Technical Advisory
Service Limited (data from the Ministry
of Health)

The chart below shows that Lakes hospitalisation rates for cancer are higher than national rates and Lakes Maori cancer hospitalisation rates are higher than Lakes overall rates.

Chart 17: Cancer Hospitalisation Rates (All Types), Lakes DHB and NZ



Source: Central Region's Technical Advisory
Service Limited (data from the Ministry
of Health)

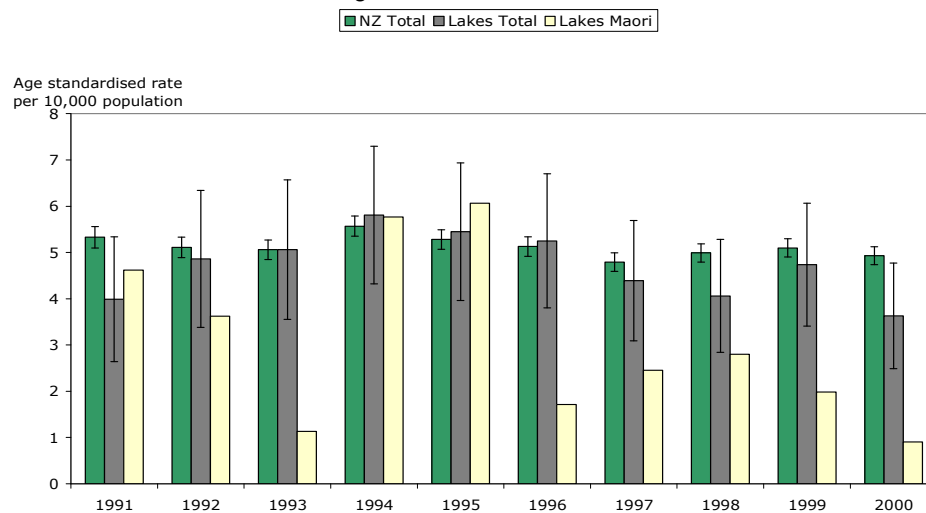
Major cancers

Colorectal

Colorectal cancer includes both cancer of the colon and cancer of the rectum. Colorectal cancer is currently the most common cancer among males in terms of registrations, and second most common (after lung cancer) in terms of mortality. Among females, colorectal cancer is the second most common site of cancer (after breast cancer) for both registrations and mortality¹⁵.

Age standardised registration rates show that Lakes has rates similar or lower to New Zealand total rates, with no statistically significant differences. Maori rates are highly variable due to the smaller numbers involved, and confidence intervals (not shown) would be very wide.

Chart 18: Colorectal Cancer Registrations, Lakes DHB and NZ

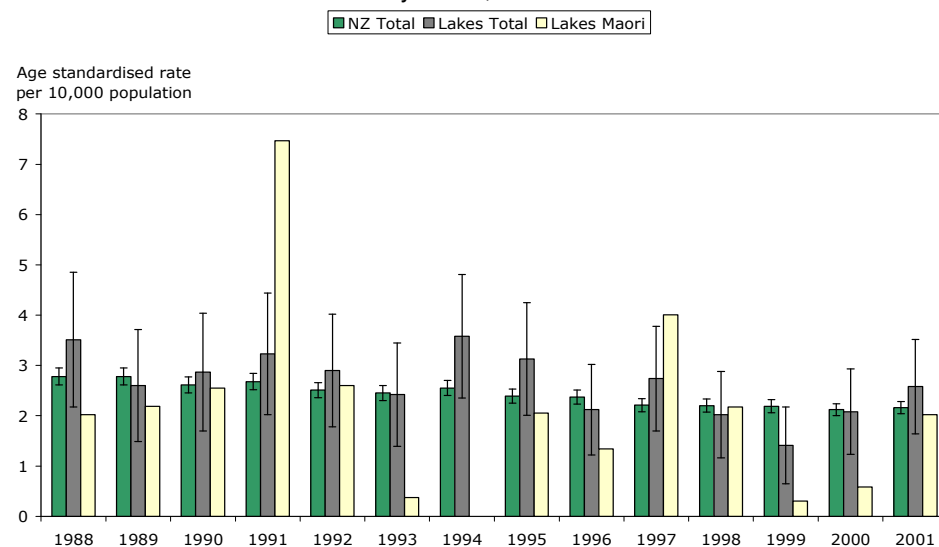


Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

A similar pattern is shown for colorectal cancer mortality rates.

¹⁵ MINISTRY OF HEALTH. 2004. *An Indication of New Zealanders' Health 2004*. Wellington: Ministry of Health.

Chart 19: Colorectal Cancer Mortality Rates, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

Lung

Lung cancer is currently the third most common cancer among males in terms of cancer registrations, and the most common cancer in terms of mortality. Among females lung cancer is the fourth most common site in terms of cancer registrations and the third most common in terms of mortality. Tobacco smoking causes 80 percent of lung cancer cases¹⁶.

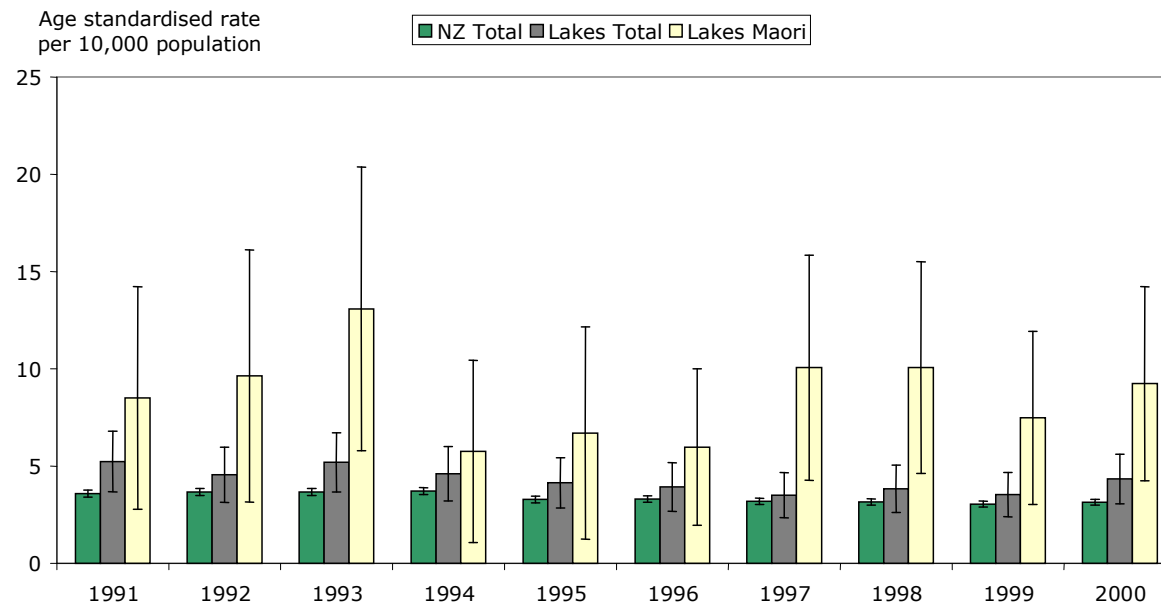
While male lung cancer mortality rates in European/Others have been decreasing during the 1980s and 1990s, Maori and Pacific rates are increasing. Lung cancer rates are also increasing among Maori and Pacific females while the rate for European/Other females seems stable. Male lung cancer registrations and mortality are forecast to continue to decrease. Female registrations are forecast to stabilise at current levels, but mortality is forecast to increase slightly by 2012¹⁷.

The graph below shows that the registration rates for Lakes, and particularly Lakes Maori, are higher than for New Zealand overall, but that these differences are not statistically significant except for Lakes Maori over NZ overall in 1993, 1997, 1998 and 2000.

¹⁶ MINISTRY OF HEALTH. 2004. *An Indication of New Zealanders' Health 2004*. Wellington: Ministry of Health.

¹⁷ Ibid.

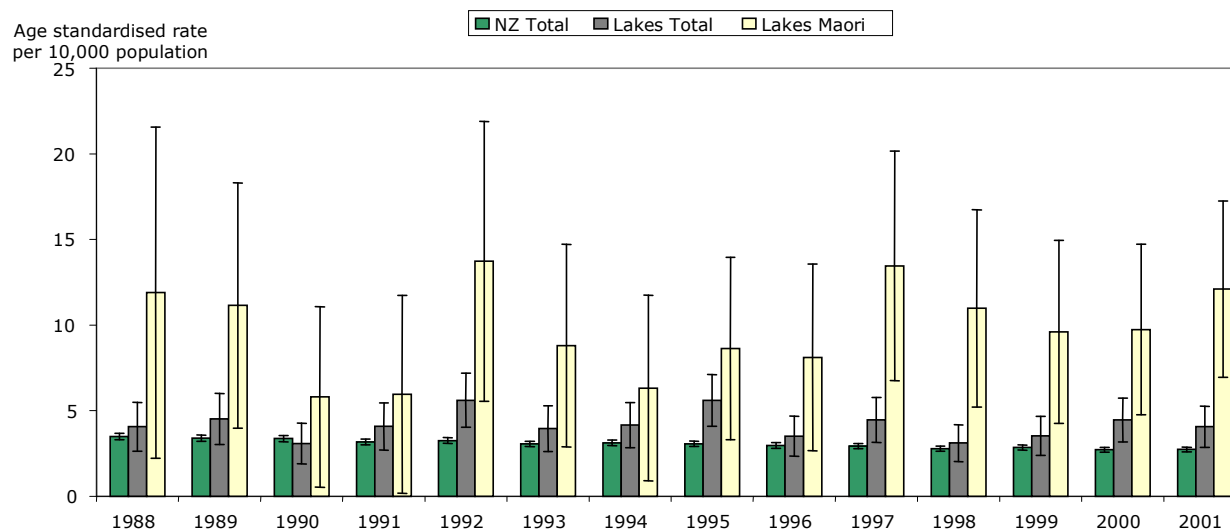
Chart 20: Lung, Trachea and Bronchus Cancer Registrations, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

The graph below shows that the mortality rates by Lung Cancer for Lakes, and particularly Lakes Maori, are higher than for Lakes and for New Zealand overall. These differences are statistically significant in 1992, 1997, 1998 and 2001.

Chart 21: Lung Cancer Mortality rates, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

Melanoma

Melanoma is a serious form of skin cancer, which develops in the pigment-producing cells of the skin. The risk of the disease has increased over the last century with depletion of the ozone layer in the upper atmosphere and consequent increasing ultraviolet radiation levels¹⁸. Mortality from melanoma has remained relatively stable since the 1980s and is expected to remain among the top five or six cancers for males and females over the coming decade. Melanoma registrations and mortality are forecast to be stable or declining over the next decade.

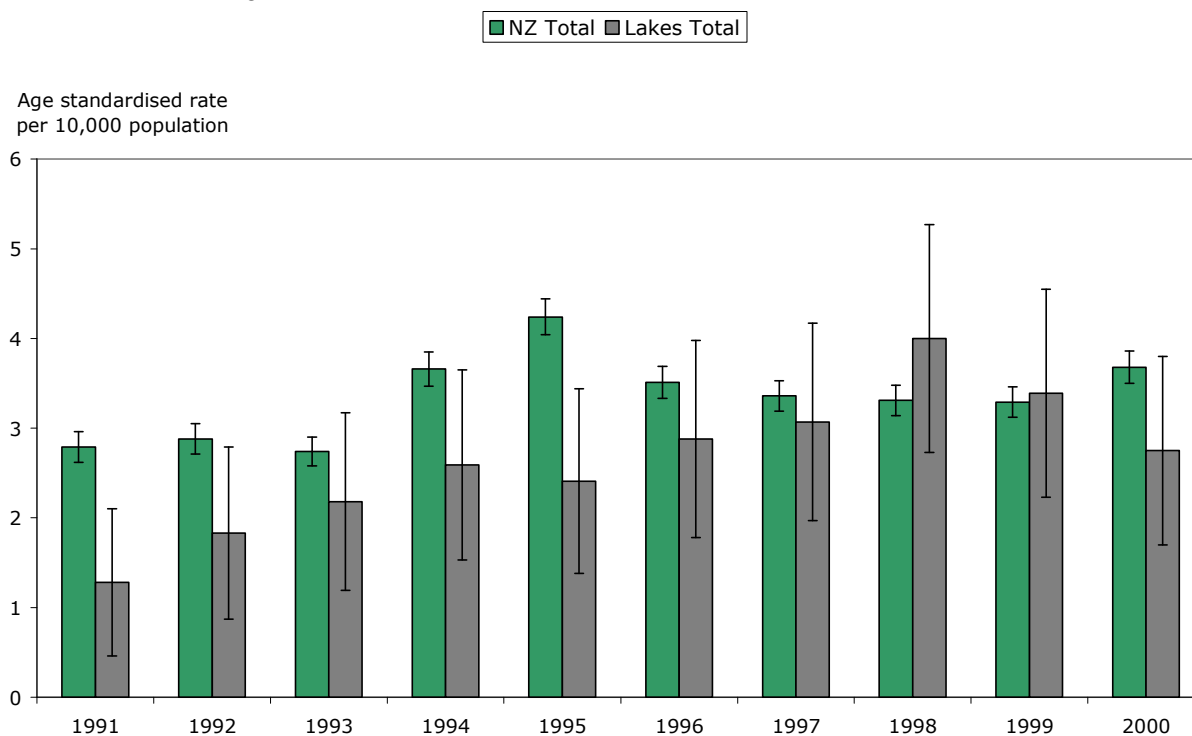
Melanoma registrations (and mortality) are higher in the European/Other ethnic group than in the Maori, Pacific and Asian groups. Non-Maori registration rates for melanoma in 1999 were 10 times higher than the Maori rate¹⁹.

In the early 1990s Lakes registration rates tended to be lower than New Zealand rates, in some years the difference was statistically significant, however rates from 1996 to 2000 have been similar for Lakes and New Zealand.

¹⁸ MINISTRY OF HEALTH. 2004. *An Indication of New Zealanders' Health 2004*. Wellington: Ministry of Health.

¹⁹ Ibid.

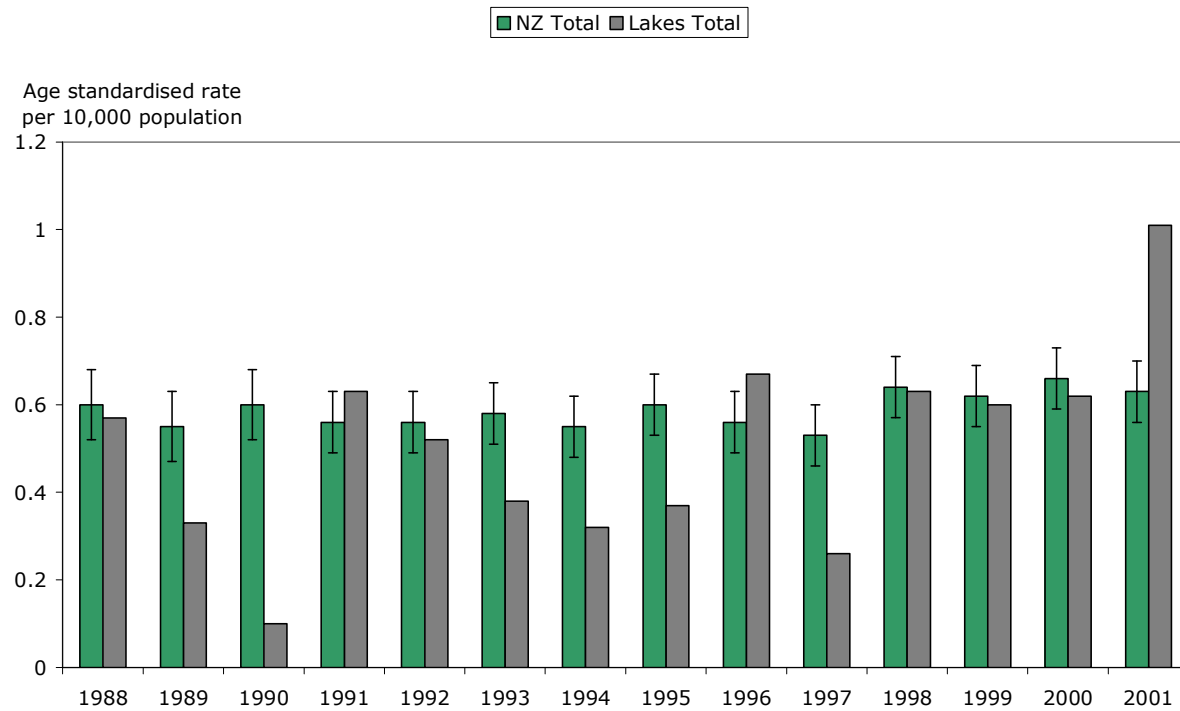
Chart 22: Melanoma Registrations, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

Mortality rates for skin cancers (almost all melanoma) are similar in Lakes and New Zealand, with the Lakes rates showing large annual variations due to low numbers.

Chart 23: All Skin Cancer Mortality Rate, Lakes DHB and NZ



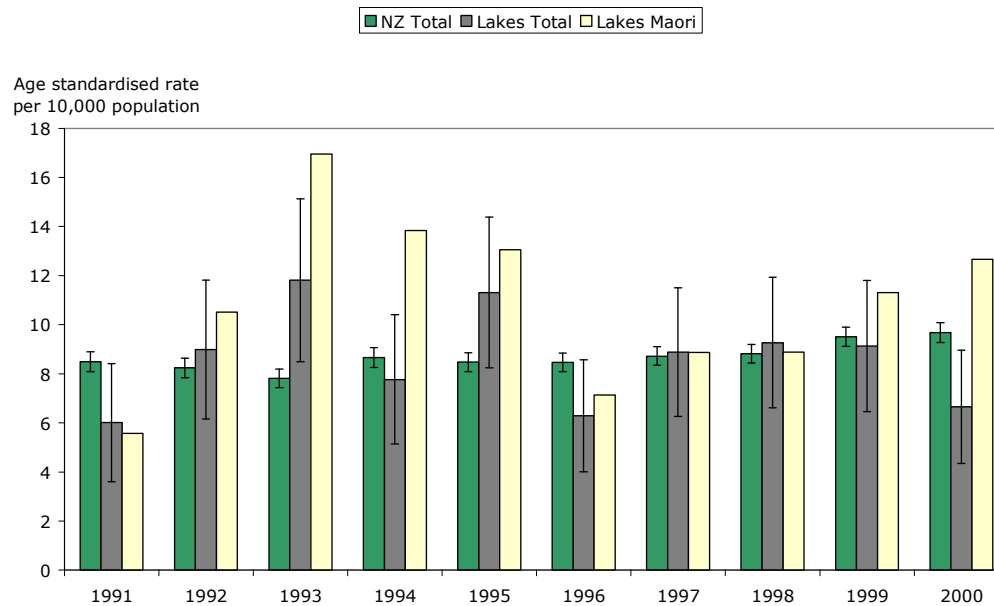
Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

Female breast (gender specific)

In New Zealand breast cancer is the most common cancer among females. Breast cancer makes up just over a quarter of new cancers diagnosed in women, and almost one in five cancer deaths²⁰.

The graphs show similar registration rates for New Zealand and Lakes populations, with higher rates for Lakes Maori. The only statistically significant difference between Lakes and NZ registrations is in 2000.

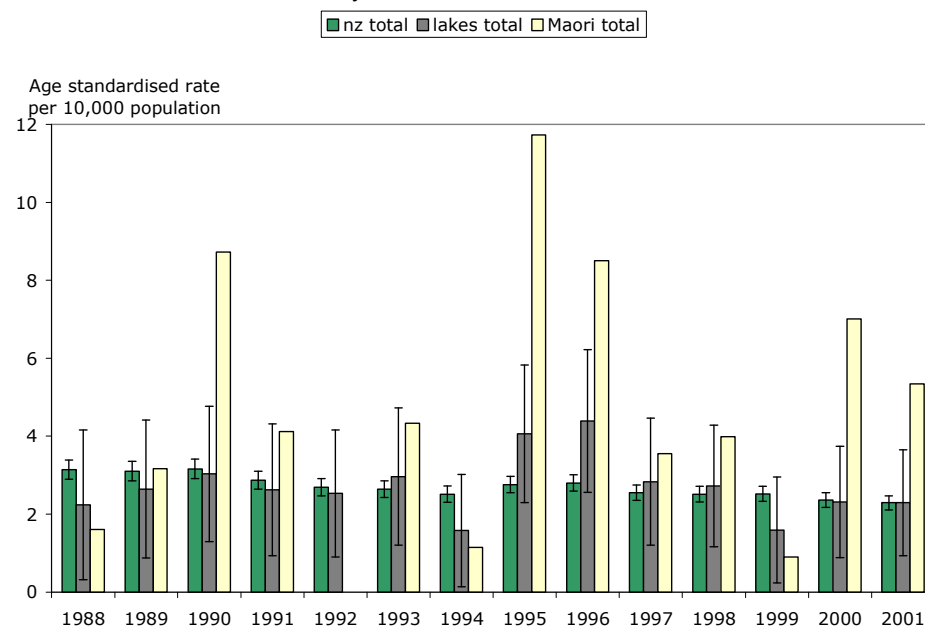
Chart 24: Female Breast Cancer Registrations, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

²⁰ MINISTRY OF HEALTH. 2004. *An Indication of New Zealanders' Health 2004*. Wellington: Ministry of Health.

Chart 25: Breast Cancer Mortality, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

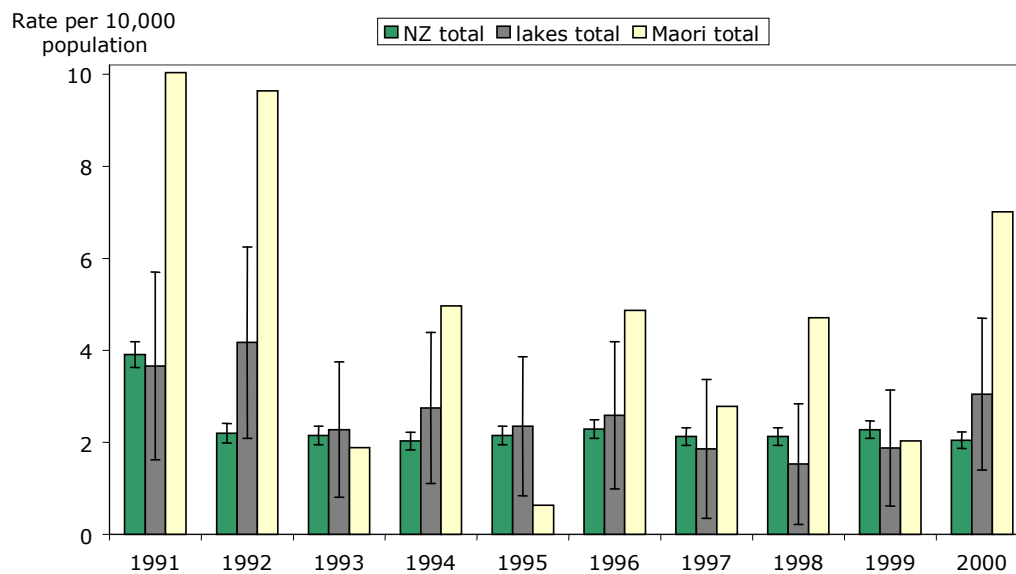
Cervical

Cervical cancer is associated with human papillomavirus infection, and is preventable through safer sexual behaviours and cervical screening with early treatment. The National Cervical Screening Programme (NCSP) has operated nationally from 1991. All women aged 20–69 years are encouraged to have three-yearly smears²¹.

In 2000 Maori women had higher cervical cancer registration and mortality rates than other women. Maori females are twice as likely to be diagnosed with cervical cancer as non-Maori females with a mortality rate four times higher.

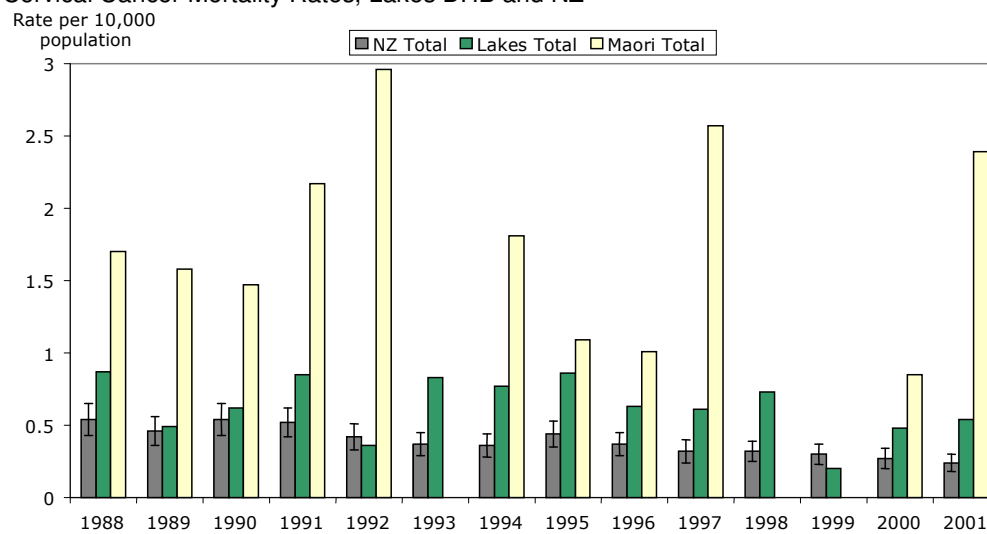
²¹ MINISTRY OF HEALTH. 2004. *An Indication of New Zealanders' Health 2004*. Wellington: Ministry of Health.

Chart 26: Cervical and Uterine Cancer Registrations, Lakes DHB & NZ



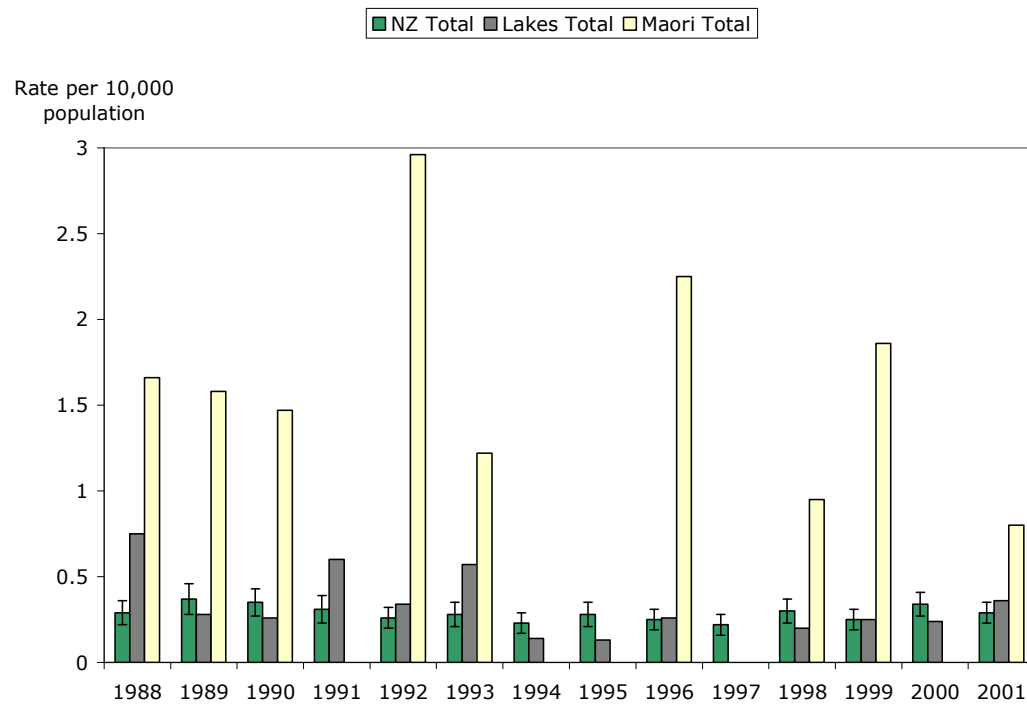
Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

Chart 27: Cervical Cancer Mortality Rates, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

Chart 28: Cancer of Uterus Mortality Rates, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

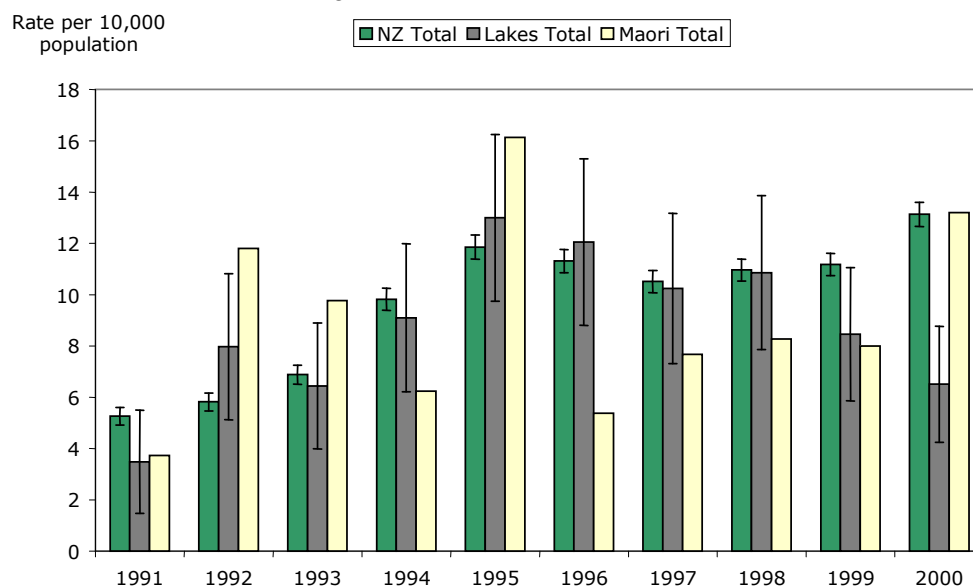
Prostate

Among New Zealand males, prostate cancer is currently the second most common cancer in terms of registrations, and the third most common in terms of cancer mortality²². The causes of prostate cancer have not been established, although ecological studies suggest that a Western-style diet may be an important factor.

Prostate cancer registrations and mortality are forecast to continue to increase and this cancer is predicted to be the leading cancer for male incidence and death by 2011. The effect of an ageing population will be the most important cause of increases in the number of new cases and deaths due to prostate cancer²³.

Prostate cancer is diagnosed at a higher rate among European/Other and Pacific ethnic groups compared to Maori and Asian groups. Although having a lower registration rate than European/Other people, Maori have a higher mortality rate²⁴. Overall Lakes follows this pattern for total population and Maori.

Chart 29: Prostate Cancer Registration Rates, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

There is no available data on mortality by prostate cancer, as regional numbers are possibly too low.

²² MINISTRY OF HEALTH. 2004. *An Indication of New Zealanders' Health 2004*. Wellington: Ministry of Health.

²³ Ibid.

²⁴ Ibid.

Stomach Cancer

The survival rate of stomach cancer patients is very poor although stomach cancer mortality continues to decline.

The poor prognosis is largely due to presentation and diagnosis being made after the cancer has spread beyond the stomach. The chance of getting stomach cancer appears to be higher if the patient has had an infection of the stomach caused by *Helicobacter pylori*. Once cancer of the stomach is found, more tests are undertaken to find out if cancer cells have spread to other parts of the body.

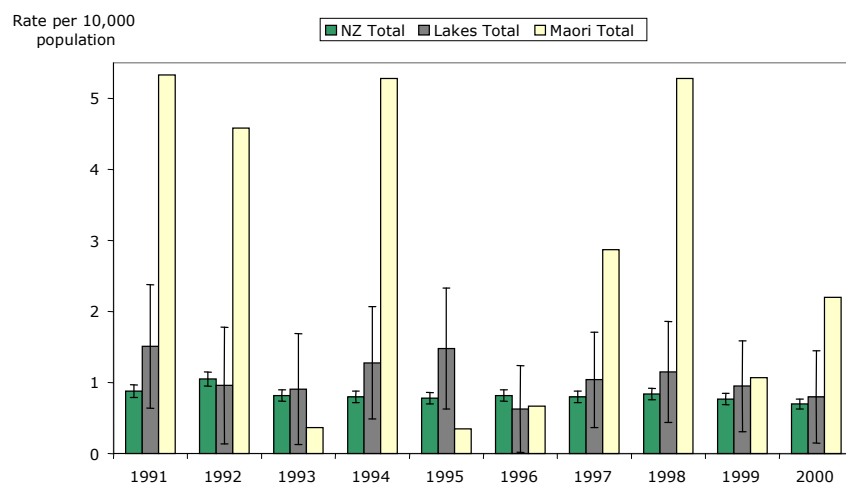
In 1994, the Kimihauora Unit in partnership agreement with Otago University identified a gene mutation resulting in susceptibility to Stomach cancer. By identifying E-cadherin mutations responsible for stomach cancer susceptibility, genetic testing can now be used to predict individuals who are at extreme risk of developing stomach cancer. These individuals can then be put on intensive clinical surveillance programs aimed at detecting and treating the cancer before it has spread beyond the lining of the stomach. Identified families in Lakes DHB have been offered these specialist prevention services.

In 1997 Aotearoa National Gastric cancer project was formed to service a Rotorua whanau, and three other areas were assisted to identify susceptibility to stomach cancer, being Wanganui, East Coast and Taranaki.

Research is also recently being undertaken to investigate the harmful effects of a stomach bacteria "*Helicobacter Pylori*" which could be a major factor to causing stomach cancer.

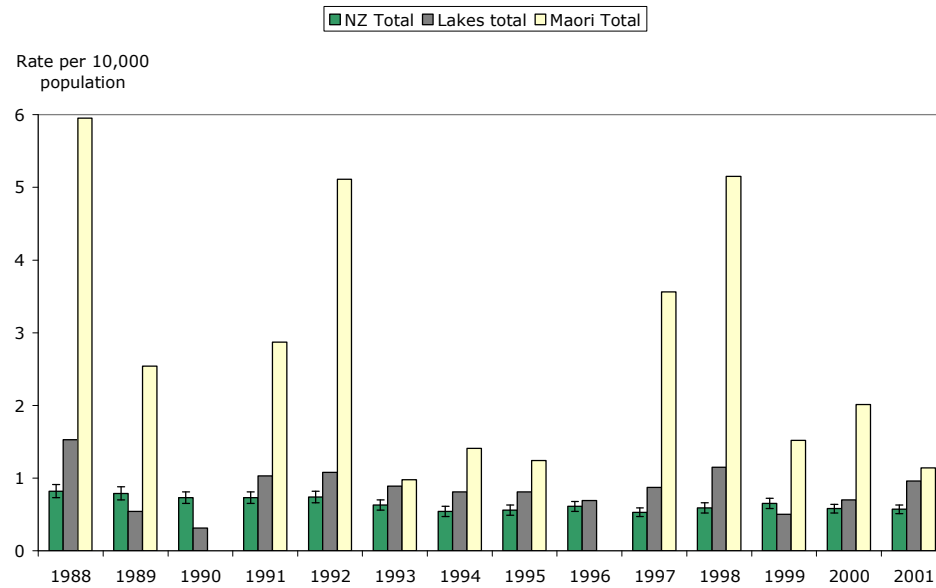
The pattern for stomach cancer in Lakes is similar to most other cancers, with little difference between Lakes and New Zealand populations, but much higher registration and mortality rates in Lakes Maori.

Chart 30: Stomach Cancer Registration Rates, Lakes DHB and NZ



Source: Central Region's Technical Advisory Service Limited (data from the Ministry of Health)

Chart 31: Stomach Cancer Mortality Rates, Lakes DHB and NZ

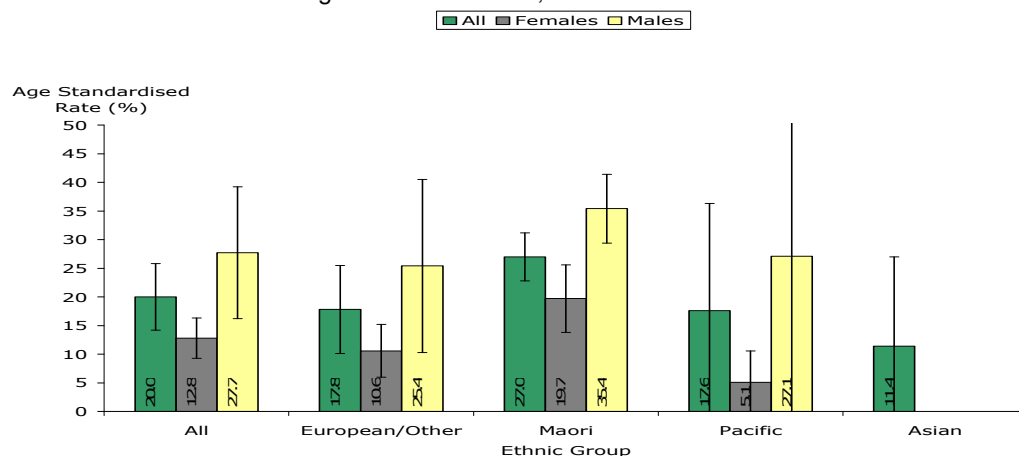


Drugs and alcohol

Why a priority?

“Alcohol abuse is a risk factor for some types of cancer, stroke and heart disease. Alcohol abuse also significantly contributes to death and injury on the roads, drowning, suicide, assault and domestic violence. The use of illicit drugs also harms some New Zealanders. Of particular concern is the risk of cognitive impairment, and to health from the transmission of blood-borne viruses through the sharing of needles and syringes. People who experience drug and mental health problems combined have particularly poor health outcomes.”²⁵

Chart 32: Hazardous Drinking Prevalence Rates, Lakes DHB



Source: 2002/2003 NZHS DHB snapshot datacube

The ‘Alcohol Use Disorders Identification Test’ (AUDIT) is a 10-item questionnaire seeking to identify Alcohol Consumption, alcohol related problems and abnormal drinking behaviour²⁶. Each question is scored from 0-4 so there is a maximum score of 40. Hazardous drinking is defined as an established pattern of drinking that carries a high risk of future damage to physical or mental health, but has not yet resulted in significant adverse effects. Hazardous drinking is most commonly identified from an AUDIT score of 8 or more.

Lakes DHB information shows overall, males have a higher prevalence of hazardous drinking patterns compared to females. Maori have the highest prevalence of hazardous drinking patterns with both males and females, followed by Pacific males (Pacific females are lower) and then Other.

²⁵ MINISTRY OF HEALTH. 2001. New Zealand Health Strategy. Wellington: Ministry of Health.

²⁶ Developed by the World Health Organisation WHO

Cancer Statistics

Cancer Registrations

The following information from the New Zealand Information Service publication, "Cancer, New Registrations and Deaths 2002", released June 2006, provides the most recent information on cancer statistics in NZ.

- In 2002 there were 17,943 new cancer registrations, of which 52.4% (9399) were male and 47.6 (8544) were female.
- The total number of registrations in 2002 was similar to the 17,913 registrations reported in 2001.
- The number of new registrations for males was 1.7 percent lower than 2001, while female registrations increased by 2.3 percent.
- The age-standardised rate of cancer registrations for the total population was 313.1 in 2002. The age-standardised rate of cancer registration for males (348.2 per 100,000 male population) exceeded the female age-standardised rate (287.0 per 100,000 female population).
- There were 1207 new cancer registrations for Maori in 2002 (587 male and 620 female registrations).
- Maori cancer registrations increased by 6.3 percent from 1135 in 2001 to 1207 in 2002.

Deaths

- There were 7800 cancer deaths in 2002 (4125 males and 3675 females), a slight reduction from the 7810 cancer deaths in 2001.
- The age-standardised cancer mortality rate for males (142.8 per 100,000 male population) exceeded the age-standardised female rate of 104.9 per 100,000 female population).
- The overall New Zealand mortality rate for cancer was 120.9 per 100,000 population, a reduction from the 2001 mortality rate of 125.9 deaths per 100,000 population.

Selected cancer sites

- The most common sites of cancer registration for males were cancer of the prostate (2656 registrations), cancer of the colorectum and anus (1326 registrations), melanoma of the skin (933 registrations), and cancer of the trachea, bronchus and lung (931 registrations). With the exception of melanoma of the skin, these sites were similar to those registered in 2001.
- The most common causes of male cancer deaths were of the trachea, bronchus and lung (866 deaths), cancer of the prostate (591 deaths), and cancer of the colorectum and anus (590 deaths). These were similarly the most common causes of deaths due to cancer in 2001.
- The most common sites of cancer registration for females were cancer of the breast (2364 registrations), cancer of the colorectum and anus (1262 registrations), and melanoma of the skin (909 registrations). These sites were similarly the most commonly registered cancer sites in 2001.
- The most common causes of female cancer deaths were cancer of the breast (625 deaths), cancer of the trachea, bronchus and lung (605 deaths), and cancer of the colorectum and anus (545 deaths). These were similarly the most common causes of deaths due to cancer in 2001.

The report "Regional variation in cancer survival in New Zealand 1994-2004" prepared by NZHIS in January 2006 further indicates a relative excess of death from lung cancer in the Lakes district compared with nationally.

Child and youth cancers

In 2002, there were 285 registrations of cancer in children and youth aged 24 years and younger, in which 112 of these registrations were for children aged 14 years and younger. This represents 0.6 percent of registrations for all ages.

The most common type of childhood registration was lymphoid leukaemia with 30 registrations (26.8 percent of all childhood cancer registrations), followed by brain cancer with 22 registrations (19.6 percent of childhood cancer registrations).

There were 55 child and youth deaths due to cancer in 2002. Of these deaths, 31 deaths were for children aged 14 years and younger, which accounts for 5.9 percent of total childhood deaths. The most common cause of cancer death for children was cancer of the brain (38.7 percent of all childhood cancer deaths) with 12 deaths.

Lakes DHB Services

Public health services stock-take

Most Public Health Services (health promotion, health protection and smoking cessation programmes) are funded by the Ministry of Health as the Government has chosen not to transfer this responsibility to DHBs. DHBs are responsible for funding health promotion in PHOs, and are also prioritising some of their devolved revenue to public health programmes. The Lakes DHB has developed a relationship with the Operations Group (until recently the Hamilton Locality Team) of the Ministry of Health's Public Health Directorate to effectively collaborate on funding these services.

All of the public health responsibilities in health protection and for the Medical Officer of Health, both of which have responsibilities described in statute and regulation, and a significant amount of health promotion activity is contracted to Toi Te Ora Public Health. Toi Te Ora Public Health is a division of the Bay of Plenty DHB and provides these public health services across both DHB areas, although it does have an office in Rotorua. It also subcontracts some of its health promotion work to one local provider in the southern part of the district. The table below shows public health programmes contracted directly by the Ministry of Health or Lakes DHB; it is followed by a description of the services provided by Toi te Ora Public Health and its subcontracted services. National programmes are not listed.

Table 1: Local and Regional public health programmes not provided by Toi te Ora Public Health:

Services	Location	Programmes
Contraception and Family Education (Café for Youth Health)	Taupo/Turangi	Sexual and reproductive health promotion
Rotorua District Council	Rotorua	Nutrition and physical activity promotion
Lakes DHB	Rotorua	Public Health Portfolio Manager – Public Health Capacity Healthy Eating Healthy Action Development Manager
Tipu Ora Charitable Trust	Rotorua	Well child promotion including immunisation promotion
Tuwharetoa Health Services Ltd	Taupo/Turangi	Nutrition and physical activity promotion and injury prevention Tobacco: Smoking cessation
Te Papa Takaro O Te Arawa	Rotorua	Nutrition and physical activity promotion
Te Whaiora Sports Trust	Turangi	Nutrition and physical activity promotion
Korowai Aroha Health Centre	Rotorua	Tobacco: Smoking cessation
Smokefree hospitals	Rotorua/Taupo	Lakes DHB smokefree project
New Zealand Aids Foundation	Hamilton	Sexual and reproductive health
New Zealand Family Planning (NZFPA)	Rotorua	Sexual and reproductive health promotion
National Heart Foundation	Rotorua	Nutrition and physical activity promotion
Te Hotu Manawa Māori	Auckland	Tobacco contract regional co-ordination
Te Whare Hauora o Ngongotaha	Rotorua	Tobacco: smoking cessation
Te Runanga o Ngati Pikiao	Rotorua	Tobacco. Mental Health Promotion Nutrition and physical activity promotion

Services	Location	Programmes
Pacific Island Development Trust	Rotorua	Working across all programmes
Health Rotorua PHO	Rotorua	Nutrition and physical activity promotion. Tobacco control
New Zealand Cancer Society	Rotorua	Nutrition and physical activity promotion
Lake Taupo PHO	Taupo Turangi, Mangakino	Nutrition and physical activity promotion

Table 2: Local and Regional public health programmes provided by Toi te Ora Public Health (including sub-contracts):

Toi te Ora programmes	Programme
Health Protection	
Physical environment	Air Quality Bio security Burials and Cremations Contaminated land Drinking water quality Early Childhood centres Environmental noise Hazardous substances Ionising/non-ionising radiation Public health emergency planning and response Recreational water, including shellfish and shellfish water Resource management Sewage treatment and disposal Waste management
Communicable diseases	Communicable disease control Immunisation program Food safety and quality Rheumatic fever prevention
Health Promotion	
1. Social environments	Social environments generic Health promoting schools Fruit in schools
2. Child and Family	Parenting support and skills promotion Hearing Nutrition Physical activity Housing Oral health promotion Melanoma prevention Prevention of unintentional injuries
3. Youth	Alcohol and drugs including liquor licensing Sexual and reproductive health promotion Mental health promotion and youth suicide prevention
4. Non-communicable Disease	Smoking prevention/reduction and smokefree environments Nutrition and physical activity
5. Public Health Infrastructure	Health Education Resources Workforce development Quality planning

	Strengthening public health action
Toi te Ora sub-contracts	
CAFÉ for Youth Health, Taupo	1. FTE health promoter across a range of the health promotion programmes

Toi te Ora Public Health workforce (within Toi te Ora working for Lakes population):

4 FTE	Health protection officers working in physical environment and communicable diseases
5 FTE	Health promoters working across a range of programmes
1 FTE	Health promoter working in breast screening and cervical screening promotion
1 FTE	Administration support

One-third of the FTEs of the following regional staff based predominantly in the Tauranga and Whakatane offices:

Regional Manager
 Medical Officer of Health
 Public Health Registrar
 Health Promotion Manager
 Environmental Health Manager
 Planning and Development Manager
 Service Manager – Admin
 Health Promotion Programme Leaders for: Social Environments; Youth Health; Child and Family Health; Non Communicable Diseases and Health
 Promoting Schools and Fruit in Schools
 Planner
 Research/Evaluator
 Health Inequalities Analyst
 Social Marketer

Primary Health and Community services

Provider	Services
Health Rotorua PHO	Health Promotion, personal health services, cervical screening, referral for breast screening
Lake Taupo PHO	Health Promotion, personal health services, cervical screening, referral for breast screening
Poutiri Trust Maori Development Organisation: and members Te Whare Hauora o Ngongotaha, Te Whare o Kenehi, Tuhourangi Runanga a iwi, Te Runanga o Ngati Tahu Ngati Whaoa	Smoking cessation, Kuia and Koroua health promotion, Rongoa Maori
Te Waiora a Tane	Traditional Maori health care
Korowai Aroha Trust	Personal health services, cervical screening, referral for breast screening, smoking cessation, Whanau ora- health education- nutrition and physical activity, sexual health, promotion of cervical and breast screening
Tuwharetoa Health Services Limited	Rangitahi Health Services- nutrition and physical activity, sexual health, smoking reduction, promotion of cervical and breast screening. Health promotion, smoking cessation,
Aroha Mai- Maori Cancer Support Group	Rotorua based support group
Café for Youth Health	Youth health education, sexual health service, cervical screening
Cancer Society	Support and education for patients and families

Secondary and Tertiary Cancer Services

Access to secondary and tertiary level hospital services for non-surgical treatment for patients in the Lakes district is shown in the table below.

Visiting medical and radiation oncologist clinics from Waikato are held in Rotorua hospital on a weekly basis. Chemotherapy is delivered at Rotorua five days per week, and Taupo one day per week. The chemotherapy service is managed by the Oncologists at Waikato.

A visiting Specialist Paediatric Oncology clinic is held three times a year in Rotorua from Starship, Auckland DHB.

General surgical services are provided at Rotorua Hospital. Tertiary referrals are made to Waikato and Auckland DHBs as required.

Service Level	Complexity of non-surgical cancer treatment services provided	Lakes DHB
Level one	Management of acute conditions and complications	
Level two	As for level one plus: Chemotherapy administration	Taupo Hospital
Level three	As for level two plus: Clinics Multidisciplinary management	Rotorua Hospital
Level four	As for level two plus: Medical oncology & haematology services Radiation oncology clinics Oncology pharmacy service Multidisciplinary management Supervision of lower-level services within DHB	
Level five	As for level two plus: Medical oncology & haematology services Radiation oncology clinics Oncology pharmacy service Multidisciplinary management Training Clinical trials	Regional Cancer Centre (Waikato Hospital)
Level six	As for level five plus: Paediatric cancer services Specialist Surgical Services Complex haematological support (including sophisticated diagnostic facilities)	Accessed through Auckland DHB

Midland Region Non-Surgical Cancer Treatment Service Implementation Plan 2005 – 2010

The Midland DHB CEOs Group determined that the Non-Surgical Cancer Treatment Plan for the Midland Region (Barber, 2004) would form the framework for the development of adult medical oncology, radiation oncology and haematology services. The plan will guide service delivery and development between the years 2005 and 2010. The plan expounds a standard of evidence based best practice, however health resources are scarce and limited. The plan provides an opportunity to prioritise the different strategic initiatives and allocation of resources.

In December 2004 the Midland Region Non-Surgical Cancer Treatment Implementation Project was established to scope requirements and implications, focus on activities related to operational planning and the implementation of the Non-Surgical Cancer Treatment Service Plan for the Midland Region.

The project has been guided by a Steering Group comprising representatives from Waikato, Bay of Plenty and Lakes DHBs. Membership of the Steering Group included clinicians actively involved in the provision of non-surgical cancer treatment services and other treatment services, managers of cancer services and medical services, managers of planning and funding, and heads of hospitals and health services. The project was required to develop a Midland Region Non-Surgical Implementation to guide service delivery and development between the years 2005 and 2010.

The purpose of this plan is:

- To summarise progress made during the project. The majority of the recommendations are work in progress. The Steering Group produced a set of supplementary papers that should be referred to for detailed information on the work undertaken during the implementation project. Work undertaken during the implementation project has informed the set of actions for the next phase of implementation as set out in the Implementation Plan.
- To present the 5 year implementation plan.
- To detail the 2005 / 06 implementation action plan.

Summary of the progress made during the implementation project:

- Prioritised the twenty five recommendations made in the Non-Surgical Cancer Treatment Service Plan for the Midland Region
- Recommended a Clinical Director Regional Cancer Services be appointed as soon as possible
- Successfully advocated for strengthening clinical leadership in cancer services at Bay of Plenty and Lakes DHBs
- Developed a network framework for the commencement of the Midland Region Non-Surgical Cancer Treatment Service Operations Network
- Profiled non-surgical cancer services and relevant clinical support services provided at all hospitals across the Midland Region
- Developed a role delineation model for non-surgical cancer services for the Midland Region
- Reviewed the haematology and oncology purchase units utilised by the participating DHBs to ensure consistent application across the region
- Completed an audit of patients referred from Breast Screen Midland for treatment at Waikato Hospital to ensure appropriate revenue streams accessed
- Developed tools to assist DHBs with process mapping of the patient's cancer journey based on the NHS Cancer Services Collaborative methodology
- On approval of Midland DHB CEO group appointed project manager 0.5 fte for six months to commence patient mapping and parallel processes project
- Organised a Midland Region workshop to map the journey of a patient with early stage breast cancer
- Submitted requests for proposals (RFP) to the Ministry of Health for support to develop a Midland Region Cancer Control Network including appointment of a regional clinical director and extension of the patient mapping project until 30 June 2006
- Financial assessment.

The Implementation Plan aligns with The New Zealand Cancer Control Strategy Action Plan 2005 – 2010. The Implementation Plan has a five-year timeframe for implementation. Most of the recommendations are work in progress. The Steering Group recommend that there is an annual review of progress against the plan and an annual action plan is developed.

Patient Focus

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
1. A review of care co-ordination is undertaken across the DHBs and options are identified for improving links with community services and provider arm services (surgery, radiation therapy and medical oncology)	<ul style="list-style-type: none"> Map the patient journey and parallel processes for major tumour groups Analyse and review the patient maps, review the processes and practices of care delivery Identify service gaps, issues and opportunities Involve patients and carers in the mapping process (via focus groups) Prioritise system and process improvements Develop, test, implement and evaluate areas of improvement using the model for improvement 	<ul style="list-style-type: none"> Midland region non-surgical cancer treatment services operations network (MRNSCTS Op's Network) 	<ul style="list-style-type: none"> 2005 / 2006 for mapping patient journeys 2006 – 2010 	<ul style="list-style-type: none"> Number of patient care pathways completed (target 6 by the end of July 2006) Number of patient focus groups held (target 3 by end of June 2006) Gaps / issues and opportunities identified for each care pathway
2. Care co-ordinators facilitate the delivery of culturally appropriate services by linking with Maori providers	<ul style="list-style-type: none"> Involve Maori expertise in mapping the patient journey Assess cultural appropriateness of cancer services Apply the Health Equity Assessment Tool (HEAT) to policy and funding decisions Encourage Maori led and mainstream workforce capability to respond more effectively to the needs of Maori Investigate opportunities to support Maori providers involvement in cancer treatment service delivery 	<ul style="list-style-type: none"> MRNSCTS Op's Network With assistance from DHBs Maori health units, Maori expertise and Maori providers 	<ul style="list-style-type: none"> 2005/06 2006 - 2010 	<ul style="list-style-type: none"> Patient mapping gathers intelligence by end of June 2006 Strategies developed and implemented
3. Investigate options to improve access to high-risk assessment service for patients with genetic predisposition to cancer	<ul style="list-style-type: none"> Investigate opportunities to set up a clinical alliance with Auckland DHB To utilise skills/talents currently available at the Regional cancer centre Review regional demand / supply for high-risk assessment service Investigate and analyse options for improving access to high-risk assessment services across Midland DHBs 	<ul style="list-style-type: none"> MRNSCTS Op's Network 	<ul style="list-style-type: none"> 2007 – 2010 	<ul style="list-style-type: none"> Review completed Options considered and agreed actions implemented

Integrated Care

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
4a. Formalise and extend multidisciplinary approach to care to all DHBs outreach sites	<ul style="list-style-type: none"> Incorporate findings of multidisciplinary approach to care from patient mapping to guide future development of multi-specialist meetings (MSM) Prepare paper to initiate review of MSMs for Clinical Board Facilitate participation of outreach clinicians in Chest and Gynaecology MSMs Investigate establishing a Gastro MSM Ensure capability for cross-site communications on MSMs involving clinicians from outreach centres (i.e. via telephone conference call) Extend membership of MSMs to include care co-ordinators (once they have been appointed) 	MRNSCTS Op's Network	<ul style="list-style-type: none"> 2006 – 2010 	<ul style="list-style-type: none"> Operating guidelines / policies for MSMs agreed and implemented Number of new regional MSMs held Number of clinicians from outreach centres participating in MSMs Number of care co-ordinators participating in MSMs
4b. Options for telemedicine links to outreach sites	<ul style="list-style-type: none"> Investigate the use of telehealth to assist the delivery of services to outreach centres and strengthen linkages between Regional cancer centre and outreach centres Investigate the options of delivering telehealth initiatives across the Midland region (technological requirements) Following investigation of options explore telehealth service models with a view to implementing pilot projects. Identify clinician champions for telehealth across DHBs Establish cross-DHB policies, protocols and guidelines for telehealth services 	MRNSCTS Op's Network With support from the Midland region CIO forum	<ul style="list-style-type: none"> 2007 - 2010 	<ul style="list-style-type: none"> Investigations completed Regional pilot project involving telehealth developed and implemented Local clinician champions for telehealth appointed

Role Delineation

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
5. Role delineation model for non-surgical cancer treatment services in the Midland region be defined and adopted	<ul style="list-style-type: none"> Audit of chemotherapy administration services being provided at smaller hospitals (Taumarunui, Thames, Taupo, Whakatane Hospitals) Investigate options for outreach centres to have increased resident medical staff involved in care and support of cancer patients 	<ul style="list-style-type: none"> MRNSCTS Op's Network 	<ul style="list-style-type: none"> 2006/07 	<ul style="list-style-type: none"> Audit completed Gaps and issues identified and appropriate action plan Options identified and implications

Leadership

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
14. A Regional cancer control group should be established to provide learning opportunities and identification of issues	<p>Scope requirements and framework to develop a Midland Region Cancer Control Network (MRCC Network)</p> <p>Implementation of Midland Region Cancer Control Network</p> <p>Identify and resolve network alignment issues with Taranaki and Tairāwhiti</p>	<p>Midland DHB CEO forum</p> <p>MRCC Network supported by Principal Advisor</p>	<p>2005/06</p> <p>2006/07</p>	<p>Framework developed and agreed. Resources identified and with supporting revenue</p> <p>Midland Region Cancer Control Network established</p>
15. Adhoc regional cancer treatment working parties should be established when the Midland DHBs do not feel the national working parties are meeting the needs of the region or there is a need to implement a national recommendation locally	Establish the Midland Region Non-Surgical Cancer Treatment Services Operation Network	Midland DHB CEO forum	2005/06	Network established by November 2005
16. Chief Medical Advisors should consider the issue of no 'owner/champion' of cancer services at both BOP and Lakes DHBs and make recommendations	<p>Local cancer champions to participate in MRNSCT Ops Network</p> <p>Local cancer champions to work with Regional Network and Regional Clinical Director to resolve and local issues that arise</p>	BOP and Lakes DHBs	2005/06	<p>BOP clinical champion identified by 30/6/06</p> <p>Lakes clinical champion identified by 30/6/06</p>
17. A regional director or co-ordinator of cancer services is appointed with responsibility for development of cancer services	<p>Develop position description for Regional Clinical Director (Regional CD)</p> <p>Appoint to position on approval of funds</p>	MRNSCTS Ops Network	2005/05	<p>Position description developed by 30/6/06</p> <p>Regional CD appointed asap</p>

Contracts

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
20. Provider arm contracts to utilise the available haematology, oncology and radiation therapy purchase units to enable monitoring and ease planning for services	DHBs utilise both haematology chemotherapy and oncology chemotherapy purchase units Agree reporting framework on haematology and oncology activity by DHBs and establish regular reporting processes	MRNSCTS Ops Network	2005/06	Midland region contract reporting framework developed and implemented
21. Development of separate purchase units for radiation oncology and medical oncology for inpatient DRGs and outpatient services (FSA & FUs)	DHBs implement coding split between medical and radiation oncology purchase units Include coding split in regional reporting	MRNSCTS Ops Network	2005/06	Coding split Midland region contract reporting framework developed and implemented
22. DHBs should negotiate with Waikato DHB appropriate changes to contract to ensure appropriate access to service	DHBs to discuss adjustments to contract volumes with planning and funding Establish regional collaborative contract planning process	MRNSCTS Ops Network	2005/06	Midland region contract planning process framework developed and implemented
23. Haematologists work with appropriate staff and the DHB GP Liaison to review listings and determine options for managing referrals and discharging patients back to primary care	Develop a haematology service plan for the region Map the patient journey of patients with leukaemia, lymphoma and myeloma Establish monthly contract reporting and monitoring of FSAs and FUs for haematology services Investigate waiting list management strategies with haematologists and GPs Investigate options to increase capacity through redesigning and extending roles (MOSS' and Clinical Nurse Specialists)	Midland DHB CEO group MRNSCT Ops Network	2006 - 2010	Service plan completed Patient pathways completed Regional haematology contract reporting and monitoring

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
25. A regular audit of patient receiving treatment through Breast Screen Aotearoa is undertaken to ensure accurate information is maintained and appropriate funding streams are assessed	Audit of patient referred by Breast Screen Aotearoa (BSA) to treatment	MRNSCT Ops Network	2005/06	Audit completed by 30/6/06

Information Systems

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
19. Develop system to collate clinical and / or contract data across the DHBs	<p>Stocktake of DHB data systems that exist for the management of cancer patients / services</p> <p>Monitor outcomes of the national cancer management dataset project currently in progress</p> <p>Capture information on patient, process and information flows from mapping project</p> <p>Investigate gaps in information requirements not met by national, regional and local IT project initiatives</p>	MRNSCT Ops Network	2007/08 - 2010	<p>Stocktake completed 30/6/06 and informs planning</p> <p>Outcomes from national project implemented</p>
24. Access to clinical trials for all cancer patients should be improved	Investigate options to expand access to clinical trials to include patients from outreach centres	MRNSCT Ops Network	2008/09 - 2010	Options considered and agreed actions implemented

Equipment

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
18a. Planning for fifth linear accelerator should be undertaken to allow for installation for the 2007/08	<p>Following installation of 4th linac review of capacity and workforce completed</p> <p>Waikato to confirm its 5 year anticipated capital expenditure plan</p>	MRNSCT Ops Network	2007/08	<p>Review completed to inform planning of 5th linac</p> <p>5 year capital expenditure plan confirmed by 2006</p>

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
18b. Australian National Radiotherapy Single Machine Unit (SMU) Trial results used to inform long term planning	<p>Regular follow-up with Victorian Department of Human Services about ongoing results of SMU trial</p> <p>Obtain report of the Australian SMU trial once it is published</p> <p>Arrange telephone conference with Victorian Department of Human Services after reviewing report</p> <p>Investigate and analyse policy options regarding establishing a satellite service in Midland region</p>	MRNSCT Ops Network	2006/07 - 2010	<p>Report obtained</p> <p>Teleconference held</p> <p>Options regarding satellite service considered and agreed action plan</p>

Workforce

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
6. Require 5.7 fte haematologists to provide current service, with a minimal increase to 6 fte by 2011	<p>Develop a Midland region haematology service plan, incorporate findings from patient mapping project</p> <p>Develop workforce plan for haematologists and associated support staff</p> <p>Review workforce projections and prepare business cases as appropriate</p>	<p>MRNSCT Ops Network</p> <p>Haematology Service</p>	2006/07 – 2010	Service plan, including workforce plan completed, implemented and evaluated
7. Require 5.9 fte medical oncologists in 2006, increasing to 7.6 fte by 2011	<p>Review projections once confirmed workload / contract volumes splits on medical and radiation oncology</p> <p>Incorporate findings from patient mapping project and parallel processes into workforce planning</p> <p>Implement workforce plan through submission of business cases as appropriate</p>	<p>MRNSCT Ops Network</p> <p>Haematology Service</p>	2007/08 - 2010	Workforce plan completed, implemented and evaluated
8. Review of radiation oncology staffing based on the proposed FTE levels for 2006 of 7 fte radiation oncologists, 32 fte radiation therapists and 8 fte medical physicists	<p>Feed in information about anticipated capital expenditure and findings of review of capacity and workforce planning</p> <p>Review projections and develop workforce plan</p>	MRNSCT Ops Network	2007/08 - 2010	Workforce plan completed, implemented and evaluated

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
9. Review the number of chemotherapy nurses and number of chemotherapy chairs based on predictions in the plan	<p>Incorporate findings from patient mapping project and parallel processes into planning</p> <p>Develop a Midland region nursing workforce plan</p> <p>Confirm roles, responsibilities and competencies of chemotherapy nurses</p> <p>Review programme and processes for certifying chemotherapy nurses</p> <p>Review projections and future need for chemotherapy nurses and chairs</p>	MRNSCT Ops Network	2006/07 - 2010	<p>Roles, responsibilities and competencies of chemotherapy nurse agreed</p> <p>Workforce plan developed</p> <p>Certification process agreed and implemented</p> <p>Review of chemotherapy nurses / chairs complete, implemented and evaluated</p>
10. Care co-ordinators be appointed to each patient receiving two or more treatment modalities, ratio 1 co-ordinator to 100 patients	<p>Incorporate findings from patient mapping project and parallel processes into planning</p> <p>Investigate models of care co-ordinators (treatment modality or major tumour groups)</p> <p>Develop a Midland region nursing workforce plan</p> <p>Confirm roles, responsibilities and competencies of care co-ordinators. Facilitate care co-ordinators into MSMs</p> <p>Review projections and prepare business cases as appropriate</p>	MRNSCT Ops Network	2006/07 - 2010	<p>Model defined and agreed</p> <p>Roles, responsibilities and competencies of care co-ordinators agreed</p> <p>Workforce plan developed, implemented and evaluated</p>
11. Review the need for multidisciplinary co-ordinators at each DHB	<p>Investigate administration and other support required for MSMs as part of the MSM review</p> <p>Investigate linkages between multidisciplinary co-ordinators and care co-ordinators</p> <p>Define roles, responsibilities and competencies for multidisciplinary co-ordinators. Review projections</p>	MRNSCT Ops Network	2006/07 - 2010	<p>Model defined and agreed</p> <p>Roles, responsibilities and competencies of multidisciplinary co-ordinators agreed</p> <p>Workforce plan developed</p>
12. Review staffing links between DHBs hospitals including the option for the appointment of a regional oncology liaison nurse	<p>Develop a Midland region nursing workforce plan</p> <p>Agree roles, responsibilities and competencies of a regional oncology liaison nurse</p>	MRNSCT Ops Network	2006/07	<p>Roles, responsibilities and competencies of regional oncology liaison nurse agreed</p> <p>Workforce plan developed</p>

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
13. BOP and Lakes DHBs should consider the appointment of a Clinical Nurse Specialist or a Nurse Practitioner to provide leadership role for cancer services and staff in the region	Develop a Midland region nursing workforce plan Agree roles, responsibilities and competencies of a Clinical Nurse Specialist and / or a Nurse Practitioner	MRNSCT Ops Network	2006/07 - 2010	Workforce plan developed Roles, responsibilities and competencies of CNS and / or NP agreed, positions established and evaluated

Cancer Control Action Plan

To reduce the incidence and impact of cancer and to reduce inequities with respect to cancer				
Medium Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
Implementation of the Lakes DHB Action Plan to implement the NZ Cancer Control Strategy and Cancer Control Action Plan	<p>Continue implementation of the Midland Region Non-surgical Cancer Treatment Services Plan</p> <p>Participation in Midland Region Cancer Network</p> <p>Monitor wait times for oncology, chemotherapy and radiation oncology wait times</p> <p>PHO quality measures of cervical screening</p> <p>Scope services available for children and young people with cancer, including support and palliative care options</p> <p>Work with Toi te Ora public health and the PHOs on health promotion activities such as HEHA, sunsmart and smokefree/auahi kore initiatives to reduce cancer and to improve uptake of screening services for early detection of cancer</p> <p>Ensure adequate coverage of MoH funded smoking cessation services in the district</p> <p>Monitor uptake of screening and all cancer treatment services by Maori and Pacific</p>	<p>Local cancer champion appointed</p> <p>Improved district-wide coverage by Cancer Care Coordinators</p> <p>Receive the LHSIP models of care reports on child and adolescent services, and cancer</p> <p>Improving trend for uptake of screening programmes by Maori</p> <p>Lakes patients receive cancer services within recommended time frames</p> <p>Identify the services available for children and young people with cancer, and any need for improvements</p> <p>Health promotion initiatives are evaluated</p>	<p>June 2008</p> <p>Existing and anticipated additional cancer Control funds for Cancer Care Coordinator</p>	<p>Midland Cancer Network</p> <p>Hospital services</p> <p>PHOs and GPs</p> <p>Screening services</p> <p>Toi te Ora Public Health</p> <p>Other public health providers</p> <p>Aukati Kaipapa Programme providers and other smoking cessation providers</p> <p>Canteen</p> <p>Child Cancer Foundation</p> <p>Iwi health governance bodies</p>
Work collaboratively with the Midland DHBs in regional cancer control planning	Develop a Midland Region Cancer Control Action Plan 2007-2010 which appropriately reflects Midland DHBs population priorities and reducing	Midland Cancer Control Action Plan developed & endorsed by Midland	<p>June 2008</p> <p>Existing</p>	<p>Midland Cancer Network</p> <p>Midland DHBs</p>

	inequalities to meet the 6 goals identified in the NZ Cancer Control Action Plan 2005-2010	DHB CEOs Annual report on progress completed	Ongoing	Ministry of Health
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	Develop a Cancer Network communications plan to market, inform and raise awareness of Midland Cancer Network Develop Network website and regular newsletters to keep stakeholders informed	Communications Plan developed	Ongoing	Midland Cancer Network WebHealth Cancer Control Council
	Participate in national activities related to cancer control		Ongoing	Midland Cancer Network
To ensure an integrated surgical cancer service for the Midland region	To develop a Midland Surgical Cancer Treatment Plan, linking with NSCT Plans and patient mapping	Midland Surgical Cancer Treatment Plan developed with actions plan	2008 - 2010	Midland Cancer Network Surgical Services
Reduce the inequalities of cancer for the Lakes DHB resident population at every stage of the cancer continuum	All initiatives that impact on the cancer continuum should be assessed for contribution toward reducing/perpetuating or increasing inequalities As part of the patient mapping examine each cancer for area of inequalities	Reduced inequalities through identification of inequalities and development of actions to address	2006-2010 Existing (unless gap identified)	All Midland Cancer Network

GOAL 1: REDUCE THE INCIDENCE OF CANCER THROUGH PRIMARY PREVENTION				
Medium Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
Reduction in the exposure to second-hand smoke for all	<p>Support the ongoing implementation of the Smoke-free Environments Amendment Act 2003</p> <p>Work collaboratively with Toi te Ora public health to support campaigns to reduce second-hand smoke in homes and cars</p> <p>Progress smoke-free hospital project and the implementation of the Smokefree Policy for Lakes DHB</p>	<p>Increase in the number of smoke-free cars and homes</p> <p>100% of Lakes patients are screened for tobacco use and appropriate intervention is given</p>	<p>2007-2010</p> <p>Existing</p>	<p>Toi te Ora Public Health Unit</p> <p>PHOs</p> <p>Well Child providers</p> <p>Hospital services</p>
Increased quitting rates especially among most at risk groups	<p>Support the development of culturally appropriate smoking cessation services, including enhanced services for Maori women groups with higher smoking rates</p> <p>Link to Cardiovascular Disease Risk Management programmes in primary care</p> <p>Encourage GPs and PHOs to incorporate information on smoking and cessation into their clinical practice and health promotion plans</p>	<p>Reduction in adult smoking prevalence</p> <p>Increased uptake of cessation services by Maori</p>	<p>2007-2010</p> <p>Existing</p>	<p>Toi te ora Public Health</p> <p>MOH</p> <p>PHOs</p> <p>Smoking cessation providers</p>
Reduction in the rate of young people taking up smoking, especially Maori and lower socio-economic groups	<p>Support Toi te Ora public health and the PHOs in implementing strategies to reduce smoking initiation among young people. Support the Smokefree Coalition.</p> <p>Secondary school based health services</p> <p>Receive feedback from national research into young people's initiation to</p>	<p>ASH Smoking Survey data:</p> <p>Reduction in Year 10 daily smokers from 11.7% in 2005, to 8%</p> <p>Increase in the proportion of never-smoked from 39.8% in 2005 to 45%</p>	<p>2007-2010</p> <p>Existing</p>	<p>MOH</p> <p>Toi te Ora public health</p> <p>PHOs</p> <p>Youth health providers</p> <p>School health services</p>

GOAL 1: REDUCE THE INCIDENCE OF CANCER THROUGH PRIMARY PREVENTION				
Medium Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
	smoking			
Reduction in Maori smoking rates	<p>Evaluate mirimiri and smoking cessation pilot</p> <p>Support Maori kaupapa initiatives which focus on whanau health and smoking cessation</p> <p>Hospital and primary care services encouraged to record smoking status of all clients and refer to cessation services</p> <p>Provide information on smoking cessation providers to hospital and primary health providers</p>	<p>Data on smoking prevalence of patients able to be collected by hospitals and PHOs</p>	<p>2007-15</p> <p>Existing</p>	<p>MOH</p> <p>Maori health providers</p> <p>Smoking cessation providers</p> <p>DHB Hospital services</p> <p>PHOs</p> <p>Well child providers</p>
Implementation of HEHA strategy	<p>Recruit a HEHA Development Manager</p> <p>Establish a HEHA Strategic Governance Group and an Education Sub-Group</p> <p>Develop a District HEHA Implementation Plan based on a stock take and gap analysis</p> <p>Administer the Nutrition Fund to ECC, Kohanga Reo, Schools and Kura</p> <p>Maintain HEHA implementation interagency group that includes members from local providers, local government agencies and NGOs.</p>	<p>Manager recruited</p> <p>Governance and education groups established</p> <p>District Implementation complete</p> <p>Gaps within HEHA implementation plan are identified</p> <p>Nutrition Fund operational</p>	<p>2006-2010</p> <p>Existing and funding identified</p>	<p>PANN</p> <p>PANG</p> <p>PHOs</p> <p>Māori Health Providers</p> <p>Toi te Ora Public Health</p>
Increase in physical activity uptake by all parts of the Lakes population	<p>Support the expansion of Green Prescription-like programmes to ensure accessible for referrals from primary care or self referral</p> <p>Support adaptation of green Prescription to increase acceptability to Maori, Pacific and low socio-economic</p>	<p>Green Prescription programmes available to people living in Rotorua, Taupo, Turangi and Mangakino</p> <p>Reported uptake by Maori and Pacific at comparable</p>	<p>2006-10</p> <p>Existing</p>	<p>PHOs</p> <p>Māori Health Providers</p> <p>Sport Bay of Plenty;</p>

GOAL 1: REDUCE THE INCIDENCE OF CANCER THROUGH PRIMARY PREVENTION				
Medium Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
	groups	rates per population numbers to non Maori, non-Pacific.		Sport Waikato Local Authorities
Implementation of the 'Mission on' package of initiatives	Implement the leadership and co-ordination service programme	Programme implemented over the next 4 years	2006-2010 New Ministry of Health CFA pathway identified	Waikato DHB HEHA Governance Group Toi te ora Public Health SPARC
Reduced levels of obesity, particularly among Maori, Pacific and low socio-economic groups	<p>Support of Community Dietitian roles based with PHOs</p> <p>Work collaboratively to engage PHOs, community paediatricians, and dietitians in a partnership with schools through the Health and Physical Education Curriculum</p> <p>Family Lifestyle Coach for management of childhood obesity based in PHOs.</p> <p>Support Free Fruit in Schools, Health Promoting Schools programmes through Toi te Ora Public Health</p> <p>Encourage PHOs, GPs and NGOs to incorporate information on the protective effects of a nutritious diet and physical activity in preventing cancer.</p> <p>Development of the nutrition and physical activity workforce especially for Maori and Pacific people</p>	Evaluations of established programmes completed.	2006-10 Existing and funding identified	<p>MOH</p> <p>MOE</p> <p>Toi te Ora Public Health</p> <p>School health services</p> <p>Community Paediatrician</p> <p>PHOs</p> <p>Sport Bay of Plenty</p> <p>Sport Waikato</p> <p>PANN; PANG</p>
Reduce exposure to UV Radiation	<p>Support SunSmart schools Accreditation programme in schools and early childhood centres</p> <p>Support social marketing strategies</p>	Receive evaluations of programmes	2006-10 Existing	Toi te Ora Public Health MOE

GOAL 1: REDUCE THE INCIDENCE OF CANCER THROUGH PRIMARY PREVENTION				
Medium Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
	<p>which raise awareness and improve knowledge to develop lifelong sun protective attitudes and behaviours</p> <p>Support provision of shade in public settings/ environments</p>			<p>Sport Bay of Plenty</p> <p>Local authorities</p>
Reduce the incidence of cervical cancer related to HPV infection	<p>Sexual health services for education and primary treatment available throughout the district</p> <p>Providers of school health, youth health, Family Planning, sexual health, cervical screening services promote safer sex behaviours.</p> <p>Monitor and assess developments in HPV screening and vaccination in preparation for programme dependant on evidence and funding.</p>	<p>Monitor trends in STI rates</p> <p>Monitor trends in cervical cancer rates on NCSR</p>	<p>2006-10</p> <p>Existing</p> <p>HPV vaccination programme would require additional funding to implement</p>	<p>Sexual health promotion and service providers</p> <p>GPs</p> <p>Family Planning</p> <p>School health providers</p> <p>Toi te ora Public Health</p> <p>MoH</p>

GOAL 2: TO ENSURE EFFECTIVE SCREENING & EARLY DETECTION TO REDUCE INCIDENCE & MORTALITY				
Medium Term Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
Work with Toi te Ora to identify and implement strategies to increase the coverage of BreastScreen Aotearoa for Maori and Pacific women.	<p>Monitor the uptake of breast screening by ethnicity, age and domicile to identify groups of eligible women with lower rates of uptake and to inform health education and promotion activities.</p> <p>Maori and Pacific providers provide education and support to improve acceptability and increase uptake.</p>	<p>Trend of improvements in uptake of screening by Maori and Pacific women</p> <p>Trend of reduction in mortality for Maori women from breast cancer in Lakes district</p>	Ongoing Existing	<p>Poutiri Trust</p> <p>Korowai Aroha</p> <p>Tuwharetoa Health Services</p> <p>BreastScreen Midland</p> <p>Toi te Ora Public Health</p>
Increase the participation of Maori and Pacific women in the National Cervical Screening Programme	<p>PHO Performance indicators agreed</p> <p>Monitor the NCSR quarterly reports for trends in participation of Maori and Pacific women.</p> <p>Evaluate the effectiveness of health promotion for cervical screening</p>	<p>An increase in the proportion of Maori and Pacific women having a smear every three years</p> <p>An increase in the number of Maori and Pacific women with abnormal smears receiving the appropriate follow up within the accepted time frames</p>	Ongoing Existing	<p>National Cervical Screening Programme</p> <p>PHOs and GPs</p> <p>Maori Health providers</p> <p>Sexual health providers</p>
Work with the Midland Cancer Network to identify the need for a genetic high risk assessment service for familial risk of cancer in Lakes district	<p>Participate in the Midland Cancer Network to map the current genetic high risk assessment pathway</p> <p>Consider Lakes population requirements of a Midland genetic high risk assessment service, apply HEAT tool.</p>	<p>Pathway mapped</p> <p>Determine needs of Lakes population</p>	June 2007- Existing	<p>Midland Cancer Network</p> <p>PHOs, GPs</p>

GOAL 3: ENSURE EFFECTIVE DIAGNOSIS AND TREATMENT OF CANCER TO REDUCE MORBIDITY & MORTALITY				
Medium Term Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
<p>Prompt presentation and timely diagnosis and treatment for all patients with suspected cancer</p> <p>Reduce delays, facilitate appropriate referrals.</p> <p>Promote regional and national consistency of cancer diagnosis and treatment</p>	<p>Monitor agreed timeframes within which those with suspected cancer should be seen for diagnosis and treatment.</p> <p>Identify services which currently do not meet timeframes</p> <p>Referral guidelines for GPs, other primary and secondary care providers on how to refer those with symptoms suggestive of cancer</p> <p>Consider Maori-led services which contribute to reducing delays and improving access to treatment services.</p> <p>PHOs utilise very low cost access to increase access to primary care services for patients with low socio-economic status.</p>	<p>Wait time for radiation and medical oncology services meet timeframes</p> <p>Referral guidelines produced</p> <p>Local/ regional guidelines/protocols are in place for all major cancers</p> <p>Pilot initiative to reduce cancer related inequalities for Maori and Pacific populations</p>	<p>Ongoing</p> <p>2008-9- Existing</p> <p>2008-9- Existing</p> <p>2008-9</p> <p>Additional resource required</p> <p>June 2007</p> <p>Funding identified</p>	<p>Midland Cancer Network</p> <p>DHB Hospital services</p> <p>GPs/ PHOs</p> <p>Maori Health providers</p>
<p>Participate in Midland Cancer Network work to map and improve the patient's journey for the major tumour groups²⁷ (OBJECTIVE 3)</p> <p>Reduce inequalities</p>	<p>Develop and implement recommendations from the Midland Region Patient Mapping Project within available resources:</p> <p>Breast, Lung, Colo-rectal and Prostate</p>	<p>Site specific Action Plans developed and recommendations implemented within allocated resources</p>	<p>Ongoing</p> <p>Patient Mapping Manager</p> <p>Existing (unless gap identified)</p>	<p>Midland Cancer Network</p>
<p>Participate in Midland Cancer Network work to develop a Midland Gynae-oncology Model of Care</p>	<p>Map the current ovarian cancer pathway</p> <p>Identify Midland MOC for gynae-oncology</p> <p>Work collaboratively with Northern DHB Gynae-Oncology project</p>	<p>Pathway mapped</p> <p>Model of Care and action plan developed with implications</p>	<p>2007-08</p> <p>Midland Cancer Network</p> <p>Existing (unless gap identified)</p>	<p>Midland & Northern Cancer Networks</p> <p>Site Specific Teams</p>
<p>Participate in Midland Cancer Network patient mapping for</p>	<p>Map haematological conditions pathways and opportunities identified</p>	<p>Pathways mapping and</p>	<p>2008-09</p>	<p>Midland Cancer</p>

²⁷ Links with Midland Region Non-Surgical Cancer Treatment Implementation Plan 2005-2010

GOAL 3: ENSURE EFFECTIVE DIAGNOSIS AND TREATMENT OF CANCER TO REDUCE MORBIDITY & MORTALITY				
Medium Term Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
haematological conditions	via workshops	Action Plans developed	Midland Cancer Network Existing (unless gap identified)	Network Site Specific Teams
Participate in Midland Cancer Network to ensure an integrated surgical cancer service for the Midland region	To develop a Midland Surgical Cancer Treatment Plan, linking with NSCT Plans and patient mapping	Midland Surgical Cancer Treatment Plan developed with actions plan	2008 – 2010 Existing	Midland Cancer Network Surgical Services
Implementation of the Midland Region Non-Surgical Cancer Treatment Service Plan (refer to Plan for more detail)	The Midland Region Operations Network continues to implement the Non Surgical Cancer Treatment Service Implementation Plan 2005 – 2010 recommendations	Annual report on progress	June each year Existing	Midland Cancer Network
Participate in Midland Cancer Network to establish multidisciplinary care for cancer patients	Promote strategies that enhance 'multi-disciplinary cancer teams' Identify workforce and communication requirements	Formalised multi-disciplinary care is established for major cancer groups	2007-2010 Existing (unless gap identified)	Midland Cancer Network
A coordinated and seamless cancer journey for the patient	Ensure Cancer Care Co-ordinator roles provide coverage across the Lakes district. Identify links with community services and provider arm services Development of care co-ordinators to facilitate the delivery of appropriate services Consider need for Maori specific support services for patients in the community	Generic Care coordinator roles cover Lakes district communities Patient care co-ordinated Improvement in patient/whanau satisfaction with services	2006-2010 Additional funding required, prioritised for 07/08. Ongoing - Anticipate increased Cancer Control funding in 07/08	Midland Cancer Network Maori health providers DHB Hospital services Iwi governance bodies

GOAL 4: IMPROVE THE QUALITY OF LIFE FOR THOSE WITH CANCER, THEIR FAMILY AND WHANAU THROUGH SUPPORT, REHABILITATION AND PALLIATIVE CARE				
Medium Term Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
Implement the objectives from the New Zealand Palliative Care Strategy	Establish access to palliative medical specialist services.	Develop a formal agreement with Waikato DHB for the provision of palliative medical specialist services to the Lakes district.	June 2007 Additional Palliative funding	Waikato DHB Palliative team Lakes DHB Palliative working party Lakes DHB Community Hospices
	Develop documented pathways for palliative care.	Documented pathways available by June 2008.	June 2008 Existing	Waikato DHB Palliative team Lakes DHB Palliative working party Lakes DHB Community Hospices
	Implement any remaining recommendations from the Lakes DHB Palliative Care Review (2002).	All outstanding relevant recommendations to be implemented	June 2008. Existing	Waikato DHB Palliative team Lakes DHB Palliative working party Lakes DHB Community Hospices
	Ensure the palliative care services for children and adolescents meet the specific needs of those age groups.	Formal links established to share expertise and ensure bereavement counseling available for both adults and children.	Formal links in place by March 2008. Existing	Waikato DHB Palliative team Lakes DHB Palliative working party Lakes DHB Community Hospices Paediatric Services

Ensure access to palliative care services for people in under-served populations – Maori, Pacific and low income groups.	Monitor current utilisation of palliative services by Maori and Pacific people.	Regular monitoring of utilisation statistics.	Regular monitoring in place by July 2007. Existing	Lakes DHB Palliative working party Lakes DHB Community Hospices
	Seek to increase utilisation where percentages do not reflect population proportions.	Increase utilisation of under-served groups to reflect population proportions	2008-2010 Existing	Lakes DHB Palliative working party Lakes DHB Community Hospices
	Implement change process to integrate palliative care physicians with Lakes community hospices	Integrated consultant palliative care service developed	2007-9 Existing (revenue identified) dependent on ability to recruit	Waikato DHB Palliative team Lakes DHB Palliative working party Lakes DHB Community Hospices
Improve access to palliative services in rural areas	Provide outreach services, establish a team of rural home based support workers skilled in palliative care, and increase collaboration of health and disability support providers in rural areas.	Implementation plan to improve rural services	2008-2010	Lakes DHB Palliative working party
	Formalise training and development programmes for the specialist palliative care nurses and general practice	Adequately trained and supported workforce	2006-2010	Waikato DHB Palliative team Lakes DHB Palliative working party PHOs
Implement the New Zealand Palliative Care Strategy - continued	Continue to participate in the development of national palliative care definitions and service specifications	Integrated palliative care service specifications to meet the population needs	2006-2010 Undetermined specifications not developed as yet	Lakes DHB Palliative working party National Working Party

Develop a support and rehabilitation resource plan for those with cancer and their families/ whanau	<p>Participate in the Midland Cancer Network to establish an intersectoral group to identify and address resource needs of cancer patients and their families</p> <p>Membership includes DHBs, NGOs, Ministries of Social Development and Education</p>	<p>Establishment of a regional intersectoral group</p> <p>Plan developed</p>	2008-9- Existing	<p>Midland Cancer Network</p> <p>DHBs</p> <p>PHOs</p> <p>Cancer Society</p> <p>Palliative care services</p> <p>Local representatives MSD and MOE</p>
Easy access to a database of resources available in the Midland Cancer Network for patients, families and professional staff	<p>Develop a database of services available in Lakes DHB</p> <p>Develop a system to keep the database current</p> <p>Develop a system to disseminate the information</p>	<p>Database of services established in Lakes DHB as part of Midland Cancer Network</p> <p>Systems to disseminate and keep current in place</p>	<p>2008-9</p> <p>Dependant on additional resource required</p>	<p>Midland Cancer Network</p> <p>Cancer Society</p> <p>PHOs</p> <p>Consumers</p> <p>Maori and Pacific communities</p>

GOAL 5: IMPROVE THE DELIVERY OF SERVICES ACROSS THE CONTINUUM OF CANCER CONTROL, THROUGH EFFECTIVE PLANNING, CO-ORDINATION AND INTEGRATION OF RESOURCES AND ACTIVITY, MONITORING AND EVALUATION				
Medium Term Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
Develop a co-ordinated cancer workforce strategy (OBJECTIVE 1)	Participate in national workforce planning activities	Participate in national planning	2006-2010 Increased – refer to MRNSCT Plan	Midland Cancer Network
	Integrate cancer control workforce requirements into the Lakes DHB workforce plan ensuring consideration of cancer workforce shortage for Maori and Pacific peoples Implement recommendations within allocated resources	Workforce plan for cancer control integrated in Waikato DHB Workforce Plan	2006-2010 Increased – refer to MRNSCT Plan & Waikato Palliative Care Strategy Plan	Midland Cancer Network Lakes DHB Palliative working party Waikato Palliative Care Operations Network Human Resources Service

GOAL 6: TO IMPROVE THE EFFECTIVENESS OF CANCER CONTROL IN NZ THROUGH RESEARCH & SURVEILLANCE				
Medium Term Objective	Actions	Measures/Milestones	Timeframe & Resources	Key Stakeholders
Reduce inequalities through use of the Health Equity Assessment Tool (HEAT)	Educate and upskill staff in application of the HEAT tool	HEAT applied to all policy and funding decisions	2007-2010 Existing	Midland Cancer Network Planning and Funding team
Improve the use, efficiency and scope of data collection and reporting (OBJECTIVE 2)	Educate staff on the values of accurate ethnicity data collection	Improved and consistent collection of ethnicity data	2007-2010 Existing	Lakes DHB Hospital and specialist secondary services PHOs NGOs
Standardised clinical cancer data set	Participate in national dataview project Implement recommendations within allocated resources	Improved availability of data for analysing, planning, monitoring and evaluation	2006-2010 Undetermined as implications for DHBs not yet developed	Midland Cancer Network National Working Party
Access to clinical trials for all cancer patients should be improved (links to MRNSCT Plan)	Investigate options to expand access to clinical trials to include patients from outreach centres (linked to research)	Options identified and considered	2007-2010 Undetermined	Midland Cancer Network

References

- Barber, J. (2004). Non-Surgical Cancer Treatment Services Plan for the Midland Region. Tauranga, Midland DHBs.
- Hewitt (2006). Midland Region Cancer Control - A Proposal for Establishing the Midland Cancer Network. Hamilton, Midland DHBs.
- Hewitt J. & Scanlan L. (2006). Midland Region Cancer Control Project - Patient Mapping Report. Hamilton, Midland District Health Boards.
- Lakes District Health Board (2004). An Assessment of Health Needs in the Lakes district Health Board region: Te Tirohanga Hauora o Lakes, Full Technical Report. Rotorua, Lakes District Health Board.
- Midland DHBs (2005). Midland Region Non-Surgical Cancer Treatment Services Progress Report 2005, Implementation Plan 2005-2010. Hamilton, Midland District Health Boards.
- Ministry of Health (2000). New Zealand Health Strategy. Wellington, Ministry of Health.
- Ministry of Health (2001). DHB Toolkit - Cancer Control. To reduce the incidence and impact of cancer. Ministry of Health. Wellington.
- Ministry of Health (2001). New Zealand Disability Strategy. Wellington, Ministry of Health.
- Ministry of Health (2001). The Primary Health Care Strategy. Wellington, Ministry of Health.
- Ministry of Health (2002). Reducing Inequalities in Health. Wellington, Ministry of Health.
- Ministry of Health (2003). New Zealand Cancer Control Strategy. Wellington, Ministry of Health.
- Ministry of Health (2005). New Zealand Cancer Control Strategy ACTION PLAN 2005-2010. Wellington, Ministry of Health.
- Ministry of Health (2006). Cancer New Registrations and Deaths 2002. Wellington, Ministry of Health.
- Ministry of Health (2006). Cancer Patient Survival 1994 to 2003. Wellington, Ministry of Health.