

Cardiovascular Disease Strategic Action Plan

Adopted by the Board July 2007

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1 Executive Summary

Cardiovascular disease (CVD) is a strategic priority of the Northland DHB and this plan is one of a number of plans that identify the critical issues relating to chronic diseases and strategies for managing these. The plans cover diabetes, cancer and Healthy Eating Healthy Action.

Cardiovascular diseases are the leading cause of death in Northland, accounting for between 35% and 40% of all deaths. The prevalence of both ischaemic heart disease (IHD) and stroke is higher in Northland than in New Zealand and within Northland there are disparities between Maori and non-Maori, prevalence for both being higher for Maori. Northland's statistics on most risk and protective factors (smoking, excess weight, physical activity, diet and alcohol intake) compare unfavourably with New Zealand's for total population and for Maori, and within Northland, Maori statistics compare unfavourably with non-Maori. CVD conditions are also among the top conditions making up the avoidable admissions in Northland and hospitalisation rates for IHD, CHF (congestive heart failure) and stroke are consistently higher in Northland than New Zealand, with higher rates for Maori.

There are service gaps and weakness in the prevention and management of CVD; these are in the public health, primary, secondary and tertiary sectors; in stroke assessment and rehabilitation services; home support service access and consumer support and advocacy. The strategy identifies ten goals to address the identified service gaps and weaknesses and the CVD disease trends. The goals are:

- 1 Reduce the prevalence of smoking
- 2 Reduce the prevalence of obesity
- 3 Provide consistent, accurate information on the lifecourse impact of CVD and increase awareness of benefits of screening for CVD risk
- 4 All primary health care providers consistently provide culturally appropriate primary health care management of CVD risk and disease
- 5 Provide equitable, best practice access to CPR and defibrillation
- 6 Pre-hospital fibrinolytic therapy is consistently provided in rural areas that have an ambulance call to response time of greater than 60 minutes
- 7 All Northlanders receive secondary care management of CVD according to NZ Guidelines
- 8 Provide a comprehensive cardiac rehabilitation service
- 9 All stroke patients have access to specialist stroke assessment and rehabilitation according to the NZ Guidelines for stroke management
- 10 All cardiac and stroke patients who fit within the criteria for financial support receive home support to assessed need irrespective of diagnosis, age and area of residence.

In the implementation section of this plan, the goals are each broken down in to objectives and actions, to provide specific guidance on what to do to achieve the goals.

2 Introduction

Reducing the incidence and impact of cardiovascular disease (CVD) is a national health goal and a strategic priority for Northland District Health Board (NDHB). This plan fulfils the requirement of the NDHB District Strategic Plan 2005-2010 to develop a strategic plan for cardiovascular disease, which addresses the following priority areas:

1. Promote healthier lifestyle behaviours
2. Maori and Pacific – develop approaches to reduce inequalities between Maori, Pacific and other groups in the population
3. Encourage widespread and consistent use of patient care guidelines
4. Information systems that best support the strategy. (*NDHB District Strategic Plan 2005-2010, s. 3.2*)

This strategic action plan has been prepared using the “Northland DHB Cardiovascular Disease Strategy Report, February 2006”, which was guided by the Northland Cardiovascular Disease Strategy Planning Group, and written with input drawn from a Northland-wide consultative process. It summarises the findings contained in the report and uses the goals, targets and priorities for action listed in the report for the goals and implementation sections.

3 Patterns of Disease

This section contains information on:

- Prevalence of cardiovascular disease in the population
- Behaviours that increase (risk factors) or decrease (protective factors) CVD prevalence
- Patterns of mortality
- Patterns of hospitalisation

Throughout, the following comparisons are made:

- Northland and New Zealand total population
- Northland Maori and New Zealand Maori
- Maori and non-Maori within Northland

Cardiovascular diseases are diseases affecting the heart and circulatory system. They are the leading cause of death in Northland, accounting for between 35% and 40% of all deaths. Of the cardiovascular diseases, coronary heart disease (CHD), also known as ischaemic heart disease (IHD), is the major cause of death, followed by stroke (also known as cerebrovascular disease), which is the greatest cause of disability in older people.

The information in this section focuses on IHD and stroke because together they account for about three-quarters of all CVD deaths, with mention also made of congestive heart failure because of its close association with IHD. It does not deal with the many other less common diseases of the heart and circulation.

IHD is the narrowing or blocking of the coronary arteries that supply blood and oxygen to the heart. It can cause angina and heart attack and lead to heart failure.

Stroke occurs when a blood vessel to the brain bursts or is blocked by a blood clot or some other particle. This prevents part of the brain getting the blood flow it needs; without oxygen, nerve cells in the affected area of the brain cannot function.

3.1 Prevalence of cardiovascular disease

This section is based on the 3-yearly New Zealand Health Survey carried out by the Ministry of Health; data is from the 2003 survey. Information is self-reported, not clinically based, and for adults only.

Figure 1 Prevalence of ischaemic heart disease and stroke in Northland and NZ by ethnicity, percentages based on age-standardised rates

Disease	Northland			New Zealand		
	All	Maori	Non-M	All	Maori	Non-M
Ischaemic heart disease	9.7%	13.7%	8.5%	9.0%	12.0%	8.6%
Stroke	2.5%	3.4%	2.3%	1.7%	2.7%	1.6%

Points to note:

Ischaemic heart disease:

Northland prevalence is higher than New Zealand's, for both total population and Maori, though about the same for non-Maori.

In Northland, prevalence among Maori is higher than non-Maori.

Though not shown in the table, prevalence among males (10.5%) is higher than females (8.9%) in Northland.

Stroke:

Northland prevalence higher than New Zealand's, for total population and both ethnic groups.

Within Northland, prevalence among Maori is higher than non-Maori.

Prevalence among males (3.1%) is higher than females (2.0%).

3.2 Prevalence of risk and protective factors

This section addresses 5 CVD risk factors: smoking, excess weight, physical activity, diet and alcohol intake. Prevalence data, from the 2003 New Zealand Health Survey, is in Figure 2 and comparisons between various population subgroups are provided in Figure 3. (Note that the percentages are not 'actuals', but derived from an age-standardised analysis, which was carried out to make data comparable across different population groups).

The risk and protective factors are important for the following reasons:

Smoking Smoking is a significant cause of illness and death, and a significant risk factor for CVD. National smoking prevalence among adults has continued to fall from 28% in 1990 to 24.5% in 2002. Further encouragement can be derived from smoking prevalence among youth which continues to fall: Northland Year 10s who smoke daily have declined from 17% in 1999 to 13% in 2005.

However, while statistics are improving, there remains cause for concern within Northland. Northland's smoking prevalence (32.5% in 2003) remains higher than New Zealand's (23.4%). Maori in Northland (50.9%) smoke more than non-Maori (27.1%). Smoking rates are similar for both sexes, though it is known that smoking rates among Maori women are some of the highest in the western world; in Northland, 58.1% of Maori women smoke.

Excess weight Excess weight is a significant risk factor for CVD (*see Appendix 1 for definitions of overweight and obese*). The 'obesity epidemic' is the country's major public health problem and has not yet peaked. In simple terms, excess weight results from excess consumption of energy through food and drink and insufficient expenditure of energy through physical activity.

Over 60% of Northland's population carries excess weight; 26% are obese (compared with 20% nationally), and 35% are overweight (similar to New Zealand's 34%).

Within Northland, Maori have a higher rate of obesity (31.0%) than non-Maori (23.9%). Prevalence of overweight (pre-obesity) is higher among Northland males (40.9%) than females (29.0%), though prevalence of obesity is similar for both sexes.

<i>Physical activity</i>	<p>Physical activity protects against CVD (as well as other chronic diseases) by reducing risk factors such as excess weight, high blood pressure and high cholesterol.</p> <p>Northland's statistics for physical activity compare favourably with New Zealand's across all ethnic groups. Within Northland, ethnic groups have similar levels of activity, though prevalence among females (69.0%) is lower than males (78.1%).</p>
<i>Diet</i>	<p>Adequate fruit and vegetable consumption is important for good nutrition as well as providing protection against cardiovascular disease and a number of other chronic diseases.</p> <p>Within Northland, daily consumption of at least 3 vegetables occurs among less than 70% of the total population, and of 2 fruit, less than 60%. Maori consumption of both vegetables (54.1%) and fruit (43.7%) is lower than non-Maori (67.5% and 48.7% respectively). Differences between the sexes are even greater: slightly more females (68.3%) eat 3 vegetables daily than males (65.1%), but consumption of 2 fruit a day is much higher among females (58.5%) than males (36.0%). Again, Northland compares reasonably favourably in vegetable consumption with New Zealand, though consumption of fruit is slightly lower.</p>
<i>Alcohol intake</i>	<p>Alcohol is the most commonly used recreational drug in New Zealand. Alcohol is related to a range of adverse effects on the heart and circulation system (including cardiomyopathy, high blood pressure and haemorrhagic stroke) and a large range of other diseases, as well as inappropriate behaviours such as violence and drink-driving.</p> <p>About a fifth of Northlanders consume hazardous amounts of alcohol. Prevalence is higher among Maori (26.8%) than non-Maori (19.0%), and among males (29.1%) than females (13.0%). Northland's statistics are uniformly slightly poorer than New Zealand's.</p>

Figure 2 presents Northland and New Zealand data on several lifestyle practices; key comparisons are summarised in Figure 3. Points to note:

- Northland's statistics on most risk and protective factors compare unfavourably with New Zealand's for total population and for Maori
- In Northland, Maori statistics compare unfavourably with non-Maori
- The pattern of gender differences within Northland is not consistent across all factors, though males have unhealthier lifestyles for key CVD risk factors of smoking and excess weight

Figure 2 Prevalence of cardiovascular disease risk factors in Northland and NZ by ethnicity, percentages based on age-standardised rates

Risk factor	Northland					New Zealand		
	All	Maori	Non-M	Female	Male	All	Maori	Non-M
Current smoker ¹	32.5%	50.9%	27.1%	31.7	33.3	23.4%	47.2%	20.5%
Overweight ²	34.9%	35.1%	34.8%	29.0	40.9	34.0%	35.8%	33.7%

¹. Current smoker: smoking one or more cigarettes per day.

Obese ³	25.5%	31.0%	23.9%	25.9	25.1	20.1%	28.3%	19.1%
Physically active ⁴	73.4%	74.5%	73.1%	69.0	78.1	74.0%	74.9%	73.9%
Vegetable consumption ⁵	66.7%	64.1%	67.5%	68.3	65.1	67.3%	65.6%	67.6%
Fruit consumption ⁶	47.6%	43.7%	48.7%	58.5	36.0	53.9%	46.3%	54.8%
Hazardous intake of alcohol ⁷	20.8%	26.8%	19.0%	13.0	29.1	18.9%	25.9%	18.1%

Figure 3 Prevalence of risk factors, Northland and New Zealand by ethnicity and sex (based on Figure 2)

Risk factor	Risk factor is more prevalent in:			
	Northland & NZ total population	Northland Maori & NZ Maori	Maori & non-M within Northland	Males & females within Northland
Current smoker	Northland	Northland Maori	Maori	Males
Overweight	Similar	Similar	Similar	Males
Obese	Northland	Northland Maori	Maori	Similar
Low physical activity	Similar	Similar	Similar	Females
Low vegetable consumption	Similar	Northland Maori	Maori	Males
Low fruit consumption	Northland	Northland Maori	Maori	Females
Hazardous intake of alcohol	Northland	Northland Maori	Maori	Males

3.3 CVD mortality

CVD deaths in Northland 1,260 Northlanders died in 2003, of whom 445 died from cardiovascular disease, representing 35% of all deaths; this represents a drop from 2001 figures when CVD comprised 39% of all deaths. Ischaemic heart disease (237 deaths) and stroke (100 deaths) accounted for about three-quarters of all CVD deaths in 2003.

3.3.1 IHD mortality

Northland and NZ During 1996-98, Northland's age-standardised mortality rate for IHD (240.3/100,000) was higher by almost 10% than New Zealand's rate (219.2/100,000).

Maori For the same period, the age-standardised mortality rate from IHD for

² Overweight: Body Mass Index of ≥ 25.0 -29.9 for European/Asian/other, ≥ 26.0 -31.9 for Maori and Pacific.

³ Obese: Body Mass Index of ≥ 30.0 for European/Asian/other, ≥ 32.0 for Maori and Pacific.

⁴ Physically active: at least 2.5 hours of moderate or vigorous exercise over a week.

⁵ Vegetable consumption: at least 3 servings of vegetables per day.

⁶ Fruit consumption: at least 2 servings of fruit per day.

⁷ Hazardous drinking: as defined by the World Health Organisation's Alcohol Use Disorders Identification Tool.

Northland Maori (429.1/100,000) was 79% higher than the total Northland rate (240.3/100,000). Compared with the total Maori population in New Zealand (350.8/100,000), the Northland Maori IHD mortality rate was 22% higher.

Genders Male IHD mortality is significantly higher than female in both Maori (during 1996-2000, males 620/100,000 and females 435/100,000) and non-Maori (males 343/100,000 and females 169/100,000).

3.3.2 Stroke mortality

Maori During 1996-2000, age-standardised mortality for stroke among Maori was about twice as high as non-Maori. This was the case for the total population (170/100,000 Maori compared with 88/100,000 non-Maori) as well as females (166/100,000 Maori and 84/100,000 non-Maori) and males (184/100,000 Maori and 91/100,000 non-Maori).

Genders The above data indicates that prevalence of stroke mortality in males is slightly higher than in females for both Maori and non-Maori.

3.4 Hospitalisation for CVD in Northland

This section includes information on:

- Avoidable disease
- Avoidable hospitalisations
- Patterns of hospital discharges for cardiovascular diseases
- Access to tertiary cardiac interventions

At present, most data on services for CVD comes from the hospital sector because data systems in primary health care are still undergoing development (though they will improve with the widespread adoption of CVD screening programmes, CarePlus and the like).

3.4.1 Avoidable hospitalisations

A hospitalisation is deemed 'avoidable' if the underlying disease could potentially have been prevented or if access to primary health care had been better; this is a conceptual tool that does not suggest that *all* such admissions could be avoided.

Of the top 15 causes of avoidable hospitalisation in Northland between 1996 and 2000, 4 were CVD conditions (angina, IHD, CHF and stroke) and another (diabetes) contributes strongly to circulation problems; the 5 conditions together comprised 36% of the top 15 avoidable hospitalisations. As Figure 4 shows, Northland rates of avoidable hospitalisations are consistently higher than New Zealand's, and within Northland, Maori rates are consistently higher than non-Maori.

Figure 4 Age-standardised avoidable hospitalisation rates/100,000, Northland and NZ 1996-2000

Condition	Total discharges	Age-standardised rate/100,000			
		Northland			NZ
		Total pop	Maori	Non-M	
Angina	3,880	496	645	456	439
CHF	1,290	143	415	92	98
IHD	1,234	150	184	142	165
Stroke	796	87	154	74	89
Diabetes	890	128	365	77	71

Between 1996 and 2000, Northland had 31,394 avoidable admissions, 31.9% of all admissions and only slightly higher than the New Zealand proportion of 30.0%. However the regional / national gap is widened when the populations are age-standardised because Northland's population is younger (Northland 51.0/1,000 compared to New Zealand 42.5/1,000).

Ambulatory-sensitive hospitalisations (ASH) are those resulting from conditions that could have been prevented or treated in a primary health care setting. Northland's ASH rate (36.2/1,000) is higher than New Zealand's (29.8/1,000). Within Northland, the Maori ASH rate (55.7/1,000) is higher than the non-Maori rate (28.6/1,000). One factor influencing this may be the lower GP-to-population ratio in Northland, suggesting that Maori in particular would benefit from improved access to primary health care.

3.4.2 Hospital discharges

Each year Northland DHB provides hospital care to approximately:

- 900 people for acute episodes related to ischaemic heart disease
- 250 people for congestive heart failure
- 300 people for acute stroke care

Northland's age-standardised hospitalisation rate for all cardiovascular diseases is only slightly higher than New Zealand's (for 1996-2000, Northland 7.6/1,000, NZ 7.3/1,000). However within Northland, the Maori rate (10.2/1,000) is much higher than the non-Maori rate (7.2/1,000).

Northland compared with New Zealand

Northland's hospitalisation rates for IHD, CHF and stroke are consistently higher than New Zealand's (Figure 5).

Figure 5 Hospitalisation rates for cardiovascular diseases, Northland and NZ 2000/01-2004/05

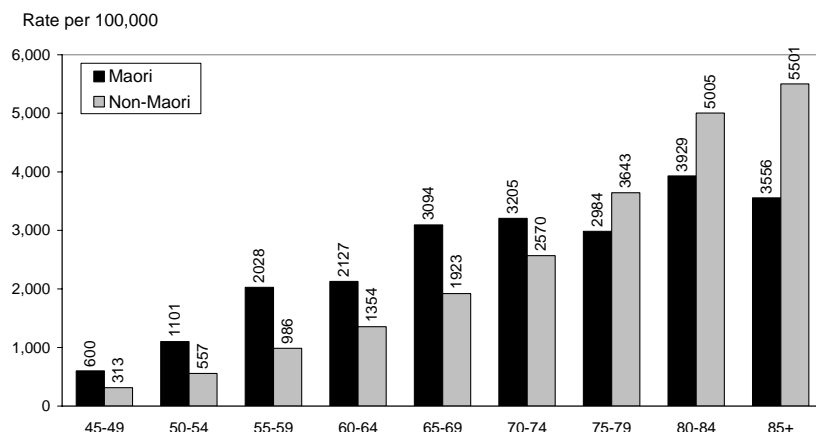
Condition	Rate/100,000, ages 35+	
	Northland	NZ
Ischaemic heart disease	816	799
Congestive heart failure	247	210
Stroke	284	254
All 3	1,348	1,263

Examination of patterns across 5-year age groups shows less consistency. For IHD, Northland’s hospitalisation rate is marginally lower until age 80, but higher thereafter; for CHF it is higher for all age groups up to 70-74, but lower thereafter; for stroke there is no clear pattern across age groups.

Maori and non-Maori within Northland

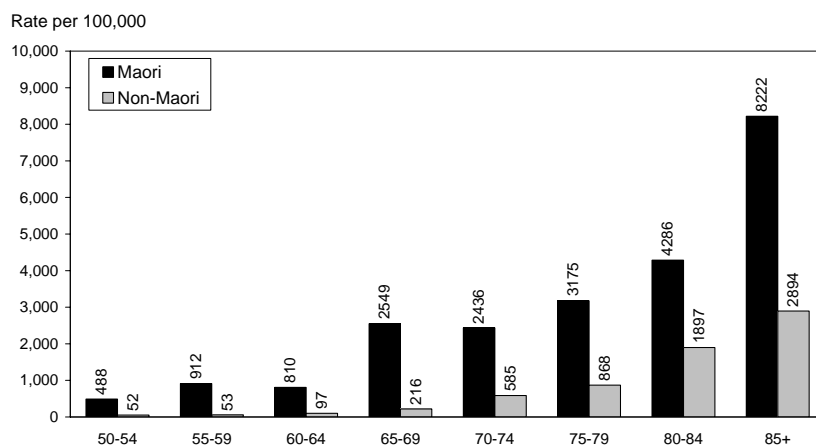
Maori rates of hospitalisation across age groups show a consistently higher pattern (Figures 6a to 6c).

Figure 6a Ischaemic heart disease, age-specific discharges from Northland hospitals by ethnicity 2000/01-2004/05



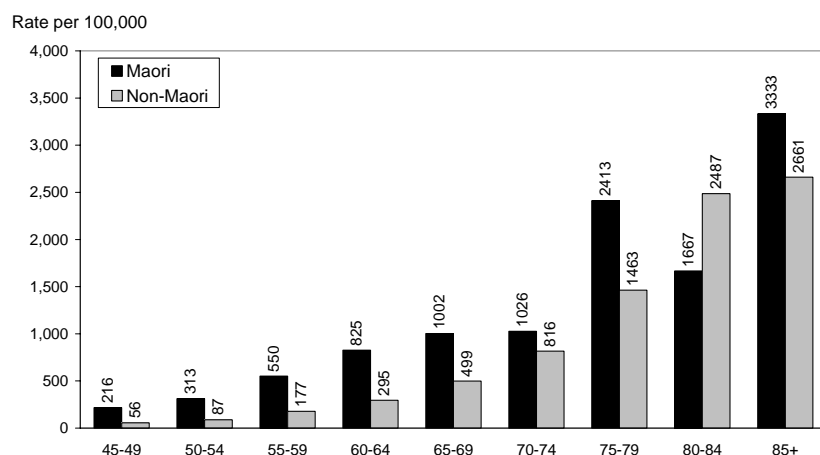
IHD discharge rates for Maori are up to twice the non-Maori rate, in every age group up to and including 70-74.

Figure 6b Congestive heart failure, age-specific discharges from Northland hospitals by ethnicity 2000/01-2004/05



In every age group, discharge rates for CHF for Maori are between about twice as high and 10 times as high as the non-Maori rate.

Figure 6c Stroke, age-specific discharges from Northland hospitals by ethnicity 2000/01-2004/05



Rates of hospitalisation for stroke show Maori are admitted consistently more often than non-Maori in all age groups bar one (80-84).

3.4.3 Access to tertiary cardiac interventions

Interventions for CVD include angiography, angioplasty and coronary artery bypass grafts (CABGs). Northlanders travel outside Northland (mostly to Auckland Hospital) for these procedures.

Northland compared with New Zealand

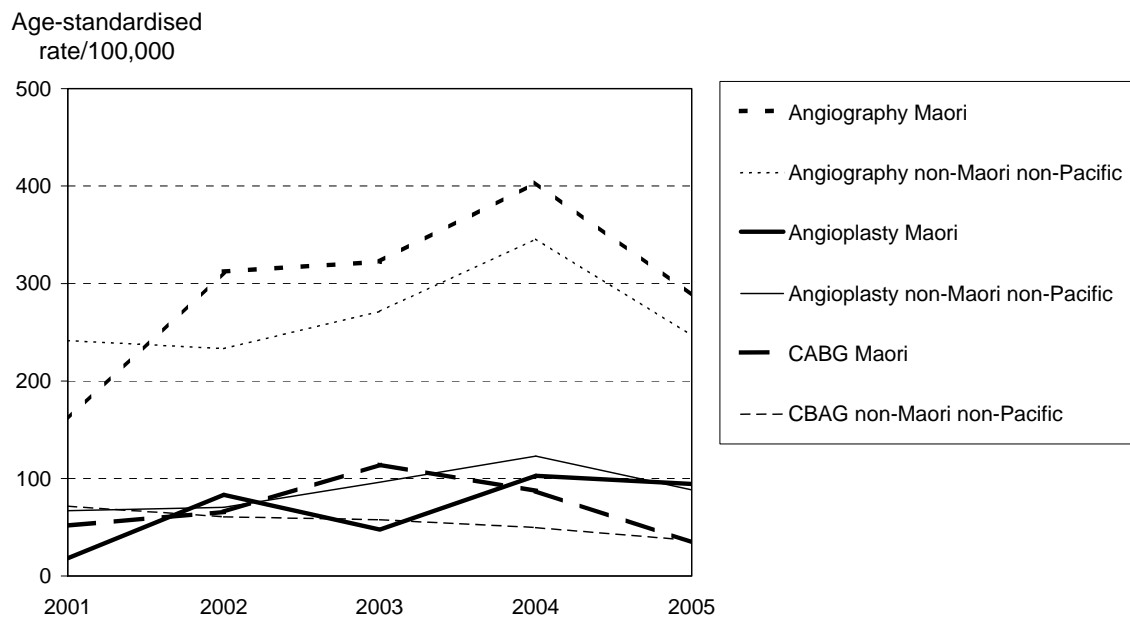
For almost two decades data has been published that illustrates Maori are under-represented in cardiac interventions for coronary heart disease, despite experiencing significantly higher IHD mortality rates than other New Zealanders. One study found that the intervention rate for CABGs among Maori men was less than 30% that of non-Maori men. Another found that CABG intervention rates for Maori men and women were 40% and 74% of non-Maori men and women respectively, and for PTCA (a form of angioplasty) the respective figures were 29% and 43%.

Maori and non-Maori non-Pacific within Northland

During 2001-2005, the number of angiographies provided annually to Northlanders increased by about 70% to 480, while the number of angioplasties more than doubled to 165. Numbers of CABGs dropped over the same period, though this is in line with wider trends towards more angioplasties and stenting and fewer CABGs.

Progress in treatment provided for Maori Northlanders is also encouraging. As Figure 7 shows, during 2000/01-2004/05 rates of angiographies and angioplasties for both Maori and non-Maori non-Pacific have increased. In the first year of this period, Maori intervention rates were well below non-Maori non-Pacific for both procedures, but had risen to at least non-Maori levels by 2005.

Figure 7 Tertiary cardiac intervention rates for Northland residents aged 15+ by ethnicity, age-standardised, 2000/01-2004/05



These improvements in access to angiography and angioplasty procedures had by 2005 lifted intervention rates for Northlanders, both Maori and non-Maori non-Pacific, to above those of Auckland and Waitemata. However access rates for Counties Manukau residents were between 15% and 50% above Northlanders' for both procedures, and for both Maori and non-Maori non-Pacific. This is concerning and worthy of further investigation, since health needs in Northland are known to be similar to, if not higher than, those of South Auckland.

Rates for CABGs show a different and less clear pattern. CABG rates for Northland Maori peaked in 2003 then dropped again, while for non-Maori non-Pacific Northlanders they have shown a steady decline since 2001. No consistent pattern emerged in comparisons of CABG rates with the other 3 Northern Region DHBs, and because CABGs are to some extent being superseded by other procedures, it is hard to discern trends. The New Zealand Health Information Service produces figures comparing intervention rates for DHBs' populations, allowing for their mix of sex, age, ethnicities and deprivation. Using the New Zealand average rate as the benchmark of 1.0, Northlanders' discharges for CABGs in 2002/03 and 2003/04 were 0.90 and 0.93 respectively.

4 Service Gaps and Weaknesses

Through the process of developing this strategy, which has involved literature reviews, focus group input, service review, and expert advice from the Planning Group, service gaps and problems with the way current services are delivered have been identified. The following section presents an outline of the identified service gaps and weaknesses as a background and rationale for the goals and objectives.

4.1 Challenges to providing effective, quality, CVD prevention and management across the health sector

- High need population, spread over large geographical area
- Access barriers – factors associated with the health system, individual practitioners and healthcare consumers
- Scarcity of medical practitioners, allied health and Maori health professionals
- Poor communication and lack of information sharing between health professionals and healthcare consumers
- Poor communication between different parts of the health sector
- Poor public knowledge and understanding of CVD, the benefits of screening and early treatment

4.2 Public health specific service gaps and weaknesses

- Insufficient resources for health promotion and community action projects to support healthy eating
- No direct funding for smoking cessation support for Maori men and youth and action to reduce smoking initiation among youth
- Challenges in engaging the health sector in action to address the social and economic determinants of CVD
- Need for more community action models of health promotion for CVD prevention

4.3 Primary health care specific service gaps and weaknesses

- Need to create service delivery models more conducive to chronic care management
- Potential to increase participation in CVD prevention by Lead Maternity Carers, well child providers and parent groups through raising awareness of healthy eating and healthy action through the lifecourse
- Need to improve CVD prevalence data capture and measures of CVD management in primary healthcare
- Need for systematic smoking cessation advice and support in primary healthcare
- Pre hospital fibrinolytic therapy needs to be provided by GPs in areas where an ambulance response time is greater than 60mins.

4.4 Secondary care specific service gaps and weaknesses

- Specialist cardiology leadership and consistent, equitable provision of best practice for acute coronary syndrome (ACS) throughout Northland
- Limited availability of technicians and equipment for exercise tolerance testing (ETT), echocardiography (ECHO) and other non-invasive cardiac investigations means long wait times and poor access outside of Whangarei.
- Inequitable access to tertiary cardiac procedures
- Limited provision of cardiac rehabilitation

4.5 Stroke assessment and rehabilitation specific service gaps and weaknesses

- Inadequate access to acute stroke unit services providing specialist acute stroke care
- Need to refer minor strokes or TIA to community rehabilitation
- Resources required to provide community rehabilitation for stroke patients in residential care facilities
- Regular ongoing CRS review of stroke patients in the community is required
- Need to provide CRS to stroke patients over 65 years and all patients seen by the ASU
- Funding support required for driving assessment by an occupational therapist for all patients following a stroke

4.6 Home support specific service gaps and weaknesses

- Inequitable access to home support

4.7 Consumer support and advocacy specific service gaps and weaknesses

- Limited availability of consumer stroke support and advocacy

5 Goals and Guiding Principles

To address CVD disease trends and the identified service gaps and weaknesses, the following goals were developed by the group:

- Reduce the prevalence of smoking
- Reduce the prevalence of obesity
- Provide consistent, accurate information on the lifecourse impact of CVD and increase awareness of benefits of screening for CVD risk
- All primary health care providers consistently provide culturally appropriate primary health care management of CVD risk and disease
- Provide equitable, best practice access to CPR and defibrillation
- Pre-hospital fibrinolytic therapy is consistently provided in rural areas that have an ambulance call to response time of greater than 60 minutes
- All Northlanders receive secondary care management of CVD according to NZ Guidelines
- Provide a comprehensive cardiac rehabilitation service
- All stroke patients have access to specialist stroke assessment and rehabilitation according to the NZ Guidelines for stroke management
- All cardiac and stroke patients who fit within the criteria for financial support receive home support to assessed need irrespective of diagnosis, age and area of residence.

In working towards the achievement of the goals, the following will be used to guide the planning and delivery of services for cardiovascular disease:

- The Treaty of Waitangi
- Whanau Ora
- Reducing inequalities
- Workforce development and training
- Using a community action approach when delivering health promotion services
- Reflecting a co-ordinated multisectoral approach to address the non-health determinants of CVD
- Research and innovation

5.1 Treaty of Waitangi

The Treaty of Waitangi is considered the founding document of this nation and establishes the unique and special relationship between Maori and the Crown. Northland DHB participates in relationships with Maori that recognise and respect the Treaty of Waitangi principles of partnership, participation and active protection of Maori health interests, in order to improve health outcomes and reduce inequalities for Maori.

For Northland DHB, this means enabling Maori participation in funding, planning and decision making through active partnership with Maori at all levels of the health sector – in governance, operational management and workforce development, in supporting Maori health provider development, including Kaupapa Maori models of service delivery, and in acting to improve the health and wellbeing of Maori while safeguarding Maori cultural concepts and values.

5.2 Whanau Ora

To incorporate the four He Korowai Oranga (Maori Health Strategy) pathways in to service planning and resource allocation decision-making, analysis of service proposals includes an assessment of their contribution to Whanau Ora. Therefore they must

- Reduce inequalities in health status for Maori
- Increase Maori participation in the delivery and utilisation of health and disability support services
- Improve the health status of Maori
- Improve independence for Maori with disabilities
- Improve opportunities for Maori to participate in wider society as well te ao Maori (the Maori world)
- Take in to account tikanga Maori
- Increase the level of Maori participation in service planning, implementation and delivery.

5.3 Reducing Inequalities

Reducing inequalities is one of the key strategic issues that permeate all Northland DHB's planning and funding processes and decisions. It is one of the main thrusts of our prioritisation policy to ensure that funding decisions are consistently driven by the need to reduce inequalities among population groups.

The most common inequalities relate to measures of health and health service usage by Maori. Pacific people also experience inequalities. Other inequalities that may be relevant to particular situations exist between rural and urban, deprived and wealthier populations, age groups, and male and female. Access to care across the spectrum of CVD services is also inequitable.

To ensure inequalities are being reduced Northland DHB uses the Health Equity Assessment Tool (HEAT). This incorporates within it the Reducing Inequalities Framework and the principles of the Treaty of Waitangi.

5.4 Workforce development and training

A specific focus of this strategy is the reduction of inequalities between Maori and non-Maori and this should be reflected in workforce development planning. Health professionals across public health, primary, secondary and disability support services should be supported to provide effective services to Maori through the provision of Northland specific training on effective communication, the role of whanau, enhancing service accessibility, the role and characteristics of the Northland Health Maori services Te Poutokomanawa and Takawaenga services, Northland Maori provider services and ethnicity data collection and reporting.

5.5 Using a community action approach when delivering health promotion services

A community action approach that promotes supportive environments for healthy eating and healthy action and smokefree environments is recommended for the existing Northland public health nutrition, physical activity and smokefree contracts with the MoH Public Health Directorate.

5.6 Reflecting a co-ordinated multisectoral approach to address the non-health determinants of CVD

Intersectoral initiatives led by health and including MSD, Territorial Authorities, Te Puni Kokiri, Housing NZ, MoE, and Iwi should be encouraged to take action for social and economic inclusion for all Northlanders.

5.7 Research and innovation

Building effective services and programmes depends upon having up-to-date data on the health status of the population, information on the factors that influence it and information on the effectiveness of methods of service provision (the evidence-based approach). Evaluation of programmes and services to determine their effectiveness and to measure progress are key to service delivery.

6 Implementing the goals

This section identifies the objectives required to achieve the goals and a set of actions to be undertaken over the next 5 years to meet the objectives. A target or measure of progress is included for each action, along with a list of agencies involved in the action. The resourcing and phasing column identifies whether the action can be undertaken using existing resources, an increase on current budget, or new funding; and 2 implementation phases are identified, with phase 1 to start with approval of the plan and phase 2 to be commenced before the end of 3 years. Progress with the plan should be monitored by the CVD Advisory Group, with annual reviews.

Resources and services for CVD are underdeveloped across the spectrum from lifestyle change and prevention to treatment of disease. While recognising that all of these components need expansion, the main target for extra resourcing should be preventing disease by promoting healthy lifestyles. This comes with a rider though: extra resources should only be applied if programmes and interventions are accompanied by evidence to show that they are effective.

A summary table showing which objectives are recommended for action on approval of the plan is included at the end of this section.

Goals, Objectives, Actions and Targets/Measures

Objective	Action	Target/measure	Resourcing/phase	Agencies
Goal 1: Reduce the prevalence of smoking				
1.1 To reduce smoking initiation	<p>Provide resources to reduce Maori youth smoking initiation and extend smoking cessation services to Maori men and Maori youth.</p> <p>Investigate and implement effective smoking cessation programmes for low socio-economic status communities; identification of programmes to await the outcome of the MoH's national review of the effectiveness of smoking programmes and reviews of local programmes.</p> <p>Support and continue local implementation of nationally-driven programmes to reduce smoking initiation such as eliminating point-of-sale advertising.</p>	<p>Reduce prevalence of smoking among Maori from 50% to 30% by 2011.</p> <p>Reduce prevalence of smoking from 32% of the population to 25% by 2011.</p>	Phase 1; new resources	NDHB ⁸ MAPOs NGOs PHOs
1.2 To increase smoking cessation	Provide resources to set up a programme for smoking cessation in primary health care, train quit card providers and develop a set of smoking performance indicators for primary care.	<p>By 2008, all primary care providers will have implemented a programme to systematise patient smoking status enquiry and quit support processes.</p> <p>No. of quit card providers increased from 7 in 2004 to 70 in 2011.</p> <p>No. of quit cards provided increased from 1302 in 2004 to 4000 annually in 2011.</p>	Phase 1; new resources	

⁸ 'NDHB' refers to the whole organisation with involvement as relevant in each case from the funder or from the provider arm.

Objective	Action	Target/measure	Resourcing/phase	Agencies
		By 2008, smoking status of a PHO's enrolled population by ethnicity is recorded as a vital sign, and thus included in PHO performance indicators.		
Goal 2: Reduce the prevalence of obesity				
2.1 To encourage breastfeeding	Enhance existing and/or prioritise new services that focus on improving breast-feeding rates among vulnerable populations throughout Northland.	Maori breastfeeding rates reach at least the national 2005 targets of 74% (exclusive/fully) at 6 weeks; 57% at 3 months and 21% at 6 months, by 2008.	Phase 1; increased/new resources	NDHB MAPOs NGOs PHOs Schools Heart Fdn Sport Northland TAs
2.2 To increase access to healthy food options at pre-school, school, tertiary education, work and community and reduce access to unhealthy food options.	Implement HEHA plan for Northland (refer Diabetes Strategy implementation plan for detail).	Reduce prevalence of obesity among Maori from 31% to 20% by 2011.	Phase 1; new HEHA funding	
2.3 To increase access to opportunities for physical activity at pre-school, school, tertiary education and work and community.		Reduce the prevalence of obesity among non-Maori from 24% to 20% by 2011.	Phase 1; new HEHA funding	

Objective	Action	Target/measure	Resourcing/phase	Agencies
2.4 Reduce the number of children at risk of obesity.	Extend the Lifestyle Clinic model in Whangarei and deliver a similar culturally competent service throughout the region.	Extension of culturally competent lifestyle clinic concept in the region, implemented by June 2008. Increased number of Maori children accessing the service throughout the district (at least at the rate at which they are represented in the obesity statistics for the district).	Phase 1; increased/new	
Goal 3: Provide consistent, accurate information on the lifecourse impact of CVD and increase awareness of benefits of screening for CVD risk.				
3.1 To raise community awareness of CVD risk, and the importance of screening and management through social marketing campaigns that focus on Maori.	Support the implementation of “One Heart Many Lives”, and other social marketing campaigns, along with complementary face-to-face campaigns.	All Northlanders 35 yrs and over are aware of the benefits of screening. “One Heart Many Lives” implemented in Northland during 2006/07.	Phase 1; currently resourced	Pharmac NDHB MAPOs PHOs NGOs MOH (Public Health)

Objective	Action	Target/measure	Resourcing/phase	Agencies
3.2 To increase number of risk assessments and number managed in accordance with NZ best practice guidelines	Resource PREDICT implementation.	<p>Northland CVD risk register provides ongoing information on the number, by ethnicity, whose CVD risk has been assessed; and the number, by ethnicity, who are being treated for CVD risk.</p> <p>50% of total non-Maori/non-Pacific population eligible for CVD risk assessment according to NZ guidelines, have had assessment by 2011.</p> <p>70% of the Maori and Pacific population eligible for CVD risk assessment according to NZ guidelines, have had assessment by 2011.</p> <p>All PHOs report 100% of their practices consistently provide primary health care management of CVD risk and disease according to NZ guidelines.</p> <p>By 2011, all PHOs report on proportion of enrolled population 35 years and over, for Maori and Pacific, and 45 yrs and over for others, who have had CVD risk assessed.</p>	Phase 1; existing resources	NDHB PHOs

Objective	Action	Target/measure	Resourcing/phase	Agencies
	Encourage accurate use of READ coding in general practice and Maori primary care providers.	Number of people, reported by ethnicity, with ischaemic heart disease, congestive heart failure and stroke reported by PHO and practice by 2008 (part of PHO performance management framework).	Phase 1; existing resources	
Goal 4: All primary health care providers consistently provide culturally appropriate primary health care management of CVD risk and disease.				
4.1 To increase the use of Green Prescriptions.	Carry out the HEHA Prescription Project.	100% increase in green prescription uptake on June 2006 baseline by the end of the project in 2008. 150% increase in Maori uptake of green prescriptions on June 2006 baseline by the end of the project in 2008.	Phase 1; already resourced by NDHB, PHOs, Sport Northland and MoH for 2006-2008	NDHB Sport Northland PHOs GPs
4.2 To improve service effectiveness to Maori	Develop and implement a Northland-specific training package to improve service effectiveness for Maori by covering effective communication, the role of whanau, enhancing service accessibility, the role and characteristics of NDHB Maori services (Te Poutokomananwa and Takawaenga services), Maori provider services and ethnicity data collection and reporting.	Training package developed, 2008. Numbers of primary health providers who have attended training.	Phase 1; new	NDHB MAPOs PHOs NGOs

Objective	Action	Target/measure	Resourcing/phase	Agencies
4.3 To ensure that Northlanders are prescribed statins according to evidence-based guidelines	Facilitate practices through PHO performance programme.	By 2008, statins prescribing is at least as high as the national average and there is no difference in prescribing rates for Maori and non-Maori (part of PHO performance management framework).	Phase 1; existing resources	NDHB MAPOs PHOs GPs
Goal 5: Provide equitable, best practice access to CPR and defibrillation.				
5.1 To make available AED and competent CPR in communities where access to ambulance and/or medical services is longer than 10 mins.	Investigate ways of establishing access to AED and competent CPR in rural communities, taking a Northland-wide planning approach towards equity of access; implement findings.	By 2009, there is widespread access to AED and competent CPR in rural communities.	Phase 2; new resources	NDHB MAPOs Community groups Rural Health Training Consortium Community funding agencies NIF
Goal 6: Pre-hospital fibrinolytic therapy is consistently provided in rural areas that have an ambulance call to response time of greater than 60 mins.				
6.1 To establish pre-hospital fibrinolytic therapy service	Fund project to develop locality specific protocols between specialist cardiac services, GPs and ambulance; equipment purchase; and training; and provide on-going funding for drug kits.	Access to pre-hospital fibrinolytic therapy achieved by 2008.	Phase 1; existing resources	NDHB MAPOs

Objective	Action	Target/measure	Resourcing/phase	Agencies
Goal 7: All Northlanders receive secondary care management of CVD according to NZ Guidelines.				
7.1 To ensure that access to cardiovascular diagnostic imaging and revascularisation services is provided according to evidence-based practice	Carry out a feasibility study in to provision of cardiovascular diagnostic imaging and revascularisation services in Northland.	Cardiac diagnostic imaging and revascularisation rates for Maori continue to increase and remain higher than non-Maori, non-Pacific rates and reflect the burden of disease. Non-Maori cardiac diagnostic imaging and revascularisation rates continue to increase to a rate equivalent to the highest Northern region angiography rate.	Phase 2; new resources.	NDHB
7.2 To develop facility specific protocols for management of CVD based on NZ guidelines; and implement audit in all facilities providing secondary care.	Carry out a project to develop protocols acceptable to all providers and representing best practice; include protocols for referral and communication between nurse practitioners and medical specialists; and develop the auditing tools.	By 2008, all providers of secondary health care consistently provide care for CVD patients according to agreed facility-specific protocols based on the NZ guidelines for best practice management. By 2008, waiting times for first specialist assessment (FSA) for all CVD are within national guidelines.	Phase 2 (already underway); existing resources	NDHB

Objective	Action	Target/measure	Resourcing/phase	Agencies
7.3 To carry out regional liaison, quality improvement, auditing, education, and co-ordination of service provision.	Establish a cardiac nurse specialist role to support staff in hospitals throughout Northland.	Position established.	Phase 1; new resources.	NDHB
7.4 To provide cardiopulmonary technician services to improve access to diagnostic investigations (eg ETT and ECHO) throughout the district.	Fund a cardiopulmonary technician.	By 2008, waiting times for non-urgent outpatient ETT and ECHO are less than 3 months. By 2008, inpatient ETT and ECHO are available to all Northland inpatients when indicated.	Phase 1;new	NDHB
Goal 8: Provide a comprehensive cardiac rehabilitation service				
8.1 To enhance regional cardiac rehabilitation services.	Fund increase in NDHB cardiac rehabilitation nursing hours.	Nursing hours increased	Phase 1, increased resources.	NDHB
	Investigate ways of extending services into third-phase cardiac rehabilitation services that include exercise programmes.	Investigation completed by 2008.	Phase 2; new resources	

Objective	Action	Target/measure	Resourcing/phase	Agencies
	<p>Recommend to PHOs that the existing Manaaki Manawa programme be extended to include Hokianga, Kaikohe, Whangaroa and Dargaville and include stroke patients in the service.</p> <p>Investigate ways to ensure cardiac rehabilitation funding is sustainable.</p>	<p>By 2008, Manaaki Manawa extended.</p> <p>By 2008, investigation into sustainable funding completed.</p> <p>By 2008, 100% of patients admitted to any hospital with ischaemic heart disease are referred to either the NDHB or Manaaki Manawa phase II cardiac rehabilitation services.</p> <p>By 2008, 50% of patients referred to NDHB or Manaaki Manawa phase II cardiac rehabilitation services complete the phase II cardiac rehabilitation programme.</p>	PHO SIA funding	NDHB PHOs NDHB
Goal 9: All stroke patients have access to specialist stroke assessment and rehabilitation according to the NZ Guidelines for stroke management.				
9.1 To improve services to stroke patients.	Set up an acute stroke unit and strengthen community rehabilitation services.	<p>By 2008, all patients diagnosed with stroke are admitted to either the acute stroke unit or a specialist stroke clinic and the community rehabilitation team, according to NZ guidelines.</p> <p>Increase in proportion of stroke patients who receive specialist stroke assessment and rehabilitation from 35% to 100% by 2009.</p>	Phase 1; existing resources.	NDHB Stroke Fdn

Objective	Action	Target/measure	Resourcing/phase	Agencies
		All stroke patients, including those in residential facilities, have access to ongoing effective community rehabilitation and review, by 2009.		
		Fund additional staffing hours in the 4 regional community rehabilitation teams.		
	Assist stroke patients requiring a driving assessment by an occupational therapist.	All stroke patients requiring it, are funded to receive a driving assessment by an occupational therapist.	Phase 1; new resources.	
	Contract with Stroke Foundation support and advocacy services.	Contract in place for provision of information, advisory and support services delivered by Stroke Foundation Field Workers.	Phase 1; new resources.	
Goal 10: All cardiac and stroke patients who fit within the criteria for financial support receive home support according to assessed need irrespective of diagnosis, age and area of residence.				
10.1 Improve access to home support services.	Implement short-term eligibility criteria for home support services; implement national criteria for long-term home support services once these are announced.	Implementation of short-term criteria.	Phase 1, existing resources.	NDHB MoH
		Implementation of long-term criteria.	Phase 1, new funding (being made available by MoH).	

Objective	Action	Target/measure	Resourcing/phase	Agencies
		By 2009, home support is in place according to assessed need, eligibility and exclusion of all other natural supports for NDHB funded clients, within 48 hrs of discharge from hospital.		

Summary Table

This table refers to implementation of the goals, and highlights which objectives are recommended for action on approval of the plan.

Objectives		Start Date		Resourcing
		On Approval of Plan	Within 3 Years	
1.1	To reduce smoking initiation	<input checked="" type="checkbox"/>		New
1.2	To increase smoking cessation	<input checked="" type="checkbox"/>		New
2.1	To encourage breastfeeding	<input checked="" type="checkbox"/>		Increased/New
2.2	To increase access to healthy food options at pre-school, school, tertiary education, work and community, and reduce access to unhealthy food options	<input checked="" type="checkbox"/>		HEHA - New
2.3	To increase access to opportunities for physical activity at pre-school, school, tertiary education, work and community	<input checked="" type="checkbox"/>		HEHA - New
2.4	Reduce the number of children at risk of obesity	<input checked="" type="checkbox"/>		Increased/New
3.1	To raise community awareness of CVD risk, and the importance of screening and management through social marketing campaigns that focus on Maori	<input checked="" type="checkbox"/>		Resourced
3.2	To increase number of risk assessments and number managed in accordance with NZ best practice guidelines	<input checked="" type="checkbox"/>		Existing
4.1	To increase the use of Green Prescriptions	<input checked="" type="checkbox"/>		Resourced
4.2	To improve service effectiveness to Maori	<input checked="" type="checkbox"/>		New
4.3	To ensure that Northlanders are prescribed statins according to evidence-based guidelines	<input checked="" type="checkbox"/>		Existing
5.1	To make available AED and competent CPR in communities where access to ambulance and/or medical services is longer than 10 mins		<input checked="" type="checkbox"/>	New
6.1	To establish pre-hospital fibrinolytic therapy service	<input checked="" type="checkbox"/>		Existing
7.1	To ensure that access to CVD diagnostic imaging and revascularisation services is provided according to evidence-based practice		<input checked="" type="checkbox"/>	New
7.2	To develop facility specific protocols for management of CVD based on NZ guidelines; and implement audit in all facilities providing secondary care		<input checked="" type="checkbox"/>	Existing
7.3	To carry out regional liaison, quality improvement, auditing, education, and co-ordination of service provision	<input checked="" type="checkbox"/>		New
7.4	To provide cardiopulmonary technician services to improve access to diagnostic investigations (eg ETT and ECHO) throughout the district	<input checked="" type="checkbox"/>		New
8.1	To enhance regional cardiac rehabilitation services		<input checked="" type="checkbox"/>	New
9.1	To improve services to stroke patients	<input checked="" type="checkbox"/>		Existing
10.1	Improve access to home support services	<input checked="" type="checkbox"/>		New (funding from MoH)

Appendix 1 Glossary

Terms *in italics* have their own entry.

Term	Explanation
ACE inhibitor	Angiotensin-converting enzyme inhibitor
AED	Automated external defibrillator.
ambulatory-sensitive admission (or hospitalisation)	See <i>avoidable hospitalisation</i> .
AMI	Acute myocardial infarction, irreversible injury to heart muscle. In everyday terms a ‘heart attack’.
angiography	A procedure which uses a contrasting dye which shows up on xray to visualise the coronary arteries, branches and any anomalies. The aim is to make a precise diagnosis to plan effectively for treatment.
angioplasty	A procedure whereby a catheter is introduced into an artery in the groin or arm and passed up into the coronary arteries. A balloon is then inflated at the site of a blockage to widen the artery and eliminate the blockage.
atheroma	A disease characterised by thickening and fatty degeneration of the inner coat of the arteries.
avoidable hospitalisation	A potentially avoidable hospitalisation signals the occurrence of a severe illness or injury that, theoretically, could have been avoided. Potentially avoidable hospitalisations fall into two subcategories: <ul style="list-style-type: none"> • Preventable hospitalisations: hospitalisations resulting from diseases preventable through population-based health promotion strategies • Ambulatory sensitive hospitalisations: hospitalisations resulting from diseases which could have been prevented or treated in a primary health care setting (such as vaccine-preventable diseases, early recognition and excision of melanoma, effective blood sugar control in people with diabetes)
avoidable mortality	Deaths from causes considered being partly or wholly avoidable through preventive or therapeutic intervention.
CAD	Coronary artery disease.
cardiac catheterisation	A diagnostic procedure in which a dye is injected via cardiac catheters into coronary arteries and cardiac chambers, which shows up in high contrast on x-ray. This provides visualisation of the coronary anatomy and pressure measurements and is used to assess cardiac diseases such as coronary artery disease, myocardial dysfunction and valvular or congenital abnormalities.
CarePlus	A special funding programme that gives PHOs extra funding to deal with people with higher health needs, such as those with 2 or more chronic health conditions. This allows health workers to spend more time with patients for assessing, developing a care plan, and monitoring and adjusting the plan. The intention is to improve the quality of life of people under the scheme while at the same time

Term	Explanation
	reducing demand on health services.
chronic	Used to describe an illness, disease or disability of long duration, and which has developed slowly. Chronic conditions are usually permanent or incurable, so that management to minimise discomfort and cost of services is important.
chronic care management (CCM) programme	An approach to planning and providing health services for people with chronic disease. It aims to avoid the common experience of care being experienced as a series of disconnected encounters with different parts of the health system, and create a more integrated and holistic approach. This not only results in higher patient satisfaction, but also uses resources more effectively.
chronic obstructive pulmonary disease (COPD)	A disease that involves usually irreversible obstruction of the airways. Characterised by difficulty breathing, wheezing and a chronic cough. Most commonly caused by smoking.
comorbidity	Coexistence of more than one disease (or disability) in the same individual at a given time.
coronary artery bypass graft (CABG)	An invasive cardiovascular surgical procedure in which a segment of a coronary artery narrowed by atheroma is bypassed by a healthy section of vein or artery from elsewhere in the body. Patients may require up to 6 bypasses, depending on the level of coronary artery disease.
coronary heart disease (CHD)	Damage to the heart caused by not enough blood flowing through the heart's blood vessels, either because they have become blocked plaques or blood clots. Used interchangeably with ischaemic heart disease.
CPR	Cardiopulmonary resuscitation.
DC	District council.
deprivation, deprived	Describing those with high, often multiple, needs (often used loosely to mean 'poor', though income is only one of the factors considered). The most widely quoted source of data on deprivation is the NZ Deprivation (NZDep) scale which analyses 5-yearly Census data to describe deprived populations. Once 'deprivation index' scores are calculated across the whole of New Zealand, the data is divided into deciles, 10 population groups of equal number. (These deciles are calculated differently, and use a different scale to the school deciles used by the education system.)
DHB	District Health Board.
diabetes	A complex condition in which the body is unable to control the amount of glucose (sugar) in the blood, either because there is not enough of the hormone insulin or it does not work effectively. Uncontrolled diabetes can lead to metabolic disturbances that increase the risk of long-term complications and affect a number of the body's systems. 90% of diabetes is type 2, acquired as a consequence of unhealthy lifestyle, and is usually related to excess weight gain; onset is gradual. About 10% of diabetes is type 1, a result of the pancreas malfunctioning whose cause lies in viral infection and a breakdown in the body's autoimmune systems (not lifestyle); onset is usually rapid

Term	Explanation
	and can be life-threatening.
dobutamine stress test	Dobutamine is a medication that increases heart rate and blood pressure similar to the effect of exercise. A dobutamine stress echo test is a non-invasive test used to evaluate coronary artery disease in patients who are unable to exercise on a treadmill (see <i>ETT</i>).
echocardiogram	A test that uses sound waves to create a moving picture of the heart. The picture is much more detailed than an x-ray image and involves no radiation exposure.
epidemiology	A population science concerned with the distribution and determinants of health- and disease-related states in human populations.
ethnicity	A measure of cultural affiliation defined by Statistics New Zealand as a social group whose members share a common origin, claim a common sense of distinctive history and destiny, possess one or more dimensions of collective individuality and feel a sense of unique collective solidarity.
ETT	Exercise tolerance test: An electrocardiograph taken while the patient is exercising on a treadmill to observe the heart rhythm while under exercise stress.
FSA	First specialist assessment. The initial assessment carried out in an outpatient clinic by a hospital specialist after referral from a GP.
FTE	Full-time equivalent
Green Prescription (GRx)	Written advice about physical activity from a health professional (typically a GP), given to a person as part of managing their health.
Health Promoting Schools (HPS)	A Ministry of Health-driven programme in which schools sign up for a whole-of-school approach to promoting health and wellbeing (that is, it links all aspects of school life into a health promoting framework). They are assisted in this process by HPS advisors in the local DHB.
Healthy Eating, Healthy Action (HEHA)	A Ministry of Health-driven strategy that aims to identify, promote, and coordinate programmes for healthy nutrition and appropriate physical activity at national, regional, community and iwi levels.
incidence	The number of new instances of a disease or illness in a defined group of people over a particular period of time (compare with <i>prevalence</i>).
intersectoral	Used to describe relationships between health and other sectors, often other government organisations, territorial authorities.
interventional cardiac procedure	Procedures that include <i>angiography</i> , <i>angioplasty</i> and/or <i>coronary artery bypass graft</i> .
invasive cardiovascular procedure	Procedures that include <i>angiography</i> , <i>angioplasty</i> and/or <i>coronary artery bypass graft</i> .
He Korowai Oranga (HKO)	The national Maori health strategy published by the Ministry of Health (see also <i>Whakatataka</i>).
Holter monitoring	Holter monitoring uses a mobile monitoring system attached to the body to provide a continuous recording of heart rhythm during normal activity, usually for a complete 24-hour day.

Term	Explanation
Hospitalisation	The process of attending hospital as a patient. There are 3 main types: inpatient (a patient who stays at least one night in hospital), outpatient (a person who is seen in a non-inpatient setting, or ‘clinic’, by a <i>specialist</i> after referral from a GP) and day-patient (a patient who undergoes an operation or other procedure in hospital and able to return home without staying overnight). The term ‘hospitalisation’ is often used loosely to mean one or any combination of the 3 types.
ischaemic heart disease (IHD)	Damage to the heart caused when not enough oxygen reaches the heart tissue because the blood supply is either obstructed or inadequate in volume or pressure. Used interchangeably with <i>coronary heart disease</i> .
key performance indicators (KPIs)	A set of measures that suggests progress is being made in dealing with the ‘big issues’.
Leading for Outcomes (LFO)	A Ministry of Health-driven effort to gather evidence about how to make changes to health systems as part of wider improvements in society’s health. It focuses on outcomes – the effects that actions have, and defining what works well – to suggest the sorts of changes health services need to work together to make, in order to achieve wider societal goals.
life-course, life-course continuum, life-course approach	Another name for a model of disease progression developed by <i>Leading for Outcomes</i> . It maps the flow of chronic disease from early risk through to advanced symptoms, complications and death. One of the aims is to get health services to think about how they could work together better to keep people towards the ‘left-hand’ end of the continuum.
Maori provider	A provider of health services, which is run by Maori for Maori (as distinct from a ‘mainstream’ provider who deals with Maori clients or patients).
MAPO	A Maori co-funder organisation, Northland DHB’s funding and planning partner (the name persists from the days when they were called ‘ <u>M</u> aori <u>p</u> urchasing <u>o</u> rganisations’). NDHB deals with 2: Te Tai Tokerau MAPO (whose responsibilities for Maori correspond with the DHB’s responsibilities for the population bounded by the Whangarei and Far North territorial local authority areas) and Tihi Ora MAPO (whose responsibilities for Maori coincide with the DHB’s responsibilities for the Kaipara district).
MI	Myocardial infarction, in everyday terms, a ‘heart attack’.
MoE	Ministry of Education.
MoH	Ministry of Health.
NIDDM	Non-insulin dependent diabetes mellitus. Often used interchangeably with ‘type 2 <i>diabetes</i> ’, although some people with the latter do eventually require insulin. It is a form of diabetes with gradual onset, in which any adverse effects can usually be prevented or controlled without the need for insulin (through diet, exercise and oral medications for example).
NZDep	See <i>deprivation</i> .

Term	Explanation
obese, overweight	Degrees of excess weight, as defined by the Body Mass Index (BMI). Overweight = BMI 25-29 for Europeans, 26-31 for Maori and Pacific. Obese = BMI 30+ for Europeans, 32+ for Maori and Pacific. (Acceptable figures differ across ethnic groups because of variations in bodily composition and how this relates to risk of developing health problems such as heart disease and diabetes).
opportunistic screening	Taking advantage of opportunities as they arise, such as during a GP visit, to assess individuals for health problems (as distinct from a formal population-based programme of screening, such as the Cervical Screening Programme). People may not realise that they have signs or symptoms already developing, so this is an important way of catching problems (especially chronic diseases) early, when they are more likely to be preventable or are easier to treat.
outcome	The result of an action. As distinct from an output, which is a measure of an activity rather than the result it has. An operation to mend a broken leg is an output, while the return to full function of the leg is the outcome. In a bigger picture sense, a focus on outcomes aims to analyse how effectively health services are provided and how well they work together.
outpatient	See <i>hospitalisation</i> .
patient management system	A system for managing data about all the people to whom an organisation provides services.
primary health care	Health services provided in the community, which people can access themselves. The most well known are those provided by general practitioners, though they also include pharmacy services, private physiotherapists and, increasingly, nurse practitioners. (See also <i>secondary services, tertiary services</i>).
Primary Health Organisation (PHO)	A group of providers of <i>primary health care</i> services whose responsibility is to look after the people who enrol with them (those who are 'on the register'). PHOs include GPs as well as a whole range of primary health care providers and practitioners (Maori and community health service providers, nurses, pharmacists, dietitians, community workers, and many others). As well as providing traditional primary health care services, PHOs must improve access to services for those with higher needs (such as Maori or those with chronic health conditions), have a focus on preventing ill health (rather than waiting till they are visited by sick people) and improve the way services work together.
Predict	A computer programme that assists GPs to assess and make treatment decisions on people with cardiovascular disease and diabetes.
prevalence	The total number of instances of a disease or illness in a defined group of people at any one time (compare with <i>incidence</i>).
PTCA	Percutaneous transluminal coronary angioplasty. An invasive cardiovascular procedure in which a segment of coronary artery narrowed by atheroma is stretched by the inflation of a balloon catheter.

Term	Explanation
reducing inequalities	Inequalities in the health status of populations exist by <i>socioeconomic status</i> , <i>ethnicity</i> , gender, age and geographical areas. The reducing inequalities approach is about recognising these and proactively planning, funding and delivering services to reduce these differentials.
risk factor	A factor, which may be biological (such as a genetic predisposition) or associated with behaviour (such as smoking), that increases the likelihood of a disease developing.
secondary services, secondary care	Hospital services which people can access only through a referral from a primary health care worker. (See also <i>primary health care</i> , <i>tertiary services</i>).
socioeconomic status (SES)	Social position along a scale (which runs, in everyday terms, from ‘rich to ‘poor’), as measured by criteria such as income level, occupational class or educational attainment.
SPARC	Sport and Recreation NZ, a government-funded organisation which counts among its aims getting Kiwis active and carrying out surveys on physical activity. Sport Northland has close links with SPARC.
specialist	A physician or surgeon, usually based in a hospital, who has undertaken extra training on top of the normal medical degree to specialise in a particular type of service or disease. Also called a consultant.
statin	A drug taken to lower the level of cholesterol in the blood.
stent	A small metal sleeve that is placed (using a special balloon which is then withdrawn) inside a narrowed artery to expand it and help blood flow.
stroke	A condition due to a lack of oxygen to the brain, usually caused by a blood clot. Can lead to paralysis, coma and speech problems that are often reversible to some degree.
tertiary services	Hospital services that are more specialised than secondary, serve smaller numbers of people and higher in cost. Most of these are provided in only a few larger centres (for Northlanders, mainly in Auckland). (See also <i>primary health care</i> , <i>secondary services</i>).
tilt table test	A test for people who have symptoms (lightheadedness, dizziness, fainting) suggestive of a sudden drop in blood pressure.
transoesophageal echocardiogram (TOE)	A test in which a person swallows a special probe that sits in the gullet (oesophagus) and using ultrasound waves generates a picture of the heart’s structure and movement. It allows assessment of the heart chambers and valves, especially when the heart contracts and pumps blood.
Whakatataka	The national Maori health action plan published by the Ministry of Health; the implementation plan arising out of <i>He Korowai Oranga</i> .

Appendix 2 Membership of Planning Group

The Northland Cardiovascular Disease Strategy development was led by a Planning Group representing a range of key stakeholders including:

Nick Chamberlain	Northland DHB Clinical Advisor and GP Liaison
Stephen Jackson	Northland DHB Health Planner
Inia Eruera	Northland DHB Maori Health
Lyn Rostern	Northland DHB Health of Older People and Disability Support
Rose Lightfoot	Te Tai Tokerau PHO General Manager
Sonya Miru	Te Hauora o Te Hiku o Te Ika Clinical Manager
Queenie Mahanga	Ngati Hine Health Trust, Primary Health Care Services
Jane Holden	Northland DHB, General Manager Surgery, Critical Care and Medicine
Alan Davis	Northland DHB, Clinical Director Adult Medicine
Karen O’Keefe	Northland DHB, Charge Nurse Manager Cardiac Services
Jenni Moore	Te Tai Tokerau MaPO Trust
Eruera Maxted	Te Tai Tokerau MaPO Trust
Angela Rakena	Te Hauora o Te Hiku o Te Ika, Cardiac Resource Nurse
Linda Melville-Smith	Hokianga Health, Clinical Manager
Rachel Harley	Northland DHB Project Officer (until Dec 2005)
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