



Improving outcomes for cardiovascular disease and diabetes in Auckland City

A Health Improvement Plan 2006–2011

December 2006

Auckland District Health Board

Please direct all enquiries regarding this Plan to Planning and Funding, Auckland District Health Board, Private Bag 92 189, Auckland (telephone (09) 367 9943 Ext. 26172). For electronic copies of the Auckland DHB Cardiovascular and Diabetes Health Improvement Plan go to: www.ADHB.govt.nz/reports and publications.

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Introduction

Cardiovascular disease is the leading cause of death in the Auckland DHB area and is responsible for over \$100 million of direct costs each year. Diabetes affects 14,000 Aucklanders with the prevalence rising at a significant rate. The burden of cardiovascular disease and diabetes fall heavily on Maori and Pacific peoples with mortality rates ranging from two to four times the average. These statistics are alarming and unacceptable and the future looks worse unless we take authoritative action now.

This Cardiovascular Disease and Diabetes Health Improvement Plan was developed by Auckland District Health Board with input from many stakeholder groups who helped to identify the issues with existing services and to design service improvements. It is our response to cardiovascular disease and diabetes based on a whole sector approach which involves action across the continuum from health promotion and prevention to primary care to specialist treatments and support. Cardiovascular disease and diabetes are combined in this plan because of the commonalities in addressing risk factors and complications.

Because much of the burden of cardiovascular disease and diabetes can be prevented, this plan emphasises actions related to nutrition, physical activity and smoking. Over time we want to see more work done in the community to prevent problems. Services that were once provided in a hospital setting will be provided in the community and there will need to be an increased role for primary care in the prevention, early detection and management of disease.

Auckland DHB will provide the necessary support and funding within the context of the total health care needs of our population to make this plan a reality. We are committed to achieving true gains in health status and outcomes and will report to the community on how we are progressing in meeting the ambitious goals we have set.

This plan takes a 20-year vision but is focused on actions to be taken over the next five years. This plan is based on evidence, reflects the needs of our community and most importantly, is focused on actions. While some actions related to the detection and treatment of disease will have an impact that can be measured over a relatively short period of time of two to three years, the impact of other actions, particularly those related to the prevention of disease, may not be evident for a number of years.

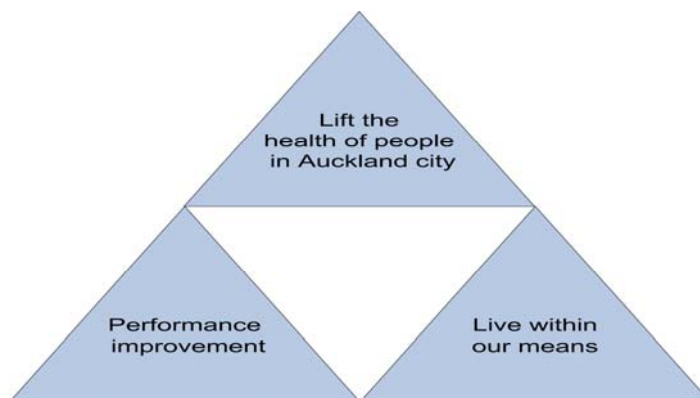
We are pleased to report that a number of key initiatives are already underway in our efforts to prevent and manage cardiovascular disease and diabetes and are outlined in Section 7: Putting this Plan into Action. Detailed annual plans will follow which will detail how the goals of this plan translate into specific, measurable actions.

Thank you for joining us in our work to make a difference in the health of the people of Auckland city.

PART ONE

1. The Vision and Approach

1.1 Our Health 2020



One of Auckland District Health Board's goals is to 'Lift the health of people living in Auckland city'. This goal is implemented through a planning process called *Our Health 2020*. *Our Health 2020* supports a whole system/whole society view of health, taking a long-term approach, and is a critical pathway for achieving our vision: healthy community, quality health care; Hei Oranga Tika Mo Te Iti Me Te Rahi.

Our Health 2020 focuses activity on five outcomes over the medium term:

- improve healthy lifestyles and environments
- reduce the incidence and impact of long-term conditions
- reduce inequalities in health outcomes
- achieve New Zealand primary health care strategy system change
- support the appropriate use of hospital services.

1.2 Problems with the current system

Stakeholder interviews helped to identify concern about current performance.

The society we live in

- impacting the key mitigating factors that affect health status and outcomes could do more to reduce health inequalities than any specific action from the health sector. More work with other sectors is required to address these
 - healthy eating programmes in schools have only fair penetration although there is national cross-sectoral support for improving the health environment within schools (health/education/sport and recreation tripartite approach) which needs to be strengthened at the local level
 - the nutrition and physical activity environment children are exposed to affects the child's health and predisposition for heart disease and diabetes in later life
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- workplaces have traditionally been difficult to influence however, the new national focus on obesity provides an opportunity for a greater focus on government and industry employers
 - urban form influences the behaviour of people living in cities e.g. sprawling cities encourage car use over public and active transport
 - the physical design of our neighbourhood and city can either encourage or restrict recreational activity opportunities in the city. Urban form changes very slowly and many of the opportunities for improving urban form in Auckland city relate to 'retrofitting' new ideas into existing spaces
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People do not understand enough about healthy lifestyles

- family and social norms have a big impact on healthy behaviour
 - parents need to know more about good nutrition in a child's early years
 - some families cannot afford healthy food options
 - the urban environment can prevent active lifestyle
 - there are high youth smoking rates, especially amongst young Maori
 - the workplace can add risks by preventing good lifestyle choices
 - physical activity and good nutrition is linked to educational attainment, but schools who want to support healthy children are overcommitted or don't know how to help
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Problems are continuing in spite of health promotion messages

- cigarette smoking is considered to be the single most preventable cause of heart disease and although smoking prevalence has decreased in recent years, the rate of decrease is lessening
 - there are significant differences by ethnicity with Maori and Pacific having the highest prevalence rate
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Diseases are not detected and managed early enough

- there is a poor focus on identifying risk and managing disease through the use of clinical decision support systems by providers of services
 - there is poor uptake of the New Zealand clinical guidelines on screening and disease management
 - diagnosis occurs too late
 - the focus is on the individual but this needs to expand to the whanau
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Problems in the management of disease

- poor focus on the self-management of disease
 - poor adherence to medication and behaviour change
 - hospital/primary care communications and clinical information sharing are less than ideal
 - there is confusion about who co-ordinates complex patients; the hospital or primary care
 - primary care needs more support to build skills to care for complex cases
 - there needs to be greater co-ordination of treatment between cardiology, diabetes, endocrinology, renal and general medicine areas in the hospital
 - there are multiple providers and they don't see the disease patterns
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- the accuracy of prescribing has been queried for patients
 - referral to other services can be a problem e.g. retinal screening
 - people need better access to rehabilitation and someone to co-ordinate
 - general practice needs better access to results from hospital investigations
 - there needs to be better approaches for the groups that do not attend (DNA) appointments at clinics
 - there is a juncture between primary care and specialist services. While technology is aiding patient co-ordination and the flow of information, significant improvements can still be made to information flow and collaborative management of patients
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Problems in the design and structure and the health system

- the funding structure within the hospital and its impact on service design can be a barrier to change
 - segments of the health sector operate in isolation from each other, which is inefficient and confusing for health professionals and for patients
 - the health system works better for some people than others. Some population groups are at greater risk of diabetes and heart disease – and these same groups tend to have poorer clinical outcomes
 - current information systems were designed to support individual areas of care (hospitals, primary care, laboratory, etc) as opposed to a whole sector approach to care where the patient is at the centre
 - co-ordination among the various health care sectors has been consistently identified as an issue and IS solutions will be integral in our approach to improvement
 - the health sector is accomplished in identifying overseas evidence to guide service design. It is not so good at learning from itself. In each part of the system there is performance variation. Some areas, organisations, or individuals are doing better than others
 - service continuity and disjunction are major issues for clinical quality, public confidence and cost efficiency. These occur at the interface between systems, whether between primary care and hospitals or between hospital departments
 - co-ordination between various hospital specialty areas is inefficient and there are opportunities for quality improvements. There is confusion about the roles and responsibilities of different parts of the sector, especially who co-ordinates the care of a patient who attends many services
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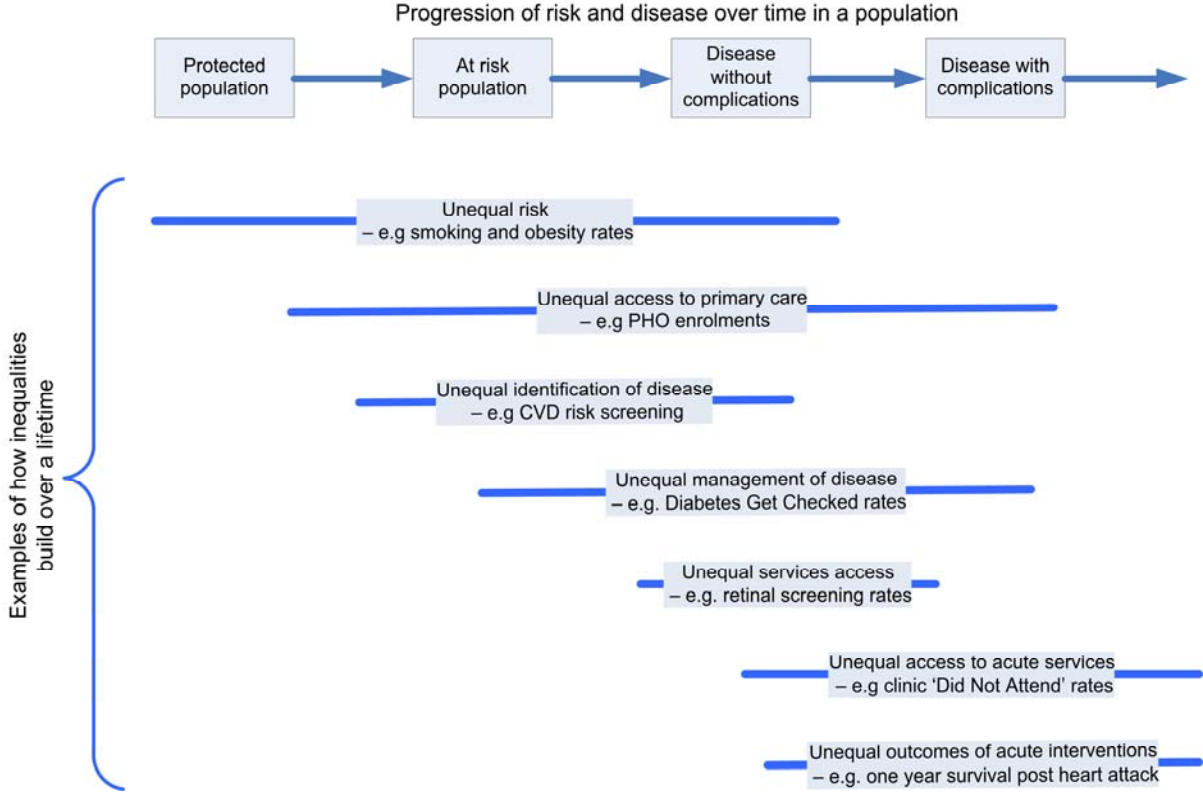
1.3 Inequalities in outcomes

The statistics described in Part Two show clear inequalities in health outcomes for CVD and diabetes across population groups.

In Auckland District, the population groups with poorer outcomes include Maori, Pacific people and people from low decile areas. The particular inequalities associated with CVD

and diabetes contribute significantly to the overall disparity in life expectancy between Maori, Pacific and other populations in New Zealand. We must also be cognizant of inequalities due to gender. While CVD is often perceived to be a disease that impacts men, it also impacts women and our actions must be appropriate for both.

Inequalities in health outcomes do not occur because of the failure of one specific part of the health system, or the characteristics of one particular population group. Inequalities in outcomes, measured ultimately in life expectancy, result from an accumulation of multiple unequal exposures to risk and protective factors throughout people’s lives, unequal access to core health services and unequal success with interventions.



Any approach to reduce inequalities will ultimately need to influence the whole life course and impact on the performance of targeted and mainstream health providers.

Best practice disease management is clearly defined but is not achieved for Maori and Pacific people due to poor access and poor uptake of advice and medication across both primary and specialist services.

Focusing on getting these core services performing well for all populations will need providers to think about new ways of working with patients and their communities, and how mainstream and targeted providers can work more effectively together.

More attention is required to improve access to services, effectiveness of communications, adherence to medication and lifestyle changes, attendance at clinics and dropout from programmes of managed care.

While this plan primarily focuses on the health sector, it is acknowledged that structural and economic issues are key mitigating factors that affect health status and outcomes. Addressing these factors, which would traditionally be outside the scope of Health Improvement Plan, could do as much to reduce health inequalities than any specific action outlined here.

There is also a need for new ways of health services to work with local populations to develop a supportive whanau and community environment for the management of diabetes and CVD. This partnership of the community and health services is the foundation of the New Zealand Primary Health Care Strategy and aligns with the Innovative Care for Chronic Conditions Framework (ICCC) model developed by the World Health Organisation (WHO).

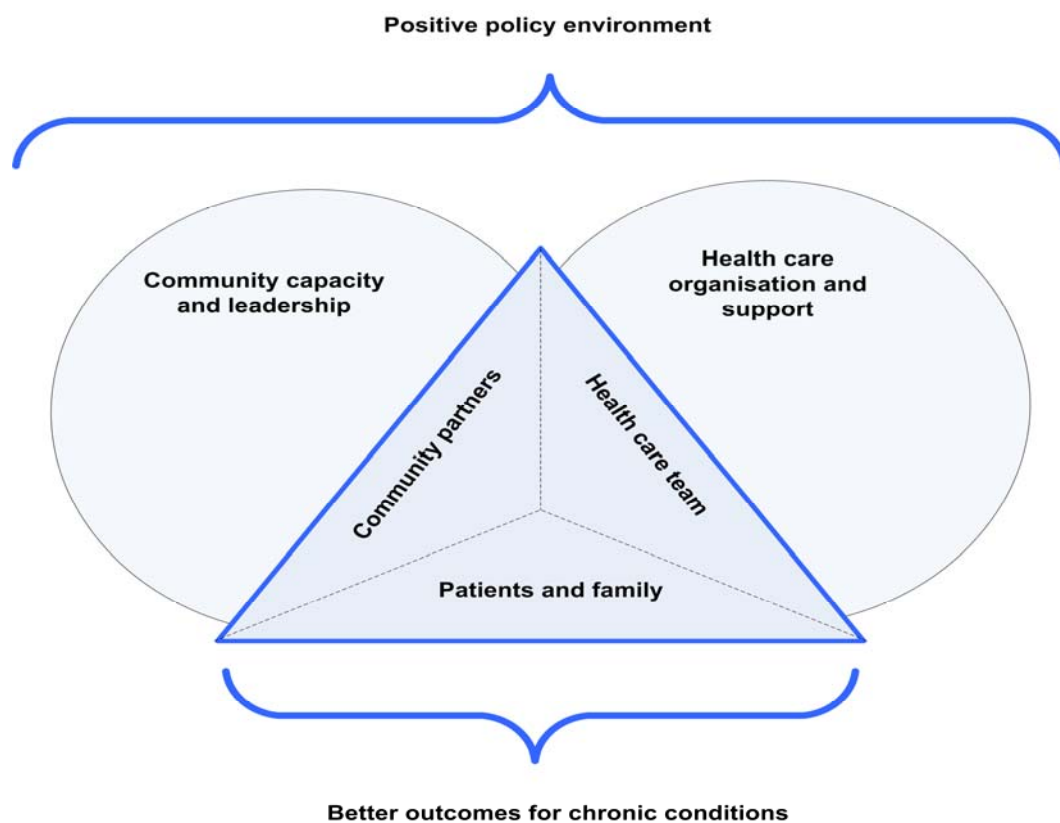
1.4 Getting the right approach

Achieving health improvement will take many years and will require a transformation in how some parts of the health system work as well as support from our whole society. We are proposing for example, that in order to reduce inequalities, there needs to be a fundamental rethink of the current health sector focus on individual care and a move towards a family/whanau-based approach.

The health sector is characterised by a patient interacting with a health professional on an episodic basis, usually related to acute incidents. We believe that there needs to be more emphasis on a systematic relationship between a health team and a family/whanau, based around the management of both risk and disease.

We need to focus on the whole life of people and to support changes in environments which expose people to risk –at home, school or work. We also need to build an informed public and influence social and cultural norms, where current behaviour leads to poor health outcomes. Society should be encouraged to see resources which support preventing and managing chronic disease as an investment in social and economic vitality.

Our view is influenced by the WHO's model 'Innovative Care For Chronic Conditions' (ICCC) which emphasises that improving outcomes for chronic conditions requires a productive relationships between a health care team, community partners and patients and their family. The ICCC approach is strongly aligned with the needs of our population, particularly Maori and Pacific people who currently have poor outcomes for diabetes and CVD.



Adapted from Innovative Care for Chronic Conditions Model

Source: Adapted from Innovative Care for Chronic Conditions Model

At the core of the concept for this plan is to build an environment where it is easier for both patients and health professionals to make the right decisions and to be supported in their actions.

From	To
Disease as a cost	Good health as an economic investment
Population health is peripheral	Population health is everyone's business
Attention when disease diagnosed	Attention on risk and disease
Focus on individual issues	Focus on individual and family/whanau context
Uninformed patient	Expert patient and family/whanau
Episodic care, driven by acute incidents	Proactive care informed by on evidence-based guidelines
Disjointed relationships with health professionals	Systematic relationships with health teams
Patient as recipient of treatment	Partnership in disease management

An increasing focus on preventing CVD and diabetes is critical to assuring a healthy future for our community. As the single biggest cause of mortality and the single largest cost area, CVD and diabetes represent our largest challenge in moving the focus of our health system from the treatment of disease to the prevention and management of disease. To do otherwise will ensure that an increasing percentage of our scarce resources will be spent on CVD and diabetes, preventing us from addressing other key health and social issues.

Real, sustainable change requires support from our whole society, which is made up of individuals, families, organisations, communities, cultures, structures and myriad other dimensions. Creating support for change requires an informed and motivated community and health system leadership.

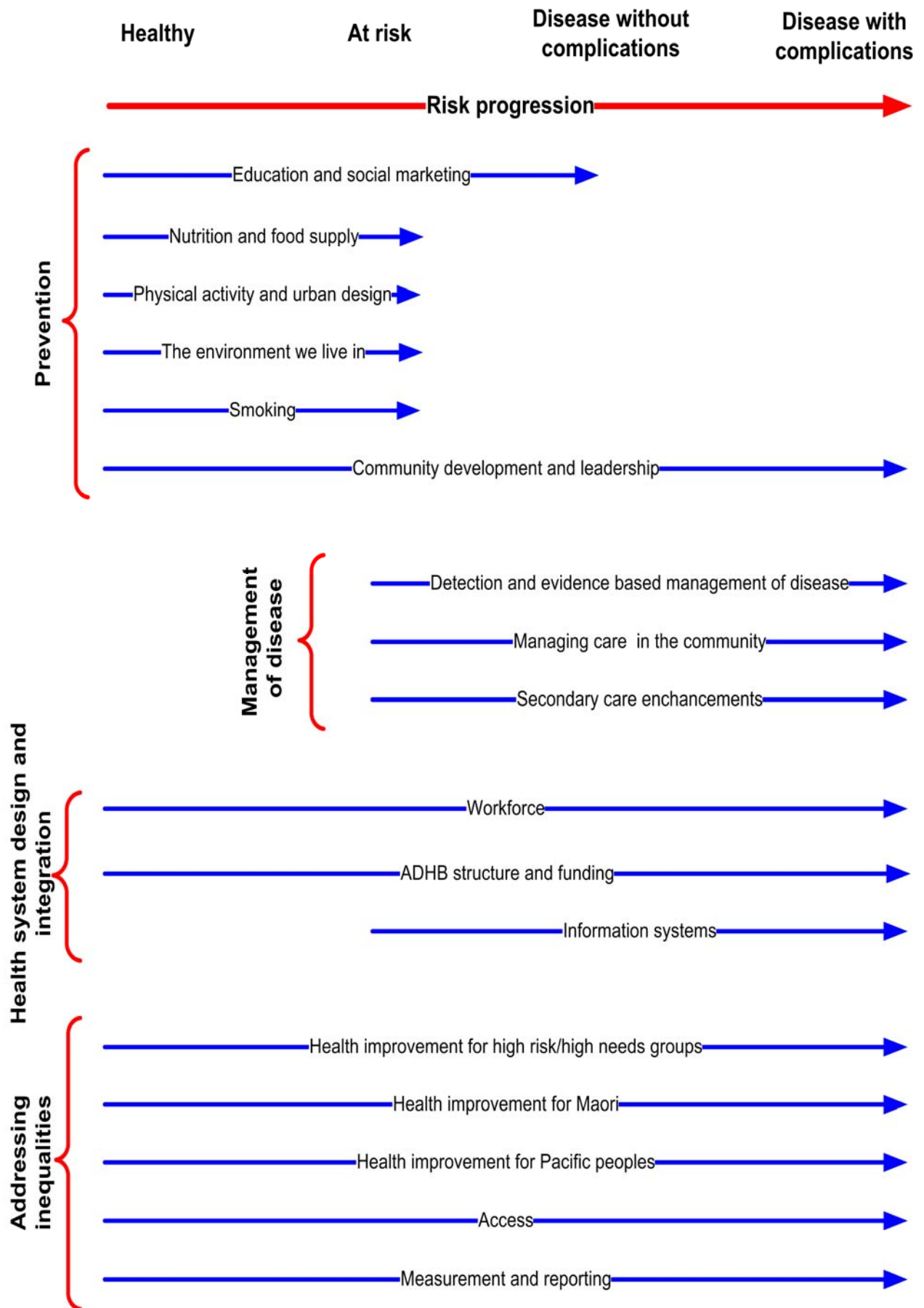
1.5 Goals for the future

Goals for the future have been proposed in the following main categories as a focus of our activity for the next five years:

- Prevention of disease
- Management of disease
- Improved health system design and integration
- Reducing inequalities in health outcomes

The diagram shown on the next page further defines these main areas of focus and the range of actions within each to achieve our goals. In the sections that follow each area is then further examined along with recommendations for specific actions.

The actions proposed range from the very specific to the very broad and from the relatively easy to the very difficult to accomplish. The timeline for measurable results ranges from a year to many years. It is just this complexity that has made it difficult in the past to adequately address the issues of cardiovascular disease and diabetes. We acknowledge this challenge and our committed to the development of the concrete actions that result in measurable and sustainable improvement.



2. Prevention of disease

- **Education and social marketing**
- **Nutrition and food supply**
- **Physical activity and urban design**
- **The environment we live in**
- **Smoking**

Education and social marketing

Education on why and how to address the reduction or elimination of the impact of risk factors for CVD and diabetes is both critical to achieving our goals and extremely challenging. Our approaches must address the needs of individuals, families and the community and be delivered in a culturally responsive way.

Effective social marketing involves consistent information, reinforced from multiple trusted sources, to support changes to knowledge, attitudes and behaviour.

An investment in education and social marketing should be seen as a strategy to compliment other programmes, and not as stand alone functions.

Actions

- Develop a comprehensive education and social marketing approach that is consistent with and complementary to other local, regional and national initiatives
- only implement social marketing and education activities that been thoroughly tested and proven to be effective
- ensure that the activities implemented have been developed specifically for the target audience
- work with PHOs to ensure that all social marketing and education initiatives are coordinated and consistent with advice given within the primary care setting
- ensure consistent and tested health messages are presented in every available manner e.g. participation at health expos
- provide education to parents through Lead Maternity Carers and community resources on good nutrition and physical activity
- aim the information and supports at parents so they can be role models for their children

Nutrition and food supply

The food environment is a complex interplay between supply and demand. Public health has traditionally focused on the safety of the food supply, not its composition. The recent signing of the Food Industry Accord, in which industry has committed itself to supporting the objectives of the national Healthy Eating Healthy Action strategy, provides opportunity to work with industry to change food composition and supply at a district level.

Actions

- actively participate in the regional approach to Healthy Eating Healthy Action (HEHA) currently under development by the Ministry of Health to include expanded nutrition and physical activity programmes. It is expected that the development of the regional approach will occur in the first half of 2007. As part of this initiative, appoint a HEHA Manager to coordinate all ADHB activities. Nutrition and physical activity initiatives are also present within the Child Health Improvement Plan and the Health of Older Persons Plan
- work with area schools to promote health eating programs to include school breakfast, healthy foods in school shops and vending machines. Focus to also include working with food shops and restaurants near schools
- work with local food stores, restaurants and fast food chains to ensure that healthy options are available and that clear and easily understood nutrition messages are provided. Consider rating food stores and restaurants on how “healthy” they are
- encourage increased consumption of fruits and vegetables through the promotion of community gardens, subsidies (or no GST) for fruits and vegetables and the encouragement of farmer’s markets
- promote healthy food options and policies at all events and festivals including all Auckland DHB sponsored or funded meetings

Physical activity

The reduction of physical activity we have experienced needs to be reversed as one component in reducing the prevalence of obesity. The opportunities for physical activity must be built into our daily lives, be accessible and be affordable.

Urban form influences the behaviour of people living in cities. Modern sprawling cities encourage car use over public and active transport. Also urban design can either encourage or restrict recreational activity opportunities in the city. Urban form changes very slowly – over decades – and many of the opportunities for improving urban form in Auckland city relate to ‘retrofitting’ new ideas into existing spaces.

Health organisation can work effectively with local government and transportation planners to advocate and advise on healthier urban environments. Social marketing can also work to create an informed public that demands improved health-supporting urban environments.

Actions

- increase opportunities for exercise options that are easy, free and convenient
 - work to increase physical activity options in schools including after school programmes
 - promote intelligent urban design designed to promote increased physical activity including walkways, bike paths, parks and tipuna-hiko for ancestor sites
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Smoking

Cigarette smoking is thought to be the single most preventable cause of heart disease. Although smoking prevalence has decreased in recent years, the rate of decrease appears to be lessening. In addition, there are significant differences by ethnicity with Maori having the highest prevalence rate.

Effective smoking cessation campaigns must be emphasised, particularly among our youth. There is a substantial body of evidence on effective and efficient intervention strategies. As a result, smoking cessation activities are some of the most cost effective public health activities conducted.

Actions

- build on existing and proven programmes such as QuitLine
- expand programmes directed at youth smoking
- support health providers and the community in establishing and promoting smoking cessation programmes;
- expand the use of the proven Effective Brief Intervention programme to include primary care and to explore its use in effecting behaviours relating to obesity and lack of physical activity

The environment we live in

The schools environment is important for the health of our children. What they learn will influence their choices and decisions for a lifetime. The nutrition and physical activity environment they are exposed to also directly affects the child's health and predisposition for heart disease and diabetes in later life.

The workplace is where people spend a large proportion of their waking time. The environments within workplaces influence risks for CVD/diabetes – relating to both physical activity and food supply. Workplaces have traditionally been difficult to influence. However, the new national focus on obesity provides an opportunity for leverage on government and industry employers.

Our individual communities will be the centre of many of our efforts to address lifestyle issues. This is particularly the case for our Maori and Pacific communities where a focus on family/whanau is critical.

Actions

- work with local government and the regional authority to help influence the behaviour of people living in cities and to participate in urban design work that encourages recreational activity opportunities in the city
- work in the school environment to influence choices around food and exercise
- target workplaces to mitigate risks for CVD and diabetes – relating to both physical

activity and food choices and ensure that ADHB leads the way in creating a healthy workplace for its employees

- develop approaches for family based nutrition and lifestyle improvements to be delivered in a community setting appropriate for the population being served e.g. the development of a Kaupapa Maori Healthy Lifestyle methodology.
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3. Management of disease

- **Detection and the evidenced based management of disease**
- **Managing care in the community by enhancing and supporting primary care**
- **Secondary care enhancements**

Detection and the evidenced based management of disease

National guidelines and clinical decision support tools are now available to help primary care practitioners undertake evidence-based risk and disease assessments. Guidelines and computer assisted reviews have also facilitated nurses in taking the lead in risk analysis. Clinical decision support can improve clinical advice and prescribing.

The introduction of an electronic clinical decision support system to guide and document the provision of evidence-based management for CVD and diabetes has been shown to result in significant gains in health status and a reduction in overall risk of progression to more complex disease states. Acceptance by clinicians of the value of such approaches will be critical to its success.

Actions

- implement the use of an electronic clinical decision support system throughout ADHB for the screening of all eligible individuals for CVD and diabetes and for the evidenced based management of those with disease.
- implement specific screening activities directed towards our high needs/high risk populations including extensive community outreach and screening
- establish education and social marketing programmes that raise people's awareness of the benefits in 'finding out' their risk status
- educate the community on causes and symptoms (where present) of CVD and diabetes
- increase the rate of primary care practices proactively providing risk assessments

Managing care in the community by enhancing and supporting primary care

With improved training and technical support primary care teams are able to effectively manage complex cases in the community. There are cost and quality benefits for improving the structured care of diabetic and cardiovascular patients through primary care.

Improving the management of complex cases will require hospital staff supporting capability development of GPs and primary care nursing, improved primary care access to investigations and better flow of patient information between hospital and primary care. Workforce issues in primary care are reaching critical limits with shortages of practice nurses, GPs and other clinical staff impacting the ability to absorb new programmes and

additional workload. Addressing these issues will be fundamental to shifting care from the secondary sector to the primary care sector.

Actions

- evaluate and redesign the model of care for patients with type 2 diabetes to include the entire range of services and supports available within the Auckland DHB region. This activity will include services for diabetic education, culturally responsive diabetic self-management programmes, access to retinal exams and podiatry services and clear pathways and guidelines for the care of patients in the most appropriate setting
- evaluate and redesign the model of care for patients with heart failure to include the entire range of services and supports within the Auckland DHB region. This activity will include co-ordination of inpatient services for heart failure patients, clear pathways and guidelines for the care of patients in the most appropriate setting and the assessment of alternative approaches to care including heart failure clinics, telephone support, culturally responsive programmes and PHO-sponsored heart failure programmes
- provide primary care the skills and education they need to provide appropriate community based care
- establish systems at the primary care level to ensure all required care is provided (i.e. Diabetes Get Checked)
- formalise the support process from secondary care for primary care to include education from and easy access to specialty physicians, clinical nurse specialists, dieticians and other secondary resources as necessary
- provide primary care access to investigations and subsequent consultant interpretation without patient having to have a formal referral and specialist appointment
- establish nutrition and exercise programs for those identified as moderate risk to reduce progression to more advanced disease states
- provide increased linkages between well child providers and primary care to ensure consistency of messages and enhanced monitoring of child health status to include progression towards obesity
- provide resource directories for primary care, community health workers, consumers and others on resources for the promotion of healthy lifestyle.
- provide enhanced patient self management options that have proven effectiveness
- establish systems, in conjunction with PHO's, to provide performance feedback to primary care on the management of patients with CVD and diabetes
- support NGOs to provide services in the community including diabetes education and the coordination of support groups for individuals and families
- provide opportunities to access care for diabetes and CVD after hours and on weekends
- provide care in locations other than Greenlane and Auckland City Hospital

Secondary care enhancement

One of the problem areas in system performance identified by stakeholders is the juncture between primary care and specialist services. While technology is aiding patient co-ordination and the flow of patient information, significant improvements can still be made to information flow and collaborative management of patients.

The co-ordination between various hospital specialty areas was also identified by stakeholders as an area where there were existing inefficiencies and opportunities for quality improvements. It is proposed that there be a significant review of the patient flow and management of patients with diabetes, renal and cardiovascular disease to seek opportunities for quality improvements for improvements in access.

Actions

- improve access to secondary care for those who really need it to include an urgent care pathway to bypass the current referral system
 - improve discharge planning and the return of the patient to primary care for ongoing care including better information back to primary care and linkages to secondary care as required
 - develop patient pathways of care from primary care to secondary care and back
 - institute day stay programs for problematic patients who need intensive education and intervention but do not need to be admitted
 - establish a community based cardiac rehabilitation programme that emphasises home based support through the use of the “cardiac coach” concept
 - establish protocols for referral of all high risk patients to appropriate service on admission including assessment of the applicability of the CPAC criteria
 - improve the links between primary care and specialist services, especially in the flow of information flow and the collaborative management of patients
 - address continuity and disjunction. Improvements should focus on improving what happens between services (handoffs) as well as within services
 - pilot in partnership with PHOs/primary care, the use of case managers/care navigators to coordinate care for multiple chronic conditions
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4. Health system design and integration

- Workforce development
- ADHB structure and funding models
- Information systems

Workforce development

The changes proposed in this plan will require new approaches to delivering care and the acquisition of new skills by those providing care. This has definite implications for the mix of skills required, educational requirements of the workforce and the appropriate distribution of the workforce between the community, primary care and secondary care.

Actions

- provide support for the enhancement of skills for primary care management of CVD and diabetes for both GPs and practice nurses including education on culturally appropriate approaches to the prevention and management of disease.
- increase access to dietician and dietary advice in both primary and secondary settings.
- develop and pilot new models of primary care delivery to include expanded roles for primary care nursing
- expand the ADHB workforce development training and recruitment activities to include support for non-ADHB providers including PHOs and NGOs

ADHB structure and funding models

As ADHB moves from being a hospital focused organisation to one that takes a whole sector view of health, its structure and operational framework will need to be modified. ADHB will need to move from being the provider of care to being the coordinator of care with services provide in a range of settings from the community to the primary care and on through to secondary care.

Current funding models may not be appropriate and may inhibit actions that clinicians and managers believe are clinically effective and cost efficient, such as providing phone advice to general practitioners and practice nurses. There has also been concern about funding based on numerical targets and that activity caps within hospitals may lead to broader system inefficiency and hinder integration between primary and secondary services.

Actions

- assess ADHB structure to ensure a whole sector approach to CVD–diabetes is supported.
- ensure that future funding models for CVD–diabetes support the new way of preventing and managing CVD–diabetes as outlined in this document including the allocation of funding to high value activities.

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- develop CVD–diabetes disease monitoring systems that present baseline and subsequent data in a meaningful way that allows the entire system to monitor itself against agreed upon indicators.
 - feedback appropriate data to all components of the system on an ongoing basis as a stimulus for evaluation and change.
 - provide leadership role in work to coordinate and reduce duplication and inconsistency of programmes and activities promoting healthy lifestyles.
 - establish the correct funding model required to support actions that clinicians and managers believe are clinically effective and cost efficient, such as providing phone advice to general practitioners and practice nurses
 - ensure that funding based on numerical targets (price/volume schedules) does not lead to broader system inefficiency and hinder integration between primary and secondary services
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Information systems

Our current information systems were designed to support individual areas of care (hospitals, primary care, laboratory, etc.) as opposed to a whole sector approach to care where the patient is at the centre. Enhancements to our information systems support many of the actions identified in this plan. Coordination among the various health care sectors has been consistently identified as an issue and IS solutions will be integral in our approach to improvement. These potential solutions range from the global approach of a true integrated electronic health care record to more modest concepts relating to pharmacy and referral issues.

Actions

- increase linkage of primary and secondary care IS clinical systems including the fast tracking of the e-referral system with imbedded referral management capabilities
 - implement a ADHB database (registry) of CVD and diabetes patients that encompasses both primary and secondary care
 - implement a unified patient level drug record accessible by all ADHB health care providers
 - provide all support possible to the movement towards an integrated electronic health care record
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5. Addressing inequalities in health outcomes

- Health improvement for high risk/high need groups
- Health improvement for Maori
- Health improvement for Pacific peoples
- Access
- Measurement and reporting

Health improvement for high risk/high need groups

Addressing inequalities in health care requires the acknowledgement of all segments of the health care system that our current approaches are not working and that fundamental and far reaching changes are required. The health care system must also recognise that the solutions must be developed with the partnership of the community, appropriate for their needs and that their acceptance by the community is crucial for long term success. While a number of actions may be common across multiple high risk/high needs groups we must ensure that we do not adopt a one size fits all approach. However, common themes and concepts are present that can be modified as necessary.

Actions

- implement screening for CVD–diabetes in high risk/high needs groups first and include options for GP-based screening and community-based screening for those who do not attend a GP practice on a regular basis
- ensure that the importance of the whanau/family is recognised and that they are included in all patient care
- extend care of high risk individuals to include the entire family to include specific programmes for high-risk families
- ensure all patient-focused education programmes, communication materials and social marketing efforts are culturally relevant to the population being served
- work with other sectors and agencies to provide the leadership necessary to address the determinants of health, especially the structural and economic issues that impact on health
- develop leadership networks focused on reducing inequalities. These should include Auckland DHB funder, clinical leaders, PHO leaders, public health leaders and Maori and Pacific community leaders

Health improvement for Maori

There is significant inequality of outcomes for Maori when it comes to diabetes and cardiovascular disease. Lifestyle issues as well as issues relating to the provision of health

care must be addressed. Innovative and effective programmes to improve the nutritional and physical activity status of the community must be developed and widely implemented. The high level of smoking, particularly among our youth must be addressed.

There needs to be improvements in uptake of risk and disease screening, in uptake of referrals to services such as retinal screening and in the management of disease and complications.

A key outcome for the next three years should be to significantly reduce the disparities in service access and uptake across population groups. Primary care services will have to review approaches which are failing and to look at new service designs. Taking a 'whole whanau' approach as proposed in this plan may be a starting point.

Focusing on getting these core services performing well for all populations will need providers to think about new ways of working with patients and their communities and for how mainstream and targeted providers can work more effectively together.

Actions

- develop approaches for family based nutrition and lifestyle improvements to be delivered in a community setting appropriate for the population being served. This activity will be done in conjunction with our Maori Health Team. Examples of activity include the development of a Kaupapa Maori Healthy Lifestyle methodology.
- health services to work with local populations to develop a supportive whanau and community environment for the management of diabetes and CVD.
- Improve PHO enrolment rates for Maori so that the full benefits of PHO and GP engagement can be realised
- improve access to services, effectiveness of communications, adherence to medication and lifestyle changes, attendance at clinics and dropout from programmes of managed care
- invest in training and development of mainstream service providers regarding Maori health issues
- support partnerships between mainstream providers and community-linked organisations to improve outcomes for specific groups including expansion of patient self-management options
- support the development of Maori targeted providers and services. Support experimentation with innovative models designed to improve access, process and outcomes

Health improvement for Pacific peoples

Pacific peoples are disproportionately impacted by CVD and diabetes with the major causes relating to both lifestyle and health system issues. Significant progress in

prevention, detection and management of disease is no longer an option and this work must begin now.

Lifestyle issues of nutrition, physical activity and smoking must be addressed with the full realisation of the difficult nature of this task. Our limited success in the past must not deter us from developing innovative approaches that focus on family, church and community.

Pacific peoples do not presently achieve equal outcomes for the core guideline-based disease identification and disease management services. These outcomes are clearly defined but not achieved for Pacific people due to poor access and poor uptake of advice and medication across both primary and specialist services.

Focusing on getting these core services performing well for all populations will need providers to think about new ways of working with patients and their communities and for how mainstream and targeted providers can work more effectively together.

Actions

- develop approaches for family based nutrition and lifestyle improvements to be delivered in a community setting appropriate for the population being served. This activity will be done in conjunction with our Pacific Health Team. Examples of activity include the integration of these activities within the Healthy Village Action Zones currently in development.
- ensure that HEHA activities include a focus on Pacific peoples
- improve access to services, effectiveness of communications, adherence to medication and lifestyle changes, attendance at clinics and dropout from programmes of managed care
- invest in training and development of mainstream service providers. Support partnerships between mainstream providers and community-linked organisations to improve outcomes for specific groups
- support the development of Pacific targeted providers and services. Enable experimentation with innovative models designed to improve access, process and outcomes

Access

Access to services required to prevent, detect and manage CVD and diabetes goes beyond our normal perceptions of access. Services must be available where people can access them, when they can access them and without unnecessary financial, cultural or other barriers. These services include primary and secondary care as well as the full range of services related to addressing lifestyle issues of nutrition, physical activity and smoking.

Actions

- ensure that resources and services for prevention, management and rehabilitation are
-

available in a manner that facilitates their use by all populations

- establish home-based and/or community approaches including clinics/sites for secondary services in areas where access to Greenlane is difficult, particularly in high deprivation areas

Measurement and reporting

While basic data is available on the extent of inequalities present within our health system, analysis of the root causes and the subsequent design of effective interventions are hampered by our inability to access reliable and meaningful information. This lack of reliable data also impacts our ability to assess our progress in reducing inequalities and reporting back to the community on the effectiveness of the Health Improvement Plan.

Actions

- improve measurement of process and outcome indicators for Maori and Pacific people at public health, primary care and specialist services
 - hold organisations accountable for disparities in outcomes, which result from poor service configuration
 - ensure that all data utilised to monitor the health status and outcomes of ADHB residents and the impact of actions/programs reflect ethnic and deprivation indicators
-

6. Measurement and evaluation

Achieving the outcomes described in this plan will require a significant shift in the orientation of the health care sector and its ability to respond to the needs of the population of Auckland city.

This plan identifies four important initiatives that aim to improve the structure and process related to whole system performance. They are:

- developing a clear ‘road map’ of linkages between outcomes, outputs and inputs – so that whole sector performance and cost-effectiveness can be analysed and improved decisions made about programme design and resource allocation
- building an improved learning environment across the sector, in which there is support for evaluation and for the rapid diffusion of innovations between health services
- emphasising the clinical leadership and providing clinicians with the skills and support to undertake process improvements, using internationally recognised quality improvement methodologies
- creating structures for whole system leadership, which key stakeholders join together in collectively understanding issues and making decisions

6.1 Outcomes framework and system performance

In order to ensure we are on the right track and that the investments are delivering expected results, we need a system of measurement that is based on a clear understanding of how short-term outputs arising out of our actions and programmes link to intermediate indicators and finally to our eventual indicators. The measures need to be based on sound data and good evidence.

The framework developed must be understandable and based on a common set of definitions.

- Prevention – an action that prevents or stops something from taken place (as in the prevention of CVD or diabetes)
- Detection – the act of discovering the existence of something (as in the detection of CVD or diabetes)
- Management – the application of medical care to cure disease or reduce the impact of the disease
- Eventual indicators – the ultimate health goals that the plan is working towards a change in the health status of an individual, group or population that is attributable to a planned programme
- Intermediate indicators – specific indicators that are linked by evidence to the achievement of the eventual indicators

- actions – specific outputs that are linked by evidence to the improvement of the intermediate indicators
- Programmes – specific activities which when completed that are linked by evidence to the achievement of the actions and favourable impact on the intermediate indicators
- Health inequalities – differences in health that are unnecessary, avoidable and unjust.

Key points in the decision on what and how to include in the CVD–diabetes outcomes framework include:

- indicators chosen must be measurable and able to be influenced by societal or system actions
- indicators chosen need not all be available today due to data limitations but it must be practical to obtain the needed data within a reasonable timeframe
- a significant number of the indicators chosen must have data available today or within the first year of the implementation of the strategic plan
- the display of the data must be flexible to allow the use by multiple stakeholders
- the indicators chosen must have face validity for professionals, consumers and managers
- the basic framework should be consistent with the overall ADHB outcomes framework and the outcomes frameworks of the other health improvement plans
- all indicators, where possible, will be categorized by age, sex, ethnicity, social deprivation and other appropriate ways in order to identify and track progress in reducing inequalities.

For purposes of the CVD–Diabetes Strategic Plan, the indicators chosen are organised by the focus of the indicator (prevention, detection or management) and the “level” of the indicator (eventual indicator or intermediate indicator) and by the responses required to impact the indicator (actions, current programmes and needed programmes). The initial approach to The CVD–Diabetes outcomes framework is shown in the following table. Note that the development of this framework is an ongoing task and that each programme initiated in response to this health improvement Plan will have its own set of process and outcome indicators.

Inequalities in health status and outcomes exist across the continuum of care. Thus each indicator is essentially also an indicator of inequality. Progress in reducing/eliminating these inequalities will be monitored through the presentation of all indicators by ethnicity, age, gender, social deprivation and other appropriate variables.

Reducing the incidence and impact of cardiovascular disease and diabetes			
	Prevention	Detection	Management
Eventual indicators	Prevalence of: diabetes ischaemic heart disease CVA Incidence of: diabetes ischaemic heart disease CVA	% of population screened for CVD–diabetes % of population deemed at high risk (>15%) or with disease who are subsequently seen by primary care % of children screened for obesity and physical activity	Incidence of: mortality due to CVD hospitalisations due to CVD mortality due to diabetes hospitalisations due to diabetes congestive heart failure Rate of: amputations due to diabetes patients on renal dialysis due to diabetes patients who are blind due to diabetes strokes myocardial infarctions patients with recurrent angina readmissions for CVD
Intermediate indicators	% of population: who are overweight who are obese who smoke with acceptable levels of physical activity achieving nutritional targets: fat fruit and vegetables salt sugar	% of population enrolled with PHO % of population with documented risk assessment % of primary care offices providing screening services % of schools with health screening	% of patients who are: compliant with all Get Checked components with a demonstrated absolute risk reduction as a result of effective CVD management with adequate glycaemic control with acceptable cholesterol levels with acceptable blood pressure with CVD receiving care within guidelines receiving in-patient care within guidelines Medication Procedures (stent, CABG, PTCA, etc)

Reducing the incidence and impact of cardiovascular disease and diabetes			
	Prevention	Detection	Management
Actions	Smoking cessation Nutrition education Enhanced physical activity Environmental enhancements to support health Reduction of socioeconomic inequalities	Screening for CVD–diabetes at all primary care offices in ADHB Community screening outreach programme Maori outreach programme Pacific outreach programme Other high risk group outreach programme Improvement in documentation of smoking cessation activities	Use of ECDS at all primary care offices in ADHB Retinal screening enhancement Primary care office training nutrition diabetic management CVD management Primary care office support Reduce variation in process and outcomes
Programmes operational (examples only)	Quitline Health Promoting Schools Walking school bus Healthy kai	Get Checked	
Programmes needed (examples only)		Predict ECDS Healthy Village Action Zone Whanau Ora	Benchmarking of data and feedback to primary care offices Diabetic self-management programme

6.2 Evaluation

Wherever possible health interventions should be based upon high-quality evidence of effectiveness and cost-effectiveness. However in many cases there is an identified need but little evidence to support specific interventions. Often the least evidence in areas of most need, such as risk and disease management in Maori and Pacific populations.

Where interventions of health programmes are not evidence-based, they should be 'learning-framed'. Learning-framed activity is that in which evaluation methods are an integral part of the design so that there is a feedback loop of quality information about the impact of interventions and lessons to be learned from the implementation of new services.

We must critically determine what has worked and what has not worked in Auckland City and use this knowledge to critically examine which programmes should be expanded or cancelled and where there are gaps in the Plan.

Evaluations should be used to support a professional and collegial environment of continuous quality improvement. Auckland DHB needs to support the development of evaluation skills across population health, primary care and specialist services. We also need to develop its own capability in analysing information from across the system to identify areas of high performance and areas where there are opportunities for improvement.

6.3 Enhancing clinical leadership

Many of the initiatives in this plan will be driven by clinicians. Within each action area there are multiple programme components that require clinical leadership. The changes we require cannot be achieved through top-down management. The plan supports greater flexibility for clinicians to trial service improvement ideas.

Stakeholder discussions have identified that in many instances clinicians have identified areas where innovations could lead to improvements but feel they are not supported by the system and are restricted in their ability to try out their ideas.

There are many international examples that show that clinicians working within an environment of rapid quality improvement cycles (plan–do–study–act), supported by good data, can make substantial improvements to service outcomes and reduce waste.

There is a need for clinician led improvement within services and across the interface between services – both within hospital and between hospital and community services. There is also a requirement for better sharing of ideas and information by clinicians in different parts of the sector.

6.4 Leadership

The change identified in this plan is both broad in scope and each proposed action is rich in complexity. Put simply, it is a vast and challenging undertaking.

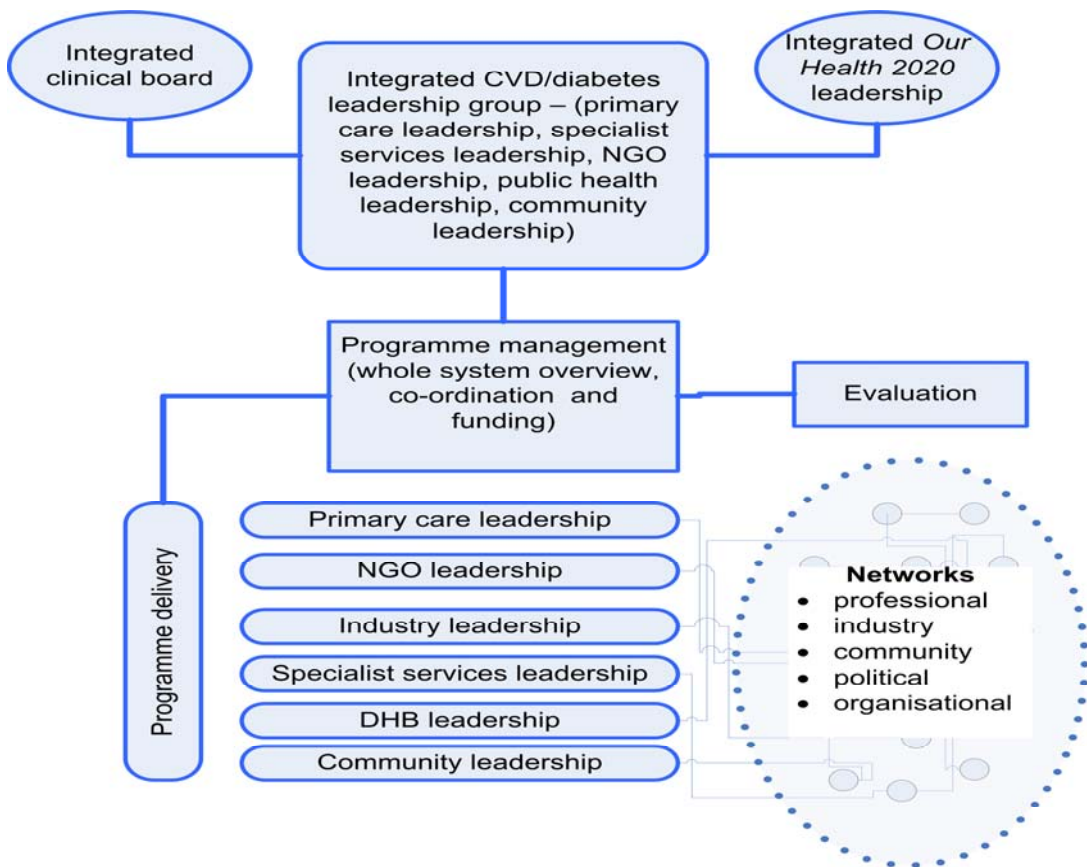
The outcomes will be achieved through influencing the existing investment in diabetes and cardiovascular prevention and management and through new programmes. The existing and new services all have an influence on their target population and also have an impact on other parts of the system. For example, a programme in primary care may impact on both hospital services and on population health issues.

At present there is no one source of leadership where issues for the whole system can be discussed and decisions made with input from multiple areas. Broad change will require a focus on the concepts of whole system management and seeking efficiencies and linkages across the system.

Managing broad change is difficult and creates challenges for implementation. Key challenges include:

- implementation is across organisations
- sustainability of the programme
- collective ownership by health sector and the broader community
- measuring progress and outcomes
- collectively learning from our actions
- funding a variety of initiatives

A governance and management structure is proposed which is based on a partnership approach and includes a broad range of stakeholders in key decision-making.



Central to the governance and management structure is the integrated CVD/diabetes leadership group which will be formed from the existing Steering Group with any necessary changes to ensure that all effected sectors are represented. The group will be made up of representatives from key organisations interested in improving CVD/diabetes outcomes and would link to the Clinical Board and the broader Our Health 2020 group.

Leadership of programme components will be spread across organisations and the wider sector, including industry and community. Real change will occur through the diverse networks that can be mobilised to respond more effectively to CVD/diabetes risk and disease.

7. Putting this plan into action

The previous sections identify a series of specific actions which, when fully implemented, will lead to improved health status and health outcomes for the people of Auckland City. The actions selected were arrived at by a consensus process and will be subject to additional review before any projects or activities related to these action areas are undertaken. Selected projects will be evidenced based, cost effective, amenable to evaluation and widely accepted by the community and by the profession.

The identification of actions to improve health and the prioritisation of actions within the practical limits we face is an extremely challenging task. We must not only look at “new” actions but must also critically look at current activities to determine if they are contributing to our overall CVD and diabetes goals. Given the high percentage of health care resources devoted to CVD and diabetes and the “fixed” nature of other expenses within ADHB, sources of funding for new initiatives must be a mix of new funding and redistribution of existing CVD and diabetes funding. These activities must also be prioritised within the broader ADHB Our Health 2020 strategy.

Can we do this?

The concepts, goals and actions presented in the CVD–diabetes Health Improvement Plan envision a significant change in the way we approach the health of the citizens of Auckland city. We can no longer think of ourselves as just a secondary and tertiary care institution. Now we must think of ourselves as caring for the health of our city. We must think of ourselves as not the provider of care but the coordinator of care. We must think of ourselves as not the centre of all care but as one component of a system of care. These are easy statements to make but much more difficult to put into action.

We must do this!

We must put into action what is envisioned in this document. To do otherwise ensures that the burden of CVD and diabetes will continue to utilise more resources than we can afford, that our citizens will continue to have one of the highest rates of CVD and diabetes in the world and that our Maori and Pacific people will continue to have rates of disease two to four times the average.

Commitment

By virtue of the completion of this Health Improvement Plan and its approval by the ADHB Board, ADHB has committed itself to the accomplishment of the goals and actions contained in this plan. We will reaffirm and maintain this commitment via our reporting on implementation and outcomes achieved.

We must also receive the commitment of those outside of ADHB—physicians, NGOs, other governmental agencies, the community and the people and patients we serve. Through the

extensive consultation that went into the development of this plan, we have received the commitment of these key groups. Some are understandably sceptical of our ability to “deliver”. To earn and keep their commitment we must demonstrate our ability to get the job done.

Prioritisation

The activities presented in this plan are extensive and cover the entire spectrum of care. . They cannot all be done at the same time but must be carefully considered as components of a long-term plan and prioritised and staged to gain the maximum benefit in health status and health outcomes. This prioritisation process includes confirming the evidence and value behind the proposed actions. We can no longer take action because it seems like the right thing to do or because others are doing it. Our resources are limited and we must make intelligent choices that are right for ADHB and the people of Auckland city.

Funding

Many of the activities proposed will be expensive and many require little or no funding. We cannot use a lack of funding as an excuse for inaction. Rather, we must make the right choices on how to maximise our limited resources. We need to balance the value of one activity versus another. We must look across all of our Health Improvement Plans and determine how best to allocate our resources. We must look across all of ADHB to determine the best mix of services for our citizens. These are difficult choices to make but the time has come to address our growing health needs and our limited resources in an open and transparent manner.

Evaluation

The plan contains an Outcomes Framework that will be at the centre of our efforts to measure and evaluate what we do and the results we achieve. We know that not everything we do will work as we expected. We know that environmental and other factors we do not control will require changes in our approach. To do so requires continual evaluation of our approach, our actions and our results. Some data are available now and others will be available as our plan progresses. We will use this data to report to the community and to hold ourselves accountable.

Organisational structure and management

This is a complex plan to implement with multiple components, conflicting demands and a range of providers of services necessary to successful implementation. While ADHB will take the lead in the implementation of this plan, it must be done in partnership with the community and all components of the health care sector. Within ADHB, we must make the necessary changes to adapt to the whole sector view of health and the move from being provider centred to being patient centred.

What next?

The completion of this plan is just the beginning. Our work now is to implement a series of activities that can have an immediate impact while we also implement activities that will have their impact over a much longer period of time.

Actions already under way during the 2006/2007 fiscal year include:

- implementation of ADHB wide screening for CVD and the evidenced management of CVD and diabetes using an electronic clinical decision-making system. This work includes extensive outreach components for high risk/high needs populations, working with our PHOs to develop patient education approaches and materials and preparing for a potential influx of new patients requiring care who are identified through screening
- evaluation and redesign of how we approach the management of diabetes within Auckland DHB
- evaluation and redesign of how we approach the management of heart failure within Auckland DHB
- evaluation and design of the ADHB approach to nutrition and physical activity under the MoH Healthy Eating Healthy Action initiative

Actions proposed to be initiated during the 2007/2008 fiscal year include:

- fully implement the ADHB and MoH HEHA strategy with a focus on high needs/high risk groups
- develop specific programmes to provide focused interventions for at risk youth
- expansion of our retinal screening capacity by providing community based and/or mobile access
- expand diabetes education activities to include community based diabetes nurse educators who can work to implement comprehensive self management programmes
- pilot the role of care coordinator/care navigator to ensure linkages between primary and secondary care for those patients with multiple chronic conditions
- pilot a home based cardiac rehabilitation programme to supplement our current ADHB based model
- examine intra-hospital patient flows for opportunities for more coordinated care
- establish and begin reporting on a suite of indicators of both community and system level performance and quality

The remaining actions outlined in this plan will be prioritised and placed into a detailed implementation plans. This work will be completed by early 2007 and will guide our work for the next five years. This work will be done with the continuing input of our CVD–diabetes steering committee and community input.

PART TWO

1 The facts about cardiovascular disease and diabetes

1.1 The burden of disease

Cardiovascular diseases (CVD) affect the heart and circulatory system. They include ischaemic heart disease, cerebrovascular disease and other forms of vascular and heart disease. Cardiovascular diseases is the leading cause of death, accounting for 39% of deaths in the Auckland DHB region in 2003 being one of top causes of death for both men and women and among all ethnicities and all income and educational levels. Maori and Pacific peoples are disproportionately affected as are individuals from the Indian subcontinent.

Auckland DHB's age-adjusted rate of cardiovascular mortality was 225 per 100,000 population in 2005, nine percent less than the New Zealand rate of 246 and the fifth lowest among all the 21 DHBs.

The costs for cardiovascular disease to New Zealand society are substantial; coronary heart disease has been estimated to cost between \$307 and \$467 million, stroke between \$100 and \$150 million and diabetes about \$195 million each year. The cost estimated for Auckland DHB is between \$60 and \$100 million (National Health Committee/MoH <http://www.nhc.govt.nz/publications/cardio/older.html>).

Certain risk factors enhance a person's chances of developing CVD. Non-modifiable risk factors including age, gender, ethnicity and heredity. Modifiable risk factors are those that are amenable and include smoking, physical inactivity, hypertension, high cholesterol levels and obesity. Diabetes is an independent risk factor for CVD; it increases the risk of heart disease by two to three times and that of stroke from two to six times.

Risk factors for cardiovascular disease

Smoking

- is associated with a two- to three-fold increase in coronary artery disease, stroke and peripheral vascular disease (MoH toolkits, 2003)
 - is thought to be the single most preventable cause of heart disease. Population prevalence of smoking is estimated in Auckland DHB at around 21% (Health Survey 2003)
 - is much higher for Maori than for the rest of the population: 46% of Maori men and 42% of Maori women
-

Hypertension (high blood pressure)

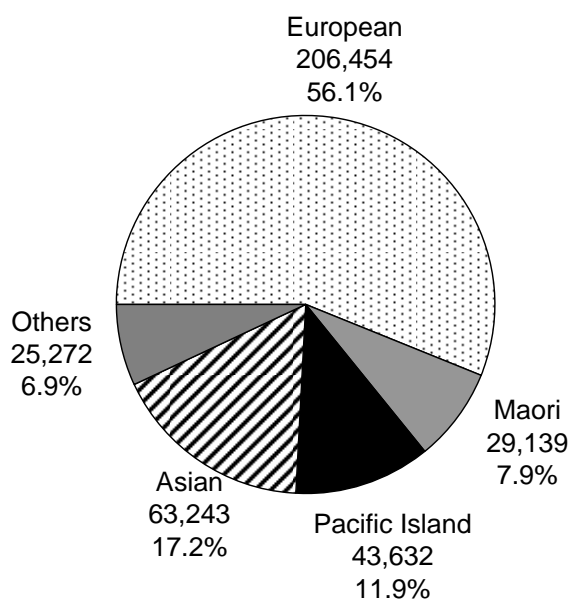
- is a major contributor to heart disease and for stroke
- affects 17.3% of males and 17.7% of females aged 15 years and over
- is different for ethnic groups: Asians have the lowest rate (7.9%) and Maori have the highest rate (20.6%)

High cholesterol	<ul style="list-style-type: none"> • is associated with the risk of developing cardiovascular disease, with a direct link between increasing mortality and increasing cholesterol levels (MoH toolkits) • affects approximately 15% of our population (2003 Health Survey), a decrease from the 20% recorded in the National Nutrition Survey 1997 • does not appear to differ between different ethnicities
Obesity	<ul style="list-style-type: none"> • means having a body mass index [BMI] of 30 or greater. Mortality from cardiovascular disease begins to increase with a BMI above 25. • affects 17% of Aucklanders (2003 Health Survey). This is the same figure as measured in 1997 but higher than the 11% in 1989 (MoH) • affects Pacific people who have the highest prevalence rate for obesity of around 50% (Asian people have the lowest rate of 5%) • means people are two to three times more likely to develop heart disease than those who are not obese (Agencies for Nutrition Action, 2001)
Physical inactivity	<ul style="list-style-type: none"> • contributes to heart disease. People who are sedentary are 1.9 times more likely to die from heart disease than active people, irrespective of other factors (MoH toolkit) • has been estimated to affect 40% of Aucklanders (The New Zealand Health Survey) • occurs at different rates across ethnic groups: Asian and Indian residents are less active (74%) while Pacific and Pakeha Aucklanders are the most likely to participate in physical activity about once a week or daily (each with 89%)

The population profile

Figure 1 shows the breakdown of the population by ethnicity in Auckland DHB.

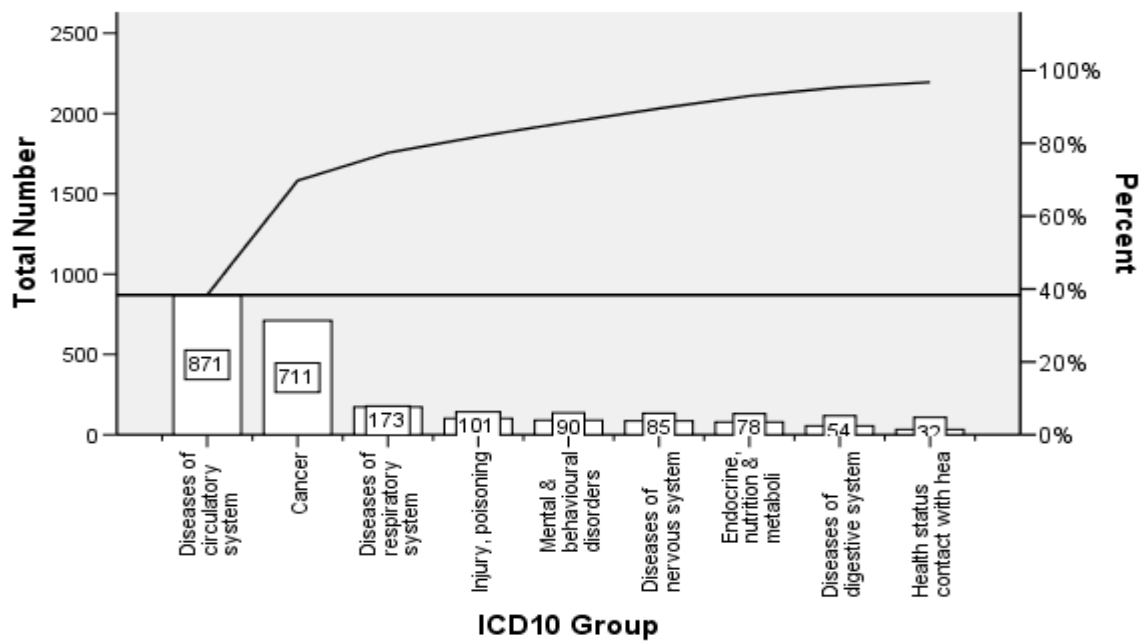
Figure 1: Population by ethnic group in Auckland DHB, 2001 census



Mortality

Cardiovascular disease (CVD) is the leading cause of death in Auckland DHB, accounting for 39% of all deaths in 2003 (Figure 2).

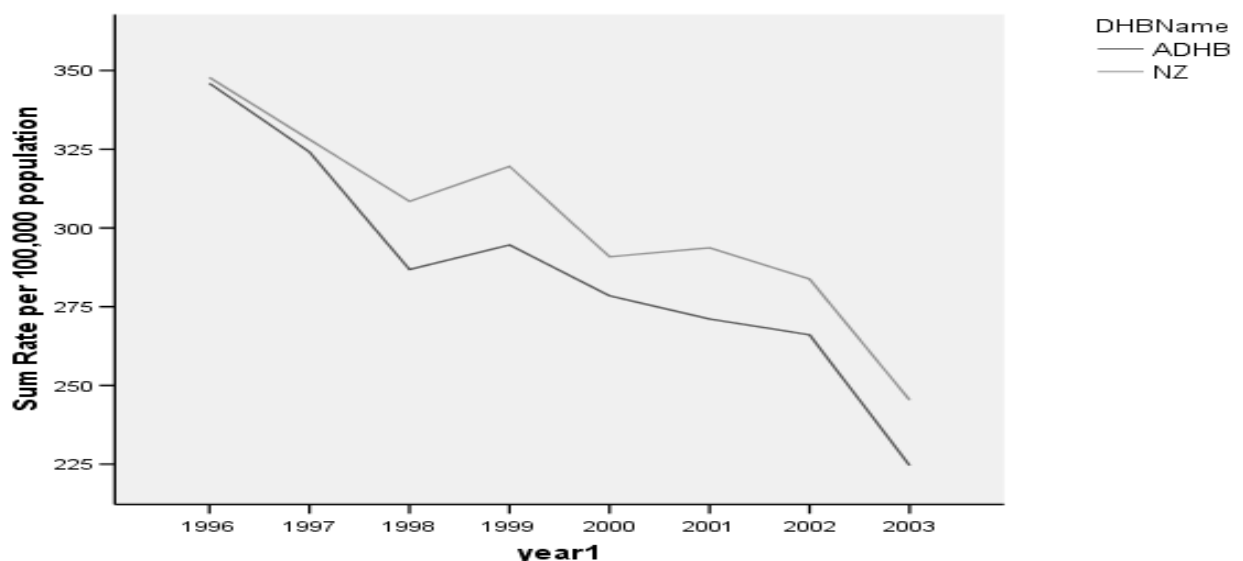
Figure 2: Distribution of death by number and percent of total death in Auckland DHB in 2003, by major disease categories (ICD 10 chapter)



Source: NZHIS data, year 2003.

Although death from cardiovascular diseases is declining in Auckland and the whole of New Zealand (Figure 3), it is still the leading cause of death. It is the leading cause of years lost to premature mortality, accounting for 26% of life years lost between 45 and 64 years of age.

Figure 3: Mortality rates, ADHB versus New Zealand, year 1996–2003



Source: NZHIS data. Note: Age-standardised rate to New Zealand 2001 population.

There are clear disparities in mortality rates from heart disease by gender, ethnicity and NZDep01 (New Zealand deprivation index 2001): males had nearly double the mortality rate of females, mortality rates for heart disease were higher among those in low socioeconomic classes, Maori had nearly double the rate of Others and Pacific people had triple the rate of Others.

Table 1 below shows the distribution of death by ethnicity between 1996 and 2003. There were clear reductions for both non-Maori non-Pacific and Maori, whilst there was a 71% increase in Asian number of deaths. The increase is primarily due to the increase in Asian population in recent years.

Table 1: Number of death by ethnicity, Auckland DHB, 1996–2003

	Year of Death							
	1996	1997	1998	1999	2000	2001	2002	2003
Others	1036	968	887	924	861	831	842	733
Maori	56	42	47	39	41	41	39	36
Pacific	64	80	67	73	74	88	75	69
African	0	1	0	0	0	0	2	0
Chinese	6	14	10	13	16	14	19	13
Indian	9	15	7	12	18	19	20	8
Latin American	0	0	1	1	0	0	0	0
Middle Eastern	5	4	3	3	8	8	3	3
Other Asian	3	3	5	4	6	3	3	6
Southeast Asian	2	4	0	4	2	2	2	2
Total Asian	25	41	26	37	50	46	49	32
Percent from total	2.1%	3.5%	2.5%	3.3%	4.6%	4.4%	4.6%	3.5%
Variation between 1996 and 2003 for Asian								71%

Primary care

Based on information in the National Primary Medical Care Survey 2001/02, there 420,000 primary care visits in 2005 in Auckland. Cardiovascular related visits were 20,581 or approximately 5% of total visits. Primary care visits dealt with a total of 674,341 problems of which 37,378, or approximately 9% were CVD-related. Hypertension was the highest condition with 4.6% of total problems.

Laboratory tests related to CVD, as a percentage of total tests ordered were 5.4% glucose, 5.1% lipids, 0.4% ECG and 8.8% X-ray.

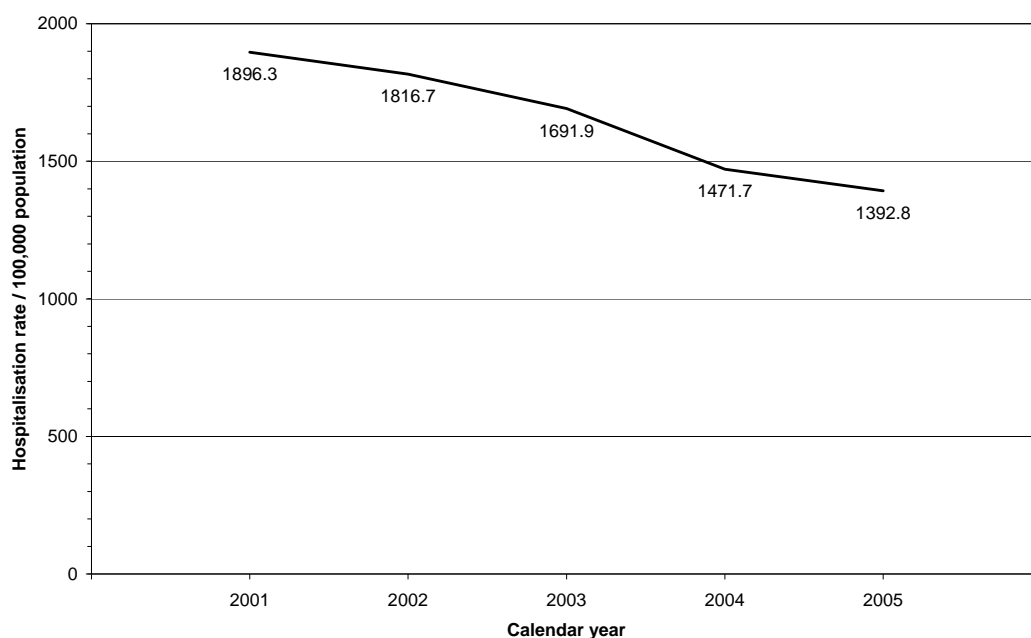
The total number of items prescribed during a year was calculated to be 526,741 items, of which 13% were CVD-related.

Hospital discharges

In 2005, there were a total of 77,990 inpatient hospital discharges of Auckland residents from New Zealand hospitals. One out of every four, or 18,202 had a cardiovascular/diabetes diagnosis as any one of the first 20 diagnoses on the discharge record. Cardiovascular disease was listed as any one of the first 20 diagnoses on 12,980 (17%) discharges and was the primary diagnosis on 4932 (6%). There were 1525 (2%) discharges of Auckland residents from New Zealand hospitals on which cerebrovascular disease (stroke) was noted as any of the first 20 diagnosis and of these 600 (<1%) stroke was listed as the primary diagnosis. Diabetes was listed as any of first 15 diagnosis on 4692 (6%) of total discharges and 26% of the cardiovascular/diabetes disease discharges.

Figure 4 below shows the 27% reduction in Auckland DHB cardiovascular/diabetes hospital discharges between 2001 and 2005.

Figure 4: Hospital discharge rate, year 2001–2005, Auckland DHB



Source: NZHIS data. Note: Age-standardised rate to New Zealand 2001 population.

Table 2 below shows hospital discharges by ethnicity and the change over time.

Table 2: Percent of hospital discharges and case weight, CVD and diabetes, detailed ethnic groups, Auckland DHB, 2001–2005

Year	Asian		Maori		Others		Pacific	
	Discharge	Case weight	Discharge	Case weight	Discharge	Case weight	Discharge	Case weight
2001	4%	8%	6%	5%	72%	77%	12%	10%
2002	5%	10%	6%	5%	70%	77%	13%	9%
2003	6%	10%	6%	5%	68%	73%	13%	12%
2004	6%	12%	7%	7%	67%	68%	14%	14%
2005	7%	11%	8%	8%	68%	68%	13%	13%

Between these years of 2001 and 2005, rates for almost all causes of hospitalisation have decreased, except for type 2 diabetes where the rate has increased.

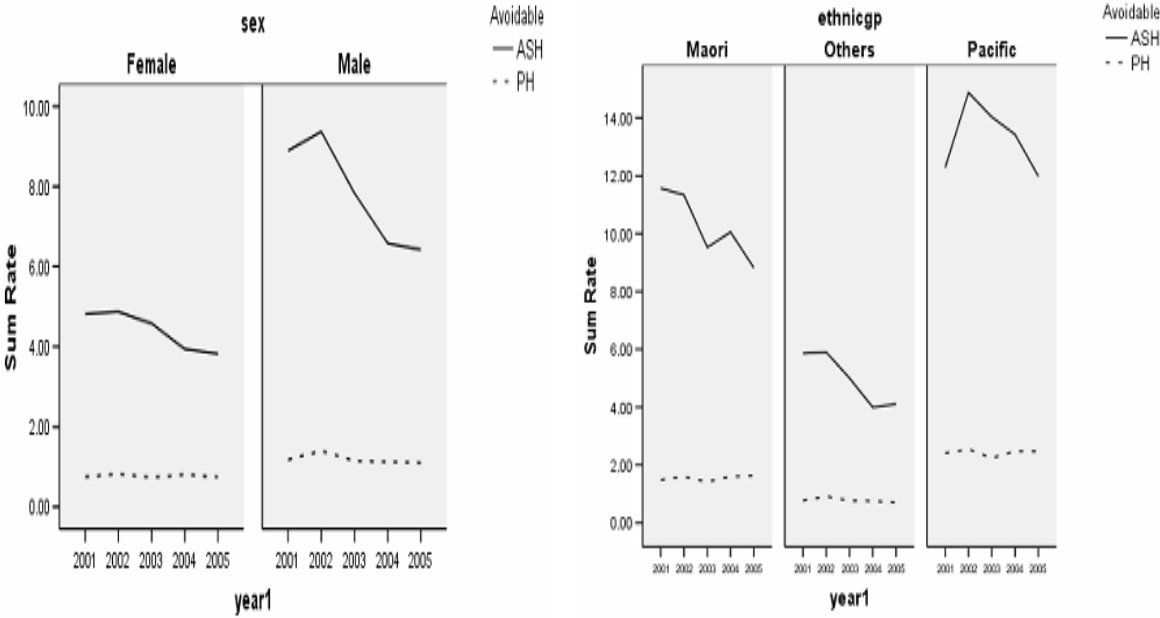
Avoidable hospitalisation

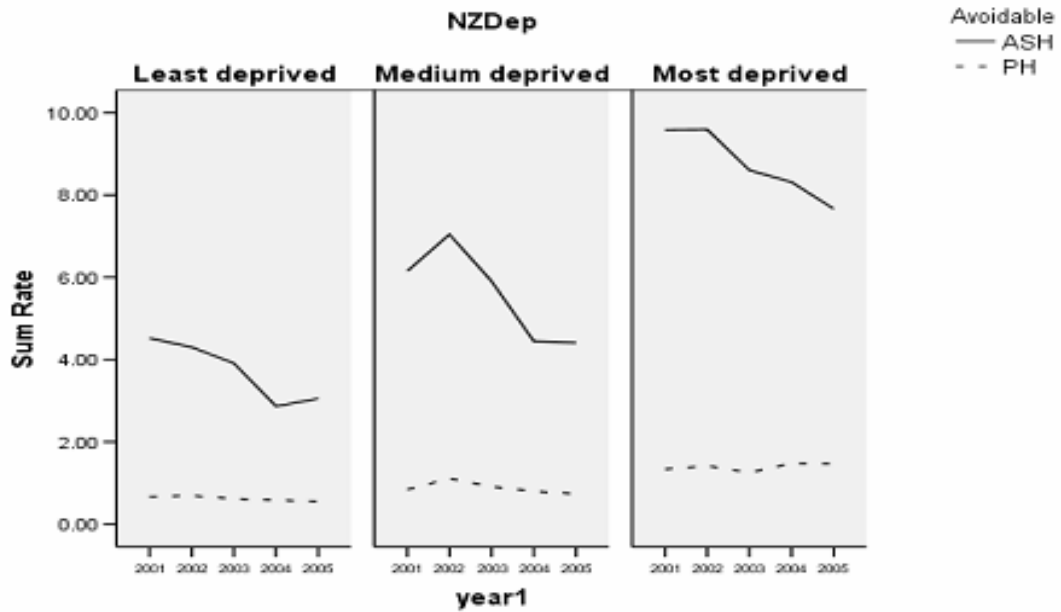
Avoidable hospitalisation is used to measure the occurrence of a severe illness that theoretically could have been avoided by either:

- ambulatory sensitive hospitalisation (ASH) – primary care interventions such as early detection and treatment or immunisation
- preventable hospitalisation (PH) – health promotion strategies such as smoking reduction

Figure 5 shows avoidable hospitalisation rates for both levels of prevention, ASH and PH, from heart disease by gender, ethnicity and NZDep01 for the years 2001–2005. It shows clearly the disparities of disease distribution between these groups: males had nearly double the rate of females, hospitalisation rates for heart disease were higher among those in low socioeconomic classes, Maori had nearly double the rate of Others and Pacific people had triple the rate of ‘Others’. These differences were more noticeable for ambulatory prevention rather than preventable hospitalisation.

Figure 5: Avoidable hospitalisation rates, year 2001–2005, Auckland DHB patients, by gender, ethnicity and NZDep01



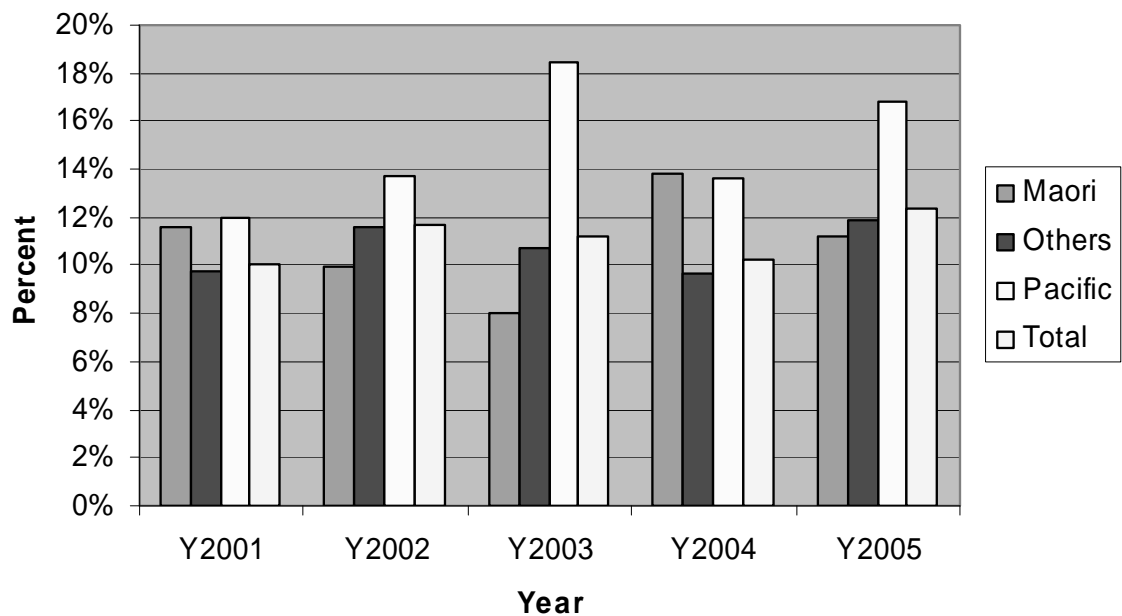


Source: NZHIS data
 Note: Age-standardised

Cardiovascular procedures

There was a substantial reduction in the number of ischaemic heart disease related hospital discharges for all ethnicities between 2001 and 2005. However, the number of angiographies decreased only 3% and the proportion of angioplasty and CABG to IHD discharges increased by 2% (Figure 6).

Figure 6: Proportion of angioplasty and CABG to IHD admissions, Auckland DHB, 2001–2005



1.2 Estimating the future burden of disease

Factors that might cause a rise in incidence:

- The ageing population. Those over 45 years of age are more susceptible to heart disease.
- Older people (65+ years) will make up 14% of the total population in 2021.
- People age 45 to 65 years represented 20% of the population in year 2001. However, that will be 26% in year 2021.
- The increase in the population of Auckland. It is expected that there will be about 130,000 more people in ADHB, a 36% increase from 1996, by the year 2021.
- Increased incidence of diabetes and obesity. The Auckland DHB is experiencing an increase in the prevalence of diabetes and obesity and both are associated with an increased risk of cardiovascular disease.

Factors that might cause a decrease in incidence:

- A continued reduction in the number people who smoke. The prevalence of cigarette smoking has stabilised since 1990s (national figures), and there have been slight decreases in prevalence in recent years.
- Continuing improvement in the management of blood pressure and serum cholesterol.
- Improved adherence to treatment guidelines by physicians and patients.

Future prevalence of CVD and diabetes

Prevalence data from the 2003 Health Survey was utilised to estimate the expected numbers for ADHB.

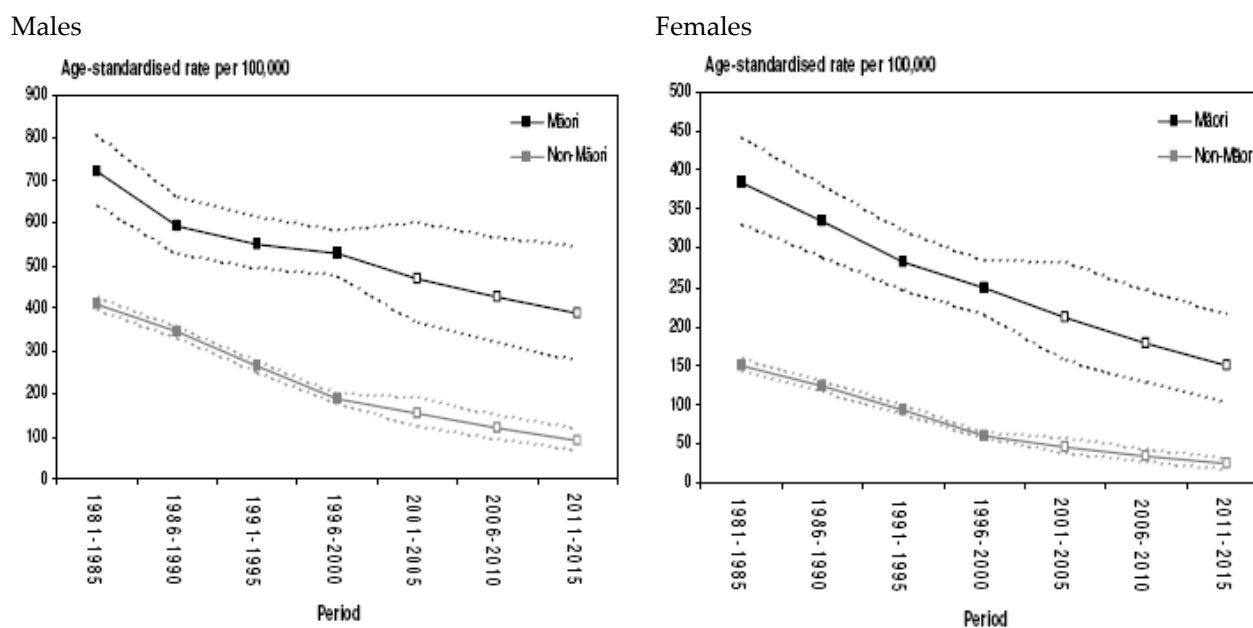
In 2003, the estimated number of people with CVD for those over 15 years of age was 11,300. This is expected to increase by 1600 case to a total of 12,900 by 2010.

In 2003, the estimated number of people with diabetes was 14,000. This is expected to increase by 2000 cases to a total of 16,000 by 2010. It should be noted that the projections for the future impact of diabetes vary greatly and will be impacted by many factors including obesity levels, more effective detection and more effective management.

Mortality projections

Figure 7 shows the results of recent work by Martin Tobias projecting future mortality rates from ischaemic heart disease in New Zealand. The mortality rate continues to decline for both Maori and non-Maori but the inequality in health outcomes continues with the Maori mortality rate continuing to be two to four times the rate for non-Maori.

Figure 7: IHD mortality rates and projections, 1981–2015



1.3 Health inequalities between groups

There is significant inequality of outcomes for Maori and Pacific people when it comes to diabetes and cardiovascular disease. There needs to be improvements in uptake of risk and disease screening, in uptake of referrals to services such as retinal screening and in the management of disease and complications.

The outcome for the next three years should be to significantly reduce the disparities in service access and uptake across population groups. Primary care services will have to review approaches which are failing and to look at new service designs. Taking a ‘whole whanau’ approach proposed in this plan may be a starting point.

The burden of cardiovascular disease falls heavily on Maori and Pacific peoples. Nationally and in Auckland, Maori have the highest coronary heart disease death rates, with Maori under the age of 65 years having mortality rates three to four times higher than non-Maori.

In Auckland age standardised coronary heart disease mortality is highest amongst Maori, followed by Pacific and others; the lowest rates occur in Asian people (MoH New Zealand Health Survey 2002/03).

Diabetes is also a disease of disparity. Maori, Pacific and Asian peoples are at greater risk of diabetes than other New Zealanders:

21% of Maori males over 45 years have diabetes compared to 8.5% of non-Maori

20% of all Maori and 17% of all Pacific deaths are due to diabetes – compared to 4% of deaths amongst European New Zealanders

The lifetime risk of being diagnosed for diabetes is one-in-four for Pacific peoples and one-in-three for Maori – compared to one-in-10 for European New Zealanders (Ministry of Health 2002)

Approximately 8% of Maori and Pacific adults have diabetes compared to 3–4% for European New Zealanders

Estimates are that from 1996 to 2011 the total number of adults with diabetes in New Zealand will increase by 78%, but the relative increase for Maori and Pacific peoples will be 130–150% (Ministry of Health 2002).

Inequalities are also present by socioeconomic groupings: those living in the most deprived areas report diabetes four times more often than those in less deprived areas. Cardiovascular disease has been identified for many years as being a disease of poverty as much as a disease of diet.

The statistics in part two of this document show clear inequalities in health outcomes for CVD and diabetes across population groups.

In Auckland District, the population groups with poorer outcomes include Maori, Pacific people and people from low decile areas. The particular inequalities associated with CVD and diabetes contribute significantly to the overall disparity in life expectancy between Maori, Pacific and other populations in New Zealand.

Inequalities in health outcomes do not occur because of the failure of one specific part of the health system, or the characteristics of one particular population group. Inequalities in outcomes, measured ultimately in life expectancy, result from an accumulation of multiple unequal exposures to risk and protective factors throughout people’s lives, unequal access to core health services and unequal success with interventions.

The table below shows that while ethnically-targeted PHOs are an important part of the primary care landscape, about half of Maori and Pacific people attend family doctors who are part of the mainstream ProCare Network Auckland PHO.

	Auckland Pacific Health Trust Board	Auckland PHO Ltd	Tongan Health Society	Tamaki Healthcare	ProCare Network	Tikapa Moana PHO Trust	DHB level	% at DHB level
Maori	2,584	1,616	9	5,769	12,680	635	23,293	5%
Pacific	11,569	4,707	4,925	10,279	28,331	73	59,884	14%
Others total	20,061	29,218	102	22,258	269,175	5,369	346,183	81%
Total	34,214	35,541	5,036	39,306	310,186	6,077	429,360	100%

Any approach to reduce inequalities will ultimately need to influence the whole life course and impact on the performance of targeted and mainstream health providers.

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