

## EXECUTIVE SUMMARY

### Introduction

The Health Needs Analysis (HNA) 2008 identifies health and population priorities and is a critical monitor of the main areas of health need within Waikato and the Midland region. It outlines in-depth findings by ethnicity, age and NZDeprivation for each of the six leading health priorities, and where possible for other health priorities of interest for the Waikato District Health Board (Waikato DHB).

Waikato DHB's HNA 2008 document provides an in depth analysis of the health status of our 353,460 people. It covers a large area of around 7.9% of the country's land area – and has the country's fourth-largest city. This presents diverse challenges in service delivery and additional barriers to accessing health services for people travelling from rural locations.

### Waikato Demographics

In the Waikato area, the population projections by 2026 are:

- 65+ age groups is projected to increase by more than 78 percent from 45,260 to 80,600
- Children aged 00-14 years decline from 78,570 in 2007 to 76,880
- Youth aged 15-24 years is predicted to decline from 52,260 in 2007 to 51.320

The Maori population is growing at a slightly faster rate than Pacific and Others and by 2026 Maori are projected to equate to 23.3% of the Waikato DHB population up from the current 21.2%.

### Data Sources and HNA 2008 Report Format

The primary data source for the HNA 2008 is the New Zealand Health Information Services (NZHIS) datasets. In order to overcome the limitations with the current data sources considerable time and effort was spent in gathering additional information from relevant resources and from disparate data sources within the Waikato DHB and relevant external organisations, eg. Primary Health Organisations (PHOs).

The HNA 2008 consists of a core Waikato DHB HNA 2008 report and three separate supplementary sections:

- **Waikato DHB HNA 2008:** This is the core HNA 2008 report which presents the health and population priorities and compares the findings across the ethnic groups. The key findings and recommendations from this report will form the basis for the next step, i.e Waikato DHB Strategic Planning process.
- **Three Separate Supplementary HNA 2008 reports:** There are three supplementary HNA 2008 reports, specific to Waikato Māori, Pacific People and Other (including Asians). These reports provide in depth information on the health and population priorities for Māori, Pacific People and Other ethnic groups within the Waikato.

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### Health and Population Priorities

The health priorities and the population groups experiencing the greatest burden of ill health, as identified in the HNA 2008 are:

Health Priorities - 2008	Population Groups 2008
Circulatory System Diseases	Māori
Malignant Cancer	Pacific People
External Causes	People living in areas of low socio-economic status - NZDeprivation quintiles 4 and 5
Diabetes Mellitus	Older People
Respiratory Illness	
Renal Services	

For each of the health priorities, it is absolutely essential for the prevention, early intervention and disease management programmes / initiatives to be tailored specific to be needs of each of the recommended target population priority groups, as the specific disease profile within each health priority is different for each of these population groups.

### Comparison of Findings - HNA 2005 and HNA 2008

The health and population priorities in HNA 2008 are consistent with the priorities in the HNA 2005, excluding External Causes and Renal services.

The reasons for the lack of notable changes over the three year planning period could be attributable to the following key factors:

- The long term commitment required to achieve improvements in population health
- Positive outcomes from the health improvement programmes and initiatives are sometimes slow to materialise, however positive impacts are possible given consistent and effective programmes. For example, the data shows a decrease in sudden infant deaths starting from 1995, following a national health promotion programme.
- Waikato DHB has not yet adequately reached the target population groups in part because of our single-faceted approach to public health initiatives. For example, young Māori women continue to show high smoking rates. Future health promotional programmes need to be *“consumer driven, that resonate with the target audience, and that are potentially more effective than traditional approaches in achieving desired outcomes.”* [Thackeray and Nelger 2002]

External Causes (which includes road traffic accidents, intentional self harm and consequent hospitalisation) require shared targeted activities that span across inter-government agencies hence it is essential to extend and strengthen the current partnership forums to develop joint programmes to achieve positive outcomes.

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Much activity in relation to reducing the impact of injuries arising from External Cause is undertaken by ACC and Land transport however there may be opportunities for Waikato DHB to assist with this work.

Renal services are a new health priority. These are high cost, low volume services facing significant growth in demand, driven by Type 2 diabetes and cardiovascular disease, particularly among Maori, and by increased acceptance of elderly onto dialysis programmes.

The fundamental reason to include older people as one of the population priority group is due to the projected increase in the Waikato older population of around 78% by 2026 and the urgent need to explore innovative ways of delivering quality health care services.

### **Broad Strategic Initiatives - 2008**

The following strategic initiatives “set the foundation” for the organisation to achieve its overall long term strategic goals.

**Reduce Inequalities:** It is recommended that future prevention, early intervention and service delivery programmes for each health priority be tailored to meet the specific needs of each of the recommended population groups who are currently featuring disproportionately in disease incidence. This approach is vital for reducing inequalities, as the specific disease profile within each health priority is different for each of these population groups. Example of difference in disease profile, eg cancer.

**Integration with Primary Care:** Establishment of a shared information exchange environment and the necessary connectivity between the primary, secondary and tertiary sectors are paramount for chronic care management across the continuum of care. It is recommended that adequate resources are assigned to integrate and synchronise information that is fragmented across the DHB and the PHOs and work towards shared, integrated and easily accessible (anytime and anywhere) electronic health information. Through effective use of enabling technologies it is possible to provide advice to primary providers where face to face special consultation is not required, such as rural GP consultation and specialist advice to GPs. In addition, it enables effective management of scarce health resources.

**Integrated co-morbidity information:** A feasibility study to be initiated to identify a fast-track approach to gathering the prevalence and co-morbidities with diabetes, cardiovascular and renal diseases, prior to the implementation of a chronic care management system.

**Health Workforce Planning:** Further work needs to be undertaken with the Human Resources team to accurately estimate the current and future health workforce needs and to develop a plan of action to achieve the recommended resource base to achieve our strategic goals.

**Innovative Service Planning for Older People:** By 2026 the older people in the Waikato are projected to increase by 78%. The increase in 65+ age groups is likely to increase the burden on health services, consequently impacting on the design and delivery of future health services to meet the increasing demands across the 65+ age groups. It is recommended that support continues for the work of the AgeWise Advisory Group to develop innovative future service options to ensure that the way we deliver care reflects the needs of patients.

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**Operational Efficiencies:** It is difficult to recommend operational efficiency gains across the vast spectrum of health care services, as it requires dramatic improvements to every aspect of service delivery across multiple providers. Continuous improvement processes need to be implemented across services as outlined in the Waikato DHB governance review.

## Conclusion

The implementation of the broad strategic initiatives, combined with the implementation of further programmes/initiatives to meet the specific recommendations (refer to Appendix A) will enable the Waikato DHB to achieve its long term strategic goal to deliver health services that are accessible to all ethnic groups irrespective of age, gender, socio-economic position, ethnicity, impairment and geographical region.

## **APPENDIX - A**

### Health Priorities

## CARDIOVASCULAR DISEASE

The circulatory system consists of heart and blood vessels. Together, these provide a continuous flow of blood to our body, supplying the tissues with oxygen and nutrients. Arteries carry blood away from the heart; veins return blood to the heart. Cardiovascular diseases (CVD or often referred as Circulatory system illnesses) are diseases affecting the heart and the blood vessels, such as acute myocardial infarction, ischemic heart disease and stroke. It is New Zealand's number one leading killer for both men and women across all racial and ethnic groups.

### Key Findings

#### Smoking

- One in five NZ European/Other are cigarette smokers, one in two Maori and one in three Pacific People.
- Smoking prevalence among Maori (males and females) has not changed since 1997.
- Maori women continue to have the highest smoking prevalence. The estimated age specific rate among Maori females age 15+ years in the Waikato DHB was 50.1 per 100,000 in 2002-2003 years when compared with non Maori females at 18.8 per 100,000 for the same period<sup>1</sup>.
- In 2006, tobacco consumption was 1,016 cigarette equivalents per person aged 15 years and over, down slightly from 1,033 in 2005<sup>2</sup>.
- NZ tobacco consumption per adult ranked third lowest out of 13 selected OECD countries, similar to that of Australia but higher than Finland.

#### Obesity

- More than 50% of adults are overweight

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<sup>1</sup> Population Health Planning Resource 2007-2012, Population Health Services, Waikato DHB

<sup>2</sup> The Social Report 2007, Cigarette smoking, Document available from: [www.socialreport.msd.govt.nz/health/cigarette-smoking.html](http://www.socialreport.msd.govt.nz/health/cigarette-smoking.html)

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- Higher percentages of Maori and Pacific children are overweight or obese compared to European, but in all ethnic groups there has been a significant increase in overall body weight.

### Mortality

- Circulatory System related illnesses are the most common cause of mortality and hospitalisation across all ethnic groups in Waikato and nationally.
- CVD death rate is more than twice as high in Maori and Pacific men as in women
- Three major causes within this group were: Ischemic Heart Disease (IHD), acute myocardial infarction (AMI) and stroke.
- Across all ethnic groups, the volume of mortality and hospitalisation are highest among 65+ age groups.
- Mortality rates increased with increasing socio-economic deprivation among both Maori and non-Maori. Maori are disproportionately represented in the most deprived areas and therefore at higher risk of death from CVD compared to non-Maori.
- Mortality and hospitalisation to CVD of Maori and Asians were highest among 45-64 year olds, compared to people from other ethnic groups where mortality was the highest among the 65+ age groups.
- In Pacific People, death rates are higher than in Maori in hypertensive diseases, CVD and cardiomyopathy.

### Hospitalisation

- People with diabetes have double the risk of myocardial infarction, and two-eight times greater risk of heart failure, than people without diabetes.<sup>3</sup>
- Timely medical intervention for the acutely ill has been shown to improve quality of life and medical outcomes<sup>1</sup>.
- Maori are hospitalised at a much younger age than the Other ethnic group. Waikato Maori aged 45-64 make up 50% of Maori hospitalisation with heart failure, followed by the 65+ age group at 36%.
- The Maori age specific rate of avoidable hospitalisation among 45-64 year olds for angina increased to 1046.6 per 100,000 and a similar increase was seen among people from Other ethnic groups at 339.99 per 100,000 in 2006.
- 65% of Maori hospitalisation is male.
- Approximately 56% of the hospitalisation among Maori is in quintile 5.
- Among people from Other ethnic groups, the volume of hospitalisation spread across quintiles 3, 4 and 5 at 21% to 33%.
- 91% of hospitalisation among people from Other ethnic groups was in 65+ age group.
- Other ethnicity hospitalisation was equally shared across the genders.
- Pacific People are hospitalised at an even younger age than Maori. In 2006, around 44% of the hospitalisation was in the 25-44 age group and 33% in the 45-64 age group.
- The prevalence of Pacific hospitalisation in 2006 by deprivation quintile was 22% in quintile 4, 33% in quintile 3 and 44% in quintile 5.

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<sup>3</sup> Cardiac Services Plan for the Midland Region, Jan Barber, February 2006

## Recommendations for Strategic Consideration

The identification of major modifiable risk factors for CVD (hypertension, smoking, obesity, inactivity, and diabetes) is a prerequisite to the implementation of preventative interventions. Hence it is essential to continue to implement continuous improvements to the MoH and Waikato DHB led current strategic programmes to sustain lifestyle changes among children, individuals, and the broader population. Accomplishing these objectives will require individuals to change their behaviour and society to make substantial environmental changes.

1. **Three key areas of focus:** for projects\programmes addressing CVDs are:

- a. Ischemic Heart Disease
- b. Acute Myocardial Infarction
- c. Stroke

2. **Integrated Information Systems:** Establishing dynamic links with the Primary Health Organisations (PHOs) and integrating disparate information bases across the organisation would provide the foundation for developing patient specific early intervention programmes to minimise co-morbidity complications across the continuum of care. This information infrastructure sets the scene for end to end chronic care management.

3. **Organised Stroke Services<sup>4</sup>:** Comparable national data for stroke, stroke services and stroke outcome are sparse relative to such data for Chronic Heart Disease (CHD) and diabetes. Hence the MoH recognises the lack of organised stroke services containing specialist staff not only to deliver services but also to facilitate the documentation and collection of relevant data. Waikato DHB is in the process of establishing the recommended framework and the work is expected to commence in May 2008. Implementation of organised stroke services need to span across personal health and disability sectors together with the primary sector in order to collectively work towards CVD prevention. Some of the key findings from the "Asian Health Chart Book 2006" which highlights the major differences in health outcomes and exposure to health hazards between the Chinese and Indian ethnic groups, with "Other Asians" generally falling between these two groups, need to be considered as an integral part of the organised service planning and implementation.

## MALIGNANT CANCER

Cancer is the second leading cause of death and hospitalisation in Aotearoa-New Zealand, the Midland region and the Waikato. The impact of cancer is uneven across the ethnic compositions in New Zealand. It is evident from a plethora of research findings that one third of cancer is preventable, a third is treatable, and a third can be managed well. Yet due to a lack of comprehensive detailed information it is difficult to make a planned, systematic, coordinated and effective response to this disease.

### Key Findings

#### Children aged 00-14 Years

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<sup>4 4</sup> Diabetes and Cardiovascular Diseases, Quality Improvement Plan, Ministry of Health, Wellington, Published in February 2008, Document available from: [www.moh.govt.nz](http://www.moh.govt.nz)

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- During 1999 to 2005, cancers of the brain, bone and connective tissue, non-Hodgkin's lymphoma and kidney accounted for over 80% of child cancer registration and over 70% of the childhood cancer deaths<sup>5</sup>.
- In Waikato, the leading notifications to the NZ Cancer Registry, among 00-14 year olds were lymphoid leukaemia (25%) followed by cancer of the brain (24%) from 1999 to 2005.

### Youth aged 15-24 Years

- In the Waikato, the cancers frequently notified to the NZ Cancer Registry during 1999-2005 were melanoma of skin (14%), followed by neoplasm of testis and Hodgkin's disease each at 11% of the total cancer registrations among this age group. The leading causes of mortality from 1998 to 2004 were melanoma of skin, brain cancer and lymphoid leukaemia.

### All Age Groups

- The cancers in females most frequently notified to the NZCR in each ethnic group were:

Table 1: Ethnic composition of cancers frequently notified to NZCR

Māori	Other	Asian	Pacific People
Breast cancer	Breast cancer	Breast cancer	Breast cancer
Neoplasm of Bronchus and Lung	Skin cancer	Lymphoid leukaemia	Neoplasm of Corpus uteri

- The cancer most frequently notified to the NZCR by males across all ethnic groups was prostate cancer. Among Maori, Pacific People and Asians the second highest male registration was for neoplasm of bronchus and lung.
- Among Other ethnic group the registration was the highest for skin cancer.
- The differences in age standardised and age specific rates for cancer mortalities to cancers of the lung, breast and prostate, clearly illustrate that Maori aged 45-64 years were at a greater risk of dying from cancer than non-Maori in the Waikato. This trend is consistent with the national age standardised and age specific rates.
- Around 61% living in NZDep quintiles 3 to 5 are more likely to die of cancer than the Waikato population living in areas represented as NZDep quintiles 1 and 2.
- Of the total mortality to cancers, around 38.5% was considered avoidable.
- Waikato age specific rate of hospitalisation for lung cancer among Maori aged 65+ increased significantly to 800 per 100,000 population in 2006 and this Waikato rate was higher than the national rate of 449.2 per 100,000.
- In the Waikato, around 75% of hospitalisations for Skin cancer among Waikato Other were in the 65+ age groups. Waikato age standardised rate of avoidable hospitalisation for skin cancer was significantly higher (239.05) than the national rate of 174.73 per 100,000 in 2006.
- The age specific rate of hospitalisation for lung cancer among Waikato Other aged 45-64 years was 93.9 per 100,000 population. The trend was for this rate to be

<sup>5 5</sup> Drs E Craig, C Jackson and D Y Han, on behalf of the New Zealand Child and Youth Epidemiology Service, November 2007, A joint venture between the Paediatric Society of New Zealand and Auckland UniServices

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significantly higher than the national rate, which was 63.3 per 100,000 in 2006. Similarly, in the Waikato, the age specific rates of hospitalisation for colo-rectal cancer among Other ethnic group aged 25-44, 45-64 and 65+ years were higher than the national rates in 2006.

## Recommendations for Strategic Consideration

Key recommendations for strategic conversation are:

- The coordination and development of Midland Cancer Network for Adolescent and Young Adult (MCN AYA) needs to be supported by the Waikato DHB.
- A regional paediatrics cancer control perspective needs to be developed under the MCN umbrella.
- There is no national program for prostate screening - further analysis is essential at a national and regional level.
- There is no well known reason for mortality differences, as data on staging and patient flow through the cancer care continuum is lacking. It is recommended that the Waikato DHB support regional and national initiatives to develop data sets that allow the collection of good staging information in addition to ethnicity and diagnostic information (National Project) using the patient mapping and care coordinators.
- Waikato DHB should support the regional IT infrastructure to monitor and record and analyse patient flows across the treatment continuum for the major cancers.

While further research is necessary before evidence based primary intervention strategies can be developed to address the incidence of childhood cancers, ensuring equitable access to specialist services and family support and reimbursement of travel / associated costs are important considerations in reducing the burden of cancer places on the families of children and young people<sup>6</sup>.

Factors contributing to mortality differences between ethnic groups include: differences in access to regular screening for some cancer sites, timely access to specialists and primary care and the quality of treatment. These risk and protective factors need to be addressed for major cancer sites across all ethnic groups. Especially the national screening programmes for breast, cervical and prostate cancers (future screening) and necessary rehabilitation and support services have to achieve equitable coverage across all ethnic groups.

Cancer policies and practices need to take into account cancer priorities by ethnicity in order to achieve equitable benefits from future programmes for cancer control.

The HNA 2008 analysis of the incidence of and mortality to cancer by ethnicities were based on the unadjusted ethnicity data collection, hence the undercount of Maori should be acknowledged. The analysis reinforces the need to improve the collection and analysis ethnicity data in New Zealand, especially Maori so that disparities among ethnic groups can be appropriately identified, monitored and eventually eliminated.

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<sup>6 6</sup> Drs E Craig, C Jackson and D Y Han, on behalf of the New Zealand Child and Youth Epidemiology Service, November 2007, A joint venture between the Paediatric Society of New Zealand and Auckland UniServices

## **EXTERNAL CAUSES**

The category "External Causes" includes:

- Road traffic accidents, vehicles and pedestrians
- Intentional Self Harm (Suicide)
- Drowning
- Falls
- Other non clinical causes, eg poisoning

### **Key Findings**

#### **Youth 15-24 Year Olds - Deaths to Road Traffic Accidents**

- In the Waikato, around 25% of the mortality to road traffic accidents was in the 15-24 age groups and 36% in the 25-44 age groups.
- The highest number of road traffic deaths from motor vehicle crashes was in 15-24 year olds (35% of male deaths and 30% of female deaths).
- In New Zealand, 15-19 year olds and 20-24 year olds had the highest number of hospitalisation days at 6238 and 5099.
- The largest groups of alcohol offenders in New Zealand were 15-19 year olds at 6556 and 20-24 year olds at 5134. The alcohol level was the highest among 20 year or older age groups at 121 to 200 (blood equivalent - mg/100ml).
- When ranked among other countries, the percentage of road traffic deaths occurring in the 15-24 age group in New Zealand was the second highest at 32.8, the highest being Iceland at 42.1.
- In New Zealand the deaths per 100,000 people in the 15-24 age group was the third highest at 68.4, United States was first at 77.6, followed by Greece at 73.2.

#### **Youth 15-24 Year Olds - Intentional Self Harm**

- In the Waikato, 67% of mortality to intentional self harm in 2004 was of Maori youth aged 15-24. Around 78% of Maori deaths occurred in the highest deprivation quintile 5. Among Other ethnic group deaths spread across deprivation quintile 3 to 5.
- From 2002 to 2006, the age proportion of hospitalisation in the Waikato was consistently high among 15-24 and 25-44 year olds.
- In the Waikato from 2002 to 2006, the highest number of hospitalisation to intentional self harm was among Maori, Asians and Pacific People aged 18-24 year old.
- At a national level, the highest intentional self harm (suicide) hospitalisation rates in 2006 were female Maori (as opposed to non-Maori) those in the age group of 15-24 years and those residing in the most deprivation quintile 5.
- Median ages of onset for all three behaviours were in the twenties: Suicide ideation - 25 years, Making a suicide plan - 25 years and Suicide attempts - 21 years.
- When ranked along other countries, the New Zealand 2005 suicide rate for males aged 15-24 years was the second highest at 27.6 per 100,000 (Finland was first at 33.1). Similarly the suicide rate among the same age group females was the third highest at 8.2 per 100,000 (Finland at 9.7 and Japan at 8.4).

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### All Age groups - Road Traffic Accidents

- Two leading causes of mortality and hospitalisations in the Waikato were road traffic accidents and intentional self harm. This trend in the Waikato is consistent with the national trend.
- Injuries to all types of road users increased significantly, consequently the number of stays in hospitals also increased.
- In the Midland region, casualties per 100,000 population was the highest in Waitomo followed by Otorohanga and Ruapehu.
- In New Zealand in 2005, road traffic deaths per 100,000 at 9.9 were higher than Australia at 8.1 and France at 8.8.

### All Age groups - Intentional Self-harm

- In Waikato, 67% of Maori deaths to hanging\suffocation\strangulations in 2004 occurred in 15-24 year olds and 53% of Other ethnic group deaths occurred in 25-44 year olds. The trend among Asians and Pacific People are similar to Maori.
- From 2000 to 2006, the highest intentional self harm categories were poisoning and self harm by sharp objects.
- Gender proportion of female hospitalisation for intentional self harm was consistently higher than male and in 2006 it rose to 72.54%.
- Waikato age specific rate of hospitalisation was 5th highest among the 21 DHBs

### Recommendations for Strategic Consideration

Youth today are at much higher risk of death to road traffic accidents, alcohol and drug misuse and intentional self harm. Key areas of focus are:

- Interagency programmes that focus on the road traffic accidents, hospitalisation and deaths to intentional self harm on the youth population (15-24 and adult aged 25-44 year).
- Alcohol control and education for 20+ age groups to reduce alcohol offences.
- Active participation and contribution to relevant interagency initiatives that are focused on reducing road traffic fatalities, alcohol misuse and suicide, may reduce the current burden of hospitalisation. Working together, the agencies must set shared outcomes. In addition, these initiatives need to include training and educating parents in early identification and need for prompt referral for intervention and support.

Collectively, government agencies need to set up centres that attract youth and allow them to communicate their views and issues in order to develop relevant programmes. It is essential for these centres to be appropriately located and staffed with specialist resources for that youth in the area to trust and respect.

## DIABETES MELLITUS

Diabetes mellitus, commonly referred to as diabetes, is a medical condition associated with abnormally high levels of glucose (or sugar) in the blood (hyperglycaemia). Diabetes is a multi-system disorder and remains one of the largest public health challenges. With the whole spectrum of diabetes complications, such as cardiovascular diseases (CVD), coronary artery diseases (CAD), stroke, retinopathy and amputations, the effective management and control of diabetes requires a wide spectrum of health services interacting closely in a timely manner to achieve optimal outcomes.

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### Key Findings

- The number of diabetes patients in Waikato has been increasing at a rapid pace in the recent years, around 7-10% per year. The Asian diabetes patients in Waikato have outnumbered Pacific People.
- Prevalence rates of diabetes vary widely across subgroups of age and ethnicity.
- Type 2 diabetes (non insulin dependent) is becoming a more significant health issue among young people under the age of 25, especially Maori.
- For Waikato Maori, hospital admission for Type 1 diabetes (insulin dependent) was highest among children and young people (aged 00-14 and 15-24 years. This is also shown for Other and Asian ethnic groups.
- Maori patients with diabetes were 9 times more likely to have an admission for renal disease than European with diabetes.
- However among Māori with diabetes, the risk of admissions was similar to Europeans for coronary artery disease or cardiovascular disease.
- Maori were diagnosed with Type 2 diabetes at a mean age of 48 years, Indians at 49 years and Pacific People at 50 years compared with Europeans at 59 years.
- Hospitalisation for diabetes was highest in NZDeprivation quintile 5 for Maori and Pacific People, however it spreads across quintile 3 to 5 for Other and Asian ethnic groups.
- Waikato Maori age standardised rate of hospitalisation among 45-64 year olds was five times higher, and among 65+ age groups was four times higher than the Other ethnic group.
- Among Waikato Pacific People the rate among 65+ age groups was eight times higher than Other ethnic group, however this may be attributable to the low volume of Pacific People.

### Recommendations for Strategic Consideration

The recommendations are as follows:

**Future Cohort Analysis for Diabetes:** It is recommended that any future analysis for diabetes service planning and monitoring in the Waikato region include a combined analysis of both New Zealand Health Information Service (NZHIS) and Waikato Regional Diabetes Service (WRDS) data in order to gain a wider perspective on the prevalence of diabetes in the Waikato area and to understand the magnitude of the burden on health services due to diabetes complications. This approach reduces some of the limitations with the national datasets.

**Dynamic Link to PHOs:** WRDS is an excellent tool for monitoring prevalence of diabetes in the Waikato area. It is recommended that a dynamic link be established with GP databases, eg. Get Checked. This link will set the foundation for “end to end” monitoring and provision of chronic care management by relevant health professionals in the continuum of care. For example when patients come for retinal screening, then an appointment could be scheduled in the GP database for “Get Checked” programme. In addition to the link, options for web enabled technology should be explored where appropriate.

**Early Intervention for Young People with Type 1 Diabetes:** The increase in Type 1 diabetes among the young people is well recognised by the Ministry of Health and combined with Paediatric Working Party the study identified considerable increase in Type 1 diabetes among 15-24 year olds. These national findings are consistent with the Waikato DHB HNA data analysis for diabetes. A dedicated resource allocation from

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Waikato DHB is essential for the design and implementation of early intervention, prevention and continuous monitoring programmes across the Waikato youth population of all ethnic groups.

**Midland Regional Diabetes Management Programmes:** The age standardised rate of mortality in the Lakes and Tairāwhiti area were the highest in the Midland region in 2003-2004. Any diabetes management programmes at the Midland region level need to consider the additional services required in the Lakes and Tairāwhiti areas.

**Retention of Patients and Health Inequalities:** Further investigations are required to address the retention of patients in current and future programmes and also the inequalities in health outcomes:

- The high risk of renal disease admission for Maori patients and the increasing risk of vision threatening retinopathy for non European patients.
- The progression to coronary artery disease among Maori and European diabetes patients.
- Mechanisms to reduce the barriers to diabetes care outlined in Section 11 below.

## Recommendations from Auditor General's Report

Some of the recommendations from the Auditor General report referred to in Section 13 below for consideration are for the Waikato DHB to:

- Establish a local diabetes register. Waikato DHB has a regional database (WRDS) to register the diabetes patients, however, the database is standalone and appropriate telecommunication links need to be established to maximize its full potential.
- Carry out audits to ensure that general practices are preparing good quality treatment plans, in line with the relevant guidelines, and are giving the necessary support to patients so they can implement the plans.
- Work with Local Diabetes Teams to collect data on specialist diabetes services and carry out supply and demand analysis to assess the adequacy of the services.
- Carry out more cohort studies, using repeated measurement of people who have participated in the programme over several years, to identify how effective the programme is and how best to improve diabetes management

These recommendations assume that the Waikato DHB will continue to address the risk factors with programmes to encourage physical activity and healthy eating that set the foundation for reducing chronic illnesses.

## CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Respiratory system diseases include: asthma, bronchiolitis, common cold, influenza, Chronic Obstructive Respiratory Disease (CORD - which generally includes Chronic Obstructive Pulmonary Diseases (COPD), chronic bronchitis and emphysema), and diseases of the upper and lower respiratory systems. Often people with respiratory diseases experience breathing impairment due to inadequate oxygen intake which in turn restricts their daily activities. Some of the key risk factors requiring life-style changes are: smoking, lack of immunity, stress, unhygienic environment and crowded housing.

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COPD is the third leading health priority in the Waikato and second at the New Zealand national level

## Key Findings

### Mortality

- Leading causes of mortality to respiratory system diseases were Chronic Obstructive Pulmonary Diseases (COPD) at 61% and pneumonia at 28%.
- The rate of mortality to COPD among Waikato Maori aged 45-64 years was six times higher (145.6 per 100,000 population) than Other (21.7 per 100,000 population) in 2003 and 2004.
- 93% of deaths to pneumonia from 1998 to 2004 was of people in Other ethnic groups. 90% of these (84% of total) were of people 80 years old or older.

### Hospitalisation

- Of the total hospitalisation for COPD, 60% was avoidable and 40% unavoidable from 2000 to 2006.
- Hospitalisation for pneumonia was mostly in the young (00-14) and old (65+) age groups. From 2000 to 2006, the proportion in the 65+ age group increased and the proportion in the 00-14 age groups decreased.
- Around 97% of hospitalisation for asthma was potentially avoidable.
- The rate of hospitalisation for asthma among Waikato Maori was more than twice the rate among Other ethnicities.
- Children aged 00-14 years made up 58% of all Waikato Maori hospitalisation for asthma, 42% of all Pacific hospitalisation for asthma and 39% of all Other hospitalisation for asthma.
- In 2006, the prevalence of hospitalisation for asthma was highest in quintile 5 for Waikato Maori and Pacific People (55% and 50% respectively). However, the prevalence among Other ethnic group spread across quintile 3 (30%), 4 (33%) and 5 (25%).
- Most hospitalisation for acute bronchiolitis was among children less than a year old (90% of Maori and 80% of Other hospitalisations for acute bronchiolitis).
- The age standardised rates of hospitalisation for respiratory infections in 2006 among Maori and Pacific People (379.7 and 368.8 per 100,000 population respectively) were almost twice as high as Other at 199.34 per 100,000 population.
- Across all ethnic groups, the age specific rate of avoidable hospitalisation for respiratory infections was highest among 00-14 year olds at 507.6, followed by 65+ age groups at 322.2 per 100,000.

### Key findings at Territorial Local Authority Level

- Low rates of COPD admissions were recorded in Waipa, Thames-Coromandel and the Matamata-Piako districts;
- Areas with significantly higher COPD discharge rates were: Part Ruapehu, South Waikato, Waitomo and Hauraki districts. The smoking rates were all the highest in these districts.
- The highest rates of pneumonia discharges were: Part Ruapehu district, followed by Hamilton City, South Waikato and Waitomo district. A similar pattern by TLA was seen for non Maori and for Maori.
- Lowest rate of admissions for asthma was in the Thames-Coromandel district followed by Hauraki, Matamata-Piako and Otorohanga districts. Part Ruapehu

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district had the highest rate of admissions for asthma, followed by Hamilton City and Waitomo district.

### Recommendations for Strategic Consideration

Strategies for prevention of and early intervention for respiratory disease must consider:

- Waikato Maori aged 45-64 for COPD
- The programmes /projects need to reduce the percentage of avoidable hospitalisation for COPD and Pneumonia, across all ethnic groups.
- Hospitalisation for asthma among Waikato Maori - currently twice as high as Other and needs effective planning and early intervention.
- Focus on children less than a year old, across all ethnic groups, for bronchiolitis prevention and early intervention
- Reduction in hospitalisation for asthma among 00-14 year old Maori and Pacific children.
- Reduction in age standardised rate for hospitalisation for respiratory illnesses among Waikato Maori - currently twice the rate of Other.
- Reduction in the age proportions of hospitalisation for respiratory illnesses among 00-14 year olds and 65+ age groups.

## RENAL SERVICES

Renal medicine or nephrology includes the care of patients with all forms of renal diseases, with or without impairment of renal function. The Waikato DHB renal service manages conditions involving the kidneys and urinary tract. The renal service is a high cost, low volume service that is facing significant growth and demand. It is estimated end stage renal failure (ESRF) numbers could double in the next five years. This is driven by the epidemic of Type II Diabetes, particularly in Māori populations, and increased acceptance of elderly onto dialysis programmes.

Current renal patients have increasing co-morbidities, particularly cardiovascular disease, and are high users of health services. For patients already diagnosed with cardiovascular diseases and/or diabetes, frequent hospitalisation and possible organ failure are seen as inevitable. While the numbers of patients coming onto dialysis is increasing, the number of kidney transplant operations performed remains static as a proportion.

The key findings presented below are at the national level, as the Waikato findings are consistent and comparable to the national findings. These findings are extracted from the ANZDATA Registry 2007 Report<sup>74</sup>.

### Key Findings

Key Findings are as follows:

- There were 3,224 people (779 per million) receiving renal replacement therapy (RRT) at 31st December 2006. Of these 1,253 (303 per million) had a functioning kidney transplant, and 1,971 (476 per million) received dialysis treatment.
- 484 people (117 per million) commenced RRT in 2006.
- The mean age at commencement was 57.0 years, the median age 58.8 years and the age range 0.4 - 89.7 years.
- Diabetic nephropathy accounted for 42% of new patients, glomerulonephritis 21% and hypertension 12%.

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- Of patients < 65 years of age, 22% were on the active kidney transplantation waiting list. 22% of Maori patients and 14% of Pacific People < 65 years of age were on the transplant waiting list.
- The death rate per 100 patient years was 17.2 for dialysis dependent patients (haemodialysis 15.0, peritoneal dialysis 20.8) and 2.5 for those with a functioning kidney transplant (deceased donor 3.3, live donor 0.9).
- Of the 330 deaths among dialysis dependent patients in 2006, 39% were due to cardiovascular causes, 27% to withdrawal from treatment, 15% to infection and 6% from malignancy.
- Of the 31 deaths among patients with a kidney transplant, 48% were due to malignancy, 32% to cardiovascular causes and 13% due to infection.
- The number of patients who were dialysis dependent at 31st December 2006 (1,971) was an increase of 5% over the previous year. 54% of all dialysis dependent patients were receiving home dialysis. 70% of these were on peritoneal dialysis.
- The reported haemoglobin and use of erythropoietic agents has reached a plateau after increasing over recent surveys.
- There were 90 kidney transplant operations performed in 2006, a rate of 22 per million population.
- The percentage of live donors in 2006 was 54% (49 grafts), compared to 49% (46 grafts) in 2005.
- For primary deceased donor grafts performed in 2005-2006, the 12 month patient and graft survival rates were 96% and 90% respectively.
- The five year primary deceased donor recipient and graft survival for operations performed in 2001-2002 were 84% and 77% respectively.
- The 1,253 functioning kidney transplants at 31st December 2006, a prevalence of 303 per million represents a 1% increase from 2005.

## Recommendations for Strategic Consideration

**Facility planning for increased demand for renal replacement treatments:** The ongoing increasing demand for renal replacement treatments in a population with high comorbidities requires a programme for development and upgrading of dialysis facilities at Waikato Hospital and satellite haemodialysis units in the community. Satellite units are needed to ensure equity of patient access to treatment and reduce the travelling time to treatments for the patients.

**Unobstructed Clinical Pathway:** The increasing trend in renal service in the Waikato will require the effective balancing of demands on the surgical and non-surgical resources. Often the pre-dialysis patients referred for surgical procedures remain on the elective waiting list for a considerable period of time. Leading up to a planned start of dialysis it is essential to implement well defined and co-ordinated clinical pathways that span across surgical and non-surgical resources to remove the current “bottle neck” in elective surgery. This will avoid lengthy inpatient admissions, maximising health outcomes for the patients while minimising disruption to their lives. An electronic booking system should be considered to assist the clinical team to effectively monitor the flow of patients through the pathway.

**Shared Strategic Initiatives:** As part of chronic care management, it is recommended that a strategic level study is undertaken to improve patient outcomes for the diagnosis and management of Chronic Kidney Disease (CKD) in people with diabetes and cardiovascular illnesses, as the incidence of these two illnesses is increasing,

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disproportionately affecting Maori population in addition to becoming a major public health issue. The study has to be a combined effort spanning across renal, diabetes and cardiovascular services in order to effectively identify at risk patients and commence intensive treatment of risk factors, particularly hypertension and hyperglycaemia.

**Development of a Regional Renal Service Database:** The development of a regional renal services database for the Waikato region is essential to hold all the renal patient information and this development could be an extension of the current Waikato Regional Diabetes Services Database (WRDS). It is recommended that strong links be developed between the proposed renal database and WRDS database in order to track and monitor co-morbid conditions and complications. In addition, the proposed database needs to have dynamic links to primary health information base in order for the health professionals to plan clinical pathways for end to end management of patient health care.

**Workforce Planning:** The increase in the number of renal patients requiring dialysis, the longer survival rate of dialysis patients, combined with the increase in renal transplantations mean there is an urgent need to reassess and recruit necessary skilled health professionals in the renal services area.

**Targetted Programme:** Waikato DHB should initiate an additional study that focuses on a target group of population for renal diseases and identifies early intervention and preventative programmes. In addition, the study needs to develop an integrated care pathway between primary and secondary health care providers.

## PRIMARY HEALTH CARE

In February 2001, New Zealand government released the “Primary Health Care Strategy<sup>7</sup>” document, which defines primary health care as “health care based on practical, scientifically sound, culturally appropriate and socially acceptable methods that is:

- Universally accessible to people in their communities
- Involves community participation
- Integral to, and a central function of, New Zealand’s health system
- The first level contact with our health system.

The definition of primary health care covers a broad range of services that are centred around improving the health of the people in the community- although not all of them are Government funded:

- Participating in communities and working with community groups
- Health improvements and preventative services, eg. Education and counseling, disease prevention and screening
- Generalist first-level services, such as general practice services, mobile nursing services, community health services and pharmacy services that include advice as well as medications.

First level services for certain conditions (such as maternity, family planning and sexual health, and dentistry) or those using particular therapies (such as physiotherapy, chiropractic and osteopathy services, traditional healers and alternative healers).

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<sup>7</sup> Primary Health Care Strategy, February 2001, Ministry of Health (MoH). This document is available on the website: [www.moh.govt.nz](http://www.moh.govt.nz)

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### Key Findings

- Overall, 94% of Waikato DHB's population is enrolled with a PHO;
- Māori and Pacific people have significantly lower enrolment rates with PHOs than other ethnicities;
- Children aged 00-14 years in 'Other' ethnicities appear to be over enrolled. Some of this can be explained in differences in data collection methods and slightly different time periods. There may be some misclassification of Māori and/or Pacific people as 'Other' ethnic groups;
- For all ethnic groups, the enrolment rates are highest in the youngest age group (00-15 years).
- The youth age group (15 to <25) have the lowest enrolment rates of any age group and the rates from 25 to 45 are very similar but rates gradually increase after the age >45 years.
- At almost all age groups, the enrolment rates for Pasifika patients are lower than those for the other two ethnic groups. This may be due to the small numbers of Pasifika people in the population, especially in the older age groups.
- Around 90% of the population living in the highest NZDeprivation quintile 5 areas are enrolled with the PHOs. This may be due to PHO funding being weighted more heavily for enrolments from this high needs quintile.
- As around 86% of the population in the Waikato DHB area is enrolled with Waikato Primary Health, it is possible to build a collective and comprehensive assessment of Waikato population health needs by extrapolating the PHO enrolled population with relevant information from other sources.
- Through the PHO Performance Programme indicators, Waikato DHB has achieved improvements in key areas, such as chronic care, prevention of infectious diseases and process indicators.
- Acute shortage of GP and other primary health workforce issues need to be addressed through developing innovative health service structures that enable effective deployment of scarce workforces and allow recruitment of workforce to meet the acute shortages in service areas of high demand.

### Recommendations for Strategic Consideration

As primary health care sets the basis for accessible, continuous, integrated and comprehensive care for chronic care management and management of most other illnesses, it is recommended that the Waikato DHB strategic initiatives focus on the:

**Collaboration across health sector agencies:** Establishing strategic partnership and service delivery frameworks across the primary, secondary and tertiary sectors is paramount for achieving positive health outcomes. It is imperative for the partnership and information sharing infrastructure to focus on the following key components to deliver "end to end" management of patient care to the population of Waikato:

- **Reduce Inequality:** Equity of access to health care irrespective of age, income, culture, language, religion, that achieves equitable outcomes.
- **Chronic Care Management:** Focus on evidence based chronic care management that delivers positive outcomes and includes "self management" of health care by individual.
- **"Raise the Bar" in Service Delivery:** Delivery of care to patients, utilizing currently available and newly developed technology advancements, ensuring the "the way we deliver care" reflects the "precise needs of the patients".

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- **Integrated Information Infrastructure:** Focus on integrating and synchronizing information that is fragmented across health sector organizations and work towards an integrated and easily accessible electronic health information sharing environment.
- **Integrated Communications Infrastructure:** Establish an integrated communication network infrastructure that provides a dynamic link across the primary, secondary, tertiary sectors. Ensure the infrastructure is scalable and resilient to meet the future health demands.
- **Shared Strategic Goals and Targets:** Developing shared/common strategic goals and targets for the health sector organizations that facilitate collaboration, co-ordination and delivery of care using the full spectrum of health professionals across the continuum of care. This will support health sector organizations to jointly develop strategic projects/programmes and provide governance to monitor progress and timely achievement of strategic targets.
- **Virtual Consultation Support:** Explore alternative pathways for providing advice to primary providers (using enabling technologies), where face to face special consultation is not required.

A systematic approach and a carefully planned “road map” of strategic initiatives aligned to the above recommendations are crucial for “making a difference” in the health of Waikato population.

## RURAL HEALTH CARE

The geographic spread and the increasing diversity and rurality of the Waikato District Health Board (Waikato DHB) population create real challenges for the effective delivery of health care services to the communities. Ongoing integration of services across rural hospitals and community services will enable effective workload planning and utilisation of health care professionals across the continuum of care to respond to the growing health care requirements of rural communities.

There is increasing demand for health care services resulting from factors such as the ageing population, changes in lifestyle choices, social determinants on health and changes to the primary health care sector. In order to meet the growing demands and to promote health gains for individuals and communities, it is paramount for rural services to establish strategic alignment and partnerships across health care providers that set the platform for “end to end” service delivery.

### Key Findings

- The Waikato DHB region is more rural than New Zealand as a whole, indicating perhaps different requirements and needs with respect to planning policy considerations.
- Overall Waikato DHB population by urban status shows a lower proportion of the population living in secondary urban areas and rural centres compared to New Zealand as a whole, with a higher proportion living in main and minor urban areas and Other rural areas.
- Around 8% of the rural population in the Waikato lives in a deprivation quintile 5 area, with the majority of the population spread across quintiles 2 and 3 (32% and 33% respectively).
- Ruapehu, Waitomo and South Waikato Territorial Local Authorities (TLAs) have the highest proportion of people living in high deprivation quintile 4 and 5, with

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highest percentage of households with no access to a motor vehicle. Waipa TLA has a distribution skewed towards the least deprived.

- The percentage of Maori in the Ruapehu District is around 40% compared to a national average of 14.7%. This area has a higher than average NZDeprivation quintile 5, with higher than average poverty and unemployment and less formally educated residents.
- The decrease in overall population balanced against high deprivation levels and rural isolation provides challenges for future health service delivery.
- In the Waikato, the ratio of rural GP per people is 1:1704
- Rural people with disabilities were less likely to have made a long (>80km) trip, despite their relative geographic isolation, and apparently had a greater need to be a driver, which together suggest that distance may exacerbate the challenge of living with a disability for rural people.
- Around 79% of rural GPs participate in after-hours call compared to 28% of rural primary health care nurses and 35% of rural pharmacists.
- Rural GPs are more likely to take after hours calls at 97%, when compared with Auckland at 40%, and other cities and towns at 84% and 87% respectively.

### Recommendations for Strategic Consideration

- Robust methods to define “rural” areas are essential in order to allow comparison between different health professional groups.
- Adequate investment in the rural health workforce combined with innovative incentives for retention, succession planning and professional training of rural workforce are paramount for the long term sustainability of the rural health workforce to meet the dynamic and diverse needs of the rural communities.
- Rural health sector organisations/entities, such as the PHOs Rural Advisory Group, Community Health Forums are needed to actively engage with rural communities in the design and development of service frameworks to meet the specific needs of these communities.
- Development of shared strategic goals and targets across the primary, secondary, tertiary and rural services that set the foundation for end-to-end management of chronic conditions and promote health gains for individuals and communities.
- Further research is required to address the rural GPs participation in after-hours health care. The research should explore the suggestion from “The National Primary Medical Care Survey”<sup>113</sup>
- A network of rural hospitals staffed round the clock to assist in solving the crisis;
- Networked rural hospitals to promote academic rural centres of excellence.

In Canada, the networked model appeared to have formed the basis for distributed medical training, bringing students in the areas of greatest medical needs.

## SEXUAL AND REPRODUCTIVE HEALTH

The term “sexual and reproductive health” refers to all aspects of healthy sexuality, including prevention, avoidance and treatment of Sexually Transmitted Infections (STIs). Often STIs are a major cause of long term and acute illnesses, infertility, cervical cancer,

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and deaths worldwide<sup>8</sup>. Prevention and control of STIs is a complex challenge, but the resulting human and economic costs are almost completely preventable, especially for bacterial STIs<sup>9</sup>.

## Key Findings

The key findings for STIs are at a national level, except for laboratory tests which show Waikato specific key findings.

- Chlamydia trachomatis infection is the most commonly diagnosed sexually transmitted infection (STI) in New Zealand
- From 2002 to 2006, the number of cases of Chlamydia and gonorrhoea diagnosed at Sexual Health clinics (SHCs) increased by 27.7% and 52.1% respectively. Over the same period, clinic visits increased by 10.5%.
- Around 90% of genital warts infection diagnosed belongs to human papillomavirus (HPV) Types 6 and 11 strains and it remains the most common viral infection diagnosed. In SHCs this rate was highest in the 15-19 years age group.
- From 2002 to 2006, the number of genital herpes (first presentation) infections diagnosed at SHCs remained relatively constant, fluctuating between 712 and 747 cases.
- SHCs reported 68 cases of syphilis in 2006, an increase of 44.7% from 2005.
- The total number of cases of Non Specific Urethritis (NSU) reported in 2006 by SHCs was 687. The rate of NSU steadily decreased over the last five years, which may reflect the use of more sensitive Chlamydia tests.
- Young people were confirmed as being at the greatest risk of Chlamydia and gonorrhoea with the highest rates being in females aged 15-19 years (excepting Chlamydia in Auckland which was 20 to 24 years) and in males aged 20 to 24 years.
- Infections in infants due to sexually transmissible organisms continue to be diagnosed, reinforcing the need for effective STI screening during pregnancy.
- The laboratory diagnosed rate of Chlamydia infections for the Auckland, Waikato and Bay of Plenty regions combined increased by 1.4 times between 2002 and 2006.
- In the Waikato, avoidable hospitalizations for STIs were the highest among 15-24 year olds at 66% followed by 25-44 year olds at 21%.
- Waikato's age standardized rate of hospitalization increased to 9.41 per 100,000 in 2006.
- In 2006, five women tested positive for HIV through antenatal screening and one of these women was diagnosed as a direct result of the antenatal HIV screening programme in Waikato.

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<sup>8</sup> UNAIDS/WHO. Guidelines for Sexually Transmitted Infections Surveillance: UNAIDS/WHO Working Group on Global HIV/AIDS/STI Surveillance. WHO: Geneva; 1999. <http://www.who.int/hiv/pub/sti/pubstiguide/en/>

<sup>9</sup> Patrick DM. The Control of Sexually Transmitted Diseases in Canada: A Cautiously Optimistic Overview. The Canadian Journal of Human Sexuality. 1997a:6(2).

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- At a national level, the majority of HIV cases (85.3%) were aged between 20 and 49 years at time of diagnosis, with 17% in the 20-29 age group, 40.2% in the 30-39 age group and 28% in the 40-49 age group.
- As with HIV diagnosis, around 90% of AIDS diagnoses were among 20-49 year olds at the time of notification.
- In 2006, those aged less than 30 years and non-Europeans were disproportionately burdened with STIs.
- Young people with mental illnesses and/or in trauma tend to get trapped in the cycle of sexual and reproductive health problems.
- Around 70% of cervical cancers are caused by HPV Type 16 and 18 strains.

Currently in New Zealand, the Ministry of Health (MoH) is deciding on the funding implications for a HPV vaccine and the implementation of this for providers in the next 12-18 months. The vaccination process has the potential to reduce the cervical cancer by 70% and will have an impact on other HPV related cancers.

## Recommendations

It is evident from the detailed analysis that the risks associated with STIs are highest among youth aged 15 to 24 years old and non-Europeans. Continued incidence among neonates highlights the need to improve STI screening during pregnancy and reinforces that eye infections in neonates require close observation and investigation.

The distribution of STIs in the Waikato is of concern, as STIs can lead to the development of serious sequelae such as pelvic inflammatory disease, ectopic pregnancy and infertility, cervical cancer, as well as facilitating the transmission of HIV.

Areas for future planning are:

- **Specialists Sexual Health Clinics:** Maintaining patient confidentiality through unique identifiers in sexual health clinics and maintaining free, confidential and self referrals to the clinics.
- **Workforce Development:** Sexual health specialists to provide training for primary care providers and to engage in clinical guideline development and maintenance, research activities and workforce development.
- **Increase Public Awareness to Social Marketing:** Improve the provision of necessary STI prevention aids as a component of promotional activities.
- **Re-establishment of Sexual Health Network:** Although the sexual health network that was operating for a few years was building collaboration with relevant sexual health experts across the continuum of care, it slowly vanished due to competing demands on the resources. The re-establishment of the sexual health network of population health, sexual health specialist and PHOs is essential to gain optimum exposure for social marketing and to monitor and control the growing problems with STI in the community.
- **Linking of HIV and STI Strategies:** There is a need to link the HIV and STI prevention strategies. This includes the normalisation of medical HIV testing currently being promoted by the Ministry of Health to encourage more widespread and frequent testing of persons with risk behaviours.
- **Effective Registration and Screening:** In order to effectively control the prevalence of cervical cancers, it is essential to review the current processes and procedures and implement continuous improvements.
- **STI Clinics in Rural Towns:** Most STI surveillance clinics are located in cities and larger rural towns. Some rural towns and isolated populations have limited to

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no access to the services offered by these clinics. Further service planning processes need to consider best options for extending the surveillance services to rural towns that are in need of these services.

The law changes now in place combined with the current legislative changes for laboratories to report sexual health data will facilitate better national data collection in the future for effective monitoring and control of STIs nationally.

## CHILD HEALTH (00-14 YEARS)

Measurement of children's health is important for two reasons: first, because young people are citizens in their own right, yet largely unable to act as self-advocates, and secondly, because their health determines the health of the future population.

(Rigby M and Kolher L, Eds. Child Health Indicators of Life and Development, European Union Community Health Monitoring Programme, Sept 2002)

The level of poverty and deprivation often has profound impact on child health. Parenting is probably the most important public health issue facing New Zealand. It is the single largest variable implicated in childhood illnesses and accidents; teenage pregnancy and substance misuse; truancy, school disruption, and underachievement; child abuse; unemployment; juvenile crime; and mental illness. These are serious determinants in themselves but are even more important as precursors of problems in adulthood and the next generation<sup>10</sup>.

### Key Findings

- Mortality in children aged 00-14 years of age decreased over the years from 1998 to 2004 with a 26% decrease in 2004 compared to 1998.
- For each of the six years from 1998 to 2003, approximately 50% of child mortality was of Maori children (range of 45%-60%). In 2004 this reduced to 33% which is estimated to be closer to the proportion of the population in this age group.
- The age proportion of mortality among Maori and Other ethnic group was highest among children less than a year old. This trend was relatively stable over the seven year reporting periods.
- The major causes of childhood mortality were external causes (includes: road traffic accidents, drowning, intentional self harm, assaults), Sudden Infant Death (SID), perinatal conditions and congenital anomalies. This is true across all ethnicities, however the proportions vary.
- 10% of mortality in Maori children was related to respiratory system diagnoses. This was not a cause of mortality in non-Maori children.
- Proportion of mortality to SID increased with increasing deprivation.
- Mortality to SID halved in 1995 and this improvement has been maintained to 2004.
- Proportion of hospitalisation increased with increasing deprivation across all ethnic groups in the Waikato. This increase is greater than would result from the

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<sup>10</sup> "The importance of parenting in child health, Doctors as well as the government should do more to support parents", Masud Houghghi, *Consultant clinical psychologist*, BMJ 1998 May 23, 316(7144): 1545-1550, [Copyright](#) © 1998, British Medical Journal

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proportion of children living in each deprivation quintile, which also increases with increasing deprivation.

- Around 41% of injury related avoidable hospitalisations (falls from playground equipment, road traffic accidents, poisoning, suicide, burns etc) were of children aged 05-09 years, followed by children aged 10-14 years (33%) from 2000-2006.
- In Waikato, a serious cause for concern among children aged 10-14 year olds was hospitalisation for self harm and poisoning, as this is considered an indicator of mental health and wellbeing in the population.
- 45% of avoidable non-injury hospitalisation (ENT infections, dental, acute bronchiolitis, Asthma etc) was in children aged 01-04 years.
- Hospitalisation for dental caries was highest among 05-09 year olds followed by 01-04 year olds across all ethnic groups.
- **Meningococcal Infections:** Hospital admissions for meningococcal disease in the Waikato were generally lower than the New Zealand average during the epidemic. However there was a marked ethnic imbalance with 55% of the children hospitalised with meningococcal infection being Maori and 38% Other, which does not reflect the ethnicity proportions of the Waikato child population.
- **Bronchiolitis:** During 1996-2006, hospital admissions for acute bronchiolitis increased rapidly, reaching a peak in 2002-03. There were four deaths in the Waikato attributed to bronchiolitis from 1998 to 2004. Again, there was a marked ethnic imbalance with 64% of the children hospitalised being Maori, 5% Pacific and 30% Other.
- **Immunisation:** During quarter 2 of 2007, 51.8% of Waikato children were fully immunised at 6 months of age, as compared to 59.3% for New Zealand. Similarly 76.9% of Waikato children were fully immunised at 12 months, and 60.7% at 18 months, as compared to national coverage rates of 81% and 63.7% respectively.
- In the Waikato, during the past eight years, the proportion of children failing their hearing screening at school entry was higher than the NZ average.
- In the Waikato, the household crowding rates among children and young people during 2006 was 15.6% compared to 16.5% nationally.
- From 1995 to 2006, the proportion of young people in the Waikato leaving school with little or no formal attainment was higher than the NZ average, while the proportion leaving school with a University Entrance Standard was lower.

## Recommendations for Strategic Consideration

While reduction in unemployment benefits are encouraging and reflects greater training and employment opportunities for the Waikato young people, those remaining on income tested benefits represent a high needs group which warrant further consideration in future planning and strategy development.

Disparities in educational attainment at school leaving that exist between Maori, Pacific and European young people will have significant implications and unless such disparities are addressed any interventions aimed at addressing health inequalities amongst the next generation of Waikato children and young people will be likely to fail to achieve long term success.

A multifaceted approach to overweight and obesity may be needed which takes into account the environments (school canteens, local food outlets) as well as the social and economic constraints (eg. relative pricing of healthy vs non healthy food options) which preclude the uptake of healthy food choices for some socioeconomic and ethnic groups.

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Waikato DHB has a higher proportion of Maori children and young people than the New Zealand average, it has a lower proportion of Pacific and Asian children and young people. In addition, once broken down by NZ Deprivation Index decile, Waikato DHB has a lower proportion of children and young people living in the most affluent areas, although the proportion living in the most deprived areas (quintile 5, NZDep decile 10) was only marginally more than the New Zealand average. Such figures suggest that as a result of its regional demographic profile, the Waikato DHB might expect average / slightly above average rates for conditions for which socioeconomic and ethnic disparities are the most marked.

In 2006 an important hui was held at Orakei Marae in Auckland, and some of the key recommendations were:

- That a nationally coordinated service be established so that Maori child health advocates can remain well informed as to the status of Maori children's health.
- That a dataset be established that identifies the mortality and morbidity rates for Maori children and infants. "If you can measure it you can improve it".
- That an intersectoral approach to addressing Maori child health be adopted.
- That a framework be developed with the capacity to assess the current state of children's health which should have the capacity to identify where necessary changes need to occur.

## YOUTH HEALTH (15-24 YEARS)

Most young people aged 15-24 years are healthy, being at the peak of their physical health. However, from 12 to 24 years of age, the chances of being caught up in risk-taking behaviours are significantly high, with life-long negative consequences. While most young people appear to deal successfully with the developmental changes that occur during this period, there is evidence that many do not cope well resulting in following causes when compared with other age groups<sup>11</sup>:

- high rates of mental illness
- high rates of alcohol and drug use and abuse, particularly among young men
- a higher rate of suicide and suicide attempts
- high rates of sexually transmitted infections.

### Key Findings

- The population projections for Waikato show a gradual decline in 15-24 year olds (from 15% in 2007 to 12.8% in 2024), followed by around 2% decline in 25-44 year olds by 2024. The population increase projected for 65+ age groups will have a significant impact on the delivery of health care services in the Waikato.
- Around 50% of total youth mortality was related to road traffic accidents, followed intentional self harm (suicide) at 35%.
- The proportion of Waikato children living in a household with a smoker during 2006, increased progressively from 17% amongst those living in decile 1 and 2 (Quintile 1) to 59.2% amongst those living in decile 10 (quintile 5).
- Data from Census 2006 showed around 24% of Waikato young people 15-24 years being regular smokers, as compared to 21.8% nationally.

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<sup>11</sup> Ministry of Health, Youth Health, A Guide to Action, [www.moh.govt.nz](http://www.moh.govt.nz)

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- 67% of deaths to suicide occurred among Waikato Maori youth aged 15-24 years, but among Other ethnic group around 53% occurred in the 25-44 age groups.
- Of the total admissions for schizophrenia, 61% was of Waikato Maori aged 15-24 years.
- Admissions for severe stress related illnesses were high among 15-19 year old Waikato Maori and Other ethnic groups, and among Other the admission number exceeds the 20-24 year olds.
- Youth admissions for chronic dialysis care was highest among Maori at 52% when compared with Other at 38% for 2000 to 2006, demonstrating that the risk of chronic renal failure among Maori youth is nearly twice as high as for Other youth.
- The largest groups of alcohol offenders were 15-19 years, followed by 20-24 years.
- Alcohol level was highest among 20 years or older age groups at 121 to 200 (blood equivalent -mg/100ml).
- During 1996 to 2006, rates of preterm birth were highest amongst Maori babies and those in the most deprived areas, while rates of small for gestational age (SGA) were highest amongst Asians/Indian and Maori babies and those in the most deprived areas.
- Youth living in the most deprived areas (NZDeprivation quintile 4 and 5) are at a high risk of health and behavioural problems.

## Recommendations for Strategic Consideration

**Shared Strategic Goals and Targets:** It is essential to set overarching target/goals that span across the health sectors and other government agencies, such as Ministry of Transport and Education etc. The primary focus of these targets is to reduce the current social and behavioural problems within the youth population, in areas such as: road traffic accidents, education, smoking etc.

**Ethnic Specific Tailored Programmes/Projects for Youth:** Programmes that are designed specific to attract the young people and that are tailored to meet the needs of the individual ethnic groups are essential to address the current problems with suicide and sexually transmitted diseases.

Programmes/projects to address the youth problem must focus on youth living in the highest NZDeprivation quintiles 4 and 5 (or deciles 7-8 and 9-10).

## HEALTH OF OLDER PEOPLE

### Māori

- The age profile of the Maori population is quite different to the profile of Other ethnic groups. For this reason, when accessing services, Maori are sometimes considered for age related care at 55, rather than 65.
- Among Māori aged 65+, the age proportion of mortality and hospitalisations due to circulatory system, cancer, diabetes and chronic obstructive pulmonary diseases (COPD) demonstrate that Māori die at a younger age than of Other ethnic groups.
- The age standardised rate of hospitalisation for diabetes among 65+ years old Waikato Māori increased considerably from 1699 in 2005 to 2900 per 100,000 population in 2006 and the Waikato rate was significantly higher than the national rate of 1753.9 per 100,000 in 2006. A similar trend was noticed across the age specific rates among 65-69 and 70-74 year olds.

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- Considerable increase was noticed in the age specific rate of hospitalisation for stroke among Māori 65-69 year olds from 490.2 in 2005 to 1111.1 in 2006. The age specific rate among 65-69 year old Other ethnic group increased slightly to 442.3 per 100,000 in 2006.

The underlying causes behind the significant increases in the age standardised and age specific rates among Māori for ischemic heart disease, diabetes and strokes need further detailed investigation/studies in order to establish the root causes of the problem and to design appropriate services.

### Other Ethnic Group

- Around 97% of mortality to colon cancer occurred among Other ethnic groups, and the trend increased steadily among females from 38% in 1998 to 72% in 2004, however decreased among males at 62% in 1998 to 28% in 2004.
- The age standardised rate of mortality to non-insulin dependent diabetes increased among Other ethnic group aged 65+ reached the highest since 1989 to 220.8 per 100,000 population in 2003 and 2004 years.
- Among Other ethnic group, the hospitalisation for skin cancer and colon cancer increased in 2006.
- The age specific rate of hospitalisation for Angina among Other ethnic group aged 65-69 also increased to 1170.9 per 100,000 and the Waikato rate was higher than the national rate of 975.8 per 100,000 in 2006.

### Pacific People

- Age proportion of mortality to circulatory system illnesses among Pacific People was the highest among 75-79 year olds at 50%, followed by 65-69 year olds at 33% for 2004.
- The Age standardised rate of mortality to circulatory system illnesses among Waikato Pacific People aged 65+ increased to 3768.1 per 100,000 in 2003 and 2004 years, although Waikato age standardised rate was significantly lower than the national rate.

### Asians

- Age proportion of mortality to circulatory system illnesses among Asians was comparable to Māori, as around 33% of Asians died between the ages of 65-75 years.
- Age proportion of hospitalisation for circulatory illness was the highest among Asians aged 65-69 and 70-74 (at 41% and 22% respectively for 2006).
- Hospitalisation for colon cancer was the highest among 70-74 year olds at 35% followed by 75-79 year olds at 21% in 2006.

### Overall Findings

- Waikato age standardised rate of avoidable hospitalisation for diabetes was significantly higher than the national rate for the seven years analysed (2000 to 2006).
- Analysis of residential care 2003 to 2007 showed that the average age of subsidised residential care population remained relatively static, with minor variations, since 2003. When analysed by care type the data showed an increase in people living in all care types except dementia care and especially in psycho-geriatric specialised hospital care.

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- A steady increase was observed in the number of people receiving various home based care services and the number of hours of services delivered.
- The likely demand for both residential and home based services over the coming years will be affected more by the increasing population in the 80+ age group which is forecast to increase at 4-5% per annum, than by the 65+ group increase at 2% per annum.

The findings listed above are from the detailed analysis of the mortality, morbidity and payment data. Given the data limitations, it is not feasible to recommend service delivery improvements as further detailed studies have to be undertaken to address the key findings to clearly understand the root cause of the health problems.

The main purpose of this analysis is to develop a conceptual view of the health status of people aged 65+ in the Waikato. The recommendations listed below encapsulate the key findings and it is imperative that the implementation processes ensure further investigation/clinical audit of the key findings in order to develop innovative service delivery options that best meet the needs of the older communities.

## RECOMMENDATIONS

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The implementation and ongoing management of the recommendations outlined below will need to be coordinated at the DHB, regional and national level depending on the next level detailed assessment of the recommendations:

**Research/clinical Audit:** Undertaking a clinical audit to clearly understand the disparate trends in mortality and hospitalisation across Māori, Pacific People and Asians when compared with Others. The main aim of the audit is to design an appropriate service delivery framework tailored to the specific needs of the community. The outcome from the audit may trigger possible changes for consideration, such as lowering the age breakdown of older people for Māori.

**Collective and Consistent Strategic approach:** Currently, there are a number of strategic plans for the health of older people with varying objectives and outcomes across the health care sectors. An integrated approach that brings together the fragmented strategies and objectives is essential to ensure well understood future direction for developing a focused strategic plan of action.

**Reduce Inequality:** Equity of access to health care for older people irrespective of the patient's domicile including rural, income, culture, language, religion and that achieves equitable outcomes.

**Integrated Care Management Framework:** Focus on evidence based chronic care management that delivers positive outcomes through effective integration of services across the continuum of care, i.e primary, secondary and tertiary levels.

**After Hours Medical Care:** The after hours medical care for elderly people in the Waikato is currently under review with the view to minimise avoidable hospitalisation rates.

**“Raise the Bar” in Service Delivery:** With the projected increase in the population of older people in the Waikato region (78% increase by 2026 year), future service delivery frameworks must ensure innovative service delivery options, utilizing currently available

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and newly developed technology advancements, ensuring the “the way we deliver care” reflects the “precise needs of the patients”.

**Integrated Information Infrastructure:** Focus on integrating and synchronizing information that are fragmented across the health sector organizations and work towards an integrated and easily accessible electronic health information sharing environment.

**Shared Strategic Goals and Targets:** Developing shared/common strategic goals and targets for the health sector organizations that facilitate collaboration, co-ordination and delivery of care using the full spectrum of health professionals across the continuum of care. This will enforce the health sector organizations to jointly develop strategic projects/programmes and set up project governance groups for monitoring the progress of the projects and the timely achievement of strategic targets

## MENTAL HEALTH

Mental health is crucial to the overall well-being of an individual, societies and the country as a whole. The World Health Organisation (WHO) defines mental health as: “a state of well-being enabling individuals to realise their abilities, cope with the normal stresses of life, work productively and fruitfully, and make a contribution to their communities”<sup>12</sup>. It is evident from many research findings that mental function is fundamentally interconnected with physical and social functioning and health outcomes.

### Key Findings

- Hospitalisation related to schizophrenia, mood disorders and substance abuse increased steadily from 2000 to 2006.
- Young Maori aged 25-44 and 15-24 made up most of the hospitalisation. The age proportion of hospitalisation among Pacific People is similar to Maori.
- Among the Other ethnic group aged 15-24, hospitalisation was lower than among Maori aged 15-24.
- Hospitalisation for depressive episode was higher for the 25-44 age group than any other age group across all ethnicities.
- In the Waikato, inpatient volume increased from 29 in 1999 to 43 in 2005 (59% change) and community based forensic service users decreased from 41 in 1999 to 32 in 2005 (-22% change). This decrease may be attributable to service users moving to general non-forensic mental health services in the community<sup>13</sup>.
- In 2005, 87% of inpatients were aged 25+, 45% were 25-34 and 42% were 35+.
- In 2005, 92% of community forensic service users were aged 25+, 31% were 25-34 and 61% were 35+.
- The major sources of forensic inpatient referrals in 2005 were courts (32%), prisons (25%) and other regional forensic services (20%). For community based forensic services, the major referral source was forensic inpatient units (56%), followed by prisons (17%)

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<sup>12</sup> Investing in Mental Health”, World Health Organisation (WHO) 2003

<sup>13</sup> Census of Forensic Mental Health services 2005, Ministry of Health, 2007, report available on [www.moh.govt.nz](http://www.moh.govt.nz)

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### **Recommendations for Strategic Consideration**

Currently, the trend is for the establishment of more community based alternative centres for addressing the needs of mental health users, that are adequately resourced with trained staff to deliver in the community and improve the quality of care. For financial sustainability, these centres may need to be small with plans for progressive expansion into the future.

The prevalence of mental health will be significantly underestimated when using the national mortality data as only one cause can be entered as the primary cause of death. Likewise, while the national hospitalisation data holds many diagnoses, for the population based health needs analysis of all hospitalisation, only the primary diagnosis is considered as the reason for admission. This prevents double counting of hospitalisation, but is one of the critical limitations of hospitalisation analysis.

It is recommended that the Waikato District Health Board commit adequate resources to be actively involved in the development and implementation of the new national mental health information system "Programme for the Implementation of Mental health Data (PRIMED).

Until the information infrastructure is improved to an acceptable level, any analysis and recommendations based on current information will significantly underestimate the prevalence of mental health issues and the necessary community based services required for achieving positive outcomes in mental health services.

## **DISABILITY SUPPORT SERVICES**

The New Zealand Disability Strategy (Minister for Disability Issues 2001) distinguishes between disability and impairments. The strategy (Minister for Disability Issues 2001, p3) defines disability as the "process which happens when one group of people create barriers by designing a world only for their way of living, taking no account of the impairments other people have". People, irrespective of ethnicity are impacted by disability, however wide spread disparities exist for certain ethnic groups

### **Key Findings**

Some of the key findings from the New Zealand 2006 Household Disability Survey and Disability Survey of Residential Facilities survey were:

- In 2006, 82% of people with disability were adults living in households, 5% were adults living in residential facilities and 14% were children (under 15 years) living in households.
- The percentage of people with disability increased with age, from 10% for children aged less than 15 years to 45% for adults aged 65 years and over.
- An estimated 5% of children had special education needs and this was the most common disability type for children. Chronic conditions or health problems and psychiatric or psychological disabilities were the next most common disability types.
- Conditions or health problems that existed at birth and disease or illness were the most common causes of disability for children.
- The most common disability types for adults were physical and sensory disabilities.

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- Disease or illness, and accidents or injuries were the most common causes of disability for adults. The most common type of accident or injury causing disability was one that occurred at work.
- Nearly all adults living in residential care facilities reported having a disability (99.7%) and most had multiple disabilities (94%) and high support needs (82%).