

2.10 Objective: Ensuring Access to Appropriate Child Healthcare Services Including Well Child and Family Healthcare and Immunisation

This section of the report provides an overview of child health in the Auckland DHB zone. It is not solely focused on child health however, as many of the services and providers in the community cater to both children and young people's health needs and it is often difficult to delineate between components of services, service need and health need for children and young people. Therefore, the health of young people is included and discussed in various sub-sections of this chapter, where relevant.

Child health status and health need is an outcome of a complex array of biological and social factors, including healthcare. Although the exact contribution of healthcare to child health status is difficult to determine, health services, both curative and preventive, are known to be effective in improving health status, and there is good evidence for the effectiveness of specific service interventions.

The development of sound and reliable measures of child health status is an important goal for health services in the Auckland DHB zone. Children and young people's health indicators have been shown to be excellent proxies for measuring the overall health of communities. (Szilagyi, P.G. et al 1998). In addition, child health status measures can be used to:

- ❑ Assess the impact of disease or injury on health;
- ❑ Identify vulnerable populations, to allow targeting of health services;
- ❑ Measure the effectiveness of health care services;
- ❑ Set targets to improve health care services.

The Ministry of Health (MOH) has a range of national targets to improve the health status of New Zealand's children. (Ministry of Health 1998). A series of national indicators have been developed for:

- ❑ SIDS/SUID;
- ❑ Drowning;
- ❑ Burns;
- ❑ Child abuse;
- ❑ Hearing loss;
- ❑ Immunization coverage.

The MOH is currently working to develop a set of health status indicators for children in collaboration with several DHBs. In the 0-18 years age group, the following list of conditions are currently being considered for inclusion in this set of key health indicators:

- ❑ Rheumatic fever;
- ❑ Under-5 mortality;
- ❑ Hearing at school entry;
- ❑ SIDS;
- ❑ MMR coverage;
- ❑ Measles incidence;
- ❑ Gastroenteritis admissions;
- ❑ Birth weight less than 2500 grams.

Accurate health data is required to measure both health status and the progress of the Auckland DHB towards national health targets.

Demography

At the time of the 2001 New Zealand Census there were about 391,500 people living within the ADHB geographical area. It is estimated that the population will reach 450,000 by 2010. Children and young people 0-18 years of age currently represent 27 percent of the population, but by 2010 this will have declined to approximately 24 percent.

An important demographic profile is that related to children and young people from refugee/asylum seeking backgrounds but no government department collects data on this population group at present.

See the demographic section in Part I of this report for further details.

Services Available

Primary Health Care and Well Child Services

National Schedule

The Well Child/Tamariki Ora service is a screening, surveillance, education and support service offered to all New Zealand children and their family or Whanau from birth to five years of age. The service aims to assist families and Whanau to improve and protect their children's health.

The service is described in detail in the *Well Child/Tamariki Ora National Schedule* (Ministry of Health 1996) - in summary:

- The Schedule divides the care into three parallel streams which must be delivered as an integrated package of care for each child and their family or Whanau. These three streams incorporate the key public health concepts of supportive environments, disease prevention, and health promotion.
- The Schedule also describes the core screening, surveillance, education and support entitlements, including timing. This contract refers to eight core contacts provided from the time of handover from the Lead Maternity Carer (LMC) through to five years of age.

General Practitioners

General Practitioners (GPs) are major providers of children's healthcare in the community. However, existing Schedule and payment structures disincentivise general practitioners from providing effective, coordinated well childcare services in collaboration with other providers. Information on all Well Child care and immunization services can be difficult to obtain. Well childcare visits are not separately identified, and immunization data, while collected, is poorly analyzed and/or used/shared with other service providers in the district. However, there are indications that an estimated ninety percent of vaccinations are provided to children in the Auckland region from within general practice (personal comm between Dr David Sinclair and Dr Melinda Gardner, 19th September, 2001). National Health Index [NHI] record keeping remains an issue.

Maori Health Providers

Ngati Whatua o Orakei Health Clinics based at Orakei and Glen Innes provide Well Child care services in the Auckland District Health Board catchment zone. Tamariki Maori are one of the four priority populations identified in the New Zealand Child Health Strategy. Improved Maori health outcomes are expected from the provision of Maori-specific services to children and families in these areas of the zone. The services available provide care that is appropriate and acceptable to Whanau and meets the needs of Tamariki Maori. These local services focus on the following health gain areas: nutrition, immunization, asthma, hearing, injury prevention, oral health, tobacco control and mental health.

Pacific Health Providers

Health Star Pacific and The Tongan Society are local health service providers who provide culturally acceptable Well Child care services to Pacific peoples in the Auckland District Health Board catchment zone.

Pacific children and young people are one of the other population priority groups identified in the New Zealand Child Health Strategy. The Pacific Child and Youth Health Strategy identifies six key objectives for improving and protecting the health of Pacific children. These include:

- Improving access to primary healthcare services for all Pacific children;
- Improving the uptake of immunization and well child services;
- Implementing a meningococcal vaccine campaign strategy by 2002;
- Improving the uptake of breastfeeding at three and six months by December 2002;
- Reducing the rate of unintentional injuries to children by December 2002;
- Reducing the rate of intentional injuries (child abuse) to children by December 2002;

Plunket

Plunket's primary role is the provision of Well Child services. It has a national contract that provides funding for a percentage of children in a given area that are expected to be seen at each of the visits of the Well Child Care Schedule [see section above on the National Schedule]. Plunket has clinics in most of the Wards of Auckland DHB zone, so clinics are accessible to all residents who choose Plunket as their Well Child care provider.

Early Childhood Health

The Early Childhood Health team provides a targeted Well Child service to infants, pre-school children and families at "higher risk of poor health and social outcomes". It is an early intervention service. Services are provided by a multi-disciplinary team that includes public health nurses, Maori community workers, social workers, dietitians and medical officers. The cases that are targeted by the service are complex in nature. They usually require case management, multi-disciplinary interventions and their care may involve liaison with other agencies and services. Thus the overall service provided is intensive, but is also flexible in response to individual case needs.

Children are referred to the Early Childhood Team for Well Child care when there are additional family care and support needs such as: substance abuse, maternal mental health, child protection, stress/anxiety, family violence, refugee issues, social isolation, parenting, relationship issues, related social issues – housing, financial issues.

Referrals are taken from LMCs (NWH, Maternal Health, Alcohol and Drug in Pregnancy Team [ADAPT]), family referrals, community agencies [includes refugees, emergency housing], Starship Hospital, Middlemore Hospital, Plunket and other Well Child providers, including GPs and pre-schools.

Secondary, Tertiary and Quaternary Services - Starship Children's Hospital

Paediatric specialist medical and surgical services based at Starship Hospital [SSH] are provided to those children whose condition is of such severity or complexity that it is beyond the capacity and technical ability of the referring service.

Starship provides secondary services to children and young people from the Auckland DHB and Waitemata DHB zones. It is also the centre for tertiary and quaternary services for all children and young people in New Zealand.

The secondary, tertiary and quaternary services are aligned with the *National Child Health Strategy* and the *Paediatric Review*, and the philosophy contained within the document: *Through the Eyes of the Child*. The services provided at Starship focus on:

- ❑ Curing disease;
- ❑ Providing relief of pain;
- ❑ Palliation;
- ❑ Prolonging a good quality of life;
- ❑ Effective screening and prevention of unnecessary or long term complications;
- ❑ Providing access to information for children and their parents or guardians and other health practitioners;
- ❑ Preventing or reducing the acute exacerbation of chronic disease, leading to improvements in quality of life and a reduction of inappropriate admissions to hospital;
- ❑ Changing unhealthy behaviours or lifestyles in order to promote improved health and to reduce the need for further episodes of specialised care;
- ❑ Effective shared care with primary care and disability support services for children suffering chronic disorders;
- ❑ Liaising and co-operating with other child service agencies, such as the Education and Welfare sectors, when appropriate;
- ❑ Improving function in usual age related roles and activities;
- ❑ Returning to school or other activities with limitation of disease progression by active risk factor management and early, effective rehabilitation;
- ❑ Supporting families and Whanau on whom children are very dependent.

Service Access

Access to Secondary, Tertiary and Quaternary Services at Starship

The four key objectives of the Government strategy to reduce waiting times for public hospital elective services are to ensure:

- ❑ A maximum waiting time of no more than six months for first specialist assessments;
- ❑ All children and young people with a level of need which can be met within the available funding are provided surgery within the six months of the initial assessment;
- ❑ Delivery of a level of publicly funded service sufficient to ensure access to elective surgery before patients reach a state of unreasonable distress, ill health, and/or incapacity;
- ❑ Similar access to elective services, regardless of where a child or young person lives.

The challenge for both the MOH and Auckland DHB has been to turn these objectives into realities through operational processes. At Starship a policy has been adopted to ensure that no new patients should be placed on any residual waiting list (for both first specialist assessment and for treatment)– i.e. all new patients are to be given certainty about their treatment. However, transparency about the level of need (ideally to avoid patient distress) requires the MOH/DHB to either be able to fund up to six months or to be prepared to be open about rationing. At this stage the lack of a consistent scoring tool around New Zealand undermines transparency on a national level. It also requires certainty of purchase levels to enable DHBs to be able to develop capacity should there be a high level of unmet need that will eventually be met.

The following services at Starship have been identified by the MOH as services required to be in “Work-Out”.

- ❑ Gastroenterology (Outpatients);
- ❑ General Paediatrics Medicine (Outpatients);
- ❑ General Paediatrics Surgery (Outpatients);
- ❑ Neurology;
- ❑ ENT (ORL) .

While the Work-Out process is one that is being carried out throughout New Zealand, the Auckland environment provides additional challenges, which have not been faced in other parts of the country. As part of Auckland DHB’s Hospital Services Development Plan, services are to be shifted from Auckland DHB to Counties-Manukau DHB and Waitemata DHB to achieve sub-regional equity of access (SREA). SREA is a joint DHB process which reviews purchasing levels and boundaries for services in the Auckland region, with consideration given to other environmental factors. It is based on moving secondary volumes to be as close to the patient as possible. The shift of services between organizations means that many of the Work-Out services are in a constant state of change.

The Auckland DHB has developed the following process and policies to manage the elective service issue:

The DHB is reviewing its organizational structure to enable it to meet the Government's objectives for elective services. One approach under consideration is to establish a designated Elective Services Management Unit for the entire organisation. This would provide a key point of contact for any service should people have issues with access to elective services. Any elective service reviews would require input from this unit. A proposal is being developed to put to senior management;

A monthly report on waiting times is included in Board reports;

Patients [children and young people] waiting over 24 months for access to services receive specific explanations from the service concerned and a management plan will be developed to ensure that this is not repeated;

Growth in waiting lists for patients over six months are discussed with the services concerned in monthly reviews held with the Chief Operating Officer;

The Business Development Unit (Corporate Services) has corporate responsibility for implementing the booking system and ensuring compliance. In addition, business development is also directly involved with the SREA process;

Booking system compliance targets are tied to performance payments;

Two staff members (a Project Manager and GP liaison) have sole responsibility for managing the Booking System Project. They are supported by the Booking Systems Manager in the Information Management Unit and by the relevant GMs and clinical leaders within service areas. In addition, the clinical leader for surgery plays a key role.

These policies and the process ensures that accountability is made transparent and that a consistent approach to this area is achieved.

Information management is an important tool for managing elective services, and any associated workout plans, because of the size of some of the services provided. Streamlining information processes ensure that the organization – SSH in this instance - can achieve a fast turnaround for children and young people.

There is a critical need to improve integration between GP, outpatient and inpatient information systems – this requires additional work and will be part of Starship Hospital's five-year Strategic Plan. Until this issue has been resolved, the organisation will have to develop ad hoc solutions to any further information requirements requested by central agencies. This will impact on the organizations ability to quickly respond to changes in this area.

The Auckland DHB has recognized that it needs to communicate with key stakeholders in this area to effect change. These key stakeholders include:

- ❑ Children, young peoples and their families/whanau;
- ❑ Clinicians within the services;
- ❑ GPs;
- ❑ Service and business managers;
- ❑ Auckland DHB Board and Chief Executive;
- ❑ Funding and Service Planning Arm of the DHB;
- ❑ Ministry of Health;
- ❑ Clerical staff responsible for using the systems;
- ❑ Other DHBs – regionally and nationally.

While there has not been any formal development of a communication strategy, communication exists in a number of different areas:

- ❑ The elective services steering group meets regularly. This group has GP, Auckland DHB funding and provider arm, and MOH representatives;
- ❑ A GP liaison officer;
- ❑ A newsletter that is sent out to the IPAs within the Auckland region;
- ❑ During the development of any Work-Out plan, the Elective Services Team works intensively reviewing processes at the lowest level possible. This ensures that potential risks to information flow (which is key to the success of this process) are managed early on and that there is consistency across the organization/services;
- ❑ Monthly reporting of performance in managing waiting lists to the Board and CEO;
- ❑ As the Auckland population is a highly mobile population, it is important that the three DHBs have a consistent approach. Informal meetings with counterparts at the Counties-Manukau and Waitemata DHBs are conducted regularly to discuss elective services issues.

Clinical Reviews – Outpatient Services at SSH

The main objective has been to develop management guidelines for key conditions (by specialty) in the primary care sector. While this is being done through a national process

being managed by the MOH, delays in this process have affected Auckland DHBs ability to develop educational resources to assist GPs.

Primary care involvement is managed through IPAs by the GP liaison officer and, whilst the officer is an employee of ADHB his performance criteria have been agreed between the primary care organizations to ensure that the role supports effective health care delivery and good working relationships across primary and secondary care.

Active participation by all members on both the Steering Group and the Working Parties is also critical to ensure the process is managed smoothly. ADHB is keen to move towards regional working parties so that a consistent approach for all DHB's is agreed.

Key areas identified that need to be addressed are:

- ❑ Re-scoring of children and young people with the new CPAC national scoring tools as they become available;
- ❑ Development of management guidelines tools for the primary sector;
- ❑ Developing a process for defining and monitoring patients who are under active review Group. This is in part being guided by the terms and conditions of the contract. However, we anticipate that it will be challenging to develop guidelines that are acceptable to both primary and secondary care.

Clinical Review - Inpatients

Children and young people [and their families] on inpatient lists are to be given increased clarity about their treatment expectations. The mechanisms to achieve this are:

- ❑ Increased volumes to increase the number of children and young people who can be given certainty of treatment within six months (i.e. raise the FST);
- ❑ Place children and young people on active review. These patients will not receive a treatment date within the next six months, but will be reviewed at the end of this time and a further decision will be made about their eligibility. If their condition has deteriorated and their score has increased above the FST they will then be given certainty about treatment within the next six months;
- ❑ Refer children and young people back to their GP if they do not meet the criteria (CPAC National Scoring Tools) for publicly funded treatment. GPs are provided with referral guidelines [as they become available] to assist them in their treatment of patients and if the conditions deteriorate they will be referred back for an outpatient visit.

Administrative Review Process

This process has been undertaken for both inpatients and outpatients.

All parents of children and young people have been contacted by phone to see if they still want to be seen by a specialist. If parents were not contactable by phone an initial letter has been sent, followed by a further reminder. If the parents of children have not responded after two letters they are removed from the system. A letter is then sent to their referring GP advising them that their patient's parents had not responded, and consequently, the child had been removed from the booking system.

Following this review, 35 percent of patients either asked to be removed, or did not respond. Fifty-six percent still wanted their surgery. While the pattern showed that some patients waiting for certain procedures had longer waiting times, there were no obvious trends.

Hospital Service Utilisation

Communicable Disease

Communicable disease is the major cause of hospitalisation for children. Central Auckland children have lower hospitalisation rates than their Counties Manukau and Northland counterparts for the infectious diseases shown in Table 59. Children from North and West Auckland are admitted to Starship Hospital for secondary and tertiary services and treatment.

Table 59: Age-specific public hospitalisation rates for selected infectious diseases, 1995-1999

| | Gastro enteritis | | ent infections | | kidney/ urinary infections | | cellulitis | | other infections | |
|-------------------------|------------------|------------|----------------|------|----------------------------|------|------------|------|------------------|------|
| | <1 | 1-14 | <1 | 1-14 | <1 | 1-14 | <1 | 1-14 | <1 | 1-14 |
| Central Auckland | 1456 | 223 | 785 | | 4 | | 45 | | 281 | |
| Counties Manukau | 2537 | 307 | 841 | 754 | 164 | 8 | 988 | 64 | 356 | |
| Northland | 2233 | 266 | 1320 | 1236 | 337 | 23 | 558 | 76 | 307 | |
| North Shore | 1079 | 194 | 417 | 624 | 126 | 1 | 556 | 52 | 128 | |
| West Auckland | 1433 | 195 | 401 | 975 | 63 | 4 | 476 | 44 | 401 | 241 |
| New Zealand | 2462 | 325 | 942 | 975 | 128 | 16 | 629 | 84 | 328 | 187 |

Source: NMDS. Rates per 100,000 population.

The Infectious Disease Service based at Starship Hospital in Auckland provides care to patients with complex, severe or chronic infectious diseases. The service also provides a consultative infectious disease support service to other specialists, DHBs and MOH. The service is also responsible for the management and coordination of regional children's tuberculosis, HIV and rheumatic fever services in the Auckland region.

The service is increasingly moving towards a focus on tuberculosis management and the management of epidemics to reflect changes in disease patterns among children presenting to the service. The increasing number of immigrants populating the Auckland district, with multi-drug resistant strains of tuberculosis and other infectious diseases like Meningococcal meningitis place the service under considerable strain.

Refugees and Communicable Diseases

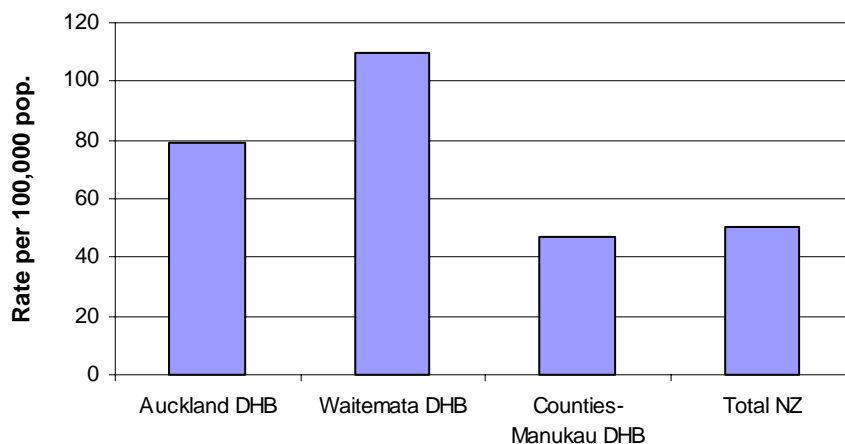
A 1996 study of health screening at Mangere Refugee Resettlement Centre indicated a high rate of health problems amongst refugee children (Reeve, 1997). It was estimated that 70 percent of the 687 refugees screened in 1996 required referral to one or more secondary health care services for further assessment and/or treatment (see section on Tuberculosis below for high rates of infections amongst this population group).

Health screening also detected infection with one or more intestinal parasites in 42 percent of refugees. Infections included *Trichuris* (whipworm), *Taeniasis* (tapeworm) and *Ancylostomiasis* (hookworm). Serological testing suggested 21 percent of all refugees were infected with *Schistosoma*. Evidence suggests that infection rates for specific conditions vary by county of origin. Indeed, studies have shown (Cookson et al, 1998) that infection parasitic prevalence rates from various African countries can be greater than fifty percent.

Meningococcal Disease

New Zealand is in its tenth year of a meningococcal sero-group B epidemic, which has seen 3,066 cases from 1991 to 1999 inclusive. The rates of meningococcal disease in Central Auckland is second only to Counties Manukau (Figure 58) Most of the excess hospitalisations are due to high rates of disease in infants under one year of age.

Figure 58: Child (0-14 yrs) crude hospitalisation rates for meningococcal infections per 100,000 pop, 1999/00.



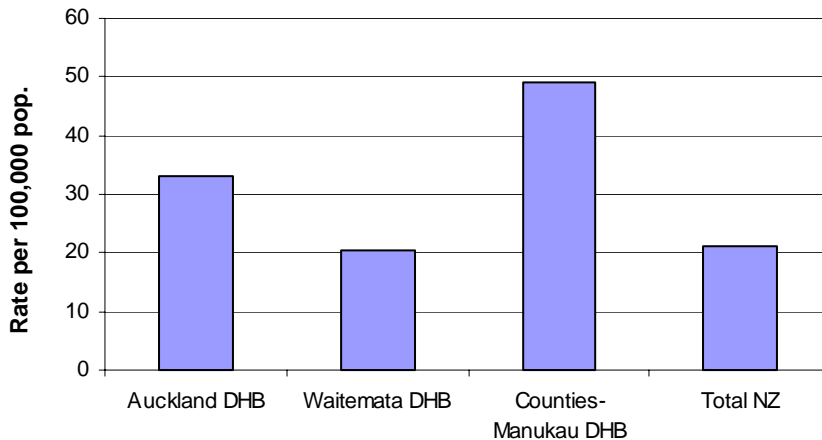
Data Source: NMDS.

There is increased interest in the links between overcrowded housing and meningococcal disease and it appears to be socio-economic status as much as ethnicity per se which is driving this health differential.

Rheumatic Fever

The prevalence of Rheumatic Fever in New Zealand is equal to that in some developing countries. It is a condition relatively unknown in both the United Kingdom and the United States. Complications with the disease commonly affect the heart and result in an increased need for hospitalisation. In poorly managed cases, the disease can result in premature death.

Figure 59: Child (0-14 yrs) crude hospitalisation rates for Rheumatic Fever per 100,000 pop, 1999/00.



Data Source: NMDS.

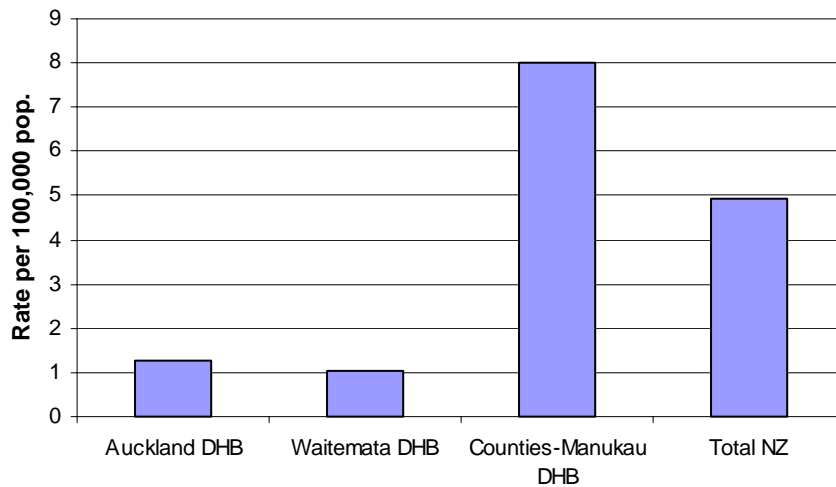
The Rheumatic Fever database for the Auckland region is managed by Starship Hospital. This system records prescriptions for district nurses in South, Central, West and North Auckland and clinic appointments for children and young people. Outpatient clinics are sited at both the Starship and Kidz First Hospitals.

Regional coordination of the Rheumatic Fever patient population is required. Children and young people with this disease are: predominantly Maori or Pacific people; socially and economically disadvantaged; from mobile or transitory families; and they often do not have links with primary care providers.

Tuberculosis

Starship manages the care of all tuberculosis patients 0-15 years of age. It is vital that the referrals made to the service are managed in a timely manner, however at the time of writing, staffing resources were stretched to the limit. Waiting times for patients are increasing which increases the public health risk of an epidemic. With an increase in multi-drug resistant TB patients, the requirement for intensive isolation and longer hospital stays is likely to occur over time.

Figure 60: Child (0-14 yrs) crude hospitalisation rates for tuberculosis per 100,000 pop, 1999/00.



Data Source: NMDS.

Routine screening for infectious diseases among refugees suggests that up to 46 percent of all refugees, including children, are infected with tuberculosis in NZ. Many of these children live in the Auckland region. The rate of disease in this population group is 4000:100,000 cases, which is 400 times higher than the rate of disease in the general New Zealand population (8.5: 100,000).

Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome [HIV/AIDS]

The number of HIV infected children is currently stable, but the number of HIV positive women of child bearing age is increasing steadily. The increase in incidence of the disease among these women will likely effect service demand in the near future.

African refugees now represent over one-quarter of the new HIV infections in New Zealand each year, with refugees as a population group consistently represented in the new HIV cases diagnosed annually. (Worth et al. 2001) Between 1996-2000, 104 African people were diagnosed with HIV, representing 27.2 percent of the total new diagnoses in this period. This included cases among children and the parents of children. The majority of this population lives within the Auckland DHB zone.

The current statistics on HIV prevalence within refugee communities may give an understated and inaccurate picture of the extent of the epidemic. Anecdotal evidence suggests that there are significant numbers of refugees from high risk countries in the community who are at risk that have never been tested for HIV. This includes:

- ❑ Family reunion refugees who are not tested for HIV;
- ❑ Asylum seekers who have not been tested for HIV;

- HIV positive people from refugee backgrounds who have been practising unsafe sex within the community following arrival in New Zealand and have not been retested for HIV since their initial test.

Non-Communicable Disease

The non-communicable disease hospitalisation rates for Central Auckland are lower than the national average, however children from North Shore and Waitakere are admitted to Starship Hospital for related secondary and tertiary services and treatment.

Table 60: Public hospital discharge rates for non-communicable diseases, 1995-1999

| | diabetes | | epilepsy | | asthma | | failure to thrive | |
|-------------------------|----------|-----------|------------|------------|------------|------------|-------------------|-----------|
| | <1 | 1-14 | <1 | 1-14 | <1 | 1-14 | <1 | 1-14 |
| Central Auckland | 4 | 24 | 473 | 140 | 323 | 546 | 161 | 12 |
| Counties Manukau | 14 | 23 | 726 | 265 | 481 | 532 | 276 | 8 |
| Northland | 9 | 50 | 877 | 268 | 1019 | 622 | 346 | 16 |
| North Shore | 7 | 26 | 470 | 110 | 172 | 346 | 232 | 6 |
| West Auckland | 19 | 31 | 325 | 148 | 382 | 427 | 150 | 14 |
| New Zealand | 10 | 40 | 738 | 282 | 718 | 627 | 816 | 22 |

Source: NMDS. Rates per 100,000 age-specific population.

Respiratory Disease

It is critical to highlight the importance of respiratory disease in contributing to admissions in the 0-14 year old age group and particularly in infants under one year of age. Starship Hospital admits children with respiratory conditions from all over New Zealand. Kidz First, in South Auckland, admits children and young people from its own catchment area for secondary care only. Diseases of the respiratory system (MDC 4) account for approximately forty percent of all paediatric medical discharges from Starship and 68 percent of winter discharges. These discharge rates are closely related to socio-economic status.

Mortality

The under five-mortality rate is an accepted indicator of a country's overall health status. New Zealand ranks 15th out of the 21 OECD countries that have reliable data available for comparison. New Zealand's international ranking has dropped considerably over the last 25 years. In 1960, for instance New Zealand, ranked 6th out of all the OECD countries. There appear to be marked differences in mortality depending on ethnicity, and socio-economic status (MOH, 1999).

Immunisation

The uptake of recommended childhood immunizations, can be used to provide a measure of the health status of young children in the community. However, existing mechanisms for measuring immunization coverage are less than perfect as:

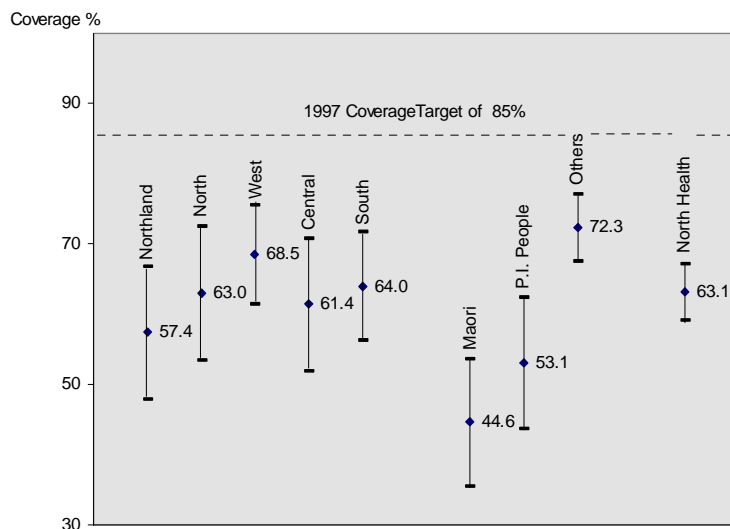
- ❑ Each child requires a series of immunizations over a relatively long period of time;
- ❑ There is no specific enrolment with any one child care/immunization provider – many different people can potentially deliver immunization;
- ❑ There is no robust information system available at present to provide specific-specific information to health providers, or to give coverage data;
- ❑ Community-based immunization coverage surveys then become the only way to provide accurate estimates of coverage, but are relatively costly to run;
- ❑ Estimation of immunization status using immunization benefit claim forms is dependent on the quality of the information provided/not provided by an increasing number of providers.

The region’s most recent immunization coverage survey was conducted in Northland and Auckland in 1996 (Rainger, 1998) Full immunization coverage at age two years for the Central Auckland area in 1996 was 61.4 percent. This represented an overall improvement from a survey undertaken in 1992 survey where full immunization coverage at age two years was reported at 55.4 percent [C1. 47.7-62.9].

Figure 61 presents full immunization coverage rates at age two years, by health district and ethnic grouping. While there was some improvement in coverage between 1992 and 1996 for children born subsequently, it is doubtful that by 1997 the national target of 85 percent coverage at two years in the region/district was achieved.

The rate for Central Auckland, which equates to the Auckland DHB zone, is very low in comparison to the rates for other health districts, which is of considerable concern.

Figure 61: North Health’s 1996 Immunisation Coverage Survey Fully Immunised Coverage Rates Measured at Age Two Years.



Note: Statistics relate to New Zealand born children only.
Fully immunised means receiving all recommended doses of vaccine by age two years.
Rates are percentages calculated using verified immunisation histories.
Error bars show 95% confidence intervals.

Data Source: Immunisation Coverage in North Health: Comparative Results from North Health's 1996 Immunisation Coverage Survey.

There is a need to advocate for:

A major effort to enrol more newborn children in immunization programmes by age six weeks. One way of achieving this would be for the LMC to be required to notify birth details to the mother's nominated PHC provider, immediately following delivery [this will be a Section 88 requirement as of March 2002];

Increased use of computerized recall registers by PHC providers and increased collaboration between providers when families with young children move from one area/district to another. The latter is especially important as currently PHC provider systems are not integrated;

Widened emphasis on keeping *Well Child Health Books [WCHB]* up-to-date, as a further strategy to counter the negative effects of mobility and to ensure the issue of immunization certificates when children attend pre-school [to have commenced in 1996] and school [to have commenced in 2000]. For example, immunization reminder letters are to be sent to caregivers – these are to include reference to the dual importance of the WCHB and the necessity to present the child and the book at the time of attendance;

Better understanding of the special problems faced by caregivers of larger families. This should involve increased use of opportunistic screening and immunization where appropriate, and the development of more flexible services;
Need to educate people about the benefits and risks of immunization.

Immunisation for New Migrants/Refugee Children and Young People

An important consideration, often overlooked, is the immunization status of new migrant and refugee children in the district – without written documentation it will prove difficult to determine immunization status for many of these children and young people. The 1996 survey estimated that ten percent of children were born overseas – this number will have grown rapidly over the past five years with increasing numbers of new migrants to New Zealand from developing countries.

Immunisation-preventable disease

New Zealand continues to experience periodic measles and whooping cough epidemics. These epidemics are directly related to low rates of vaccination. Admissions for preventable-preventable diseases are presented in Table 61 Residents of Central Auckland had the second highest rates of admission to hospital for both measles and whooping cough in infants under one year of age.

Table 61: Public hospital rates/100,000 pop. for immunisation preventable diseases, 1995-1999

| | haemophilus influenza | | measles | | whooping cough | | other immunisable diseases | |
|-------------------------|-----------------------|------|----------|------|----------------|------|----------------------------|------|
| | <1 | 1-14 | <1 | 1-14 | <1 | 1-14 | <1 | 1-14 |
| Central Auckland | 1 | | 4 | | 2 | | 1 | |
| Counties Manukau | 3 | 0 | 107 | 11 | 417 | 6 | 6 | 1 |
| Northland | 0 | 1 | 62 | 5 | 390 | 5 | 62 | 1 |
| North Shore | 20 | 1 | 13 | 1 | 245 | 0 | 0 | 0 |
| West Auckland | 13 | 0 | 38 | 5 | 269 | 4 | 0 | 1 |
| New Zealand | 7 | 1 | 34 | 3 | 272 | 6 | 3 | 1 |

Source: NMDS. Rates per 100,000 age-specific population.

Breastfeeding

The monitoring of breastfeeding rates should be equally as important as the monitoring of immunization rates. The MOH does not discriminate against those mothers who choose to bottle feed their babies, but it does advocate breastfeeding as best for mothers and babies – “... *the nutritional benefits of breastfeeding babies are well known; breast milk is low cost and come at the right temperature, is readily available and has a low risk of contamination*” (MOH, 1998). The World Health Organisation (WHO) recommends that mothers exclusively breastfeed babies until at least four months of age, and where possible, to six months. The WHO also recommend, that where needed, mothers and families must be given objective and consistent advice on the proper use of infant formula.

As with immunization, there are problems with the collection of data. What constitutes breastfeeding, that is definition of the terms ‘partial’ and ‘full’ breastfeeding, generates further difficulties. The best available information on breastfeeding patterns in NZ comes from a longitudinal study of a 1990-01 birth cohort of over 4,000 children. (Essex C et al 1995). The study found that Maori infants were less likely to be fully breastfed at 3 months of age compared to infants of other ethnicities. Around 39 percent of Maori infants were fully breast fed at the age of 3 months compared to 44 percent of Pacific Island and 55 percent of “other” infants.

Comparing experience at infant age six weeks and three months across Plunket’s six Auckland areas suggests a socio-economic bias towards sustained breastfeeding in more affluent areas.

A 1998, New Zealand wide, non-random survey of 1247 mothers with babies of six months or younger found that 97 percent of mothers intended to breastfeed prior to birth of their babies. (Adair V, 1999) Comments from respondents in this survey would support the notion that there is potential for improving breastfeeding rates and target strategies such as the Baby Friendly Hospital Initiative (BFHI) could be employed to encourage more mothers to breastfeed.

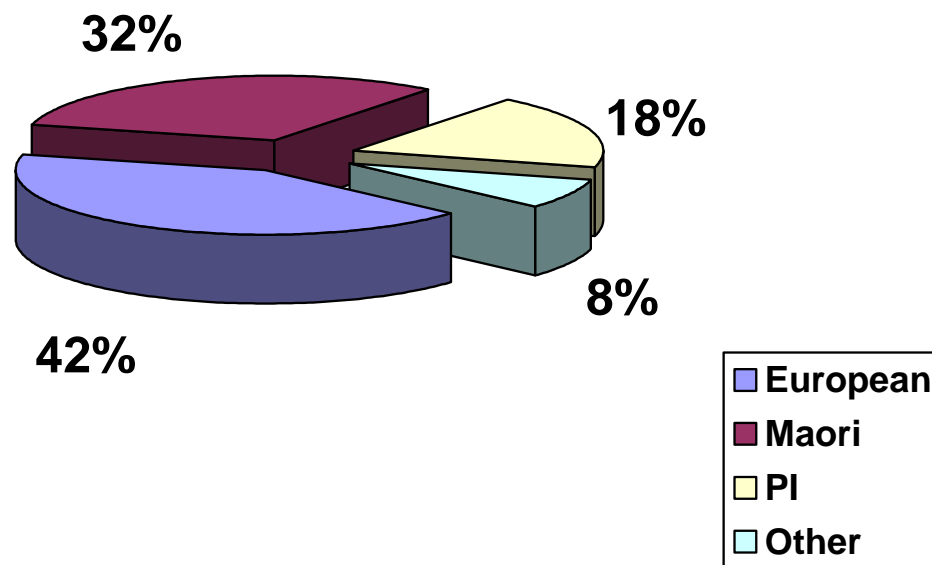
Malnourishment

Malnourishment among children in refugee camps has a significant impact on their health and intellectual development. Over half the refugees entering New Zealand have had some degree of iron deficiency. From one study, the deficiency level detected was severe enough in 19 percent of children and young people that iron supplementation was required.

Child Abuse Services - Whakaruruhau

Child abuses services for Auckland Central are based at Whakaruruhau, a unit of Starship Hospital. This is largely an outpatient service, although the inpatients tend to be severely injured children with complex problems, who require a great deal of support. In 1999, 18 percent of new patients seen were inpatients, while 82 percent were outpatients.

Figure 62: Ethnic breakdown of referrals to the Whakaruruhau unit in 2000.

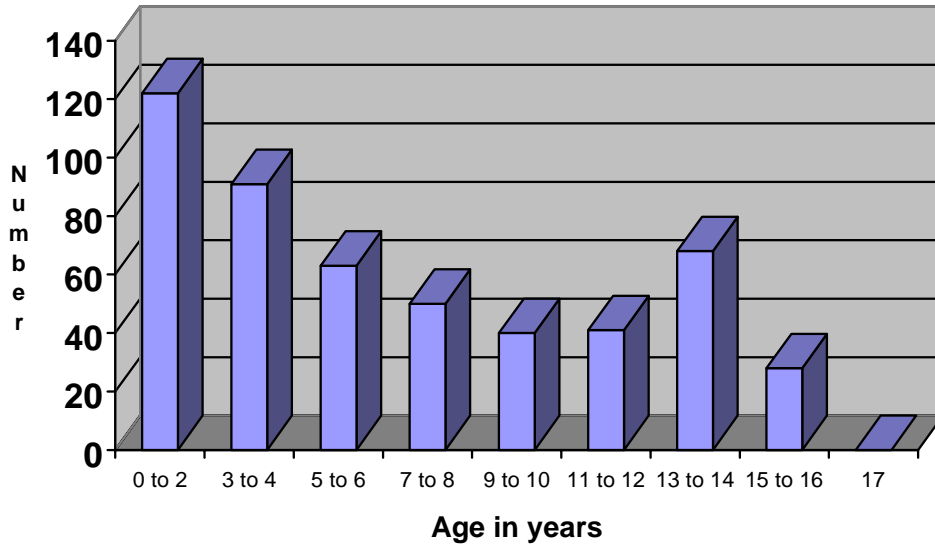


Data Source: Starship Hospital.

Whakaruruhau provides local, regional and national services in the area of child abuse [physical, sexual, psychological] to children, young people and their families, as well as advice to police, forensic teams, CYFS, and Coroners across the nation.

Figure 62 provides an ethnic breakdown of referrals to the Whakaruruhau unit in 2000. As can be seen, a large proportion of referrals are for Maori (32%), who comprised approximately 21 percent of the child population in the region in 1996.

Figure 63: Breakdown of referrals to the Whakaruruhau unit in 2000, by age.



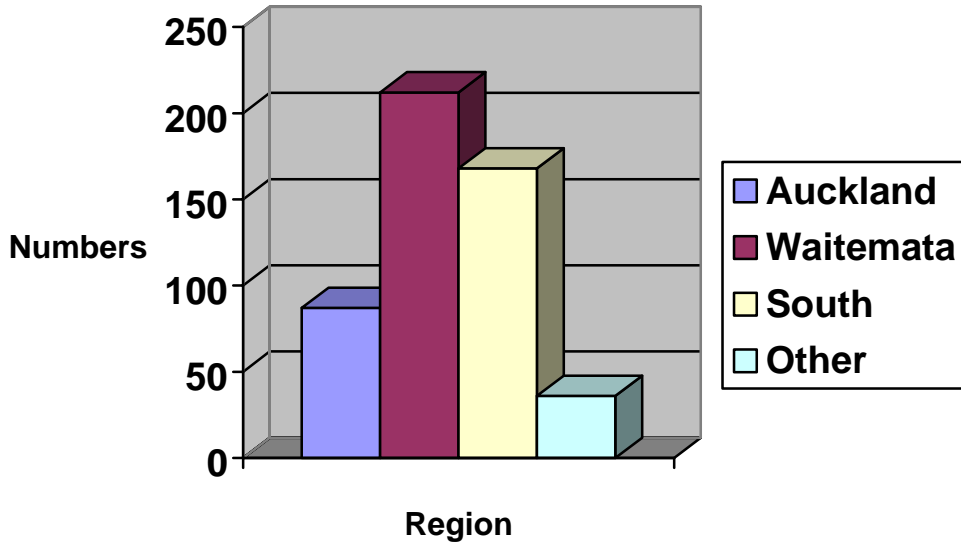
Data Source: Starship Hospital.

Figure 63 provides a breakdown of referrals to the Whakaruruhau unit in 2000, by age. This includes children and young people from across the region. There were large numbers of children under five years of age referred to the service in 2000.

Figure 64 provides a breakdown of referrals by health district to the unit in 2000. The majority of children and young people referred to the unit were from outside of the Central Auckland area.

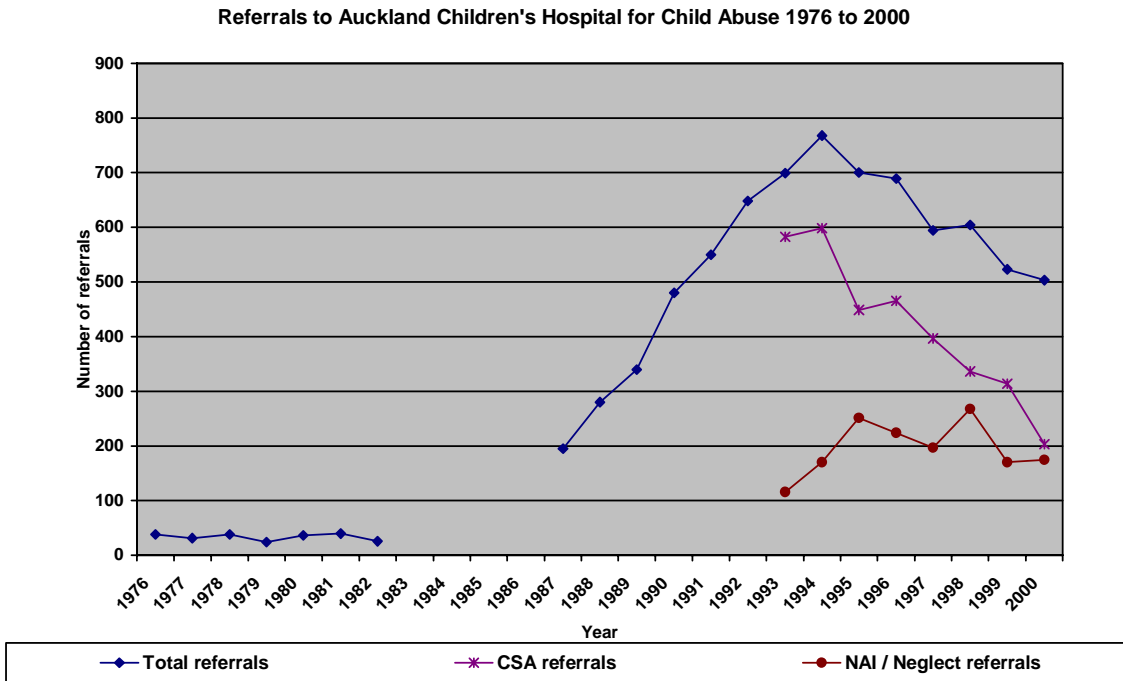
Figure 65 shows total child abuse referrals by referral type to Starship Hospital over time. As the graph shows, the traditional pattern of referral has been heavily weighted towards child sexual abuse. However, over the last two to three years, this referral pattern has changed radically. The proportion of referrals for child sexual abuse has fallen, and the proportion of referrals for physical abuse or neglect has risen. The reason for this change in ratio is unknown, but it is unlikely to reflect a fall in the incidence of child sexual abuse. The ratio of referrals to CYP&FA has also altered, and this trend may reflect a change in the practice of statutory agencies.

Figure 64: Breakdown of referrals to the Whakaruruhau unit in 2000, by health district.



Data Source: Starship Hospital.

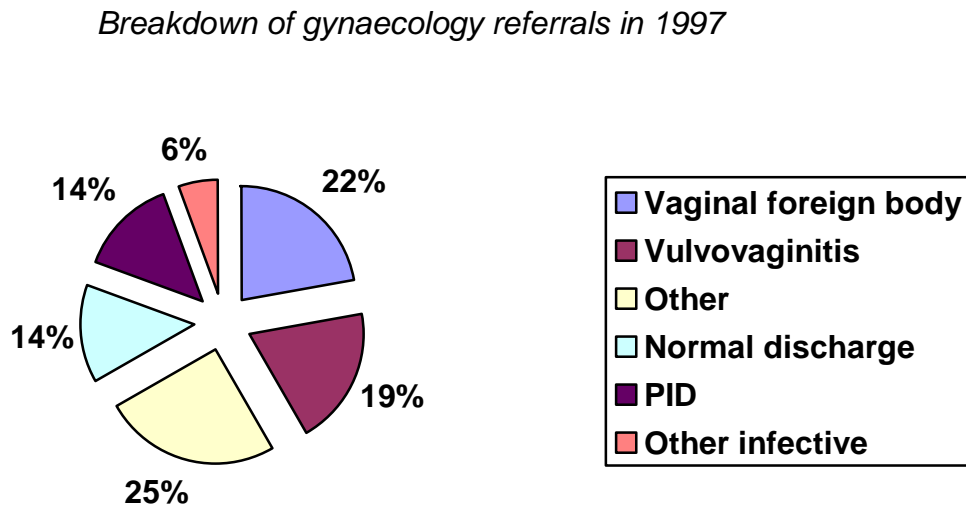
Figure 65: Total child abuse referrals by referral type to Starship Hospital, 1976-2000.



Data Source: Starship Hospital.

The Whakaruruhau unit also provides a de facto paediatric gynaecological service to greater Auckland, particularly for pre-pubertal children with vulval or vaginal symptoms. Figure 66 presents referrals from January to December 1997, where the primary diagnosis was gynaecological. Some of these cases, due to their nature and the age of the child, required input from child protection. It was found that of 48 new cases, roughly ten percent were seen in the same 12-month period for sexual abuse.

Figure 66: Breakdown of gynaecology referrals in 1997.



Data Source: Starship Hospital

The category of “Other” included fistula, bicornuate uterus, ectopic ureter, ovarian cyst, pain NOS and lichen sclerosis.

Chronic Illness

Oral Health

In Auckland, Maori and Pacific Island children and young people have poor oral health compared to other ethnic groups, and Pacific Island children in the Auckland DHB zone having the worst oral health of any ethnic group anywhere in the region (see section on Oral Health).

Disability

Many refugees have escaped from regions undergoing military conflict. Frequently such conflict results in the civilian injury of children. Land mines in particular have lead to a number of injuries resulting in permanent disability. Disability among refugee children may also be due to previous polio infection. In 1996, about eight percent of refugees screened required referral to orthopaedic or orthotic services. (Reeve 1997)

Mental Health

The expansion of child and youth mental health services is a priority for the Government and the mental health sector.

The Mental Health Commission published a report, “*Specialist Mental Health Services for Children and Youth – A review of Recent and Planned Changes*”, in May 1999. This report reflects the level of service availability as at 30 June 1998 and provides an overview of services available at that time as well as barriers and issues that impact on progress with expanding and strengthening these services. The report offers a comprehensive overview of services in New Zealand against which future progress can be monitored. Recommendations included in this report will be used to guide future service development.

Auckland District Health Board fully endorses the findings and recommendations from this report. See Appendix IV - the executive summary of the report provides an introduction to the issues and concerns facing the provision of specialist mental health services for children and youth.

Starship Mental Health Services

Starship Mental Health and Community Services provide specialist inpatient child and adolescent mental health services as well as a range of community services. Mental health and community services at Starship Hospital are currently in transition, moving from a period of rapid expansion in service provision to a phase of service consolidation.

The Paediatric Homecare team continues to grow as a result of trends in inpatient medical and surgical services for earlier discharge of children, and the resulting increased acuity of Primary Health Care referrals.

The Child and Family Unit (CFU) at Starship until recently provided only 15 inpatient beds for adolescents from throughout the North Island. With the redevelopment of the CFU, the facility now has a total of 25 beds with eight high dependency, 12 adolescent and five children’s beds that has increased access for all three distinct patient populations.

The CFU at Starship provides an inpatient child and adolescent psychiatry service to children and young people for the whole of the North Island, however a new adolescent service is being developed in Wellington. All referrals of a tertiary nature with admissions being mainly from Northland, Auckland, Waikato and Bay of Plenty.

The consult/liaison team provides a psychiatry service to children and adolescents within the medical and surgical services of Starship Hospital.

Community Child, Adolescent and Family Service (CCAFS)

CCAFS provides community based mental health services for children, young people and their families of Central Auckland. The service offers assessment and interventions for families where a child or young person has emotional, psychological or behavioural problems indicative of a serious mental health disorder. Consultation, education and

training for allied child and young people service providers are also supplied. The core services are provided by the Community team located in Grafton Road.

The Youth Early Intervention Service provides specialist assessment and multi-modal treatment for first episode psychosis, obsessive-compulsive and bi-polar disorders. The Child and Adolescent Liaison Service (CALs) is a sub regional team that offers a consultant liaison and assessment service to the Child, Youth and Family agency. The Youth Forensic Service is a regional team and provides a screening and assessment service to the youth court.

Young people aged 12-15 years represent 54 percent of the total clients of the CCAFS. Children aged 6-11 years make up a further 37.3 percent, children aged 0-5 make up 6.5 percent with the balance of 2.2 percent taken up by young persons over 16 years of age.

As a proportion of the population, the child /young persons age group is expected to decline, however a growth in overall numbers will continue. In 2001 there were 13,416 more children in the 0-14 years group than in 1996. Projections show that the number will further increase by 11,000 from 2001 to 2006. The children and young person services experienced a growth of ten percent to 2001, and a further 24.6 percent by 2006 is expected.

Europeans (43.2%) represent the majority of Auckland DHB catchment children and young people accessing the service. Pacific children represent 19.4 percent of clients, whilst Maori are 14 percent and Asian peoples represent 5.8 percent of clients. The 'other' category represents 7.6 percent. Maori clients of the service exceed the proportion within the population, whilst Pacific clients do not reach their expected proportion, being only 9.6 percent. The rapid increase in Asian clients presents a challenge to the service.

Mental Health of Refugee Children and Adolescents

An area of concern, is the unknown rate utilization of health services by children and adolescents from refugee backgrounds. At the time of this report, there are no specific mental health services provided for the children of refugees or asylum seekers either in the NGO or government sectors. New Zealand is alone among the 12 countries worldwide that accepts refugees for resettlement but does not provide specific assistance for the health and welfare of refugee children.

Those agencies involved in the health, education and welfare of refugee children do not collect data on the numbers of clients referred onto mental health services. Mental Health Services in Auckland however report that in the last four years, there has been a significant increase in the number of refugee peoples seeking access to services. In a survey carried out by CCAFS including the Ministry of Education's ESOL service, Child Youth and Family service reported that some of the most serious and complex issue that come to their attention are from the refugee population (CCAFS, 1999). Indications that the mental health diagnoses of Post Traumatic Stress Disorder (PTSD), Depression and

Anxiety states are the most prevalent in refugee children and young people populations. (Tousignant et al., 1999)

Children and young people from *refugee* backgrounds are a group that would benefit from System Two Joint Services in the Auckland region. Collaborative joint service provision including public health, mental health, education, justice and welfare services are needed in order to meet the outstanding gaps for young people from refugee backgrounds who have high and complex needs.

Key Issues:

- ❑ Primary child health information such as Well child visits, immunization data difficult to access, often not recorded electronically, data quality not monitored etc – need to promote an integrated data collection system;
- ❑ Some child services at Starship in ‘work-out’ (eg gastro outpatient clinics). But processes now in place to monitor and manage progress with these services;
- ❑ Need to improve integration, communication and collaboration between primary providers, specialist services, NGOs etc;
- ❑ Communicable disease the major cause of hospitalization in ADHB – eg cellulites, gastro etc. ADHB hospitalization rates lower than rates for CMDHB & Northland;
- ❑ Infectious disease service at Starship – TB management a growing issue;
- ❑ Meningitis – epidemic rates in ADHB, second only to rates in CMDHB zone;
- ❑ Rheumatic fever rates = rates in some developing countries – regional co-ordination of patient population required;
- ❑ HIV – high infection rates among refugee/new migrant populations;
- ❑ Full immunization at 2yrs – ADHB rate (61.4% of pop.) in 1996 lower than rate for CMDHB & WDHB. However, ADHB rate is higher than for all NZ pop.;
- ❑ Respiratory disease = 40% of all Starship discharges and 68% of winter discharges;
- ❑ Child abuse – majority of referrals to Starship Whakaruruhau unit are WDHB & CMDHB children;
- ❑ Rapid increase in Asian children accessing CCAFS in recent years;
- ❑ High no.s of Maori children accessing CCAFS;

- ❑ Significant increase in refugee children accessing child mental health service in recent years;
- ❑ Staffing crisis – Starship.

Future Tasks:

- ❑ Produce a detailed child health profile report for the Auckland DHB zone, including information on service access.

2.11 Objective: Reduce the Incidence and Impact of Diabetes

Diabetes is an insidious disease that can be severely disabling if it is not managed adequately in the individual. There are two main types of the disease that will be considered in this section of the document; Type I and Type II diabetes.

Type I diabetes, or insulin-dependent diabetes, is a life-long disorder that can occur in children or adults. There is a genetic link to the development of the disease as close relatives of people with diabetes have an increased chance of developing the disease. Type I diabetes occurs when the body's autoimmune system attacks and destroys insulin producing cells in the pancreas. Destruction of the cells is gradual and most people do not know they have the disease until the symptoms of diabetes occur, when almost all of the insulin producing cells have been destroyed.

Type II diabetes is characterized by insulin resistance and a relative deficit in insulin secretion; it most commonly occurs in people over the age of forty years and is responsible for approximately 85-90 percent of all diabetes in New Zealand (MOH, 1999). Again, there is a genetic link as people with a family history of the disease are more likely to develop it. Other risk factors for the disease include being over weight, having high blood pressure, a lack of regular exercise, having had gestational diabetes, or having given birth to a baby more than nine pounds in weight. The disease has also been found to be an independent risk factor for cardiovascular disease.

Services Available

Diabetes Auckland provide education, advice and support to people with diabetes, and their families. They also run awareness and advocacy programmes and have a shop in Mt Eden that stocks equipment and foodstuffs for people with diabetes.

Diabetes Auckland currently co-ordinate local primary and community diabetes services and service providers in the Auckland region. This co-ordination includes efforts to integrate and promote better communication and closer relationships between providers of diabetes services, including the Diabetes Society, Ngati Whatua o Orakei Health, Procure, First Health, Health Star Pacific and South Seas Health.

Primary care providers such as Procure and Aotea Health currently provide free diabetes health checks in the community. Providers such as Ngati Whatua o Orakei Health and Health Star Pacific have diabetes nurses. Although there are diabetes management projects underway in the Counties-Manukau DHB area, there were, at the time of writing, no similar projects underway in the Auckland DHB zone.

The funding-arm of the Auckland DHB currently provide both adult and child diabetes services. These services include outpatient clinics with specialists, fundus eye screening, nutrition services, diabetes education and management services. National Women’s hospital also have diabetes midwives and a programme to manage the care of pregnant women with diabetes.

The locations of various diabetes-related services in the Auckland region are provided in Appendix III.

Prevalence of Diabetes in the Community

Approximately 3.7 percent of the national population aged over 15 years are estimated as having been diagnosed with either Type I or Type II diabetes (MOH, 1999c). There is a higher prevalence of the disease among Maori and Pacific peoples (Table R) and among older people in the population (11 percent in the 75yrs+ age group). There was also a higher prevalence of the disease among people living in more deprived areas and among those with lower incomes. The Ministry of Health (1999) note that the results of the survey indicate the disease is increasing in prevalence as the rates obtained from the 1996/97 survey are higher than the rates obtained from previous national health surveys and this increase is inline with international evidence that the disease is on the increase worldwide.

Estimates suggest that up to one third of all diabetes in the community remains undiagnosed (MOH, 1999c), so the actual prevalence of the disease is likely to be somewhat higher than that identified in the New Zealand Health Survey.

Table 62: Prevalence of diabetes in the New Zealand population, by ethnicity, 1996/97.

| | % population with diabetes |
|------------------------|-----------------------------------|
| European/Pakeha | 3.1 |
| Maori | 8.3 |
| Pacific peoples | 8.1 |
| Other peoples | 4.0 |

Data Source: MOH, 1999c.

Prevalence rates for the Auckland region, obtained from a number of surveys over the last decade provide varying estimates of the prevalence of diabetes in the community. For instance, the South Auckland Diabetes Project (Simmons et al, 1995) carried out a household survey of Otara and Mangere from 1992 to 1993. Estimates of age-standardised diabetes prevalence calculated from the published data are 1.7 percent for European peoples, 4.3 percent for Maori and 3.2 percent for Pacific peoples. For people

aged over sixty years, the prevalence estimates are eight percent for European peoples, 15.5 percent for Maori and 12.1 percent for Pacific peoples. The Auckland University Heart and Health Study data, collected during the same period, surveyed the population in the Auckland region. Prevalence estimates for non-Maori, non-Pacific older people were 5.2 percent for women and 6.1 percent for men.

Both local and international research indicates that the prevalence of diabetes is on the increase, which is of concern. (Simmons, 1996).

The Impact of Diabetes in the Community

The health consequences of diabetes can include retinopathy, kidney disease, peripheral and autonomic neuropathy, IHD, hypertension, stroke, peripheral vascular disease and diabetic nephropathy – a leading cause on end-stage renal failure in New Zealand (MOH, 1999). Type II diabetes is often associated with obesity and a lack of physical exercise, but it is also an independent risk factor for cardiovascular disease.

Diabetes is a leading cause of death in both New Zealand and the Auckland DHB. It was ranked as the 10th leading cause of death in Auckland in 1998, causing at least two percent of all deaths. Among Pacific peoples it was ranked as the 6th leading cause of death and ranked 8th for Maori.

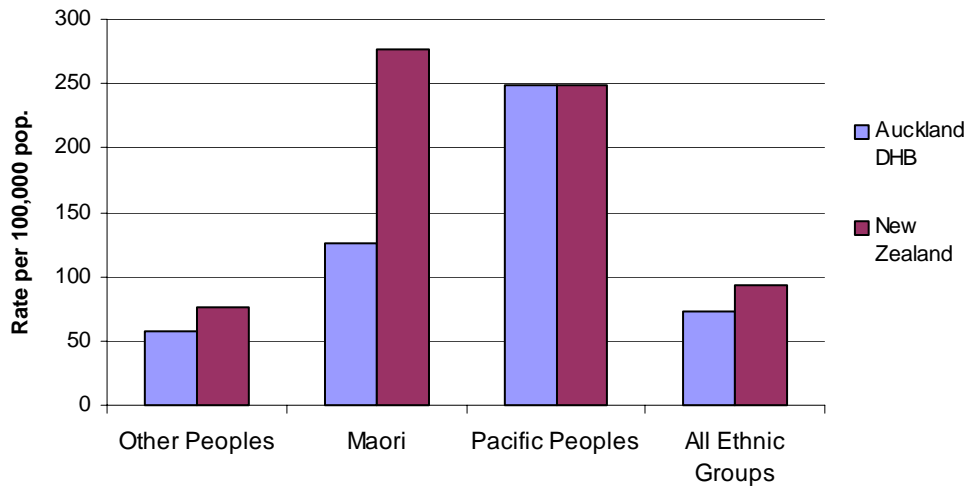
Diabetes is also a major cause of health loss among Maori and Pacific peoples. It is the second leading cause of DALYs lost each year in both populations (MOH, 2001). Diabetes is second only to IHD in this instance. Therefore, the burden that this disease imposes on these ethnic groups is significant.

Service Utilization

Public hospitalizations for diabetes (primary cause) by ethnicity reflect the higher prevalence of the disease among Maori and Pacific peoples in the Auckland DHB zone (Figure 67).

Figure 67 indicates that although there are ethnic disparities within the Auckland DHB population, there are marked differences between these rates and the rates for the all New Zealand population. Indeed, whilst Maori hospitalization rates for the New Zealand population are very high, the rates for Maori residing in the Auckland DHB zone are low in comparison. The possible reasons for this are varied. The difference may be due to anomalies in coding practices, it may be that Maori are more likely to be hospitalized for conditions that arise from poorly managed diabetes, rather than for diabetes itself, it could be that Maori are more likely to die from the disease and its complications before they can receive the care required, or it may be that diabetic Maori in the local population are well managed and are not hospitalized as often as Maori in the total New Zealand population. However, more detailed research and analysis is required to determine the real reason why fewer Maori are hospitalized with diabetes in the Auckland DHB population.

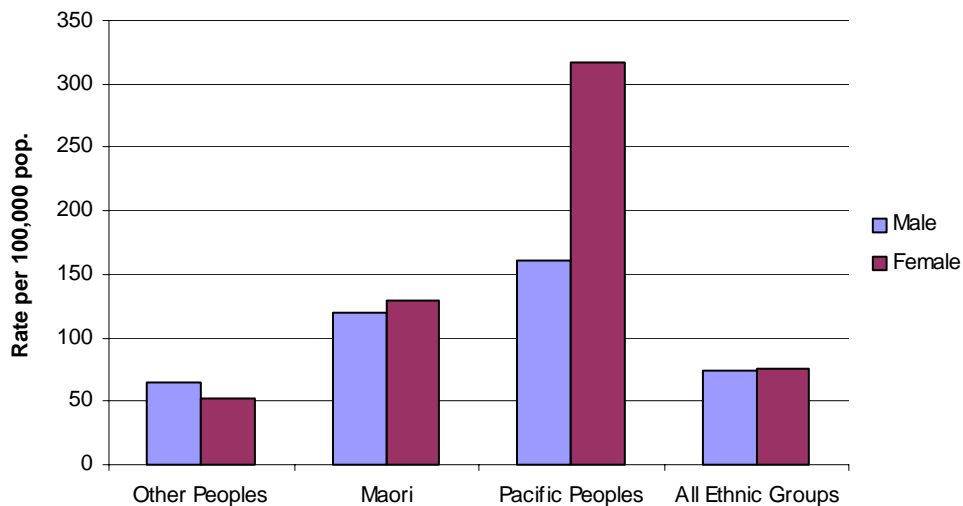
Figure 67: Age-standardised hospital discharge rate for diabetes (primary cause) by ethnicity, New Zealand and Auckland DHB pop., 1999.



Data Source: NMDS

The rates of hospitalization for Pacific peoples in the population are very high and are of particular concern. They are more than four times the rate for ‘Other’ peoples.

Figure 68: Age-standardized hospital discharge rate for diabetes (primary cause) by gender and ethnicity, Auckland DHB pop., 1999.



Data Source: NMDS

Figure 68 presents age-standardized hospitalization rates for the Auckland DHB population by ethnicity and gender. As can be seen, the rates for Pacific males and females are higher than the rates for any of the other groups presented. The rate for

Pacific females are of particular concern as they are more than six times the rate for females from 'Other' ethnic groups.

National Targets 2002

- ❑ *To reduce the age-standardized diabetes mortality rate to eight per 100,000 population by 2002.*
- ❑ *To reduce the age-standardized diabetes mortality rate among Maori to 39 per 100,000 population by 2002.*

Table 63: Age-standardized mortality rates from diabetes (primary cause) in the Auckland DHB population, by ethnicity, 1996-98.

| | Mortality Rate |
|-------------------|----------------|
| Other peoples | 9.7 |
| Maori | 52.0 |
| Pacific peoples | 76.2 |
| All ethnic groups | 14.9 |

Data Source: NZMDS.

Table 63 presents age-standardized mortality rates from diabetes for the Auckland DHB population, by ethnicity. As can be seen, the 1996-98 rates do not meet the national targets for 2002.

Although the New Zealand Health Strategy calls for a reduction in both the incidence and impact of diabetes in the population, the prevalence of disease is expected to increase over the next decade. In order to reduce the incidence and the impact of the disease, it will be essential to develop and action long-term strategies that target risk factors.

Key Issues:

- ❑ The prevalence of diabetes appears to be higher in Maori and Pacific peoples in the Auckland region;
- ❑ Auckland DHB resident's hospitalization rates are higher among Maori and Pacific peoples;
- ❑ Auckland DHB resident's mortality rates are higher among Maori and Pacific peoples;
- ❑ The Auckland DHB resident's mortality rates (1996-98) do not meet national targets set for 2002;

Future Tasks:

- ❑ Explore diabetes-related community outpatient data by ethnicity, age group etc;
- ❑ Explore reasons for low Maori hospitalization rates.

2.12: Objective: Reduce the incidence and impact of cancer

Cancer is a general descriptive term that covers a wide range of diseases, each of which may have very different causes. This section of the report reviews cancer mortality, cancer screening (where information was available at the time of writing), service utilisation and the impact of the disease on the community. Cancer is reviewed as an all inclusive disease category in the first instance, before major, site-specific cancers are reviewed on an individual basis.

Services Available

Auckland Hospital

Auckland Hospital has New Zealand's largest Oncology Service, which sees more than 3,500 new cancer patients annually. The Oncology Service provides treatment to people within the Auckland region and from elsewhere in New Zealand. The service is predominantly outpatient based. Radiotherapy is provided on five linear accelerators and chemotherapy is delivered in a day-stay facility.

Cancer Society of New Zealand

The aim of the Cancer Society of New Zealand is to minimise the impact of cancer on New Zealanders by providing major funding of research into the causes and treatment of cancer, cancer related information, support for cancer patients and their families, programmes promoting a healthy lifestyle to reduce the risk of cancer, advocacy on behalf of cancer patients and their families.

Auckland Cancer Society

The Auckland Cancer Society has a base in Grafton. It has registered nurses experienced in cancer care, who provide support and information to people who are newly diagnosed and/or receiving treatment for cancer. The nurses are community-based and visit people in their own home. Referrals can be made to the service by the person with cancer or by another person with the patient's consent. The Cancer Society Liaison Nurse complements the support provided by other community services and can refer to other services.

In addition, the society offers counselling services, aromatherapy, courses on living with cancer, support groups, information on cancer and accommodation for people undergoing treatment in Auckland.

Child Cancer Foundation

The national office is located in Grafton. Services include information, support services - such as a school re-entry program, access to holiday homes for the families of children with cancer etc. They have developed a graduate program for nurses in paediatric palliative care. The Foundation also administers a National Scholarship Programme that provides financial assistance to children and teenagers with cancer, and in some situations, their parents and siblings. It is designed to enhance the applicant's pursuit of personal and developmental goals. Scholarships are also awarded to those who require

extra tuition through disruption of education, or who suffer effects of the disease and its treatment.

Children with cancer have special needs due to the often lengthy treatment and the uncertain future the diagnosis brings. The Foundation also advocates and lobbies on behalf of children and teenagers with cancer, to ensure statutory authorities appreciate the ongoing problems and trauma the family experience. The Challenge Research Fund also provides valuable funding into studies investigating the causes and treatment of childhood cancer.

New Zealand Breast Cancer Foundation

The New Zealand Breast Cancer Foundation is a charitable trust that aims to educate all New Zealand women about breast cancer and the importance of early detection, while working towards the goal of complete control of the disease. The Foundation is based in Newmarket.

CanTeen

CanTeen is the New Zealand Teenage Cancer Patients' Society. It is a national peer support network for New Zealand young people living with cancer or a life-threatening blood disorder.

St Marks Womens Health Clinics

St Marks (clinic in Newmarket) provide private cervical and breast cancer screening and cancer treatment services to women.

General Practice

General practitioners and practice nurses provide screening services to patients and ongoing medical support to people with cancer.

Family Planning Association

The Family Planning Association provides cancer screening services to people in the Auckland DHB zone.

Appendix III provides locations of cancer services in the Auckland region.

Service Issues

Demand for cancer treatment services is expected to grow over time as the population in the Auckland region grows and the population ages. At present, the regional Oncology service is working hard to meet demand for services. Radiotherapy waiting times are a major issue for the service. In addition, staff recruitment and staff retention is an ongoing issue. For instance, in spite of an aggressive campaign, the oncology department has had to deal with shortages of radiation therapists over the past year. There are calls for access to new chemotherapy drugs and treatments for various cancers. Over time, the service is likely to find it more and more difficult to balance budgets against public expectations, as technology and medical science changes and new forms of treatment become available.

Cancer

Cancer is the second leading cause of death in the New Zealand population and it is the cause of one quarter of all deaths in the country each year. Cancer is the leading cause of death in the Auckland DHB population (1996-1998). There is an average of 684 deaths from cancer each year among Auckland DHB residents.

The burden of the disease on the national population has been quantified to an extent by the MOH (1999). Whilst the cancer burden is almost equally split between males and females, the greatest burden is experienced by those aged over 45 years in the national population. The MOH also report that the burden of cancer on Maori, across all age groups in the population, exceeds the burden experienced by the non-Maori population.

In particular, large bowel (16,262 DALYs) lung (17,919 DALYs) and breast cancer (13,522 DALYs) are of concern, as they place the biggest cancer burden on the population. Compared to cardiovascular disease, diabetes, chronic lung disease etc, however, cancer is relatively less important as a cause of long-term disability. This reflects the fact that most (although not all) cancers are rapidly cured with no residual disability, or are relatively rapidly fatal.

Age-standardized cancer mortality rates for the Auckland DHB and New Zealand populations are presented in Table 64, by ethnic group. Whilst mortality rates are an important measure to consider, as they provide us with a great deal of information about the burden of the disease in the population, the rates are influenced by factors such as changes in the effectiveness of treatment and incidence of the disease in the community. As the table shows, males appear to have higher cancer mortality rates than females and the rates for the Auckland DHB population are generally lower than the rates for the all New Zealand population.

Table 64: Age-standardised cancer mortality rates, by ethnicity, for Auckland DHB & NZ, 1996-98.

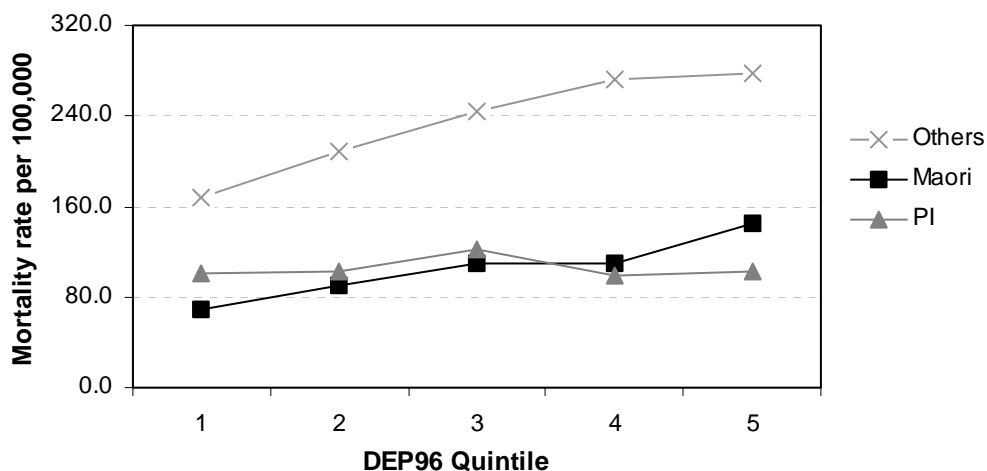
| | Other Peoples | Maori | Pacific Peoples | Total |
|---------------------|---------------|-------|-----------------|-------|
| Male Auckland DHB | 225.1 | 245.5 | 312.4 | 232.9 |
| Male New Zealand | 234.3 | 336.7 | 303.9 | 242.8 |
| Female Auckland DHB | 161.9 | 287.3 | 171.3 | 170.7 |
| Female New Zealand | 163.6 | 267.1 | 215.5 | 172.0 |

Data Source: NZMDS

The highest rates for males in the Auckland DHB population are among Pacific males. Among females, the highest rates are among Maori.

There appears to be a relationship between cancer mortality rates, ethnicity and increasing deprivation in the New Zealand population (Figure 69). The relationship is less obvious for Pacific peoples because of the relatively small numbers of deaths.

Figure 69: Age-standardised cancer mortality rates, by ethnicity and NZDEP96 quintile, for NZ & Auckland DHB, 1996-98.



Data Source: NZMDS

The trends evident from public hospital discharge rates for cancer, which provide an indication of both the impact of these diseases and service utilization, are very similar to the trends in cancer mortality. Indeed, Table 65 shows that males have higher hospitalization rates compared to females and rates for Auckland DHB residents are lower than the rates for the total New Zealand population. In addition, the rates for Pacific males far exceed the rates presented for other ethnic groups and the rates for Maori females exceed rates for other females in the Auckland DHB population.

Table 65: Age-standardised public hospital discharge rates for cancer, by ethnicity, for Auckland DHB & NZ, 1996-98.

| | Other Peoples | Maori | Pacific Peoples | Total |
|---------------------|---------------|--------|-----------------|--------|
| Male Auckland DHB | 1172.8 | 715.0 | 1203.4 | 1169.4 |
| Male New Zealand | 1289.7 | 955.7 | 1146.8 | 1273.9 |
| Female Auckland DHB | 809.9 | 845.1 | 709.6 | 810.5 |
| Female New Zealand | 972.9 | 1074.4 | 817.3 | 990.2 |

Data Source: NZMDS

Breast Cancer

Breast cancer is the major cause of cancer death in New Zealand females. Among women in the Auckland DHB, there was an average of 56 breast cancer deaths per year for the period 1996-98. Approximately eighty percent of all breast cancers occur in women aged fifty years or more. Several factors appear to increase the risk of developing breast cancer, including family history, reproductive history, diet, hormone usage, and radiation exposure.

Breast cancer is the leading cause of new cancer registrations in women. There are approximately 12,000 new cases diagnosed each year and one in twelve women in New

Zealand will develop breast cancer at some stage during her lifetime. At the national level, breast cancer registrations have increased markedly overtime (MOH, 1999), from a rate of 68.6 per 100,000 population in 1986 to 80.8 in 1995. However, the increase observed in registration rates may in part be due to changes in registration practices rather than an increase in the incidence of the disease in the national population.

Currently, all asymptomatic New Zealand women aged 50 to 64 years are eligible for breast screening. The aim of the BreastScreen *Aotearoa* programme is to screen women at two yearly intervals and achieve a national coverage rate of 70% of the target population. By 2005 the programme aims to reduce the age-specific mortality rate among New Zealand women aged 55-69 years to 64 per 100,000 or less.

The effectiveness of the screening programme is directly related to high attendance and a high quality screening programme. Women less likely to take up the offer of breast screening include older women, those from lower socio-economic backgrounds, women in irregular contact with their doctor and those who consider screening as not important or who are afraid (Maxwell et al 1997; Valdini and Cargill 1997; Urban et al 1994). A Waikato pilot trial identified that attendance rates for Maori were low (Campbell and Bryant 1997).

Breast screening coverage rates are provided in Table 66, for local Auckland DHBs and the New Zealand eligible female population.

Table 66: Breast screening coverage rates (% eligible pop.) by ethnicity & Auckland region DHB, for women screened July 2000 to June 2001.

| | Other Peoples | Maori | Pacific Peoples | Total |
|----------------------|---------------|-------|-----------------|-------|
| Waitemata DHB | 20% | 16% | 15% | 19% |
| Auckland DHB | 22% | 18% | 19% | 22% |
| Counties-Manukau DHB | 23% | 21% | 18% | 23% |
| All NZ | 30% | 17% | 17% | 29% |

Data Source: MOH

As can be seen, the coverage rate for Auckland is slightly higher than the rate for the Waitemata DHB, but a smaller proportion of the eligible Auckland DHB female population were screened compared to the Counties-Manukau DHB and all New Zealand eligible populations. This may in part be due to large numbers of Waitemata and Auckland DHB women with private medical insurance that choose to access private screening programmes.

There are requirements of the breast-screening program that are currently not being met in the Auckland region. For instance, 82.4 percent of women in the Auckland region requiring an assessment with a specialist are offered an appointment within 14 working days of having the screen performed. However, the MOH require ninety percent of women to have an appointment offered within 14 working days of a screen, where an assessment is necessary. Further, 85.1 percent of women receive biopsy results within seven days of their biopsy, but the MOH require ninety percent of women to receive their results within seven days of biopsy.

There has been increase of about one third in the number of deaths from breast cancer in the past twenty years that may reflect New Zealand’s aging female population. Age-standardized mortality rates for breast cancer are presented in Table 67.

Table 67: Age-standardised breast cancer mortality rates, by ethnicity & Auckland region DHB, 1996-98.

| DHB | Others | Maori | PI | Total |
|---------------|--------|-------|------|-------|
| Waitemata DHB | 15.2 | 19.6 | 28.7 | 15.5 |
| A+ | 14.8 | 21.9 | 23.0 | 16.0 |
| CMDHB | 19.2 | 15.9 | 27.2 | 20.5 |
| NZ | 16.2 | 22.2 | 26.3 | 17.0 |

Data Source: NZMDS

Auckland DHB had the lowest age-standardized mortality rate compared with other local DHBs and New Zealand for both ‘Other peoples’ and Pacific peoples. The age-standardized rate for Maori was higher in the Auckland DHB area compared with both the Waitemata and Counties-Manukau DHBs, but slightly lower than the overall New Zealand rate.

Cervical Cancer

Registration rates for cervical cancer have decreased over time (NZHIS, 2001) down 39 percent between 1988 and 1997. Similarly, the mortality rate has also decreased overtime, down 44 percent between 1988 and 1997. These reductions in mortality and registration over time are thought to be largely attributed to improvements in cervical screening since the mid-1980s.

There were 218 registrations in 1997 for the New Zealand population; a rate of 8.9 per 100,000 population and a total of 73 deaths; a mortality rate of 2.8 per 100,000 pop. In the Auckland DHB zone, there was an average of 29 deaths each year for the period 1996 –98. DHB specific mortality rates are not presented for comparison as the numbers are very small.

The National Cervical Screening Programme was initiated in 1990 and targets women aged 20 to 69 years who have had a smear in the previous five years. The screening programme aims to increase the proportion of eligible women enrolled and screened in the previous five years to 85 percent or more by the year 2000. The programme also aims to reduce the age-standardized mortality rate from cervical cancer in all New Zealand women to 3.5 per 100,00 or less by 2005.

Approximately one in every 88 New Zealand women will develop cervical cancer by the age of 75 years. Maori women are 2.5 times more likely to develop the disease than non-Maori. The exact cause of cervical cancer is not known. However, what is known is that:

- certain types of Human Papilloma Virus (HPV) are linked with around 95% of all cases of cervical cancer ;

- ❑ women with many sexual partners, or whose partners have had many partners, are more at risk of the disease;
- ❑ using a condom gives some protection;
- ❑ long-term use of the pill may increase the risk;
- ❑ women who smoke are about twice as likely to develop the disease as non-smokers;
- ❑ women with a late first pregnancy have a lower risk than those with an early pregnancy; the risk rises with the number of pregnancies;
- ❑ women who have had a total hysterectomy for other, non-malignant, reasons cannot get cervical cancer.

Total registrations and standardized registration ratios (SSRs) are presented in Table 68, by health region, for the period 1990-97.

Table 68: Registrations for cervical cancer, by Auckland region DHB & NZ pop, 1990-97.

| | Number | SSR |
|-------------------------|--------|--------|
| North and West Auckland | 173 | 86.8% |
| Central Auckland | 173 | 98.3% |
| South Auckland | 167 | 105.7% |
| NZ | 1,798 | 100 |

Data Source: MOH.

The SSRs show how observed registrations differ from expected registrations (expected registrations were calculated for each health region based upon national age-specific registration rates). The table shows that the SSR for the Central Auckland area was lower than the national average for the period 1990-97.

Whilst cervical screening is not one hundred percent effective in preventing the disease, international studies have shown that cervical screening programmes can reduce the incidence of cancer in women. Table 69 below shows the proportion of the female population (aged 20-69 years) that is currently participating in the national cervical screening programme (NCSP).

Table 69: % Women 20-69yrs participating in NCSP, by DHB.

| | % |
|-------------------------|------|
| North and West Auckland | 83.3 |
| Central Auckland | 84.1 |
| South Auckland | 94.8 |
| NZ | 86.5 |

Data Source: MOH.

NB: Figures adjusted for hysterectomy population.

As can be seen, participation rates for the Auckland DHB are below the national average.

Coverage rates are important to the overall effectiveness of the cervical screening programme. Coverage rates are presented in Table 70. The national target for screening coverage is 85 percent of the hysterectomy-adjusted population. As can be seen, screening rates for each of the Auckland region DHBs fall well short of this target, as does the national screening coverage rate.

Table 70: % Women 20-69yrs screened in the previous 36 months, by DHB.

| | % |
|-------------------------|------|
| North and West Auckland | 68.6 |
| Central Auckland | 69 |
| South Auckland | 67.6 |
| NZ | 72.5 |

Data Source: MOH.

NB: Figures adjusted for hysterectomy population.

Lung Cancer

Lung cancer is the most common cause of cancer death in New Zealand. In 1997, for example, there were more than 35 deaths per 100,000 population, from lung cancer. In Auckland, there was an average of 117 deaths per year in the Auckland DHB population for the period 1996-98. Smoking is the major risk factor for onset of the disease and approximately 90 percent of lung cancers are attributable to tobacco use (Tantrum et al, 1995). There is a delay in the development of lung cancer from smoking and current patterns of incidence largely reflect past patterns of tobacco use.

Age-standardized mortality rates for lung cancer are presented in Table 71. The rates presented compare the Auckland DHB, Waitemata DHB, Counties-Manukau DHB and the all New Zealand populations by ethnicity and gender. As can be seen, the rate of lung cancer death was extremely high in both the Maori and Pacific peoples populations. In general, male rates of death exceeded female rates of death, across DHB populations. However, the Auckland DHB Maori male death rate was exceeded by the female rate. In fact, lung cancer death is the most common cause of cancer death in Maori women.

Table 71: Lung Cancer age-standardised mortality rate (per 100,000 pop.), by Ethnicity & Gender, 1996-98

| | Male | | | Female | | |
|-----------------------------|-------|-----------------|-------|--------|-----------------|-------|
| | Maori | Pacific Peoples | Other | Maori | Pacific Peoples | Other |
| Auckland DHB | 130.2 | 111.2 | 50.6 | 179.1 | 35.1 | 27.6 |
| Waitemata DHB | 120.8 | 172.1 | 58.2 | 101.6 | 85.6 | 24.5 |
| Counties-Manukau DHB | 219.9 | 116.4 | 48.0 | 140.2 | 43.4 | 27.3 |
| NZ | 146.4 | 104.9 | 55.8 | 117.4 | 46.8 | 29.8 |

Data Source: NZMDS

Large Bowel Cancer

Large bowel cancer, or colon cancer, predominantly affects people of European ancestry in New Zealand. The mortality rate from the disease in New Zealand is one of the highest

rates for the disease in the world. Bowel cancer is second only to lung cancer at the national level, in the number of deaths and new cases reported each year. However, studies have shown that early detection and treatment of the disease can result in a ninety percent survival rate of 5 years or more, among those afflicted.

Risk factors for the disease include a personal or family history of colon cancer, polyps, or inflammatory bowel disease, prior endometrial, ovarian or breast cancer, or eating a high fat and a low-fiber diet. The signs and symptoms of the disease include rectal bleeding, blood in the stool, or a change in bowel habits (such as the shape, color, and frequency of the stool). If symptoms occur, a colonoscopy (viewing the entire colon with a fiberoptic scope) or a barium enema is often performed. If polyps or lesions are seen, they are biopsied or removed. If cancer is found, surgery, chemotherapy, or radiotherapy is performed.

Table 72 presents age-standardized mortality rates for the Auckland DHB, Waitemata DHB, Counties-Manukau DHB and the all New Zealand populations by ethnicity. Similar to the trend in the New Zealand population, non-Maori and non-Pacific people in the Auckland DHB population have the highest rates of death from large bowel cancer. In fact, it is the leading cause of cancer death for all non-Maori and non-Pacific people in the Auckland DHB (1996-98). The rates for the Auckland DHB appear to be lower than those for the all New Zealand population, however, the overall Auckland DHB rate in Table 6 is higher than the rate for the Waitemata and Counties-Manukau DHBs.

Table 72: Large bowel cancer age-standardised mortality rate (per 100,000 pop.), by Ethnicity,1996-98

| DHB | Others | Maori | PI | Total |
|---------------|--------|-------|------|-------|
| Waitemata DHB | 24.6 | 10.1 | 19.9 | 24.2 |
| A+ | 29.3 | 15.5 | 18.2 | 28.6 |
| CMDHB | 27.5 | 13.2 | 16.0 | 26.2 |
| NZ | 30.1 | 19.2 | 16.0 | 29.4 |

Data Source: NZMDS

Prostate Cancer

Prostate cancer was the leading cancer site for registrations in 1997 (NZHIS, 2001), with 2,336 new cases reported in the New Zealand population. There has been a steady increase in the number of registrations over the last decade that can be linked to changes in reporting practices and changes in diagnosis for the presence of the disease. Indeed, advances in medical technology have led to the development of the Prostate Specific Antigen (PSA) test as a diagnostic tool to indicate the probability of the presence of prostate cancer. Prostate cancer is then diagnosed using procedures such as a biopsy. PSA is a protein manufactured normally in the prostate. A raised PSA level can indicate the presence of cancer or other non-cancerous conditions. The PSA test measures the amount of PSA in the blood with a simple blood test (ibid)..

Major risk factors for the disease include age, ethnicity, family history and diet. The risk for prostate cancer increases with age, with men over the age of 65 at highest risk.

However, a large proportion of cases are diagnosed in men each year under the age of 65 years.

Table 73 presents prostate cancer age-standardized mortality rates for the Auckland DHB, Waitemata DHB, Counties-Manukau DHB and the all New Zealand populations. As can be seen, the overall rate for the Auckland DHB is lower than the rate for the other Auckland region DHBs and the all New Zealand population. Although not shown in the table below, the rate of death from prostate cancer in the all New Zealand population is highest among Pacific men (18.8/100,000 pop.), followed by the rate for Maori (16.9/100,000 pop.) and men from Other ethnic groups (13.5/100,000 pop.) The rates among ethnic groups are not shown at the DHB level as the actual numbers of deaths among Maori and Pacific men at the DHB level are very small. For instance, there was an average of one death per year from prostate cancer recorded among Maori and Pacific people in the Auckland DHB between 1996-98.

Table 73: Prostate cancer age-standardised mortality rate (per 100,000 pop.), by Auckland DHB & NZ pop.,1996-98

| DHB | Rate/100,000 pop. |
|---------------|-------------------|
| Waitemata DHB | 13.3 |
| A+ | 11.2 |
| CMDHB | 14.7 |
| NZ | 13.7 |

Data Source: NZMDS

Skin Cancer

See section on Public Health – non-communicable disease program.

Key Issues:

- ❑ All cancer mortality rates are higher among males than females in the Auckland DHB pop.;
- ❑ Pacific males have the highest all cancer mortality rate in the Auckland DHB pop.;
- ❑ Among females in the Auckland DHB pop., Maori have the highest all cancer rate;
- ❑ Average of 56 breast cancer deaths per year (1996-98) in Auckland DHB zone;
- ❑ Breast cancer new registration rates have increased in recent years – mainly due to better registration practices;
- ❑ Breast screening coverage rates in the Auckland DHB (22%) are low compared to the coverage rates for the NZ pop. (29%);

- ❑ Only 82% of women referred for a FSA are offered an appointment within 14 working days of a breast screen. MOH require 90% of women requiring an FSA to be offered an appointment within 14 days of a breast cancer screen;
- ❑ Only 85% of women receive biopsy results within seven working days of a biopsy. MOH require 90% of women requiring a biopsy to receive their results within seven working days;
- ❑ Auckland DHB breast cancer mortality rates are lower than for the NZ pop.;
- ❑ Auckland DHB breast cancer mortality rates are very high in Maori and Pacific women;
- ❑ Average of 29 cervical cancer deaths in the Auckland DHB pop per year (1996-98);
- ❑ Cervical cancer registrations and the numbers of deaths have decreased nationally overtime;
- ❑ Cervical cancer screening coverage rates are lower in the Auckland DHB pop. Compared to the NZ pop.;
- ❑ Auckland DHB male lung cancer mortality rates are high compared to females;
- ❑ Auckland DHB Maori lung cancer mortality rates are high compared to other ethnicities;
- ❑ Auckland DHB Pacific male lung cancer mortality rates are high compared to Pacific females;
- ❑ Auckland DHB Maori female lung cancer mortality rate is the highest lung cancer mortality rate in the Auckland DHB pop.;
- ❑ Large bowel cancer is the leading cause of cancer death among 'other' ethnic groups and 'other' ethnic groups have the highest mortality rates from large bowel cancer in the Auckland DHB population;
- ❑ Auckland DHB large bowel cancer mortality rates are lower than the rates for the all NZ population, but higher than the rates for Counties-Manukau DHB & Waitemata DHB pops.;
- ❑ Prostate cancer was the leading cancer registration site in 1997;
- ❑ Men aged 65+ are at greatest risk of the disease;
- ❑ Auckland DHB prostate cancer mortality rates are lower than the rates for the all NZ, Counties-Manukau DHB & Waitemata DHB pops;

- Radiotherapy waiting list is a major issue;
- There are significant Oncology staffing recruitment and retention issues.

2.13 Objective: Reduce the Incidence and Impact of Cardiovascular Disease

The rate of death from cardiovascular disease in New Zealand has declined over recent decades as medicine and technology has evolved and the prevalence of risk factors, such as smoking, has decreased. However, cardiovascular disease remains the leading cause of mortality and morbidity in New Zealand. This group of diseases includes both ischaemic heart disease (IHD) and stroke, which are profiled in this section of the report. At the individual disease level, IHD accounts for approximately 23 percent and stroke accounts for approximately nine percent of all deaths in New Zealand each year (Hill et al, 2001).

Services Available

Cardiology Services

Cardiology services are provided from Auckland Hospital and consist of the Coronary Care Unit/ Ward 9D, Cardiology Department and Cardiac Rehabilitation.

Coronary Care Unit

The Coronary Care Unit consists of six acute beds where patients are closely monitored. Attached to the Coronary Care Unit is a step down cardiology ward (Ward 9D) consisting of 11 beds. There are six beds in one room and five beds in the second room. There is current capacity to monitor six patients with portable telemetry units.

Cardiology Department

The Cardiology Department on the 1st floor of Auckland Hospital sees both inpatients and outpatients, and is the home to the Cardiology technicians, clerical staff and consultants.

The Cardiology clinic caters mainly for outpatients, who are either referred from within the hospital, or from external sources such as GPs, other hospitals etc. Patients attending clinics are assessed by a clinician and have standard tests performed (ECG, X ray and blood tests), and are referred for other tests as appropriate. There are two clerks available to organize bookings for each patient. Approximately 108 new patients and 183 repeat patients are seen each month.

The ECG clinic is staffed by three technicians, and serves as a home base for inpatient and outpatient ECG services throughout the Auckland and Starship hospitals. These services include holter monitor fittings as well as exercise tolerance tests. In 2000 there were 11,666 ECGs performed, there were 1,026 exercise tolerance tests, and 450 holter monitors were fitted.

The echocardiography department is staffed by four cardiac technologists who perform inpatient and outpatient echocardiography. They fit and analyze ambulatory blood pressure monitors, they also fit and analyze event recorders and analyze holter recordings. In 2000, there were 3,912 echoes performed, 84 blood pressure monitors were fitted and analyzed and 614 holter recordings were analyzed.

Cardiac Rehabilitation

There are three phases of Cardiac Rehabilitation. The first phase occurs while patients are still in hospital. Health care teams educate patients on their condition and patients with ischaemic heart disease are given information packs pertaining to their condition. Phase two occurs after patients leave the hospital. There is a seven week (2 - 2.5 hour sessions) programme that covers various aspects of heart disease in detail. Patients that live outside the Auckland DHB catchment area are usually referred to phase 2 programmes at North Shore Hospital, Waitakere Hospital and Middlemore Hospital. There are also private phase 2 programmes with an emphasis on exercise. For instance, services are available through the YMCA Rehabilitation Clinic and the Auckland Cardiac Rehabilitation Clinic. Phase three is a 'maintenance' phase or a community-based phase supported by the National Heart Foundation and cardiac clubs throughout Auckland. This phase encourages and supports healthy lifestyle changes and participation in regular weekly physical activities.

Education

The Coronary Care service also provides a range of educational programmes for staff including courses on ECG and Coronary Care Study Days - ischaemic heart disease and heart failure are covered.

Services at Greenlane Hospital

Green Lane has the most comprehensive tertiary diagnostic and treatment facilities for cardiac medicine in New Zealand including:

- ❑ Coronary and acute cardiac care including coronary angioplasty together with outpatient and non-invasive cardiovascular investigation and treatment;
- ❑ Treatment for congenital heart disease such as blue babies and holes in the heart;
- ❑ Surgery and catheter treatments that have been developed for children and babies;
- ❑ Coronary artery bypass surgery, with repair and replacement of faulty heart valves;
- ❑ Thoracic surgery;
- ❑ Rhythm disorders including radio-frequency ablation, pacemaker and implantable defibrillators;
- ❑ Heart and lung transplants.

Green Lane has introduced techniques that reduce or eliminate the need for open-chest surgery. These techniques include dilating narrowed valves and vessels, and the closure of congenital defects by catheter devices.

The department of intensive care at Green Lane Hospital provides ICU care to all cardiothoracic patients in the Auckland region. This includes around 400 paediatric patients with congenital heart disease. In addition, Greenlane is a national referral centre for ECMO (around ten cases per year). The hospital cares for patients post cardiac and lung transplantation and (15-20 cases per year) they are also an Auckland referral centre for patients with pulmonary embolus.

National Heart Foundation

The Heart Foundation aims to promote good health for all New Zealanders and to reduce suffering and early death from heart and blood vessel disease. The Foundation aims to:

- ❑ increase knowledge about the causes, treatment and prevention of heart and blood vessel disease;
- ❑ promote good health and reduce the underlying causes of heart and blood vessel disease;
- ❑ prevent people at high risk from developing heart and blood vessel disease, and improve the care and rehabilitation of people with heart and blood vessel disease.

The Foundation offers programmes, advice and resources to early childhood centres, schools, workplaces, the food industry, the wider community, the media and health professionals to encourage and support lifestyle changes. They have a comprehensive series of publications for the public on the prevention and treatment of heart disease including recipe books and other resources. The Foundation also offers support for cardiac clubs which offer help to those with heart disease, and their families.

The Stroke Foundation of NZ Inc

The Stroke Foundation of NZ Inc was established in 1980 to provide ongoing support, stroke information and advocacy to people who have suffered stroke and their care givers. Throughout New Zealand, the Foundation employs 42 field officers to support the stroke community. Additional stroke community activity is provided through over a hundred stroke clubs nationwide. The Stroke Foundation is organized into four regional operations with regional officers. Health professionals within the Stroke Foundation provide an excellent interface between those requiring stroke and allied services and those providing them. The Stroke Foundation facilitates the development and promotion of quality stroke rehabilitation services in New Zealand.

See Appendix III information on cancer service locations in the Auckland region.

Service Issues

There are approximately twenty referrals a day to Green Lane Hospital, of which approximately five are from outside of the Auckland DHB zone. Approximately one hundred patients are seen at Green Lane Hospital for a FSA each month. Patients are prioritized for cardiac surgery and referred to the waiting list, with a priority ranking and score.

The facility at Green Lane has four operating theatres for cardiac surgery. All four are by-pass capable and one of these is typically used for paediatric cases. On average the volume of surgery consists of approximately five adult by-pass surgery cases a day and two adult non-by-pass surgery cases per day.

The Auckland DHB has developed a management plan to assist in the management of growing demand for cardiac services. Acute emergency and in-hospital patients currently account for nearly all the surgery being performed. As at December 2000, there was a total of 369 patients awaiting cardiac surgery at Green Lane and 160 of these patients had been waiting longer than six months.

A number of initiatives have been introduced to address the waiting list. These initiatives include performing elective operations on Saturdays, sub-contracting surgery to private hospitals, increasing theatre staff numbers, recruiting extra nursing staff, purchasing an additional heart-lung machine and developing an HDU to help smooth the flow of patients through the ICU.

It is important to note that demand for other services such as angiography have also increased and waiting lists for these services have grown in response in recent years. The growth in demand for cardiac services appears to be occurring across the region and is not a problem unique to the Auckland DHB.

There are a number of issues that will impact on future demand for services and these include:

- ❑ The incidence of coronary artery disease is increasing in the community;
- ❑ Increases in the number of cardiologists in the Auckland region is likely to lead to an increase in referrals;
- ❑ The population in the Auckland region is growing and the population is also aging which is likely to fuel future demand for cardiac services;
- ❑ There has been an increase in patients with predisposed conditions - such as refugees;
- ❑ There have been increases in the numbers of people being referred from outside the Auckland DHB zone;

- ❑ Counties-Manukau DHB has a long cardiology waiting list for FSA. Once these people have been assessed, a large number of them are likely to be referred to Greenlane for surgery;
- ❑ Staff recruitment and staff retention is an ongoing issue that impacts on both the skill mix and staffing levels at Green Lane;
- ❑ There are facility constraints (theatre space);
- ❑ The acute workload is an issue – Greenlane provides tertiary services to a large regional area. The acute workload leads to the cancellation of elective surgery;
- ❑ In-hospital patients are added to operating lists;
- ❑ Leave entitlements for specialists is an issue ;
- ❑ ‘Burn-out’ is an issue for Green Lane consultants;
- ❑ Loss of staff to private facilities.

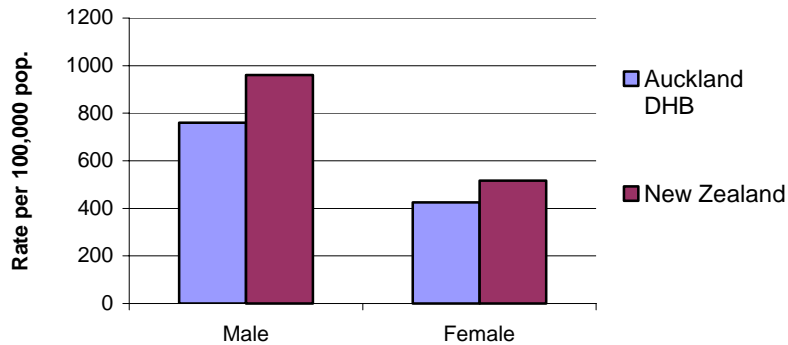
Where possible, the risks associated with these issues will need to be minimized in order to manage future service demand.

Ischaemic Heart Disease

IHD is the second leading cause of death in both the Auckland DHB and New Zealand populations (when individual diseases are considered). Similar to the figure for the New Zealand population, the disease accounts for 23 percent of all deaths (average = 620/yr, 1996-98) in the Auckland DHB zone each year. It imposes an enormous burden on the population and is recognized as a leading cause of DALYs in New Zealand (MOH, 2001).

The Auckland Regional Coronary Study (ARCOS) involved ten years of continuous surveillance of fatal and non-fatal IHD events in the Auckland region between 1984 and 1993. The study provides the most reliable, local data available on the incidence of IHD related events (Beaglehole et al, 1997). In 1993, the last year of the study, the age-standardized rate of IHD events (mainly heart attacks) in men (35-64yrs) was 345 per 100,000 population. Approximately 52 percent of all events were non-fatal in males. In women (35-64 yrs), the rate of IHD event was 92 per 100,000 population. This was almost one quarter the rate observed among males, but women were more likely to die as the result of an IHD event. The ARCOS study showed that between 1984 and 1993, both fatal and non-fatal IHD events in the Auckland region decreased for both males and females.

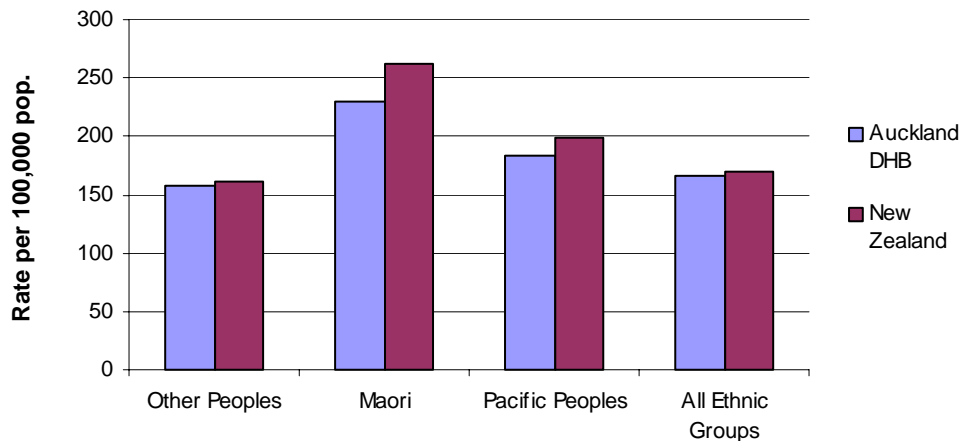
Figure 70: Age-standardised public hospital discharge rates for IHD by gender, Auckland DHB & NZ pop., 1999.



Data Source: NMDS

Age-standardized hospitalization rates for IHD in 1999 are presented in Figure 70. As can be seen, rates for males are higher than rates for females. This is not unexpected given the gender differences observed in IHD event incidence in the ARCOS study. However, the rates for male and female Auckland DHB residents are markedly lower than the rates for males and females in the all New Zealand population.

Figure 71: Age-standardised mortality rates for IHD by ethnicity, Auckland DHB & NZ pop., 1996-98.



Data Source: NZMDS

Age-standardized mortality rates for IHD in 1999 are presented in Figure 71. As can be seen, the mortality rates among Maori and Pacific peoples are higher than those for people from 'Other' ethnic groups, although the rates for residents in the Auckland DHB zone are lower than the rates for the all New Zealand population.

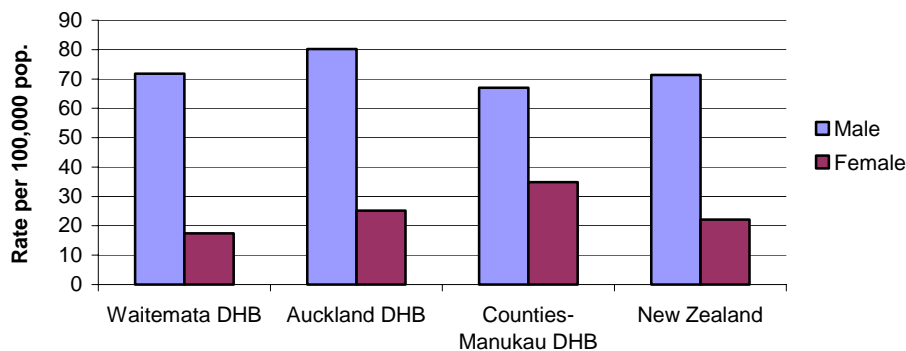
Hospitalisation rates for Auckland DHB residents are lower than the rates for the New Zealand population and this could indicate poorer access to secondary services by Auckland residents. However, the mortality data indicates that service access may not be the issue for Auckland DHB residents as fewer people die per head of population in the zone than die in the all New Zealand population. It may be that the incidence rate for IHD events in the Auckland DHB population in 1999 is less than for the all New Zealand population and this may account for the lower rate of hospitalization for Auckland DHB residents. In order to confirm the point, more detailed, up-to-date IHD incidence data is required for both the local and national populations.

Coronary Artery Bypass Grafts (CABGs)

The majority of CABGs performed on residents of the Auckland region are performed at Greenlane Hospital. Figure 72 presents age-standardized public hospitalisation rates for CABG procedures by patient gender and Auckland regional DHB. In general, the rates for males are at least two times as high as the rates for females across DHBs in the region. Males residing in the Auckland DHB zone appear to have the highest rates of any group presented in Figure 72.

In fact, the rates for males and females residing in the Auckland DHB zone are greater than the rates for males and females in the other populations presented. It is difficult to say conclusively whether this indicates Auckland DHB residents have better access to CABG procedures than people elsewhere. It may be that volumes are higher per head of population in the zone because Greenlane Hospital provides services to people outside of the zone (eg Northland) and these patients may be more likely to list an Auckland City (Auckland DHB) address (address of a relative living nearby where they may have been staying, the address of a local lodge, motel etc) when admitted for surgery.

Figure 72: Age-standardised public hospital discharge rates for CABGs by gender, Auckland regional DHB & NZ pop, 1999.



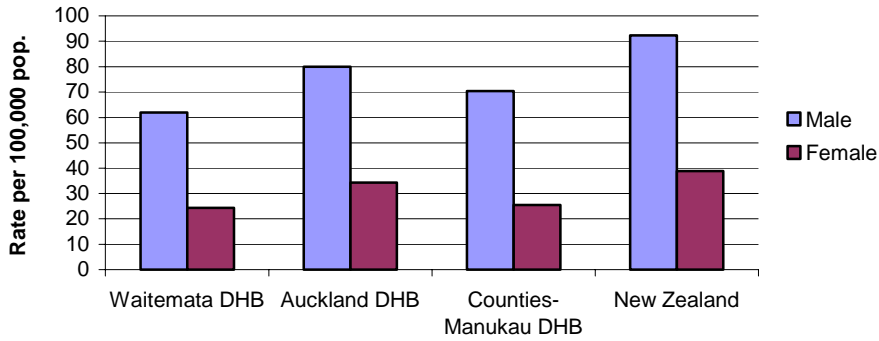
Data Source: NMDS

The Auckland DHB rates might also be taken as an indication of the better health of local residents. Prospective patients with co-morbidities, such as diabetes, or those deemed to be ‘high-risk’ patients are less likely to receive surgery. There may be a higher number of

‘high-risk’ patients residing in other DHB zones compared to the Auckland DHB, that are less likely to qualify for surgery.

Angioplasty Procedures

Figure 73: Age-standardised public hospital discharge rates for angioplasty procedures by gender, Auckland regional DHB & NZ pop., 1999.

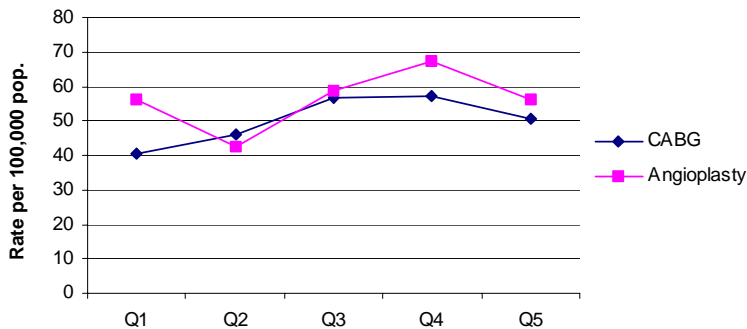


Data Source: NMDS

The trends for angioplasty procedures (Figure 73) are very similar to those for CABGs. Indeed, male rates are approximately twice as high as female rates and residents in the Auckland DHB zone have higher procedure rates overall compared to residents of either the Waitemata or Counties-Manukau DHBs. However, angioplasty procedure rates for DHBs in the Auckland region are low in comparison to the rates for the total New Zealand population, indicating a) access may not be quite as good in Auckland as it is elsewhere in the country, or b) that heart disease requiring angioplasty is less prevalent in the Auckland population compared to elsewhere in the country.

CABG and Angioplasty Procedures by Deprivation (NZDEP96 Quintile)

Figure 74: Age-standardised public hospital discharge rates for CABG & angioplasty procedures by NZDEP96 quintile, for the Auckland DHB, 1999.



Data Source: NMDS

Figure 74 presents age-standardized rates for CABG and angioplasty procedures by deprivation quintile (NZDEP96). As can be seen, the rates for procedure appear to be higher in the high deprivation quintiles. At the time of writing, the number of procedures performed in the private sector were not available for comparison. It is probable that the procedure rates for the low deprivation quintiles (Q1 & Q2) would be somewhat higher if private procedures were included as residents of low deprivation areas in the zone are more likely to be able to afford private procedures and are more likely to have private medical insurance.

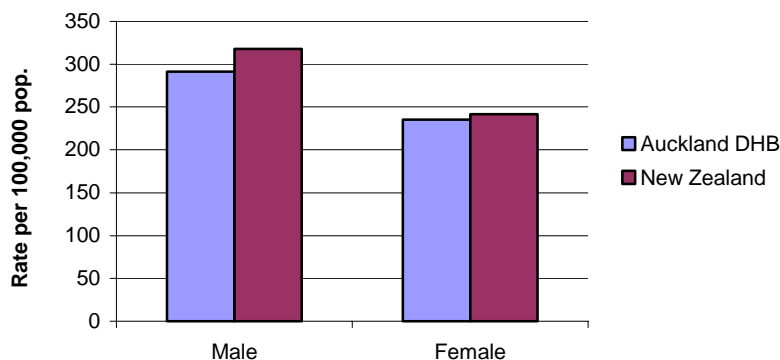
Stroke

Stroke is the third leading cause of death in both the Auckland DHB and New Zealand populations (when individual diseases are considered). Similar to the figure for the New Zealand population, the disease accounts for ten percent of all deaths (average = 280, 1996-98) in the Auckland DHB zone each year. It imposes an enormous burden on the population and is recognized as a leading cause of DALYs in New Zealand (MOH, 2001).

The ARCOS study, mentioned previously, also profiled the incidence, prevalence and health outcomes for stroke in Auckland between 1981-82 and 1991-92. In 1991/92 the age-standardized incidence rate of stroke in the population was 148 per 100,000 population for males and 124 per 100,000 population for females. Approximately 75 percent of all strokes occurred in people over 65 years of age and fifty percent of strokes occurred in people over 75 years of age. The incidence rate did not change significantly over time, although survival rates did improve significantly. The reductions in stroke mortality may have been due to reductions in the severity of stroke or improvements in acute stroke care over time (Bonita et al, 1997).

The ARCOS study also estimated that approximately eight people per 1,000 population in 1991 had experienced at least one stroke in their lifetime (age-standardized rate of 833 per 100,000 population). The prevalence of stroke was higher in older age groups.

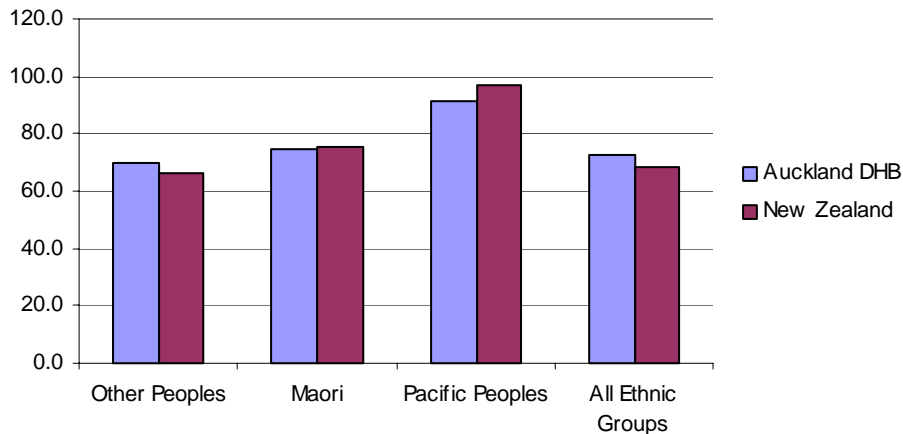
Figure 75: Age-standardised public hospital discharge rates for stroke by gender, Auckland regional DHB & NZ pop., 1999.



Data Source: NMDS

Age standardized public hospitalisation rates for stroke are presented in Figure 75. As can be seen, rates for males are higher than rates for females. This is not unexpected given the gender differences in incidence observed in the ARCOS study. However, the rates for male and female Auckland DHB residents are somewhat lower than the rates for males and females in the all New Zealand population.

Figure 76: Age-standardised mortality rates for stroke by ethnicity, Auckland regional DHB & NZ pop., 1996-98.



Data Source: NMDS

Figure 76 presents age-standardized mortality rates for stroke in the Auckland DHB and all New Zealand populations. The graph clearly shows that more Maori and Pacific peoples die as a result of stroke than people from ‘other’ ethnic groups. The graph also shows that the mortality rates between the Auckland DHB and all New Zealand populations are not too dissimilar, although Auckland does have a higher overall mortality rate for stroke.

Key Issues:

- ❑ Demand for cardiac surgery at Green Lane is likely to increase over time;
- ❑ Waiting lists for surgery at Green Lane are long, although initiatives are now in place to reduce the backlog of cases awaiting surgery;
- ❑ Cardiovascular disease is the second leading cause of death in the Auckland DHB zone after cancer;
- ❑ Auckland DHB hospitalization rates for IHD events are high in males compared to females;
- ❑ Auckland DHB mortality rates for IHD are high among Maori in the pop;

- ❑ Auckland DHB mortality rates for IHD are lower than for all NZ;
- ❑ Auckland DHB CABGs & Angioplasties are very high in males compared to females;
- ❑ Auckland DHB hospitalization rates for stroke are high in males compared to females;
- ❑ Auckland DHB mortality rates for IHD are high among Maori but are very high among Pacific peoples;
- ❑ Auckland DHB mortality rates for stroke are higher than for all NZ;

Future Tasks:

- ❑ Profile hospitalisations by ethnicity for IHD;
- ❑ Profile hospitalisations by ethnicity for stroke.

2.14 Summary

This section of the report covers the New Zealand Health Strategy's thirteen health objectives and provides baseline measures for future reference and monitoring of DHB performance over time. There are major inequalities in the prevalence of specific conditions and inequalities in the utilization of services between population groups. The Auckland DHB does not meet most of the national public health targets, but neither do other local DHBs.

There are major ethnic and gender inequalities relating to the public health components of the thirteen health objectives. Public Health is a regionally funded service, currently funded by the MOH. In addition to the regional service provided by the provider-arm of the Auckland DHB, public health services are also provided by GPs, PCOs, IPAs, Maori health service providers, Pacific health service providers, NGOs etc.

There are issues evident in accessing some services. For instance, there are waiting list issues for cardiovascular disease and cancer treatment. In addition, the level and extent of mental health services currently provided do not appear to meet demand.

There is a great deal of other information to be collected over time to build upon the existing picture presented here in relation to the thirteen health objectives. This analysis is the first step in an ongoing process to profile and monitor each objective.