

5 HEALTH AND POPULATION PRIORITIES

Health Priorities for Strategic Consideration

Mortality and morbidity are not totally accurate measures of the prevalence of serious illness or injury in the population, as these are influenced by:

- Access to hospitals and Primary Health providers
- Repeat admissions for chronic illnesses
- Illnesses that are specific to population and/or ethnicity groups

However, the mortality and morbidity data indicate the type and range of health problems that are serious enough for strategic interventions.

Waikato DHB HNA 2008 analysis identified that the renal service to be a high cost, low volume service that is facing significant growth and demand. It is estimated end stage renal failure (ESRF) numbers could double in the next five years. This is driven by Type II Diabetes, particularly in Māori populations, and increased acceptance of elderly onto dialysis programmes.

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

For Waikato, the recommended health priorities for strategic commitments in the long term are:

- Circulatory System
- Malignant Cancers
- Respiratory System
- Endocrine, metabolic and immunity
- External Causes
- Renal Services

Please refer to the individual chapters for the exact leading illnesses under each of these priorities.

Population Priorities for Strategic Consideration

The findings outlined in the report “Hauora - Maori Standards of Health IV³⁹” are consistent with the findings from the HNA 2008, for the Waikato. This document is available on the website: <http://www.hauora.maori.nz>

³⁹ Hauora, Maori Standards of Health IV, A Study of the Years 2000-2005, Te Ropu Rangahau Hauora A Eru Pomare, November 2007

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Key findings of population priorities as outlined in this report are:

- Maori
- Pacific People
- People living in low socio-economic status
- Older People

Determinants of Health: Addressing inequality in the distribution of social, economic, environmental, cultural and political resources is essential in order to realize the full potential of health among Maori, Pacific People and people in low socioeconomic status irrespective of their ethnicity. In order to achieve positive outcomes, it is necessary to establish teams within the Waikato DHB to work collaboratively with relevant interagency projects addressing the above areas of health inequalities. In addition, each health care project within the Waikato DHB must clearly demonstrate roadmaps for prevention, interventions and ongoing service management with specific focus to determinants of health outlined above.

NZDep Quintile 3 to 5: Strategic projects/initiatives to address the critical needs of people in NZDep quintiles 3 to 5. As part of the strategic planning process, measurable targets need to be agreed upon across the organisation in order to make the difference in this low socio-economic status.

Improved access to health and quality of care received: Based on the research it is evident that Maori aged 45-64 are at high risk of mortality and hospitalisation to most of the health priorities discussed in this HNA. Health care projects need to clearly demonstrate faster and improved pathways to health care, ensuring adequate access to transport and resources where necessary for timely prevention and treatment.

Improved access and timely support for older people: With the ageing population, the cost to the health system is highest among people aged 65+. More focus is needed on prevention, timely intervention and support services. It is essential to incorporate ethnic beliefs, culture and rights when structuring services.

5.1 Introduction

The statistical information on the growth of the population, its ethnic dimensions, socio-economic frameworks combined with analysis on how many people die or hospitalised each year and the leading causes of hospitalisation or death enable the health sector management to effectively plan actions for improving health and reducing preventable deaths across the country.

The outcomes and recommendations from these studies provide the platform for district wide strategic planning for the medium to long term.

The main purpose of this section of the HNA is to provide a brief summary of health and population priorities following in depth analysis and assessment of mortality and morbidity data and various research findings. Each of the health

priorities outlined in this section is discussed extensively in individual chapters.

5.2 Background

Based on the analysis it is evident that there are no notable changes from the health and population priorities identified in the HNA2004 to the priorities outlined in the HNA 2008.

Long-term health and the prevention and management of chronic diseases, including obesity, heart disease, cancer and diabetes, are in part determined by nutrition and dietary choices.

Achieving positive changes to the health and population priorities of chronic diseases require the entire population making fundamental changes to human lifestyle factors. Supportive physical and social environments can be created where people live, work and play to enable this change to occur. The population as a whole needs to make the necessary behaviour changes towards healthy eating, physical activities and reducing obesity and smoking. This will help ensure the planned benefits from the efforts (financial and non financial) to reduce the incidence and impact of the health priorities are fully realized.

5.3 Data Sources

The main data sources were:

- New Zealand Health Information System (NZHIS) - Mortality and morbidity data
- Emergency Department (ED) data (where appropriate)
- iPM (Patient Management System) data (where appropriate)

5.4 Objectives

The objectives of this section are to present five health and five population priorities, including lifestyle factors based on in depth analysis and assessment based on:

- Incidence of death and hospitalisation specific to the Waikato region, Midland region and national for the periods 1998 to 2006.
- Recent research findings from various publications
- Reports published by the Ministry of Health (MoH) and other relevant organisations, eg. Epidemiological reports

5.5 Mortality - Waikato

Total mortality from 1998 to 2004 was 16,240 (7805 females and 8435 males). Mortality to circulatory system related illnesses was 41% of total mortality, followed by malignant cancers at 28%. The leading causes of mortality were:

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Table 36: Leading causes of mortality - Waikato

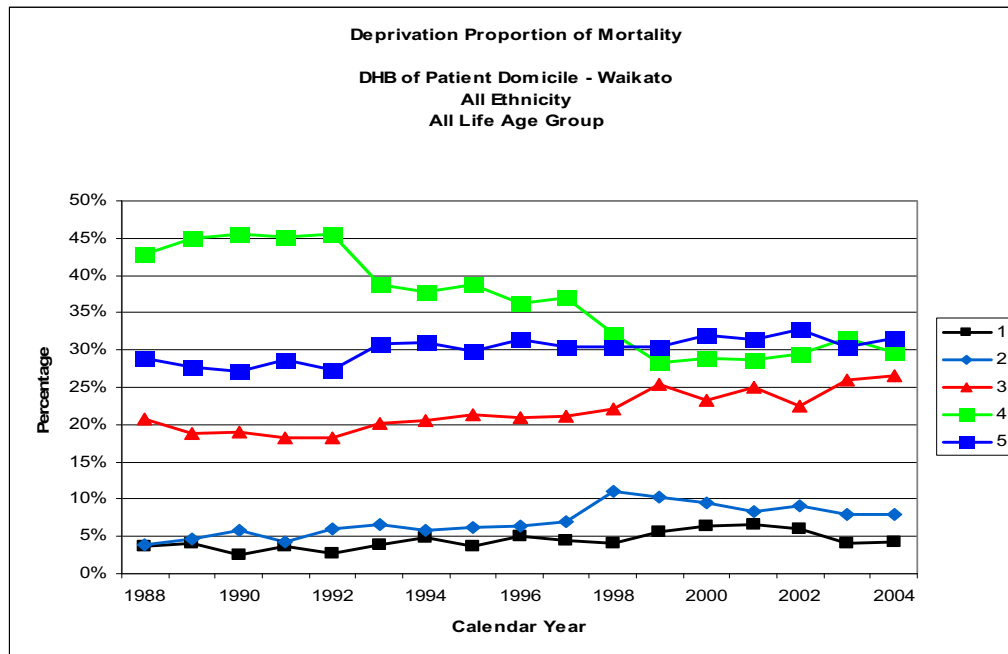
Leading Causes of Mortality - Waikato	1998	1999	2000	2001	2002	2003	2004	Total
Circulatory system	915	1,019	899	962	977	930	908	6,610
Cancer - Malignant	634	635	633	676	634	616	690	4,518
Respiratory system	195	256	191	242	198	184	201	1,467
External causes	160	157	154	129	153	153	147	1,053
Endocrine, metabolic & immunity	98	86	107	81	86	101	87	646
Digestive system	57	66	57	49	65	53	59	406
Nervous system	28	42	65	63	61	71	74	404
Mental disorders	65	52	38	50	51	73	53	382
Genitourinary system	25	23	25	30	28	20	30	181
Musculoskeletal system	18	19	23	10	17	14	12	113
Total Mortality to Top 10 Causes	2,195	2,355	2,192	2,292	2,270	2,215	2,261	15,780
<i>Other Causes of Mortality</i>	63	65	76	61	79	47	69	460
Grand Total - Mortality	2,258	2,420	2,268	2,353	2,349	2,262	2,330	16,240

Reflecting the population, the ethnic split of mortality showed most was in the Other ethnic group at 83% followed by Maori at 15%. Asians and Pacific People each represent around 1% of the total mortality in the Waikato from 1998 to 2004.

The gender proportion of mortality showed a slight trend towards an equal split between male and female by 2003. This may indicate that men are living longer today.

The prevalence of mortality by deprivation quintile was stable over the ten years 1995-2004, with minor variations.

Graph 23: Deprivation Proportion of Mortality



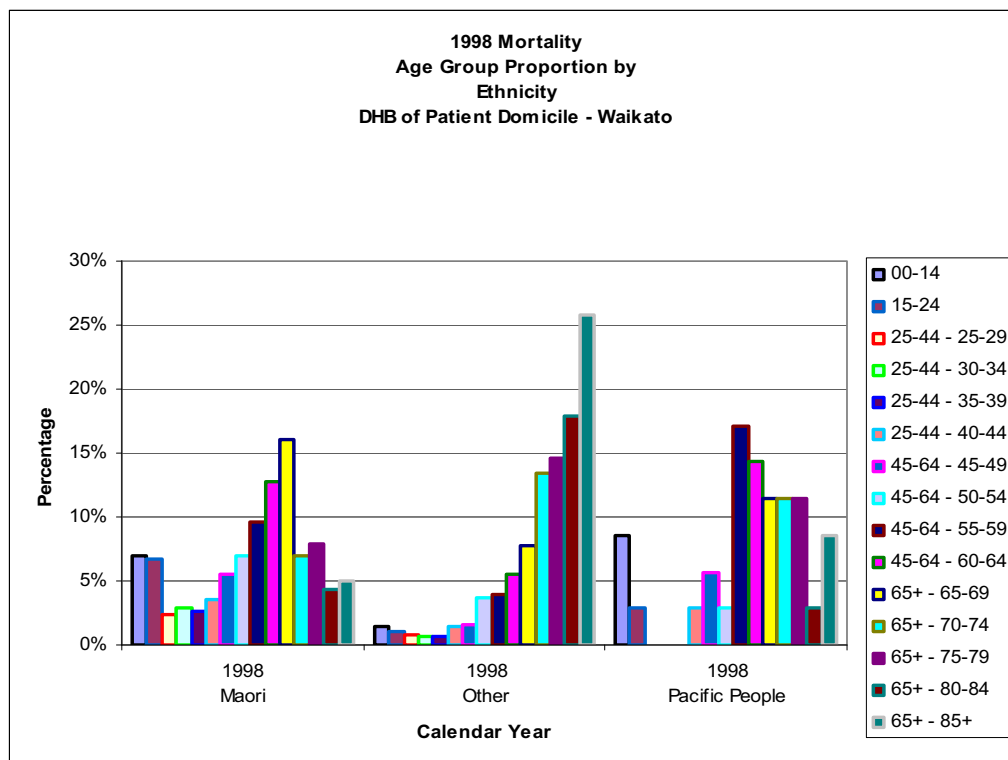
The age proportion of the mortality was steady with 65+ as the highest group, followed by 45-64 age groups.

Further analysis of the 75% of total mortality occurring in the 65+ age group shows the proportion of deaths occurring in the 85+ age group has increased significantly indicating more people are living to 85 and longer.

Age proportions by ethnicity

When the age proportions of mortality, in 5 year bands, are compared between ethnic groups it becomes obvious that the increase in deaths in the 85+ age group is limited to the Other ethnic group. In both Maori and Pacific People, the proportion of mortality in the 65+ age groups has increased, but average age of mortality is still significantly less than in the Other ethnic group.

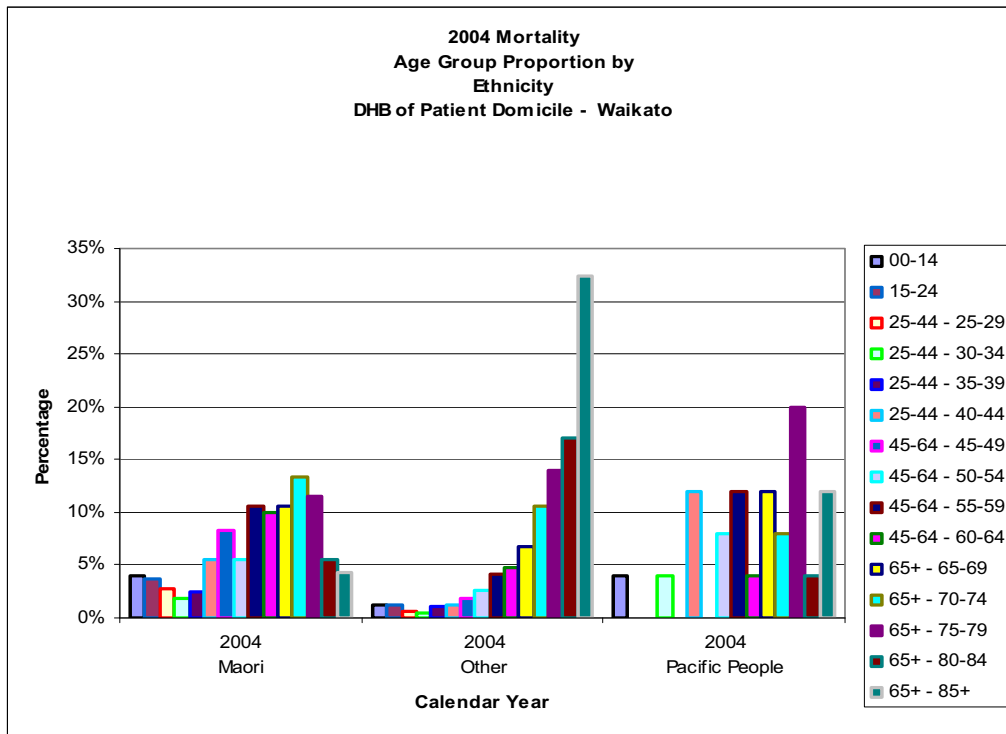
Graph 24: Waikato mortality, 1998, by ethnicity, percentage by 5 year age group



Note: 5 year bands start at age 25

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Graph 25: Waikato Mortality 2004 by ethnicity, percentage by 5 year age group



Note: 5 year bands start at age 25.

5.5.1 Leading Causes of Mortality by ethnicity

When the leading causes of mortality were analysed by ethnic groups in the Waikato, the priority of causes changed, as shown below:

Table 37: Leading Causes of Mortality by Ethnic Groups

Leading Causes of Mortality - 1998-2004 -Maori	Total No.Mortality Maori	Leading Causes of Mortality - 1998-2004 -Other	Total No of Mortality - Other
Circulatory system	822	Circulatory system	5665
Cancer - Malignant	620	Cancer - Malignant	3825
External causes	282	Respiratory system	1240
Respiratory system	209	External causes	714
Endocrine, metabolic & immunity	188	Endocrine, metabolic & immunity	432
Nervous system	45	Mental disorders	353
Digestive system	43	Nervous system	353
Ill-defined conditions	29	Digestive system	351
Mental disorders	25	Genitourinary system	155
Infectious & parasitic diseases	24	Musculoskeletal system	100
Remaining Illnesses - Mortality	94	Remaining Illnesses - Mortality	328
Total Mortality -Malignant Cancer - Maori	2381	Total Mortality -Malignant Cancer - Other	13516
Leading Causes of Mortality - 1998-2004 -Asians	Total No of Mortality-Asians	Leading Causes of Mortality - 1998-2004 -Pacific People	Total No. of Mortality - Pacific People
Circulatory system	41	Circulatory system	82
External causes	36	Cancer - Malignant	41
Cancer - Malignant	32	External causes	21
Digestive system	7	Endocrine, metabolic & immunity	19
Endocrine, metabolic & immunity	7	Respiratory system	12
Respiratory system	6	Digestive system	5
Congenital anomalies	4	Genitourinary system	4
Nervous system	3	Ill-defined conditions	3
Perinatal conditions	3	Nervous system	3
Ill-defined conditions	2	Mental disorders	2
	5	Remaining Illnesses - Mortality	5
Total Mortality - Malignant Cancer - Asians	146	Total Mortality - Malignant Cancer Pacific People	197

Although there are variations across the ethnic groups, collectively the leading causes of mortality in the Waikato across all ethnic groups were:

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- Circulatory System - Ischemic heart diseases, Acute myocardial infraction
- External Causes - Road traffic accidents, suicide - intentional self harm
- Cancer Malignant - Cancer sites vary by ethnicity, eg. Skin and lung cancer
- Respiratory system - Chronic Obstructive Pulmonary Diseases (COPD)
- Endocrine, metabolic and immunity - Diabetes Mellitus

Each of these leading causes by ethnicity is discussed in detail in subsequent chapters. It is evident from the detailed analysis that these leading causes were consistent across the ethnic composition and there were no ethnic specific illnesses.

5.5.2 Midland Regional Perspective - Mortality

When the leading causes of mortality in the Waikato were compared against the Midland region, similar trends were shown:

Table 38: Leading Causes of Mortality - Midland Region

Midland Top Ten Causes of Mortality	1998	1999	2000	2001	2002	2003	2004	Total
Circulatory system	2,170	2,482	2,244	2,429	2,411	2,274	2,329	16,339
Cancer - Malignant	1,570	1,577	1,629	1,681	1,610	1,601	1,635	11,303
Respiratory system	433	622	463	544	489	471	521	3,543
External causes	413	413	377	354	362	418	385	2,722
Endocrine, metabolic & immunity	229	200	266	239	224	244	256	1,658
Nervous system	85	104	152	156	163	180	185	1,025
Digestive system	149	155	144	128	178	146	147	1,047
Mental disorders	136	146	101	125	119	160	143	930
Genitourinary system	60	72	83	79	75	72	75	516
Musculoskeletal system	46	43	47	35	41	45	33	290
Top Ten Leading Causes	5,291	5,814	5,506	5,770	5,672	5,611	5,709	39,373
<i>Remaining Mortality</i>	166	169	188	188	183	167	181	1,242
Grand Total -1998-2004	5,457	5,983	5,694	5,958	5,855	5,778	5,890	40,615

And analysis of leading causes at the national level confirms that the trends in the Waikato were not unique.

Table 39: Leading Causes of Mortality - National Perspective

National Leading Causes of Mortality	1998	1999	2000	2001	2002	2003	2004	Total
Circulatory system	10,971	11,675	10,962	11,404	11,370	11,018	11,003	78,403
Cancer - Malignant	7,683	7,706	7,653	7,787	7,800	7,935	7,759	54,323
Respiratory system	2,208	2,727	2,060	2,407	2,391	2,358	2,405	16,556
External causes	1,699	1,701	1,619	1,658	1,679	1,790	1,641	11,787
Endocrine, metabolic & immunity	981	969	1,025	964	1,021	1,079	1,030	7,069
Nervous system	500	497	809	910	920	874	941	5,451
Mental disorders	818	845	546	679	725	763	808	5,184
Digestive system	636	698	716	745	852	691	770	5,108
Genitourinary system	296	351	343	393	370	388	356	2,497
Musculoskeletal system	206	206	214	235	243	225	207	1,536
Top Ten Leading Causes	25,998	27,375	25,947	27,182	27,371	27,121	26,920	187,914
<i>Remaining Mortality</i>	817	842	895	878	908	858	879	6,077
Grand Total - Mortality	26,815	28,217	26,842	28,060	28,279	27,979	27,799	193,991

5.5.3 Avoidable Mortality - Waikato

Avoidable mortality in the Waikato was calculated as 5,433 and unavoidable mortality as 10,872 for the years from 1998 to 2004. The top leading causes

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of avoidable mortality strongly reinforce the suggested long term health priorities in the Waikato.

Table 40: Leading Causes of Avoidable Mortality

Leading Causes of Avoidable Mortality 1998-2004	Total
Cardiovascular diseases	1832
Neoplasm	1753
Unintentional injuries	447
Respiratory diseases	386
Intentional injuries	323
Nutritional, endocrine and metabolic conditions	238
Other avoidable mortality	454
Total Avoidable Mortality 1998-2004	5433
Total Unavoidable Mortality 1998-2004	10872

These leading causes of mortality coupled with the leading causes of hospitalisation will confirm the health priorities and will set the foundation for strategic conversation and the development of strategic programmes for the Waikato region.

5.6 Hospitalisation Data Analysis 2000-2006 - Waikato

There were 545,320 hospitalisations from 2000 to 2006. The following categories were excluded from the detailed analysis as the overall number of hospitalisations has been inflated by the inclusion of:

- Birth and postnatal care of healthy babies
- Routine, multiple day attendances for dialysis
- Medical abortions
- Other medical care necessary for maintaining normal health.

Excluding the above categories, the leading causes of hospitalisation in the Waikato for 2000 to 2006 were:

Table 41: Leading Causes of Hospitalisation

Leading Causes of Hospitalisation - Waikato	2000	2001	2002	2003	2004	2005	2006	Total
Injury & poisoning	6,196	6,762	6,563	6,724	6,646	7,476	7,748	48,115
Ill-defined conditions	5,041	5,936	6,119	6,888	7,232	7,334	7,478	46,028
Digestive system	5,726	5,975	5,845	5,682	5,855	5,993	6,108	41,184
Circulatory system	5,664	5,853	5,485	5,145	5,141	5,291	5,318	37,897
Respiratory system	4,746	5,082	5,097	5,164	4,926	4,873	4,690	34,578
Cancer - Malignant	3,637	3,749	3,814	3,886	3,936	3,981	4,102	27,105
Genitourinary system	3,238	3,402	3,252	3,235	3,318	3,279	3,144	22,868
Musculoskeletal system	2,624	2,894	2,534	2,460	2,520	2,472	2,685	18,189
Mental disorders	1,722	1,972	1,928	1,835	1,857	1,968	1,916	13,198
Nervous system	1,472	1,666	1,621	1,624	1,808	1,945	2,013	12,149
Remaining Hospitalisation	31,500	33,351	33,237	34,276	35,894	38,231	27,520	244,009
Grand Total - Hospitalisation	71,566	76,642	75,495	76,919	79,133	82,843	72,722	545,320

5.6.1 Ethnic Composition of Hospitalisation - Waikato

The ethnic composition of hospitalisation showed most from the Other ethnic group at 77% followed by Maori at 20%. Hospitalisation among Asians and Pacific People were 2% each for 2000 to 2006.

The leading causes of hospitalisation showed comparable trends across the ethnic groups, with minor variations in the priority of the leading five causes of hospitalisation. The sixth of the total leading causes, Cancer- Malignant, is the only exception as the rarity of skin cancer among Maori and Pacific People moves this to 11th place for both these ethnicities.

Table 42: Leading Causes of Hospitalisation by Ethnicity - Waikato

Hospitalisation Maori - 2000-2006	Total No. of Hospitalisation Maori	Hospitalisation Other - 2000-2006	Total No. of Hospitalisation Other
Respiratory system	10866	Ill-defined conditions	36216
Injury & poisoning	10718	Injury & poisoning	35813
Ill-defined conditions	8022	Digestive system	32845
Digestive system	7041	Circulatory system	31654
Circulatory system	5325	Cancer - Malignant	24157
Genitourinary system	4774	Respiratory system	22216
Mental disorders	3490	Genitourinary system	17097
Skin & subcutaneous tissue	2908	Musculoskeletal system	15068
Musculoskeletal system	2636	Nervous system	9793
Ear & mastoid process	2585	Mental disorders	9287
<i>Remaining Hospitalisation</i>	15089	<i>Remaining Hospitalisation</i>	52531
Grand Total	73454	Grand Total	286677
Hospitalisation Asians - 2000-2006	Total No. of Hospitalisation Asians	Hospitalisation Pacific People - 2000-2006	Total No. of Hospitalisation Pacific People
Ill-defined conditions	1174	Respiratory system	839
Injury & poisoning	803	Injury & poisoning	781
Digestive system	762	Ill-defined conditions	616
Respiratory system	657	Digestive system	536
Genitourinary system	603	Circulatory system	437
Circulatory system	481	Genitourinary system	394
Perinatal conditions	388	Mental disorders	270
Infectious & parasitic diseases	287	Infectious & parasitic diseases	260
Musculoskeletal system	252	Perinatal conditions	253
Cancer - Malignant	202	Musculoskeletal system	233
<i>Remaining Hospitalisation</i>	1329	<i>Remaining Hospitalisation</i>	1289
Grand Total	6938	Grand Total	5908

The prevalence of hospitalisation from the highest deprivation quintiles 3 to 5 increased from 1998 to 2004, with a corresponding reduction in the proportion of hospitalisation from quintiles 1 and 2.

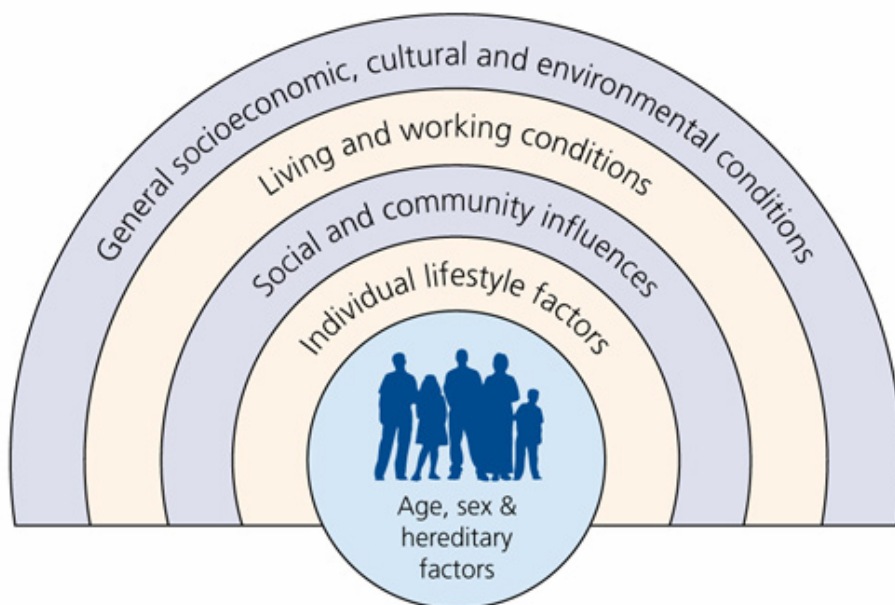
Over the last seven years, the age proportions of hospitalisation rose slightly in the 45-64 (to 23% of total in 2006) and 65+ age groups (29%), while decreasing in the 0-14 and 25-44 age groups to 16% and 23% for 2006.

5.6.2 Correlations between Mortality and Hospitalisation

Some clear correlations are shown between leading causes of mortality and of hospitalisation and the groups in which these occur. These will be expanded on in further analysis of each of the identified leading causes and the resulting information used to support recommendations for future planning.

5.7 Lifestyle Factors

The model below (Dahlgren and Whitehead, 1991) provides a visual representation of the determinants of health, and how they are interrelated. In particular, the model shows how lifestyle factors relate to wider socio-economic, cultural and environmental factors. An individual has most control over lifestyle factors (band 1) but has progressively less power to influence the broader determinants that make up band 2,3 and band 4. These determinants while largely beyond the control of individual, these can be shaped by the society in which they live.



Source: Dahlgren & Whitehead "Determinants of Health" model (Dahlgren and Whitehead, 1991).

The concept of health is "the capacity of people to adapt to, respond to, or control life's challenges and changes" (Frankish et al., 1996).

Based on extensive research it is evident that a number of risk factors for chronic diseases are associated with socioeconomic status and lifestyle factors, in particular for people who are (or have been) smokers, obese and those who do not exercise or eat healthy food. These risk factors are directly linked to the health priorities discussed above, i.e cardio vascular diseases, malignant cancer, diabetes and respiratory illnesses.

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Lifestyle factors for consideration in the strategic planning processes are:

- Increasing physical activity and improving nutrition
- Reducing smoking and the use of illegal drugs.