

## 20 AVOIDABLE HOSPITALISATION

### 20.1 Introduction

Diagnosis information on hospitalisations sent to the national dataset is analysed quarterly to give avoidable hospitalisation rates for all DHBs. Avoidable hospitalisation categories are ambulatory sensitive, preventable or injury preventable.

Ambulatory sensitive hospitalisations are admissions to hospital that are potentially preventable through primary care interventions, including outpatient services. Preventable and injury preventable hospitalisations are considered potentially preventable through public health and other initiatives such as vaccination, screening, injury prevention programmes.

In the Waikato, there were 545,320 hospitalisations between 2000 and 2006. Approximately 17% were considered to be avoidable hospitalisations.

Table 298 Hospitalisations of Waikato DHB population 2000-2006, avoidable and unavoidable

Year	Avoidable Hospitalisation	Unavoidable Hospitalisation	Total
2000	12485	59081	71566
2001	13254	63388	76642
2002	13408	62087	75495
2003	13577	63342	76919
2004	13357	65776	79133
2005	13921	68922	82843
2006	13873	68849	82722
<b>Grand Total - Hospitalisations 2000-2006</b>	<b>93875</b>	<b>451445</b>	<b>545320</b>

68% of avoidable hospitalisations were from Other ethnic groups, followed by Maori at 27% and Asians and Pacific People at 2% each.

69% of these admissions were ambulatory sensitive, 19% were preventable and 12% injury preventable hospitalisations.

## Avoidable Hospitalisation

Table 299: Avoidable hospitalisations of Waikato DHB population 2000-2006 by category

Year	Ambulatory Sensitive Hospitalisations	Injury Preventable Hospitalisations	Preventable Hospitalisations	Total
2000	8555.7	1406	2523.3	12485
2001	9122.1	1556	2575.9	13254
2002	9327	1534	2547	13408
2003	9341.1	1665	2570.9	13577
2004	9226.5	1529	2601.5	13357
2005	9540.4	1762	2618.6	13921
2006	9321.3	1787	2764.7	13873
<b>Total</b>	<b>64434.1</b>	<b>11239</b>	<b>18201.9</b>	<b>93875</b>

The volume of ambulatory, injury preventable and preventable hospitalisations increased slightly from 2000 to 2006 in line with the increase in population.

28% of avoidable hospitalisations were among children aged 0-14 years, followed by 26% among 45-64 age groups.

Table 300 Avoidable hospitalisation of Waikato DHB 2000-2006 population by age group

Year	00-14	15-24	25-44	45-64	65+	Total
2000	4064	1117	2108	2990	2206	12485
2001	4052	1317	2359	3201	2325	13254
2002	4032	1355	2373	3334	2314	13408
2003	3813	1396	2459	3441	2468	13577
2004	3580	1326	2371	3520	2560	13357
2005	3726	1475	2590	3765	2365	13921
2006	3470	1509	2550	3849	2495	13873
<b>Grand Total</b>	<b>26737</b>	<b>9495</b>	<b>16810</b>	<b>24100</b>	<b>16733</b>	<b>93875</b>

## 20.2 Avoidable hospitalisation – Age standardised rates by DHB

From 2000 to 2005, the Waikato age standardised rate of avoidable hospitalisations was close to, but higher than, the New Zealand rate. In 2006, the rate was lower than, but still very close to, the national rate.

Table 301 Avoidable hospitalisation rates, Waikato compared to other DHBs

Low -> High	2000	2001	2002	2003	2004	2005	2006
Lowest-1	MidCentral	Capital Coast &	Capital Coast &	MidCentral	Capital Coast &	Capital Coast &	Capital Coast &
2	Capital Coast &	MidCentral	MidCentral	Capital Coast &	MidCentral	Nelson-Marlborough	Otago

## Avoidable Hospitalisation

Low -> High	2000	2001	2002	2003	2004	2005	2006
3	Nelson-Marlborough	Otago	Southland	Canterbury	Canterbury	Hawke's Bay	Nelson-Marlborough
4	Otago	Canterbury	Canterbury	Nelson-Marlborough	Southland	Canterbury	Taranaki
5	Canterbury	Nelson-Marlborough	Otago	Otago	Nelson-Marlborough	Southland	Canterbury
6	Waitemata	South Canterbury	Nelson-Marlborough	South Canterbury	Otago	Taranaki	Southland
7	Southland	Southland	South Canterbury	Southland	South Canterbury	South Canterbury	South Canterbury
8	Auckland	NZ	Waitemata	Waitemata	Hawke's Bay	Otago	MidCentral
9	South Canterbury	Hutt Valley	NZ	Taranaki	Taranaki	MidCentral	Hawke's Bay
10	NZ	Waitemata	Waikato	NZ	Waitemata	Auckland	Waikato
11	Hutt Valley	Hawke's Bay	Hawke's Bay	Auckland	NZ	NZ	West Coast
12	Hawke's Bay	Auckland	Taranaki	Waikato	Waikato	Waitemata	NZ
13	Waikato	Waikato	Hutt Valley	Hawke's Bay	Auckland	Waikato	Auckland
14	Taranaki	Wairarapa	Auckland	Hutt Valley	West Coast	West Coast	Hutt Valley
15	Counties Manukau	Taranaki	Bay Plenty of	Bay Plenty of	Wairarapa	Wairarapa	Bay Plenty of
16	Wairarapa	West Coast	Lakes	Wairarapa	Hutt Valley	Hutt Valley	Wairarapa
17	West Coast	Lakes	Wairarapa	West Coast	Bay Plenty of	Bay Plenty of	Waitemata
18	Whanganui	Counties Manukau	Counties Manukau	Counties Manukau	Whanganui	Counties Manukau	Counties Manukau
19	Bay Plenty of	Bay Plenty of	West Coast	Northland	Counties Manukau	Northland	Lakes
20	Lakes	Whanganui	Whanganui	Whanganui	Lakes	Lakes	Northland
21	Northland	Northland	Northland	Lakes	Northland	Whanganui	Tairawhiti
Highest-22	Tairawhiti	Tairawhiti	Tairawhiti	Tairawhiti	Tairawhiti	Tairawhiti	Whanganui

## 20.3 Avoidable Hospitalisation Categories

Reporting of avoidable hospitalisation is against eight injury preventable categories and 39 non-injury (preventable and ambulatory sensitive) categories. Total volumes from 2000-2006 by ethnicity in each of these categories are shown in the tables below.

Table 302 Avoidable hospitalisations for Injury, Waikato DHB, 2000-2006, volume by ethnicity

<b>Avoidable Hospitalisations 2000-2006 - Injury preventable</b>	<b>Maori</b>	<b>Other</b>	<b>Pacific People</b>	<b>Total Waikato</b>
Burns and scalds	79	178	5	262
Drowning	5	10	1	16
Falls from playground equipment	436	849	26	1311
Indeterminately caused injuries	28	77	0	105
Poisoning	277	709	26	1012
Road traffic injury	1300	4564	105	5969
Suicide	471	2031	35	2537
Swimming pool accidents	9	16	2	27
<b>Total Injury</b>	<b>2,605</b>	<b>8,434</b>	<b>200</b>	<b>11,239</b>

## Avoidable Hospitalisation

Table 303: Avoidable hospitalisations non injury, Waikato DHB, 2000-2006 volume by ethnicity

Avoidable Hospitalisations 2000-2006 - Non Injury	Maori	Other	Pacific People	Total Waikato
Alcohol-related conditions	198	821	18	1037
Angina	1418	6281	125	7824
Asthma	1844	2005	170	4019
Breast Cancer	207	1071	23	1301
Cellulitis	2217	3839	172	6228
Cervical Cancer	57	147	10	214
Colo-rectal Cancer	117	1286	28	1431
Congestive Heart failure	822	1025	58	1905
CORD	1461	2454	69	3984
Dehydration	77	190	3	270
Dental Conditions	1699	2698	113	4510
Diabetes	1236	2740	95	4071
ENT infections	2255	4761	168	7184
Epilepsy	988	1966	80	3034
Failure to thrive	154	1223	7	1384
Gangrene	9	7	0	16
Gastroenteritis	1133	3834	105	5072
Hepatitis and liver Cancer	129	339	20	488
HIV-AIDS	2	4	0	6
Hypertensive disease	133	286	12	431
Immunisation-preventable	54	70	4	128
Inflammatory disease of female pelvic organ	485	976	35	1496
Ischaemic heart disease	621	3403	67	4091
Kidney-urinary infection	936	2126	78	3140
Lung Cancer	337	921	16	1274
Nutrition	168	616	17	801
Obstructed Hernia	131	253	6	390
Oral Cancers	66	337	3	406
Other Infections	69	270	9	348
Peptic Ulcer	185	357	16	558
Respiratory Infections	2505	3906	225	6636
Rheumatic fever-heart disease	222	157	26	405
Ruptured Appendix	418	1616	38	2072
Sexually-transmitted diseases	74	77	6	157
Skin Cancers	50	3617	0	3667
Stroke	393	1732	46	2171
Thyroid disease	165	203	11	379
Tuberculosis	33	65	10	108
<b>Total</b>	<b>23,068</b>	<b>57,679</b>	<b>1,889</b>	<b>82,636</b>

Age standardised and age specific rates calculate the hospitalisations per 100,000 population against a standardised (World Health Organisation) population so are more useful than volumes for comparison analysis. However, comparison at the highest level is

## Avoidable Hospitalisation

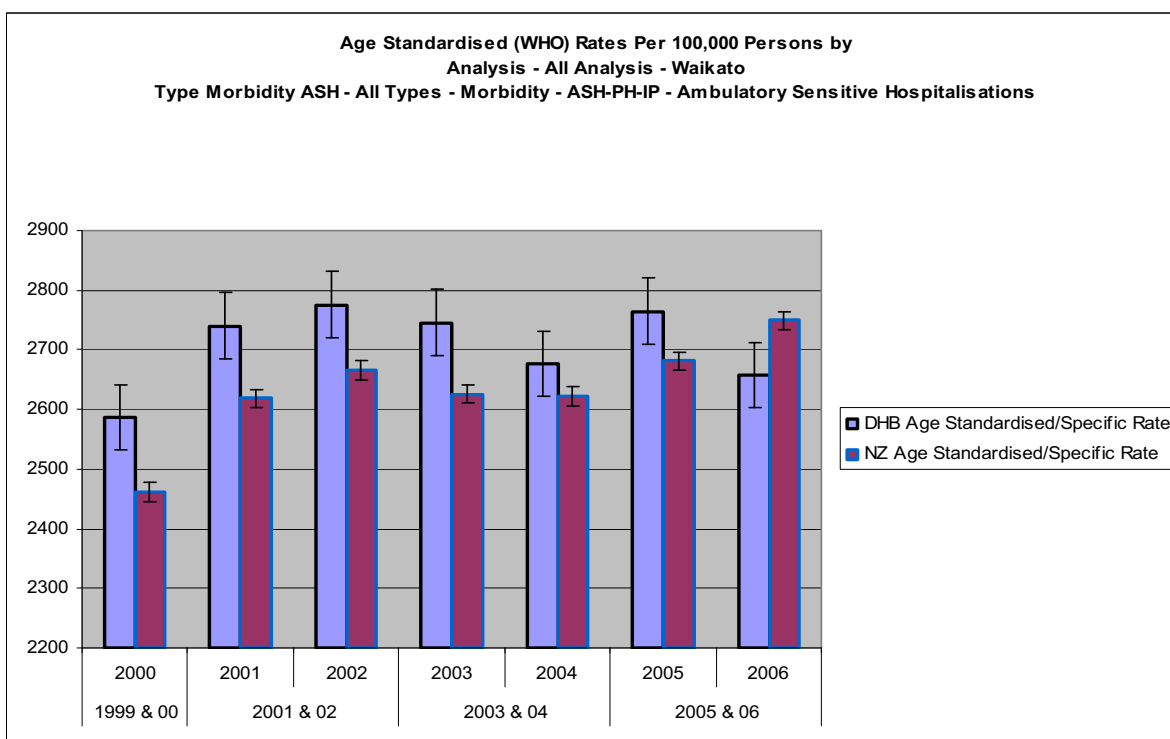
of low value and for the most prevalent of these categories, discussion of the age standardised/specific rates is in the relevant chapters of this document. Note that when volumes are low these rates may fluctuate considerably from year to year so confidence levels applied may be wide.

## 20.4 Ambulatory Sensitive Hospitalisation - Age standardised Rate

### All Ethnic Groups

The age standardised rate of ambulatory sensitive hospitalisation in the Waikato was 2657.55 per 100,000 in 2006. This was the first time in seven years that the Waikato rate was less than the national rate.

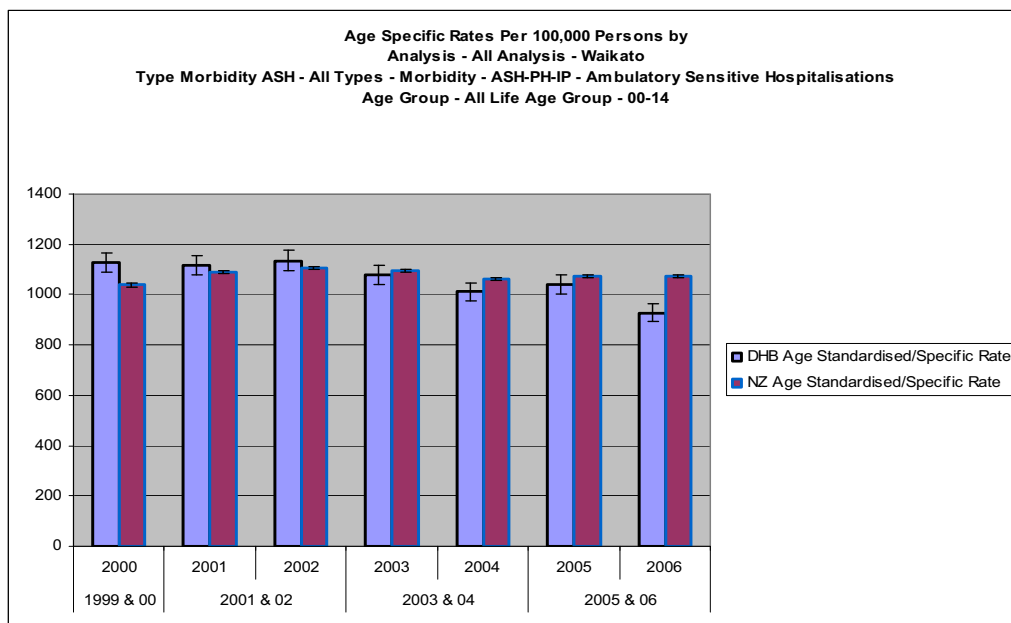
Graph 116 age standardised rate of ambulatory sensitive hospitalisation Waikato DHB, 2000-2006 by year



The 0-14 age specific rate of ambulatory sensitive hospitalisations decreased from 2000 to 927.01 per 100,000 in 2006. The Waikato age specific rate was lower than the national rate from 2003 to 2006 but the 2006 rate of 1072.74 per 100,000 was significantly less than the national rate for the first time since 2000.

## Avoidable Hospitalisation

Graph 117: 00-14 age specific rate of ambulatory sensitive hospitalisation Waikato DHB compared to national rate, 2000-2006 by year



The 15-24 age specific rate among 15-24 age groups increased slightly from 2000 to 2006 with some fluctuations. In 2006, the age specific rate was 287.48 per 100,000. This was lower than the national rate however; confidence levels indicate there was no significant difference between the Waikato age specific rate and the national rate.

The 25-44 age specific rates increased from 2000 to 2006 then peaked in 2006 at 576.86 per 100,000. Since 2003, the Waikato age specific rate was slightly, but not significantly, higher than the national rate, which was 546.45 per 100,000 for 2006.

The 45-64 age specific rate increased from 2000 to 2002, then remained comparatively stable until 2006. From 2000 to 2005, the Waikato rate was significantly higher than the national rate. In 2006, the rate was 609.76 per 100,000, only slightly higher than the national rate of 580.47 per 100,000.

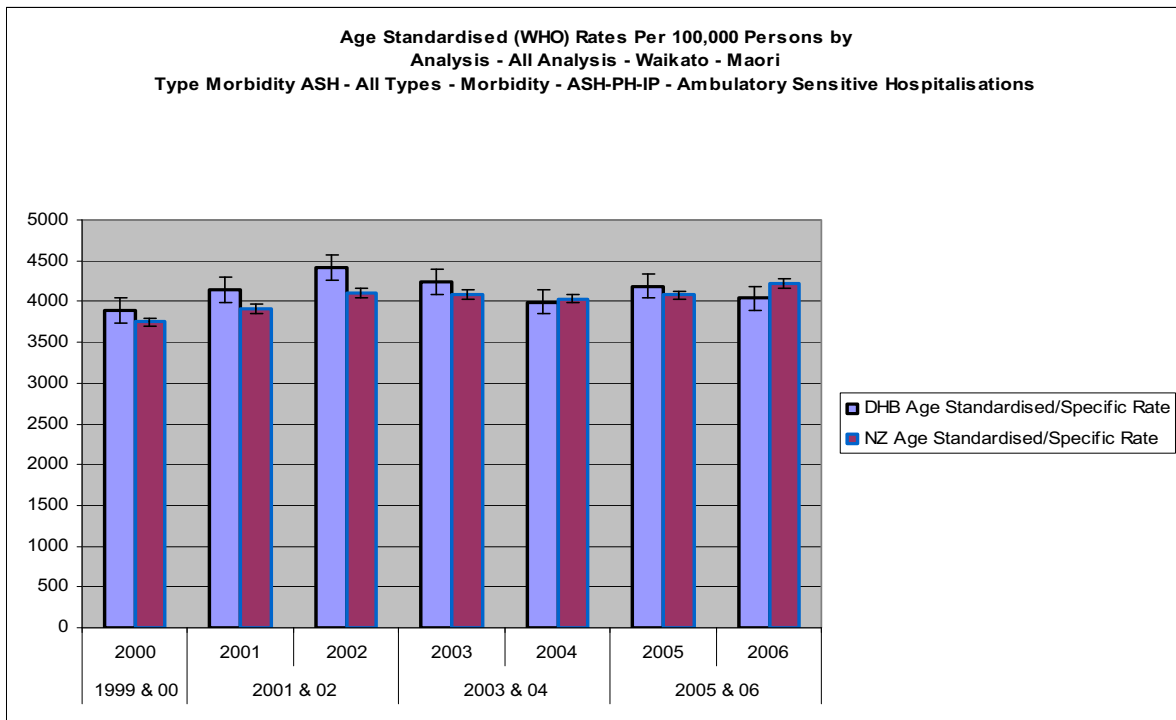
The 65+ age specific rate was consistently slightly higher than the national rate from 2000 to 2006, and significantly higher from 2003 to 2005. The Waikato age specific rate in 2006 was 331.81 per 100,000, which was higher than the national rate of 311.13 for 2006.

### 20.4.1 Age standardised and Specific Rate – By Ethnicity

The Waikato Maori age standardised rate of ambulatory sensitive hospitalisation had only minor variations from 2000 to 2006. In 2006, the age standardised rate was 4039.67 per 100,000. There were no significant differences between the Waikato and the national rate.

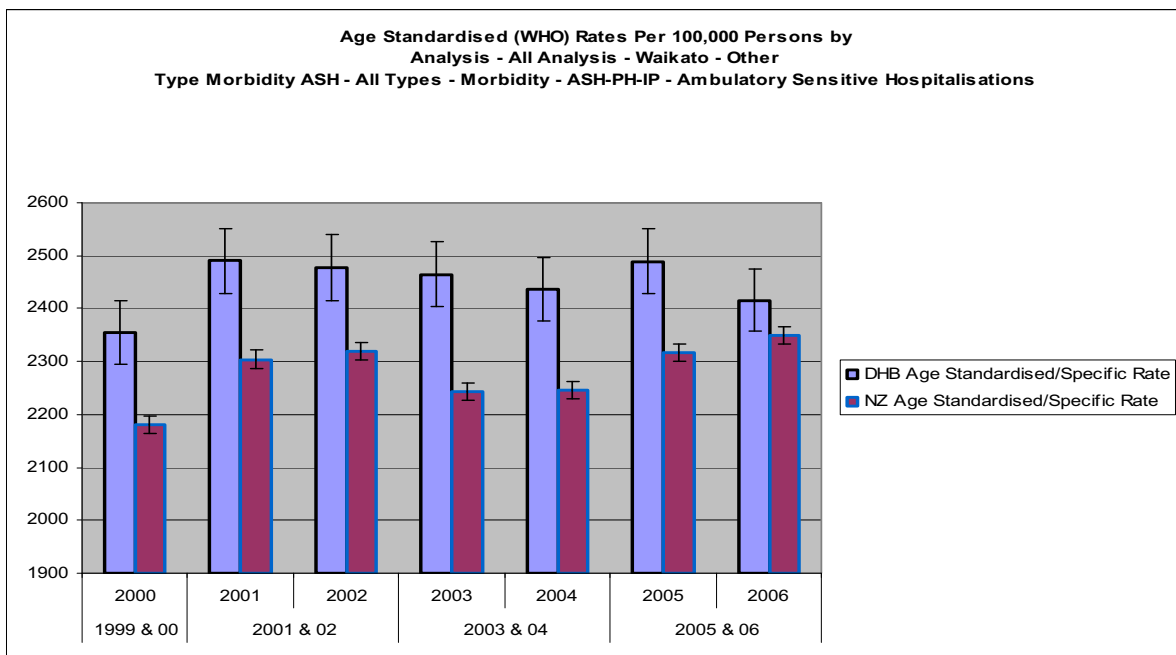
## Avoidable Hospitalisation

Graph 118 Maori age standardised rate of ambulatory sensitive hospitalisation Waikato DHB compared to national rate, 2000-2006 by year



The Other ethnic group age standardised rate of ambulatory sensitive hospitalisations fluctuated only slightly from 2000 to 2006. However, at 2415.72 per 100,000 in 2006 it was close to the national rate and for the first time in seven years the Waikato lower confidence level was within the national confidence levels meaning the Waikato rate was not significantly different to the national rate of 2349.76.

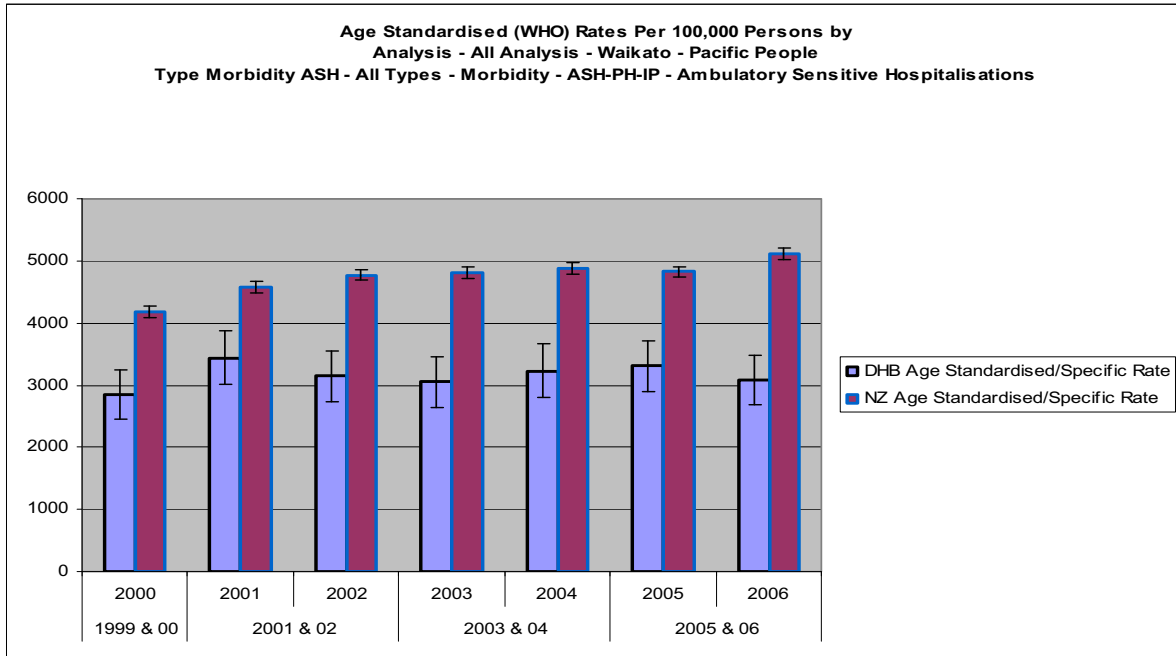
Graph 119 Other age standardised rate of ambulatory sensitive hospitalisation Waikato DHB compared to national rate, 2000-2006 by year



## Avoidable Hospitalisation

The age standardised rate among Pacific People was relatively unchanged from 2000 to 2006, and for all seven years was significantly below the national rate for Pacific People. In 2006, the age standardised rate was 3080.82 per 100,000 compared to the national rate of 5107.57 per 100,000.

Graph 120 Pacific age standardised rate of ambulatory sensitive hospitalisation Waikato DHB compared to national rate, 2000-2006 by year

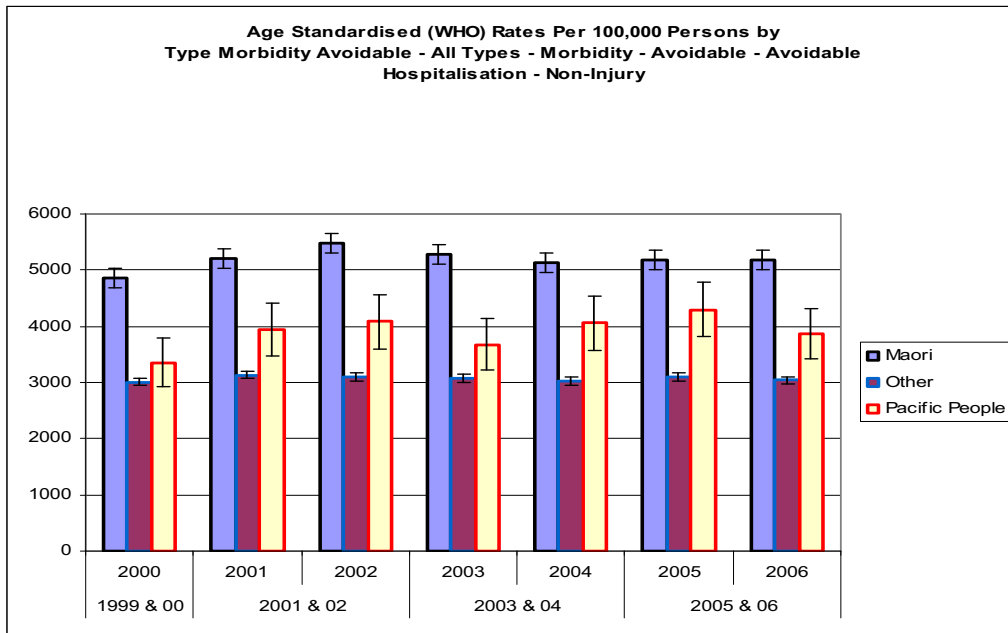


## 20.5 Waikato age standardised rates – Comparison between Ethnicities

Using age standardised rates to compare different ethnic groups within the Waikato population clearly shows higher Maori rates of non-injury avoidable hospitalisation.

## Avoidable Hospitalisation

**Graph 121: Comparison of ethnicities age standardised rate of non injury avoidable hospitalisation Waikato DHB, 2000-2006 by year**



However, the pattern for injury related avoidable hospitalisation is different with the Maori rate being close to, and in most years less than, the Other rate and with Pacific people showing the lowest rate, although the confidence level range is greater, due to low volumes.

**Graph 122: Comparison of ethnicities age standardised rate of preventable injury avoidable hospitalisation Waikato DHB, 2000-2006 by year**

