

10 RESPIRATORY SYSTEM DISEASES

KEY FINDINGS - WAIKATO

Mortality

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

Hospitalisation

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

Key findings at Territorial Local Authority Level

- Low rates of COPD admissions were recorded in Waipa, Thames-Coromandel and the Matamata-Piako districts;

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

RECOMMENDATIONS FOR STRATEGIC CONSIDERATION

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

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

10.1 Diseases of the Respiratory system

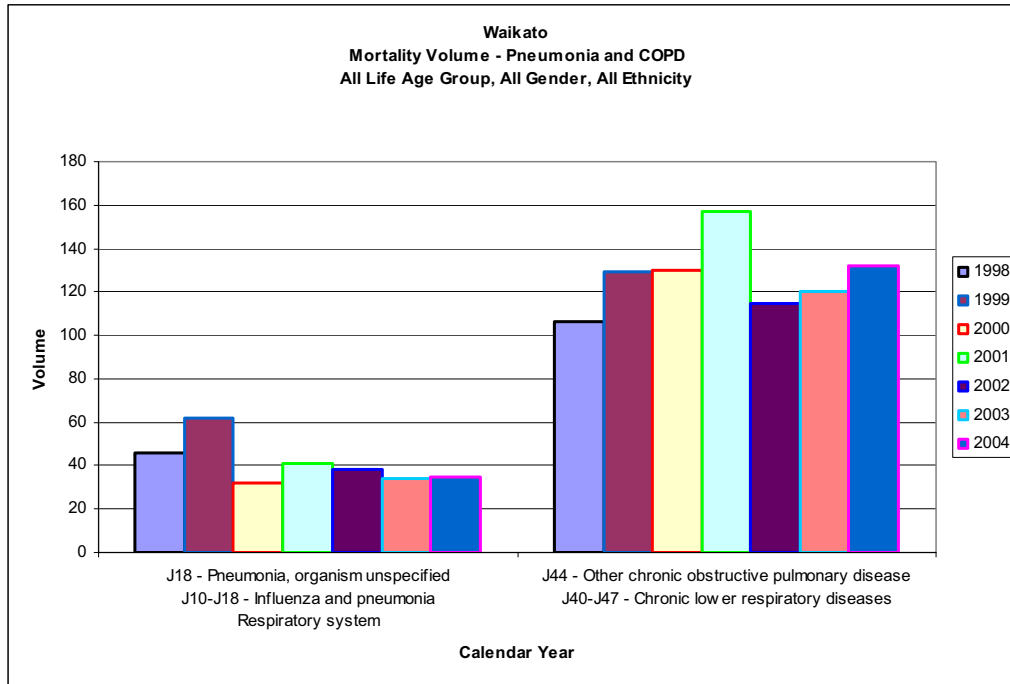
Respiratory system diseases include: asthma, bronchiolitis, common cold, influenza, Chronic Obstructive Respiratory Disease (CORD - which generally includes Chronic Obstructive Pulmonary Diseases (COPD), chronic bronchitis and emphysema), and diseases of the upper and lower respiratory systems. Often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

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

10.2 Waikato - Mortality to Respiratory Disease

There were 1467 respiratory system disease related deaths in the Waikato from 1998 to 2004. Approximately 61% (889) of the deaths were related to other chronic obstructive pulmonary diseases (COPD) and 20% (288) to pneumonia. Deaths to COPD slightly increased in 2003 and 2004, although the trend was stable for pneumonia.

Graph 59 Waikato mortality volumes Pneumonia and COPD 1998 - 2004



The two leading causes of deaths to respiratory system diseases by ethnic groups were:

Table 147: Respiratory Disease - leading causes of mortality by ethnic group

Leading Causes of Mortality - Respiratory System	Maori	Asians	Other	Pacific People	Total
J18 - Pneumonia, organism unspecified	19		269		288
J44 - Other chronic obstructive pulmonary disease	123	4	756	6	889
<i>Remaining Mortality to Respiratory system</i>					290
Grand Total	161	4	1038	9	1467

Other Chronic Obstructive Pulmonary Disease will be referred to below as "COPD".

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10.2.1 Mortality to COPD - Waikato All Ethnic Groups

Approximately 85% of the death related to COPD was of people from Other ethnic groups followed by Maori at 14%. The low volume among Asians and Pacific People preclude in depth analysis and standardised rates.

Table 148: COPD related mortality by Ethnicity

Year	Maori	Asian	Other	Pacific People	Total
1998	17		89		106
1999	16	1	110	2	129
2000	19		110	1	130
2001	23		133	1	157
2002	16		99		115
2003	16	1	103		120
2004	16	2	112	2	132
Grand Total	123	4	756	6	889
Percentage of Mortality	13.8%	0.4%	85.0%	0.7%	100.0%

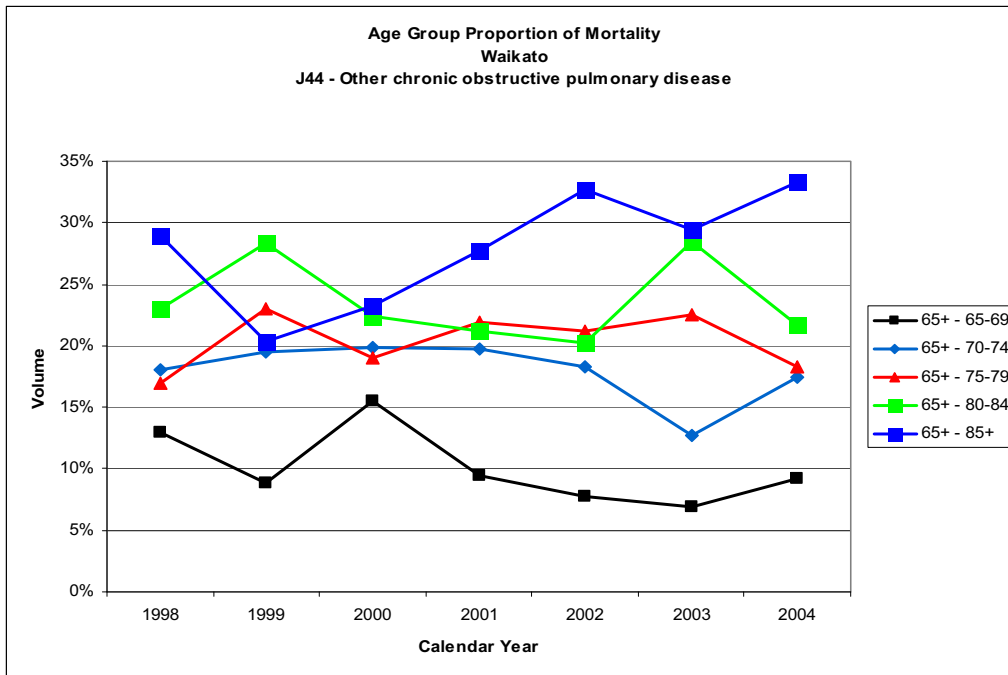
The prevalence of deaths to COPD was the highest in the most deprived deprivation quintiles 3 to 5. Apart from some minor variations, the prevalence was steady across the remaining quintiles over the 1998 to 2004 reporting years.

Historically more males than females have died from COPD but the trend is for this difference to lessen and in 2004 the ratio was close to 50:50.

Approximately 91% of the deaths occurred in 65+ age groups from 1998 to 2004. Breakdown of the 65+ group shows an increasing proportion of deaths from COPD in the 85+ group.

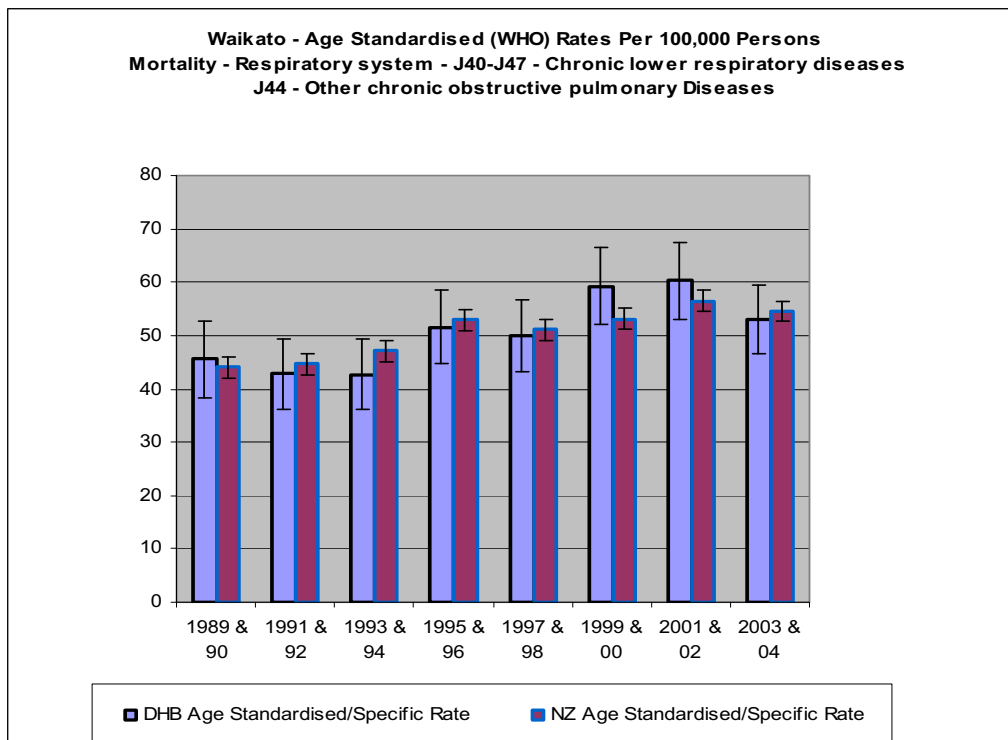
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Graph 60: Age group proportions of mortality to COPD - All Ethnic Groups



The age standardised rate for other COPD in the Waikato decreased slightly from 2001 to 2004, reaching 53.05 per 100,000 in 2003 and 2004. There were no significant differences between the Waikato age standardised rate and the national rate of 54.63 per 100,000 population.

Graph 61: Age standardised mortality COPD all ethnic groups Waikato compared to national rate



10.2.2 Mortality to COPD - Waikato Maori

There were 123 deaths among Waikato Maori (60 females and 63 males). Both genders were equally at risk of mortality to COPD.

The prevalence of deaths was the highest in quintile 5 at 63% in 2004 followed by quintile 3 at 25%. The prevalence reduced slightly across the remaining quintiles.

Waikato Maori die from COPD at a much younger age than non-Maori. Approximately 31% of the deaths were in 45-64 age groups, although the trend decreased slightly in 2004. The highest proportion of deaths (63%) was in the 65+ age groups in most years.

Further analysis of the 65+ group alone shows that over the years from 1998 to 2004 deaths in the 65-69 age group reduced from 36% to 20% while deaths in the 80-84 group increased from 7% to 20%.

Table 149: Waikato Maori 65+ COPD related deaths by 5 Year bands

Year	65-69	70-74	75-79	80-84	85+
1998	36%	21%	36%	7%	
1999	50%	13%	13%	13%	13%
2000	47%	33%	7%	13%	
2001	13%	13%	53%	20%	
2002	30%	40%	20%	10%	
2003	29%	14%	29%	29%	
2004	20%	30%	30%	20%	

The Waikato Maori age standardised rate of mortality to COPD decreased slightly to 81.77 per 100,000 in 2003 and 2004 from 116.73 in 2001 and 2002. The Waikato age standardised rate was slightly lower than the national rate of 91 per 100,000 in 2004, however there were no statistically significant variations between the Waikato age standardised rate and the national rate.

The age specific rate of mortality among Waikato Maori aged 45-64 years increased slightly to 145.6 per 100,000 in 2003 and 2004 from 137.5 in 2001 and 2002. The age specific rate among 65+ age groups was 627.3 per 100,000 population in 2003 and 2004 years. There were no statistically significant differences between the Waikato age specific rates and the national rates.

10.2.3 Mortality to COPD - Other ethnic group

There were 760 deaths to COPD (349 females and 411 males) from 1998 to 2004. Mortality increased across both genders. As there were only 4 deaths of Asians (2 in 2004, 1 each in 1999 and 2003), further analysis of the Other ethnic group will include Asians. The gender proportion showed a steady increase in females and decrease in males reaching 49% females and 51% males in 2004 - equal split between the genders. The prevalence by deprivation quintile was reasonably consistent with minor variations at 22% in

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quintile 3 and 33% each in quintile 4 and 5 in 2004. Unlike Maori, the age proportion of mortality was the highest among 65+ age groups at 96%. This trend was stable from 1998 to 2004. Within the 65+ age group, less than 10% of deaths were in the 65-69 age band while the largest band was 85+ age group.

Table 150: Waikato Other 65+ COPD related deaths by 5 Year bands

Year	65-69	70-74	75-79	80-84	85+
1998	9%	17%	14%	26%	34%
1999	6%	18%	24%	30%	21%
2000	11%	18%	21%	24%	27%
2001	9%	21%	17%	21%	31%
2002	5%	16%	21%	21%	36%
2003	5%	13%	22%	28%	32%
2004	8%	16%	17%	22%	37%

The age standardised rate of mortality to COPD in the Other ethnic group decreased slightly to 48.93 per 100,000 in 2003 and 2004. The Waikato age standardised rate was slightly, but not significantly below the national rate of 51.94 per 100,000 in 2003 and 2004.

The age specific rate of mortality to COPD among Other aged 45-64 years was 21.7 and among 65+ year olds at 542.6 per 100,000 population in 2003 and 2004 and the Waikato age specific rates were slightly lower than the national rates.

10.2.4 Mortality to COPD - Pacific People

Between 1998 and 2004 there were 6 deaths to COPD among Pacific People. The low volume of mortality precludes in-depth analysis as meaningful conclusions are hard to formulate.

10.3 Mortality to COPD - Ethnic Comparison

The table below summarises and presents a comparative analysis of the findings between Maori and Other ethnic groups.

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Table 151: Comparison of key findings Waikato Maori and Other ethnic group

Maori	Other (Including Asians)
Mortality increased among females	Mortality was relatively equal across both the genders.
Prevalence of deaths highest among quintile 4 and 5.	Prevalence was equally spread across quintile 3, 4 and 5.
Maori die at a younger age to COPD, at 31% of deaths in 45-64 age groups.	Deaths the highest among 65+ age groups at 96%.
63% of deaths was among 65+ age groups.	
20% of deaths in 80-84 and 85+ age groups	34-37% of deaths in 80-84 and 85+ age groups
Age standardised rate of mortality was 81.77 per 100,000 in 2003 and 2004.	Age standardised rate of mortality was 48.93 per 100,000 in 2003 and 2004.
Age specific rate of mortality among 45-64 age groups was 145.6 per 100,000 in 2003 and 2004. Nearly 7 times higher than Other.	Age specific rate of mortality among 45-64 age groups was 21.7 per 100,000 in 2003 and 2004.
Age specific rate of mortality among 65+ age groups was 627.3 per 100,000 in 2003 and 2004.	Age specific rate of mortality among 65+ age groups was 542.6 per 100,000 in 2003 and 2004.

10.3.1 Mortality to Pneumonia Organisms unspecified - All Ethnic Groups

There were 288 deaths related to unspecified pneumonia (203 female and 85 male) from 1998 to 2004. Most of these deaths were of people from Other ethnic groups (93%) and the remainder were of Maori (6.6%). There were no deaths among Asians and Pacific People from this cause.

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Table 152: Unspecified Pneumonia deaths by ethnicity - Waikato

Year	Maori	Other
1998	7	39
1999	3	59
2000	3	29
2001	1	40
2002	3	35
2003	1	33
2004	1	34
Grand Total	19	269
Percentage of Total Mortality related to Pneumonia	6.6%	93.4%

There were more female deaths than male, with the proportion of female deaths increasing to 70% in 2004. The prevalence by deprivation quintile was stable with minor changes across the most deprived quintiles 4 (34%) and 5 (40%). In 2004, 76% of mortality occurred in the 85+ age groups followed by 22% in the 80-84 age group. This trend had been stable over the 1998-2004. The age standardised rate of mortality to pneumonia decreased steadily over 1998 to 2004 reaching the lowest rate in 2003 and 2004 at 14.51 per 100,000 and there were no significant differences to the national rate of 13.23 for 2003 and 2004.

10.3.2 Mortality to Pneumonia - Ethnic Comparison

In the Waikato, 93% of mortality to pneumonia was of people in the Other ethnic group (269 deaths) and 6.6% in Maori (19 deaths). As the number of deaths to unspecified pneumonia were low in all ethnic groups apart from Other, further in depth analysis by ethnic group will not be presented in this report.

10.4 Hospitalisation - Respiratory System

The HNA 2008 draws the hospitalisation data from the National Minimum Dataset (NMDS) which stores the national collection of discharge data from the DHBs. In addition, the HNA 2008 extracts further information from the report "Population Health Planning Resource 2007-2012" from Population Health, Health Waikato, as this report provides a detailed analysis of respiratory system disease across the Territorial Local Authorities (TLAs) in the Waikato region. The exact figures from the Population Health Planning Resource 2007-2012 report differ from the figures outlined in the HNA 2008, due to the following reasons:

- In the "Population Health Planning Resource 2007-2012" report the age standardised rates were calculated from the five year average for 1999-2003, and the population used as denominator averages of 2001 and 2006 Censuses to give an estimate of September 2003 population.

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- The HNA 2008 calculations were calculated using the Statistics NZ population estimates for each year based on the 2001 Census.

Hospitalisation for respiratory system related diseases from 2000 to 2006 was 34,578 (16874 female and 17703 male). Of this, 47% was considered potentially avoidable.

Table 153: Hospitalisation for respiratory causes avoidable / unavoidable - Waikato

Year	Avoidable Hospitalisation	Unavoidable Hospitalisation	Total
2000	2307	2439	4746
2001	2361	2721	5082
2002	2404	2693	5097
2003	2408	2756	5164
2004	2300	2626	4926
2005	2263	2610	4873
2006	2051	2639	4690
Grand Total	16094	18484	34578
Percentage of Hospitalisation	47.0%	53.0%	100.0%

The leading causes of hospitalisation to respiratory diseases across all ethnic groups were:

Table 154: Leading Causes of hospitalisation to Respiratory system Diseases - Waikato

Leading Causes of Hospitalisation - Respiratory System Diseases 2000-2006	2000	2001	2002	2003	2004	2005	2006	Total	Percentage of Total Hospitalisation to Respiratory System Diseases
J44 - Other chronic obstructive pulmonary disease	757	800	841	920	905	775	864	5862	17%
J18 - Pneumonia, organism unspecified	803	879	776	725	752	752	655	5342	15%
J45 - Asthma	607	526	567	598	534	597	505	3934	11%
J35 - Chronic diseases of tonsils and adenoids	456	486	478	432	380	386	398	3016	9%
<i>Remaining Respiratory System Diseases</i>								16424	47%
Grand Total - Hospitalisation 2000-2006	4746	5082	5097	5164	4926	4873	4690	34578	100%

As the leading causes vary from one ethnic group to another, the remaining sections of this report will discuss the top three leading causes for each ethnic group within the Waikato from 2000 to 2006. Maori and Pacific People showed a similar pattern of hospitalisation for respiratory system diseases.

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Table 155: Comparison of key findings Waikato Maori and Other ethnic group

Maori	No. Of Hospitalisation 2000-2006	% of Maori Hospitalisation	Other Ethnic Group	No. Of Hospitalisation 2000-2006	% of Other Hospitalisation
J45 - Asthma	1773	16%	J44 - Other chronic obstructive pulmonary disease	4324	19%
J21 - Acute bronchiolitis	1708	16%	J18 - Pneumonia, organism unspecified	3616	16%
J18 - Pneumonia, organism unspecified	1491	14%	J35 - Chronic diseases of tonsils and adenoids	2454	11%
J44 - Other chronic obstructive pulmonary disease	1452	13%	J45 - Asthma	1913	9%
<i>Remaining Respiratory System Illnesses</i>	4442	41%	<i>Remaining Respiratory System Illnesses</i>	9909	45%
Total Maori Hospitalisation	10866	100%	Total Other Hospitalisation	22216	100%
Asians	No. Of Hospitalisation 2000-2006	% of Asians Hospitalisation	Pacific People	No. Of Hospitalisation 2000-2006	% of Pacific People Hospitalisation
J45 - Asthma	94	14%	J45 - Asthma	154	18%
J18 - Pneumonia, organism unspecified	90	14%	J18 - Pneumonia, organism unspecified	145	17%
J06 - Acute upper respiratory infections of multiple and unspecified sites	86	13%	J21 - Acute bronchiolitis	121	14%
J35 - Chronic diseases of tonsils and adenoids	70	11%	J06 - Acute upper respiratory infections of multiple and unspecified sites	80	10%
<i>Remaining Respiratory System Illnesses</i>	317	48%	<i>Remaining Respiratory System Illnesses</i>	339	40%
Total Asians Hospitalisation	657	100%	Total Pacific People Hospitalisation	839	100%

10.4.1 Hospitalisation for CORD

The group of diseases defined as Chronic Obstructive Respiratory Disease (CORD) includes the following respiratory diseases:

- Acute bronchitis (ICD10 Diagnostic Groups- J20)
- Chronic bronchitis (ICD10 Diagnostic Groups - J41 and J42)
- Emphysema (ICD10 Diagnostic Groups - J43)
- Chronic Obstructive Pulmonary Diseases (ICD10 Diagnostic Groups - J44)
- Bronchiectasis (ICD10 Diagnostic Groups J47)

Total avoidable and unavoidable hospitalisation to CORD was:

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Table 156: Avoidable and Unavoidable Hospitalisation for CORD - Waikato

Years	Avoidable Hospitalisation	Unavoidable Hospitalisation	Total
2000	537	346	883
2001	585	349	934
2002	588	406	994
2003	606	456	1062
2004	617	451	1068
2005	504	399	903
2006	547	457	1004
Grand Total	3984	2864	6848

One of the leading causes of hospitalisation was the Chronic Obstructive Pulmonary Diseases (COPD) which represents 87.8% of the total avoidable hospitalisations to CORD.

For COPD there were 5862 hospitalisations from 2000 to 2006 (2941 female and 2921 male). The ethnic representation of hospitalisations (both avoidable and unavoidable) for COPD showed 0.5% among Asians and 1% in Pacific People.

Table 157: Hospitalisations for COPD - by ethnicity

Year	Maori	Asian	Other	Pacific People	Total
2000	147		604	6	757
2001	199	3	592	6	800
2002	214	8	613	6	841
2003	222	2	688	8	920
2004	238	7	646	14	905
2005	208	6	554	7	775
2006	224	3	627	10	864
Grand Total	1452	29	4324	57	5862
Percentage of Hospitalisation to COPD	24.8%	0.5%	73.8%	1.0%	100.0%

Of the total hospitalisations for COPD, 60% was avoidable and 40% unavoidable.

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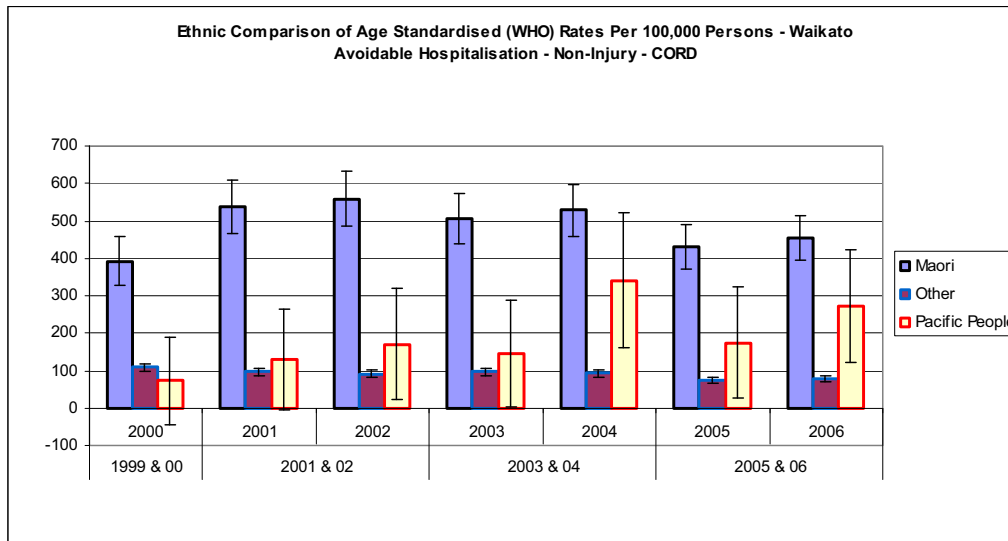
Table 158: Hospitalisations for COPD - avoidable vs unavoidable

Year	Avoidable Hospitalisation	Unavoidable Hospitalisation	Total
2000	482	275	757
2001	519	281	800
2002	493	348	841
2003	550	370	920
2004	542	363	905
2005	441	334	775
2006	471	393	864
Grand Total	3498	2364	5862

10.4.2 COPD Hospitalisation - Ethnic Comparison

The age standardised rate of hospitalisation for COPD among Waikato Maori (453.73 per 100,000 population) is around 6 times higher than Other (77.46 per 100,000 population), as shown below.

Graph 62: COPD age standardised rates Waikato- by ethnicity



The ethnic comparison of age specific rates of COPD hospitalisation in the Waikato highlighted that the rate of hospitalisation was significantly higher in Maori aged 45-64 and 65+ years (1125.8 and 4800 per 100,000 population respectively) than Other (45-64 year olds at 239.1 and 65+ at 1503.5 per 100,000 population), as shown below.

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Table 159: COPD Age specific rates

Age Specific Rate of Hospitalisation - per 100,000 Population		
Age group 45-64 Year Olds		
Ethnic Groups	Waikato Age Specific Rates	NZ Age Specific Rates
Maori	1125.8	1161.6
Other	239.1	275.7
Pacific People	247.9	875.4
Age Group 65+ Year Olds		
Maori	4800	3968.8
Other	1503.5	1509
Pacific People	3333.3	4646.6

Other ethnic differences for COPD hospitalisation were:

Table 160: COPD hospitalisation - ethnic comparison

Maori	Other
83% of hospitalisation for COPD was considered avoidable.	52% of hospitalisation for COPD was considered avoidable
51% of Maori hospitalisations were from the highest deprivation quintile 5 in 2006.	38% of hospitalisations were in quintile 5, 30% in quintile 4 and 22% in quintile 3 for 2006.
58% of avoidable hospitalisation was in the 65+ age groups, followed by 34% in 45-64 year olds in 2006.	81% of hospitalisation for 2006 was of people aged 65+ with most hospitalisation occurring in the 75-84 age groups.

Among Waikato Asians, there were 29 hospitalisations (17% female and 83% male) from 2000-2006. Among Pacific People, there were 57 hospitalised during the same period. The hospitalisations for Asians and Pacific People spread across the 2000 to 2006 years and the low volume data precludes any in depth analysis and assessment.

10.4.3 COPD Hospitalisation - Territorial Local Authorities

Some of the key findings from the Waikato DHB's "Population Health - Planning Resource 2007-2012" report were that the:

- Lower rates of COPD discharges were recorded in Waipa, Thames-Coromandel and the Matamata-Piako Districts;

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- Areas with significantly higher COPD discharge rates were Part Ruapehu, South Waikato, Waitomo and Hauraki Districts. These districts were also the four territorial authorities with the highest overall smoking rates.
- Highest rates of COPD hospitalisation were seen in the following areas: Part Ruapehu District, Waitomo and South Waikato District.
- The level of hospitalisation for COPD is determined by where the patient lives and their nearest hospital. Virtually all cases in Hamilton City, Waikato, Matamata-Piako and Waipa Districts were treated in secondary or tertiary level hospital.

10.4.4 Hospitalisation for Pneumonia - Waikato

The leading causes of hospitalisation for pneumonia include: common cold, upper respiratory infections, influenza and pneumonia (ICD10 codes J00, J06 and J10 to J18). In the Waikato there were 8556 hospitalisations during 2000 to 2006 years. Around 78% of the total hospitalisation for pneumonia was avoidable hospitalisation. Of the total hospitalisations around 62% was recorded as relating to pneumonia organisms unspecified.

Table 161: Pneumonia - Waikato hospitalisation, avoidable /unavoidable

Year	Avoidable Hospitalisation	Unavoidable Hospitalisation	Total
2000	963	266	1229
2001	1029	282	1311
2002	1023	262	1285
2003	967	292	1259
2004	932	262	1194
2005	933	258	1191
2006	789	298	1087
Grand Total	6636	1920	8556

Around 69% of hospitalisation was among people of Other ethnicity, followed by Maori at 28%. Asians and Pacific People were 2% and 3% respectively.

Across all ethnic groups, the hospitalisation for pneumonia was mostly in the young (00-14) and old (65+) age groups. Waikato age standardised rate of hospitalisation for respiratory infections was the lowest since 2000 at 232.58 per 100,000 people in 2006. There were no notable differences between the Waikato and national age standardised rates.

10.4.5 Hospitalisation for Asthma - Waikato

Total hospitalisation for Asthma was 3,934 (2154 female and 1782 male) from 2000 to 2006, female hospitalisation decreased slightly from 2000 to 2006, while male decreased by almost one third over the same period.

97% of hospitalisations for the asthma were potentially avoidable.

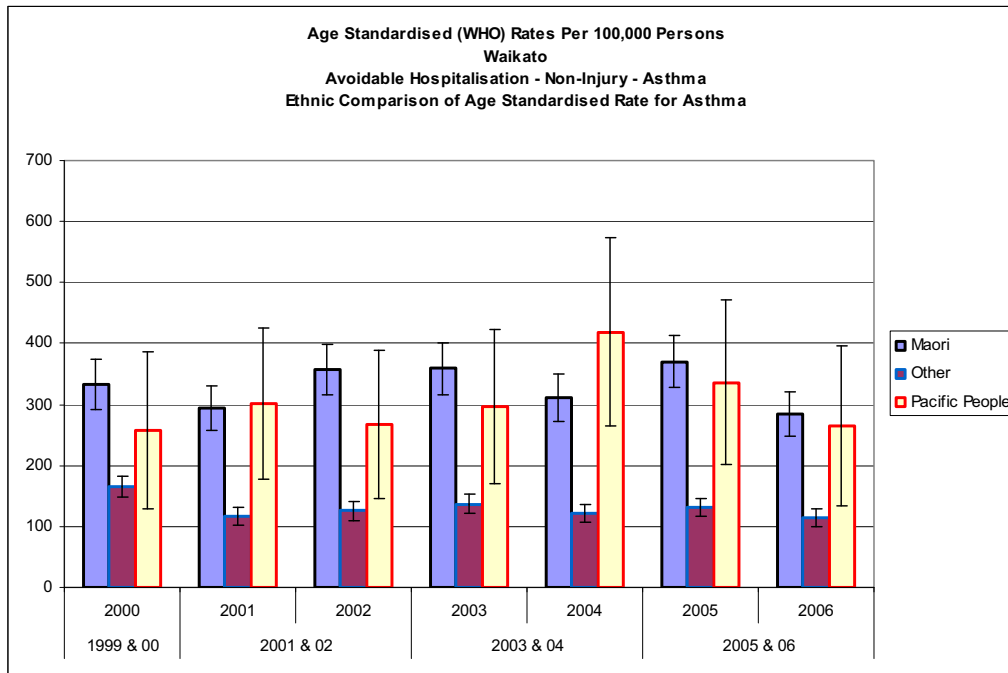
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In most years there were slightly more female asthma hospitalisations. In 2006, the gap increased to 60% female/40% male. The highest deprivation quintiles 3 to 5 consistently showed a higher prevalence of hospitalisation for asthma (in 2006 quintile 3 to 5: 21%, 31% and 37% respectively) with minor changes over the years. The age proportion of hospitalisation was the highest among 00-14 age groups at 48% followed by 25-44 age groups at 17% in 2006.

10.4.6 Hospitalisation for Asthma - Ethnic Comparison

The ethnic comparison of age standardised rates for avoidable hospitalisation for Asthma showed that the rate of hospitalisation among Waikato Maori was twice as high as the rate for Other, as shown below. In general there were no significant differences in the Waikato age specific rates and the national rates.

Graph 63: Asthma age standardised rates, Waikato hospitalisations by ethnicity



Further findings were:

- Across all ethnic groups, the female rate of hospitalisation was higher;
- Within ethnic groups the age proportion of hospitalisation was the highest among Waikato Maori children aged 00-14 years 58%, followed by Pacific children at 42%, then Other ethnic group at 39%;

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Table 162: Asthma hospitalisations Summary - by ethnicity

Ethnic Groups	# of Hospitalisation 2000-2006	Gender Proportion 2006 - F:M%	Age Standardised Rate (Per 100,000 Population) 2006		Age Proportion 2006		Deprivation Quintile -2006		
			Waikato Age Std Rate	NZ Age Std Rate	00-14	25-44	Quintile 3	Quintile 4	Quintile 5
Maori	1773	52%:48%	284.28	371.67	58%	15%	11%	27%	55%
Other (Incl. Asians)	2007 (Incl. 94 Asians)	62%:38%	114.77	153.67	39%	19%	30%	33%	25%
Pacific People	154	79%:21%	264.72	475.3	42%	21%		50%	50%

10.4.7 Hospitalisation for Asthma - Territorial Local Authorities

Asthma - Findings in Population

The findings from the Waikato DHB's "Population Health - Planning Resource 2007-2012" report were:

- The lowest rate of admissions for Asthma was in the Thames-Coromandel district followed by the Hauraki, Matamata-Piako and Otorohanga districts.
- The Part Ruapehu district had the highest rate of admissions which is statistically significant, followed by Hamilton City and Waitomo district. This pattern is similar for the Waikato DHB population as a whole, as well as for the Maori and non Maori populations.

10.4.8 Hospitalisation for Acute Bronchiolitis - Waikato

From 2000 to 2006 there were 2664 hospitalisations (1017 female and 1647 males) to acute bronchiolitis in the Waikato. The gender proportion was typical at 35% female and 65% male in 2006. Around 40% of hospitalisation was of people from quintile 5 and 30% from quintile 4. In 2006, across all ethnic groups, 87% of admissions to acute bronchiolitis were of children less than a year old.

Hospitalisation for Bronchiolitis - Ethnic Comparison of Waikato

64% of the admissions were among Maori, followed by Other ethnic groups at 30%, as shown below.

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Table 163: Acute bronchiolitis, Waikato volumes by ethnicity

Year	Maori	Asian	Other	Total Other	Pacific People
2000	190	5	117	122	24
2001	260	2	82	84	17
2002	248		121	121	14
2003	289	7	133	140	24
2004	241	4	115	119	14
2005	275	8	132	140	18
2006	205	6	103	109	10
Grand Total	1708	32	803	835	121

In 2006, among Waikato Maori, most hospitalisation for acute bronchiolitis was in quintile 5 at 51%, followed by 30% in quintile 4. However the prevalence among Other spread across quintile 1 to 3 at 32%, 27% and 26% respectively for 2006.

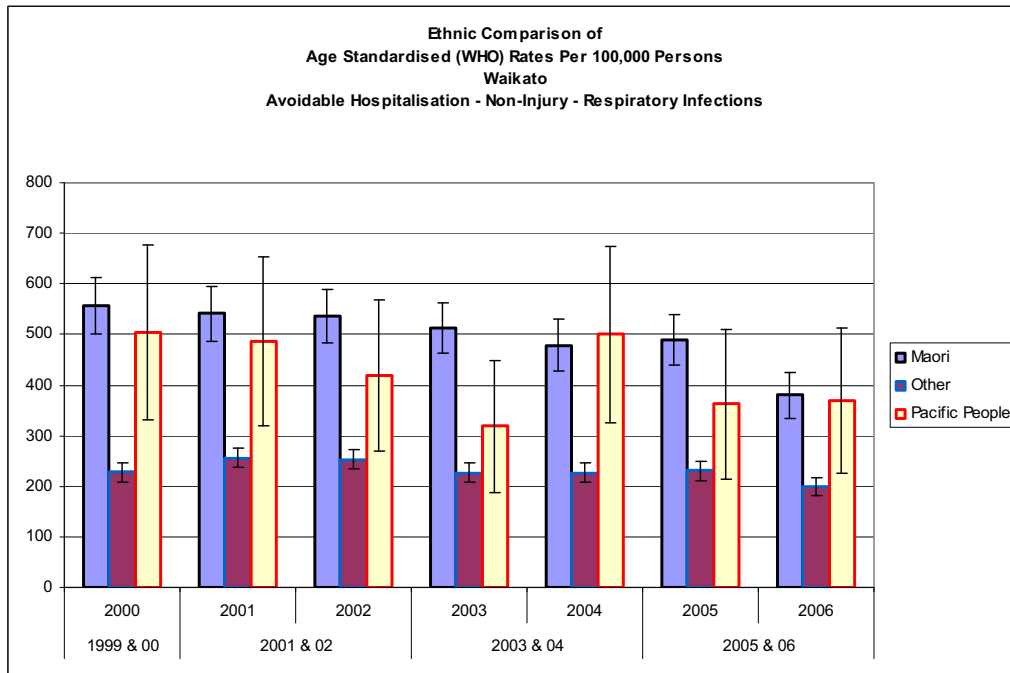
Around 90% of Waikato Maori children hospitalised for acute bronchiolitis were less than a year old and a similar trend was noticed among Other children at 80%. In 2006, 100% of hospitalisation in Pacific children was of children less than a year old.

10.4.9 Ethnic Comparison of Hospitalisation for Respiratory Infections

In the Waikato, the age standardised rates of hospitalisation for respiratory infections among Maori and Pacific People (379.65 and 369.78 per 100,000 people respectively) were twice as high as Other (199.34 per 100,000) in 2006.

Diseases of the Respiratory System

Graph 64: respiratory Infections - age standardised rates, Waikato by ethnicity



The avoidable hospitalisation for respiratory infections was spread equally across the ethnic groups at nearly 38% each. Similarly, across all ethnic groups, the age specific rates of avoidable hospitalisation were the highest among 00-14 year olds at 507.6, followed by 65+ age groups at 322.20 per 100,000 people.

10.4.10 Respiratory Infections - Territorial Local Authorities

The findings from the Waikato DHB's "Population Health - Planning Resource 2007-2012" report were:

- Highest rate of hospitalisation for pneumonia was in Part Ruapehu district, followed by Hamilton City, South Waikato and Waitomo districts.
- The rate of hospitalisation was nearly four times higher among Maori when compared with non Maori population in the TLAs.