

SECTION II

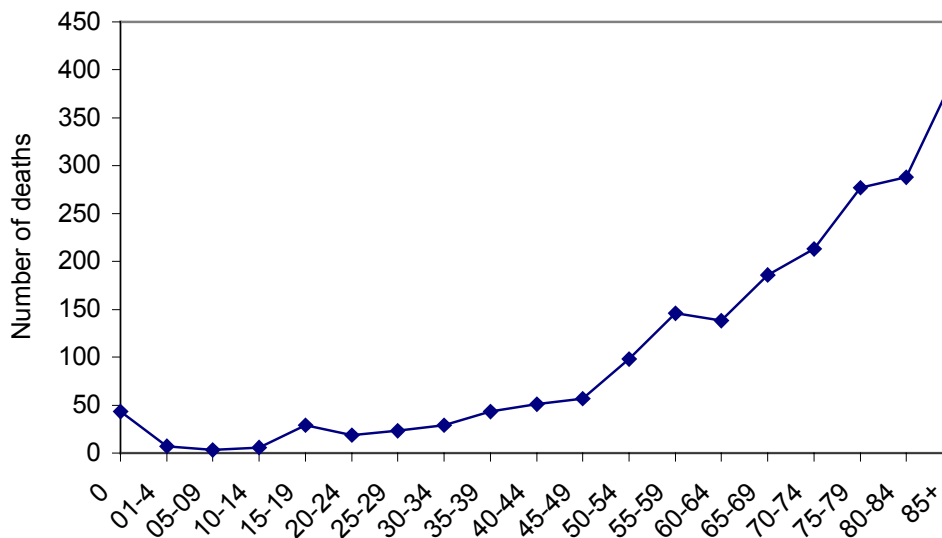
THE LIFE CYCLE

Chapter 4. Health across the life-cycle

Introduction

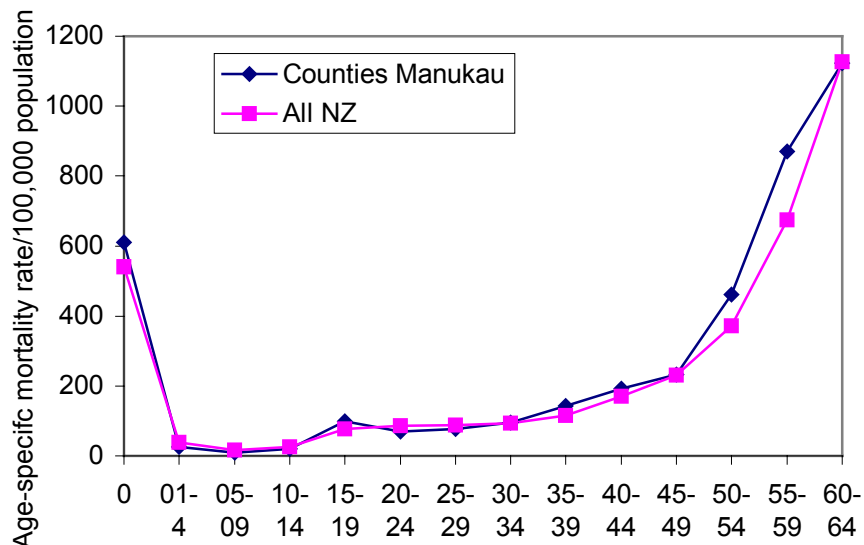
Throughout our lives we are exposed to a range of factors affecting our health and the impact of these factors can vary considerably depending on our age. An influenza infection that may be only a nuisance to a healthy teenager may lead to a life threatening illness in an older person or an infant. Certain environmental contaminants, for example, that have little effect on an adult may have a profound effect on the health and development of a toddler. Young men are more prone to injuries through motor vehicle accidents and sports, and so on. Mortality and sickness rates through to use of health care services vary considerably by age group, reflecting different patterns of need.

Figure 41. Deaths to Counties Manukau residents by age, 1998



Source: NZHIS. Calendar year 1998, results are provisional.

Figure 42. Age specific mortality rates, 0-64 years, Counties Manukau compared with New Zealand 1998



Source: NZHIS mortality data. Calendar year 1998, results are provisional.

Counties Manukau residents exhibit a familiar mortality pattern that would not look out of place anywhere in the OECD (Figure 41). A small blip in the first year of life, mainly around the birth process is followed by very low child mortality. The 15-19 years bring a rise particularly due to motor vehicle accidents (as discussed on page 80), followed by a steadily increasing rise throughout adulthood. Age-specific mortality rates are similar to New Zealand (Figure 42). A worrying difference is the higher mortality in Counties Manukau in the 50-54 and 55-59 year age groups. This is discussed further in the 45-64 section later (pages 83-85).

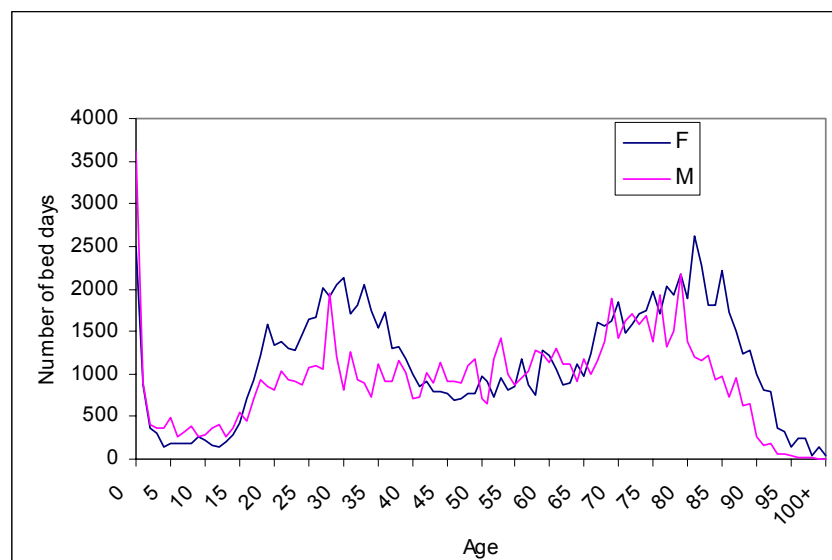
Table 41. Counties Manukau resident public hospital discharge rates by age, 1999

Age group (years)	Discharge rate per 1000 population
<1	265
1-14	131
15-44	101
45-64	152
65+	428

Source: NMDS. Excludes pregnancy-related discharges.

Hospitalisation rates are highest at either end of the life cycle – the elderly and the very young (see Table 41) - mirroring the mortality experience. A peak among females age 20-40 is related to pregnancies (not shown in Table 41), and is further explored in Chapter 9 Women's Health. When looking at bed days in hospital though, three peaks are shown - one in the under ones, one around the age of 30/35 and the other around the age of 80/85 (Figure 43). The first peak in the under ones is accounted for by infectious disease particularly bronchiolitis, and also meningococcal infections (see following 0-14 section on under 1s). Maternity services account for most of the rise in bed-days for young women, while injuries provide nearly as large a cause of hospitalisation in young men. Due to the direct links between age and different types of injuries we have presented data on injury under the most relevant age group later in this section.

Figure 43. Bed days by age and sex South Auckland Health July 99 - June 00



Source: NMDS. Includes pregnancy-related discharges. Day cases counted as 0.

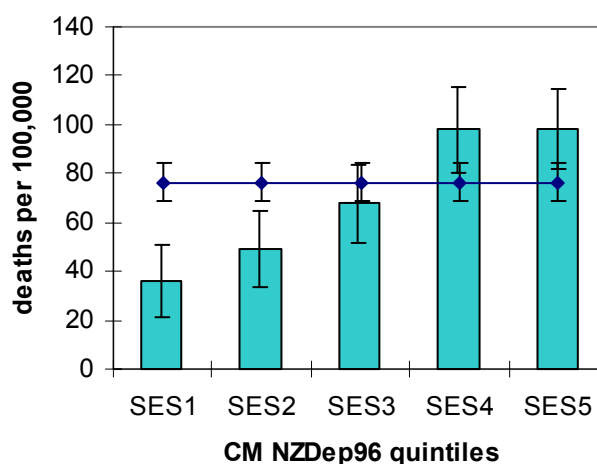
Turning now to each age group the key features of each in turn are examined. More detail about specific conditions that feature within or across age groups is given in the health service utilisation section that follow - Section III.

Children aged 0-14 years

The report *The Health of Children and Young People in Counties Manukau* (October 1999) contains a wealth of detail regarding child health in Counties Manukau. The reader is referred there in the first instance. In addition further updated information on specific issues related to child health such as immunisation are included in a separate section of this report (see Chapter 10 *Child health*).

In New Zealand 620 children aged 0-14 died in 1994, an age specific death rate of 76 deaths per 100,000 population. Infants are at greater risk with two thirds of deaths each year in the 0-1 age group. The age-standardised mortality among 0-14 year olds in Counties Manukau is 82 per 100,000. The mortality rate varies from 36 per 100,000 among children living in the least deprived areas of Counties Manukau to 98 per 100,000 among children living in the most deprived areas. More detail on individual conditions is covered in Chapter 10 *Child health* p204.

Figure 44. Age-specific mortality rate according to deprivation level of area of residence, 0-14 years, Counties Manukau residents, 1994-8



Source: NZHIS mortality data set. Mortality per 100,000 0-14 year olds per year for 1994-8. Vertical lines on bars indicate 95% confidence intervals, horizontal line indicates total CM mortality

There were 13 426 public hospital discharges to Counties Manukau residents aged between 0 and 14 years in 1999. Twenty five percent were Maori children, 32% Pacific, and 43% were of other ethnicity. Pacific children are over-represented (Table 42). For all ethnic groups the majority of Counties Manukau residents are treated by South Auckland Health.

Table 42. Counties Manukau 0-14 year olds, public hospital discharges by ethnicity 1999

	Maori	Pacific	Other	Total
Total discharges	3,379	4,272	5,775	13,426
Rate treated/1000	126	170	115	131
% SAH treated	72%	74%	66%	70%

Source: NMDS. SAH = South Auckland Health. Rate/1000 0-14 year olds. Excludes newborns

Service utilisation

Most 0-14 discharges were from paediatric medical services (Table 43):

- Pacific children are the highest users of paediatric medical services per 1000 head of population. The Maori rate is higher than that of the “other” ethnic group.
- Rates of surgical service utilisation are similar across all ethnic groups.
- There were very few mental health inpatient events

For all ethnic groups more males were discharged from medical and surgical services than females (first line in Table 44).

Table 43. Counties Manukau residents aged 0-14 years discharge rate by ethnicity, 1999

	Rate per 1000 0-14 year olds				Ratio M:O	Ratio P:O
	Maori	Pacific	Other	Total		
Medical	66	103	44	64	1.5	2.3
Surgical	58	60	65	62	0.9	0.9
Mental health	0.15	0	0.18	0.13	0.8	0

Source: NMDS. Rates ethnicity-specific. Ratio obtained by division of Maori or Pacific rate by Other rate.

Potentially avoidable hospitalisations

During 1999, 45% of the medical and surgical discharges from SAH by Counties Manukau residents aged between 0-14 years were considered to be potentially avoidable (4 054 admissions out of 8 941). Table 44 shows that females have a slightly higher percentage of avoidable admissions than males across all ethnic groups and that Pacific children have a slightly higher proportion of potentially avoidable admissions than those of Maori and other ethnicity.

Table 44. Potentially avoidable hospitalisations for Counties Manukau residents aged 0-14 years in 1999 by sex and ethnicity

	Maori		Pacific		Other		Total	
	M	F	M	F	M	F	M	F
Total discharges	1,284	1,069	1,709	1,299	1,991	1,589	4,984	3,957
PAH	549	494	812	635	816	748	2,177	1,877
% PAH	43%	46%	48%	49%	41%	47%	44%	47%
Rate per 1000 pop	41.1	36.9	64.5	50.4	32.5	29.8	42.6	36.7

Source: NMDS. Discharges from medical and surgical services only. Injury admissions are not included in PAH

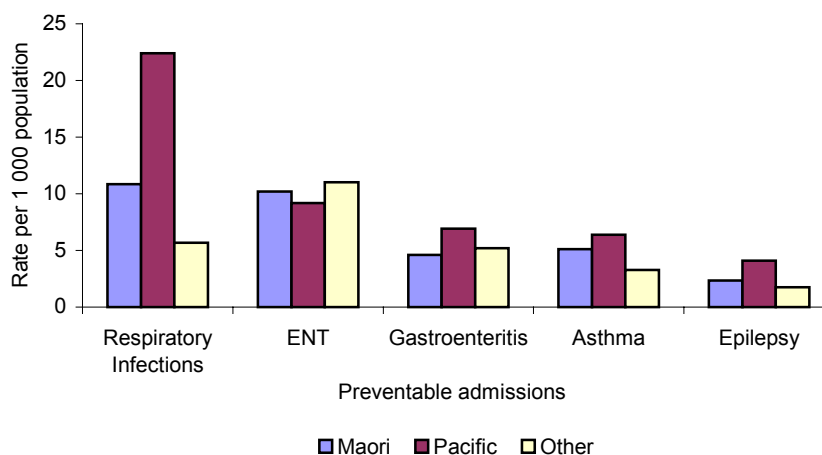
The major causes of potentially avoidable hospitalisations for Counties Manukau residents aged 0-14 years are respiratory and ENT infections (Table 45).

For most conditions Maori and Pacific children have higher rates of avoidable admissions per head of population than those of other ethnic groups. Table 45 presents the excess number of discharges for Maori and Pacific people for these conditions if they had had the rates found in those of other ethnicity. Maori and particularly Pacific children have far higher rates of respiratory infections than other ethnic groups. These findings will reflect both socio-economic and environmental conditions as well as access to primary health care - this is discussed further in the section on health disparities.

Table 45. The leading causes of potentially avoidable hospitalisations by ethnicity for Counties Manukau residents 0-14 years in 1999

		discharges	% of total discharges	Rate/ 1000 population	Excess no discharges
Maori	Respiratory infections	290	12.3%	10.8	138
	ENT infections	273	11.6%	10.2	-21
	Asthma	137	5.8%	5.1	49
	Gastroenteritis	123	5.2%	4.6	-15
	Cellulitis	78	3.3%	2.9	43
Pacific	Respiratory infections	564	18.8%	22.4	421
	ENT infections	231	7.7%	9.2	-47
	Gastroenteritis	174	5.8%	6.9	43
	Asthma	161	5.4%	6.4	78
	Epilepsy	103	3.4%	4.1	59
Other	ENT infections	554	15.5%	11.0	
	Respiratory infections	285	8.0%	5.7	
	Gastroenteritis	261	7.3%	5.2	
	Asthma	165	4.6%	3.3	
	Epilepsy	88	2.5%	1.8	
Total	Respiratory infections	1139	12.7%	11.1	
	ENT infections	1058	11.8%	10.4	
	Gastroenteritis	558	6.2%	5.5	
	Asthma	463	5.2%	4.5	
	Epilepsy	254	2.8%	2.5	
	Cellulitis	231	2.6%	2.3	

Source: NMDS. Excess is calculated by taking the other rate vs the Maori and Pacific population to develop an expected discharge rate, which is then compared with the actual. Discharges from medical and surgical services only

Figure 45. Common potentially avoidable admissions 0-14 year olds by ethnicity, Counties Manukau, 1999

Source: NMDS. Discharges from medical and surgical services only. Rate/1000 0-14 year population.

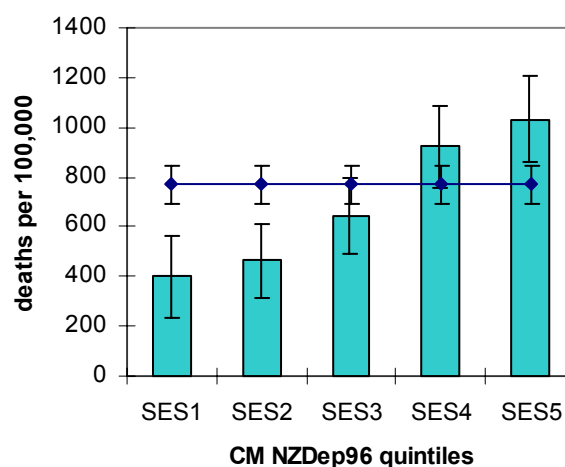
The health needs of the 0-1 year olds are markedly different from those of older children. As such, they have been discussed in detail in the following sub-section¹.

¹. For further in-depth discussion the reader is referred to *The Health of Children and Young People in Counties Manukau* (SAH, October 1999)

Infants - under 1 year

Counties Manukau has a statistically significantly higher infant mortality rate than the Northern Region or New Zealand average - 9 per 1,000 live births compared to 7.6 for both Northern Region and New Zealand for 1991-95. The standardised mortality rate for infants varies considerably according to socio-economic status (see Figure 46). The major causes of infant death are sudden infant death syndrome (SIDS), congenital anomalies and peri-natal conditions. Counties Manukau has a significantly higher infant death rate than for New Zealand as a whole for the following conditions: SIDS, motor vehicle accidents and meningococcal meningitis. More detail is given in *The Health of Children and Young People in Counties Manukau*.

Figure 46. Mortality rate in Counties Manukau 0-1 years, 1994-8 by deprivation level of area of domicile



Source: NZHIS mortality data set. Mortality per 100,000 0-1 year olds per year for 1994-8. Vertical lines indicate 95% confidence intervals, horizontal line indicates total CM mortality

Service utilisation

In 1999, 2,966 Counties Manukau residents aged between 0 and 1 years were hospitalised (excluding newborns). Twenty nine percent were Maori, 44% Pacific, and 27% were of other ethnicity. Pacific infants are significantly over-represented as inpatients in public hospitals – a rate of 683 per 1000 infants is startling (Table 46).

Table 46. Counties Manukau 0-1 year olds, public hospital discharges 1999 by ethnicity, excluding newborns

	Maori	Pacific	Other	Total
Total discharged	855	1,317	794	2,966
Discharge rate /1000	432	683	258	424
Medical rate /1000	367	590	182	347
Surgical rate /1000	65	93	75	77
% SAH treated	80%	80%	64%	76%
% 0-1 yr olds with at least one discharge in 1999				
Counties Manukau	34%	52%	22%	33%
Rest of New Zealand	29%	33%	25%	26%

Source: NMDS. SAH = South Auckland Health. Excludes admissions relating to the birth process, NICU etc. Medicine and surgery defined by discharge department.

Looking at a per individual rate the Pacific rate was **52%** - ie just over half of all Pacific babies born in Counties Manukau were admitted to hospital at least once under the age of 1 in 1999. That is 1010 Pacific infants having 1317 discharges out of 1920 0-1 year olds. The equivalent rate for Pacific infants in the rest of New Zealand was 33%. Maori infants in Counties Manukau are also more likely to be admitted in their first year of life than others Maori in the rest of New Zealand (Table 46).

Pacific infants in Counties Manukau are showing quite a different and worrying trend over time compared with Pacific infants elsewhere in New Zealand (Table 47).

Table 47. Pacific infants aged 0-1 with at least one discharge from a public hospital in that year, Counties Manukau compared with New Zealand, 1995-99

	1995	1996	1997	1998	1999
Counties Manukau	27%	26%	36%	37%	52%
Rest of New Zealand	37%	36%	32%	30%	33%

Source: NMDS. Excludes admissions relating to the birth process.

Other points to note from Table 46:

- Most under one discharges were from paediatric medical services
- Pacific children aged 0-1 years are the highest users of paediatric medical services per 1000 head of population. The Maori rate is twice as high as that of the “other” ethnic group.
- Rates of surgical service utilisation are fairly similar across all ethnic groups.
- For all ethnic groups, the majority of Counties Manukau infants are treated by SAH.

Further analysis (tables not included here) show that for all ethnic groups, more males were discharged from medical and surgical services than females.

Potentially avoidable hospitalisations

During 1999 **62%** of the medical and surgical discharges by Counties Manukau residents aged between 0-1 years were considered to be potentially avoidable (1,852 admissions out of 2,966). Maori and Pacific infants have a higher proportion of potentially avoidable admissions than the European and Other group and much higher rates (Table 48).

Table 48. Potentially avoidable hospitalisations for Counties Manukau residents aged 0-1 years in 1999 by ethnicity

	Maori	Pacific	Other	Total
Total discharges	855	1,317	794	2,966
Potentially avoidable	592	874	386	1,852
% Potentially avoidable	69%	66%	49%	62%
PAH rate per 1000 pop	299	453	125	265

Source: NMDS. Discharges from medical and surgical services only. Injury admissions are not included in PAH

Table 49 shows the major causes of potentially avoidable hospitalisations (PAH) for Counties Manukau residents aged 0-1 years in 1999. The single largest potentially avoidable cause of hospital stay in this age group was respiratory infection. This includes acute bronchiolitis (60% of these admissions), pneumonia (24%), and other respiratory infections (16%). Pacific rates are very high – if every discharge was to a different baby the equivalent of 45% of all Pacific babies would be admitted to hospital with a respiratory infection in their first year of life. More detail on infant and child PAH is given in Chapter 10 *Child Health* p207, including comparison with New Zealand rates.

Table 49. The leading causes of avoidable hospitalisations by ethnicity for Counties Manukau residents 0-1 years in 1999

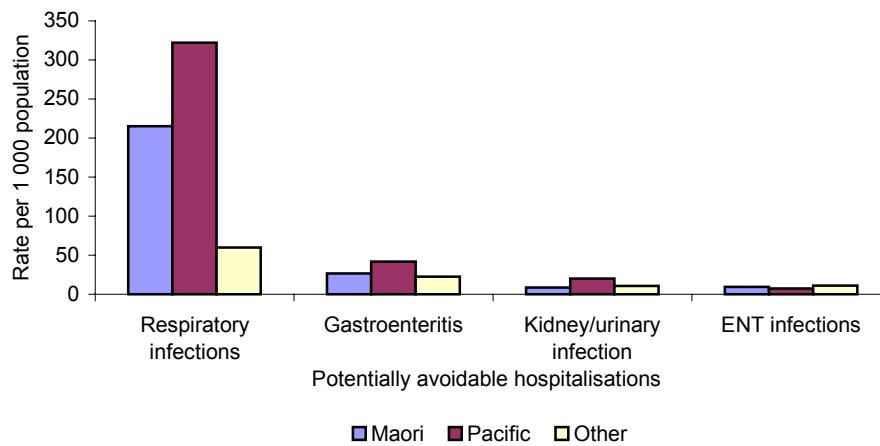
		No of hosps	% of total hosps	Rate/ 1000 popn	Excess no of hosps
Maori	Respiratory infections	426	49.8%	215.0	308
	Gastroenteritis	53	6.2%	26.8	8
	ENT infections	19	2.2%	9.6	-3
	Kidney/urinary infection	17	2.0%	8.6	-4
	Asthma	16	1.9%	8.1	13
	Cellulitis	15	1.8%	7.6	9
Pacific	Respiratory infections	621	47.2%	321.9	506
	Gastroenteritis	81	6.2%	42.0	37
	Kidney/urinary infection	39	3.0%	20.2	18
	Cellulitis	34	2.6%	17.6	28
	Epilepsy	24	1.8%	12.4	15
	Whooping cough	19	1.4%	9.8	15
Other	Respiratory infections	184	23.2%	59.7	
	Gastroenteritis	70	8.8%	22.7	
	ENT infections	34	4.3%	11.0	
	Kidney/urinary infection	33	4.2%	10.7	
	Epilepsy	14	1.8%	4.5	
	Failure to thrive	11	1.4%	3.6	
Total	Respiratory infections	1,231	41.5%	176.0	
	Gastroenteritis	204	6.9%	29.2	
	Kidney/urinary infection	89	3.0%	12.7	
	ENT infections	67	2.3%	9.6	
	Cellulitis	59	2.0%	8.4	
	Epilepsy	53	1.8%	7.6	

Source: NMDS. Excludes childbirth and neonatal care.

For most conditions, Maori and Pacific infants have higher rates of avoidable admissions per head of population than do those of other ethnic groups. Table 49 presents the excess number of discharges for Maori and Pacific infants for these conditions if they had had the rates found in those of the “other” group. Maori and particularly Pacific infants have far higher rates of respiratory infections than other ethnic groups. These findings will reflect socio-economic and environmental conditions, parental practices and access to primary health care. Breast-feeding and infant nutrition in relation to this is discussed in Chapter 10 *Child Health* p214.

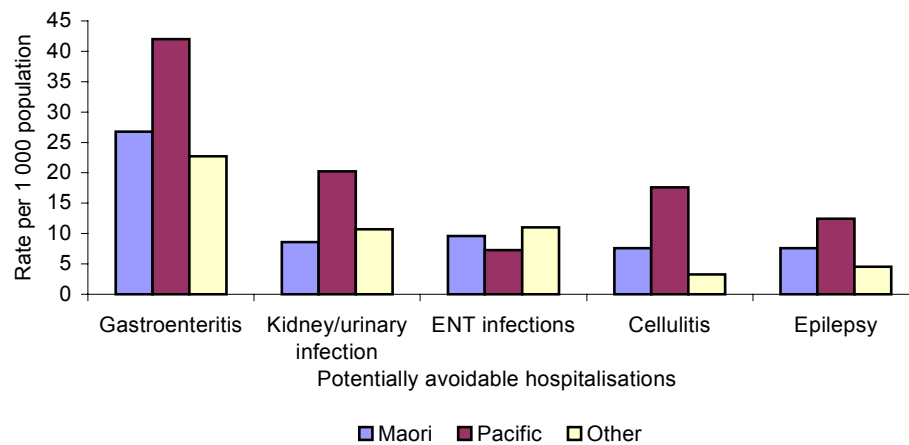
The cause with the highest rate of hospitalisation, respiratory infections, dominates the picture (Figure 47). This does not mean necessarily that rates for other conditions are low but rather the respiratory rates are very high (Figure 48).

Figure 47. Most common potentially avoidable hospitalisations by ethnicity, Counties Manukau 0-1 year olds, 1999



Source: NMDS. Discharges from medical and surgical services only. Rate/1000 0-1 year population.

Figure 48. Common potentially avoidable hospitalisations by ethnicity, (excluding respiratory infection) Counties Manukau 0-1 year olds, 1999



Source: NMDS. Discharges from medical and surgical services only. Rate/1000 0-1 year population.

Injuries 0-14 years

There were 7 deaths to Counties Manukau children as a result of injury in 1998 (provisional data from NZHIS), less than the average 15 per year for 1994-7.

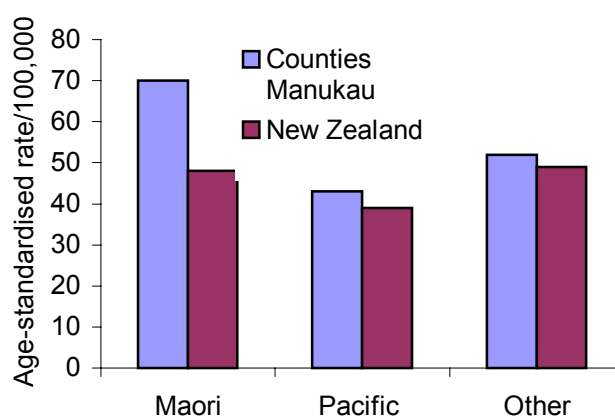
In 1999 there were 2,070 public hospital discharges to Counties Manukau children as a result of an injury or poisoning. This was 9.9% of all discharges to Counties Manukau children. The rate of 20.2/1000 children (95% CI 19.3-21.1) is significantly higher than the national rate of 17.0 (16.7-17.3). The specific forms of injury are covered in detail below. All discharge figures refer to public hospitals only.

Recreational injury

Recreational injury covers falls from playground equipment (ICD-9-CM codes E8840 and 8845). In 1999, 246 Counties Manukau residents were discharged for recreational injury, a rate of 54 per 100,000. This is slightly higher than the New Zealand rate of 48 per 100,000. In Counties Manukau, 98% of discharges for recreational injury were for those aged 0-14 years of age; 70% were for those aged 5-9 years.

Figure 49 shows the recreational injury discharge rates by ethnicity for Counties Manukau and New Zealand in 1999. The Counties Manukau Maori rate is significantly higher than national rates, while the Pacific and other ethnic groups have rates similar to those found nationally. The reason for the higher rates in Counties Manukau Maori is unclear.

Figure 49. Age-standardised discharge rates due to recreational injury 0-14 years, Counties Manukau compared with New Zealand 1999



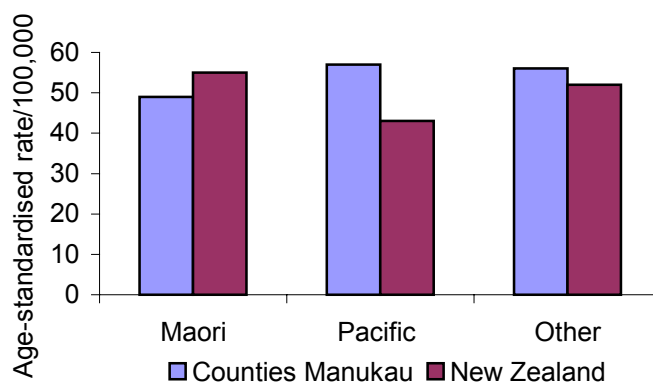
Source: NMDS.

Poisoning

This analysis covers unintentional poisoning from drugs, medicinal substances and other biological substances (ICD-9-CM codes E850-E858), and unintentional poisoning from other solid and liquid substances, gases and vapours (codes E860-E869). There has been one death from poisoning recorded in a Counties Manukau child in the 5 years 1994-8. In 1999 there were 203 discharges for Counties Manukau residents for poisoning, a rate of 52 per 100,000. This is the same as the rate found for the total New Zealand population. In Counties Manukau, 35% were aged under 15 years and 26% of

those discharged were aged under five years. Figure 50 shows the poisoning discharge rate by ethnicity for the Counties Manukau and New Zealand populations. All ethnic groups have similar poisoning discharge rates. The Counties Manukau Pacific rates are higher than the national rates.

Figure 50. Age-standardised discharge rates for poisoning age 0-14 years, Counties Manukau compared with New Zealand 1999

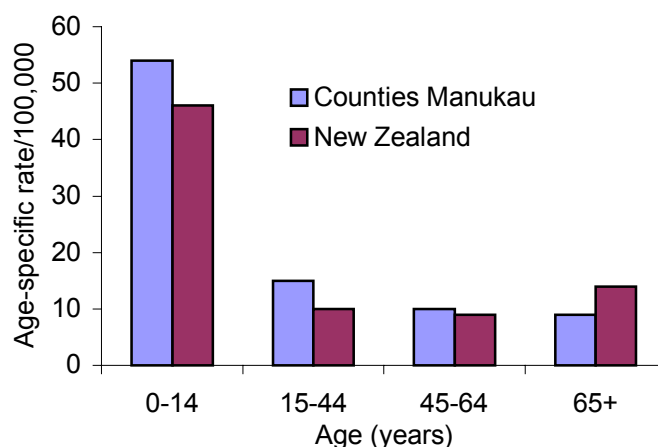


Source: NMDS.

Burns and scalds

Three Counties Manukau children have lost their lives through fire in the five years 1994-8. In 1999 Counties Manukau residents had 92 discharges for burns and scalds from hot objects or substances, caustic or corrosive substances and steam (ICD-9-CM codes E924). Fifty-five of these (60%) were for those aged 0-14 years. The age-adjusted rate of 22 per 100,000 for Counties Manukau is slightly higher than the national rate of 18 per 100,000 (note - discharges as a result of fire or flames are not included in these data).

Figure 51. Age-standardised discharges rates from injury caused by hot substances or objects, Counties Manukau compared with New Zealand 1999



Source: NMDS.

Swimming pool accidents and near drownings

Over the 5 years 1994-8 two Counties Manukau children have lost their lives through swimming pool accidents, and a further 4 died through other drownings. In 1999 18

Counties Manukau residents were discharged after swimming pool accidents or near drownings. Seven of these (39%) were children in the 0-5 year age group. Counties Manukau rates were similar to national rates and there were no significant differences between the ethnic groups.

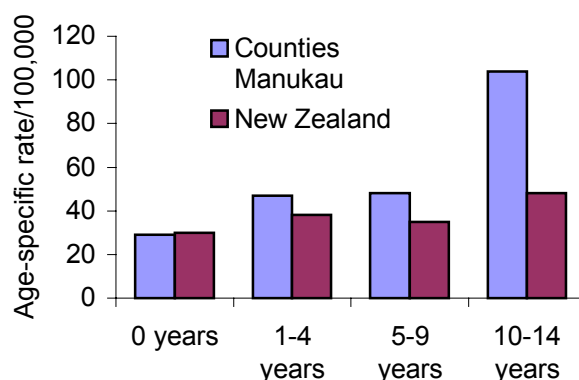
Non-accidental injury

In 1999 33 Counties Manukau children were admitted as a result of battery or maltreatment. The Counties Manukau rate of 8 per 100,000 is double the national rate of 4 per 100,000.

Motor vehicle injury

For the 5 years 1994-8 35 Counties Manukau children lost their lives through motor vehicle use, 4 in 1998. In 1999, 294 Counties Manukau residents aged 0-14 years were hospitalised as a result of motor vehicle crashes. Figure 52 compares the injury rate for the Counties Manukau and New Zealand populations. Counties Manukau rates are higher than national rates for all age groups, especially for the 10-14 year olds. The reason for this finding is not clear, it may reflect car age, distance driven, drink-driving rates, or different seat belt usage rates. According to the LTSA, rates of use of restraints are lower in Manukau than found nationally². In 2000 the use of child restraints for children up to four years is 60%, which is below the national rate of 75%.

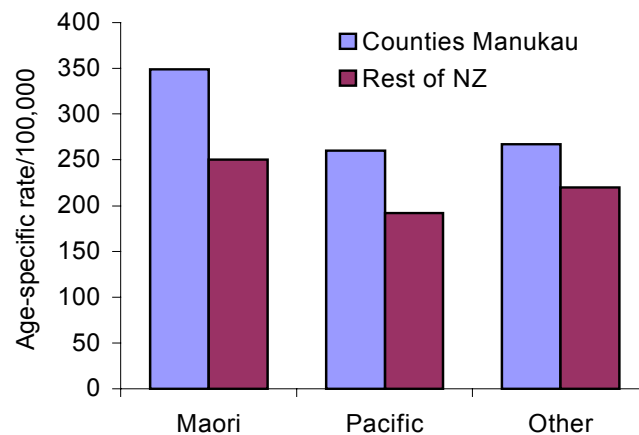
Figure 52. Motor vehicle injury hospitalisations, 0-14 years, Counties Manukau compared with New Zealand by age group, 1999.



Source: NMDS.

Maori children have the highest rates of hospitalisation for motor vehicle injury in the 0-14 year age group (Figure 53). The Counties Manukau rates exceed the national rates for all ethnic groups compared.

² "Restraint Use", *Road Safety Report*. Land Transport Safety Authority, August 2000.

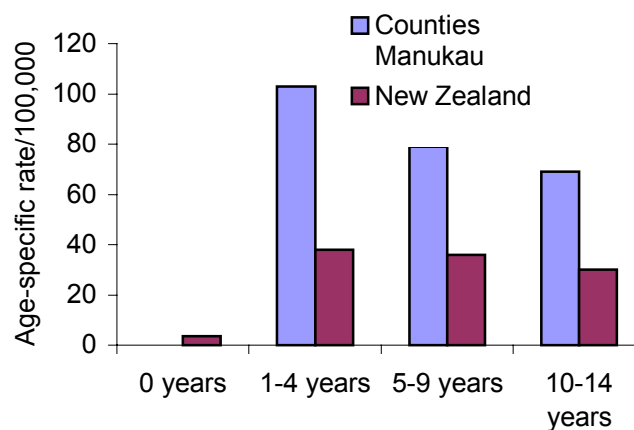
Figure 53. Motor vehicle injury hospitalisations to 0-14 year olds by ethnicity 1999

Source: NMDS.

Pedestrian injuries

Hospitalisation rates for pedestrian injuries for Counties Manukau residents aged 0-14 years are much higher than rates found nationally (Figure 54). Incidents involving young pedestrians are particularly prevalent in Counties Manukau, especially in the 1-4 year age group³. These findings perhaps suggest a need to target road safety and driver speed in this area.

In 1999, 25% of pedestrian casualties in Manukau were aged 10-14 yrs, compared to 17% for all of NZ (LTSA). The use of child restraints for children up to four years is 60%, which is well below the national rate of 75%.

Figure 54. Pedestrian injury hospitalisations to 0-14 year olds 1999

Source: NMDS.

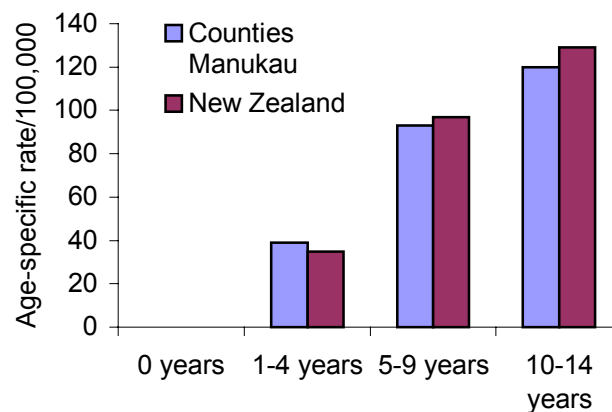
³ "Restraint Use", Road Safety Report. Land Transport Safety Authority 2000.

For further information about types of crashes including whether they were speed or alcohol related the reader is referred to the Land Transport Safety Authority.

Bicycle injuries

Counties Manukau residents aged 0-14 years were similar to their New Zealand counterparts in their rate of admission to hospital due to injuries as a result of a pedal cycle accident (Figure 55). These figures include collisions with motor vehicles as well as injuries that occur while riding in recreational areas. The highest rates found are in the 10-14 year age group. Unlike pedestrian injuries Counties Manukau rates are if anything lower than found nationally for all age groups except the 1-4 year olds. This may reflect a lower number of injuries, but may also reflect a lower number of bicycles. Data from the LTSA has found that the use of cycle helmets is ~80% in Counties Manukau compared to 93% nationally⁴.

Figure 55. Pedal cycle injury hospitalisations to 0-14 year olds 1999



Summary

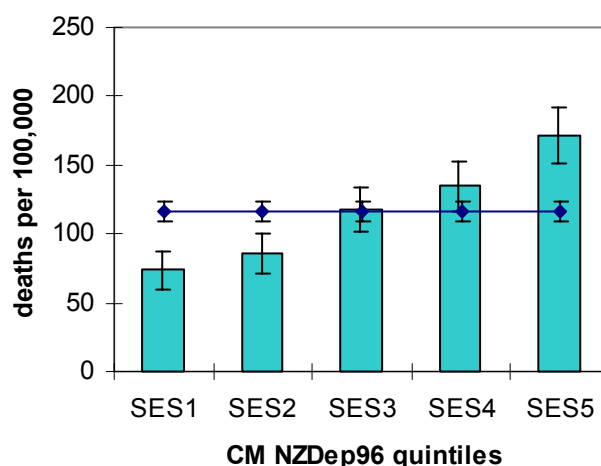
Mortality rates in this age group are higher than for New Zealand and show marked variation according to socio-economic status. Hospitalisation rates for infants are very high especially for Pacific infants. Hospitalisation rates in the 0-14 age group are lower than the infant group. If the 0-1 age group were taken out the hospitalisation rates would be smaller still. There is therefore a shift between infancy and the older children in the disease profile. Many (62%) of the conditions affecting infants would be considered potentially avoidable, with a smaller proportion of them in the later age groups (47%). Respiratory infections, gastroenteritis, ENT infections and cellulitis are the major causes, with asthma becoming more important as a reason for hospitalisation in the older ages. The high hospitalisation rates are likely to reflect poor socio-economic conditions so it is unlikely that health service intervention alone will be able to eliminate the health need for these children. The number of pedestrian injuries in this age group is high suggesting a more targeted role is needed for health promotion and education, and prevention.

⁴ Ibid

Young adults 15-44 years

The mortality rate among people aged 15-44 years for the population of Counties Manukau for 1998 was 114 per 100,000 (95% CI 97-130), slightly higher than that for all New Zealand of 105 per 100,000 (100-110). The overall rate hides significant variation according to socio-economic status, as seen with the younger age groups, with the upper quintile significantly higher than the CM average, and the lower 2 quintiles significantly lower than the average (Figure 56).

Figure 56. Age-standardised mortality rate by deprivation level of area of domicile, 15-44 years, 1994-8



Source: NZHIS mortality data. Mortality per 100,000 15-44 year olds per year for 1994-8. Vertical lines indicate 95% confidence intervals, horizontal line indicates total CM mortality

In 1999 27 003 Counties Manukau residents aged between 15 and 44 years were hospitalised (the equivalent of 15% of the population). Twenty-three percent were Maori, 25% Pacific people, and 52% were of other ethnicities. Given that only 19% of the Counties Manukau population in this age group are Maori, 19% are Pacific and 63% are “other”, Maori and Pacific peoples are over represented in the discharge statistics. This is seen more clearly when discharges are expressed per 1000 adults in the population (Table 50). For all ethnic groups, the majority of Counties Manukau 15-44 year olds are treated by South Auckland Health (SAH).

Table 50. Counties Manukau 15-44 year olds, public hospital discharges 1999 by ethnicity

	Maori	Pacific	Other	Total
Total discharged	6,109	6,854	14,040	27,003
Discharge rate/1000	185	212	128	154
% SAH treated	87%	86%	78%	82%

Source: NMDS. SAH = South Auckland Health

Service utilisation

In the 15-44 age group maternity-related are the main cause of a public hospital admission (Table 51).

- Pacific people are the highest users of medical, surgical and maternity services per 1000 head of population. Maori rates are higher than the European and other group.
- Maori are the highest users of mental health services per head of population.

- Further analysis (tables not included here) show that:
- For all ethnic groups, more females were discharged from medical and surgical services than males.
- Maori males have the highest discharge rates for mental health.
- Maori males also have the highest discharge rates from disability support services.

Table 51. Hospitalisation rates for Counties Manukau residents aged 15-44 years in 1999 by ethnicity

	Maori	Pacific	Other	Total	Ratio M:O	Ratio P:O
Medical	45	51	35	40	1.3	1.5
Surgical	69	71	51	58	1.4	1.4
Maternity*	131	174	79	106	1.7	2.2
Mental health	5	2	2	3	2.5	1
DSS	0.7	0.3	0.4	0.4	1.8	0.8

Rates per 1000 population. Ratio obtained by division of Maori or Pacific rate by Other rate.

Potentially avoidable hospitalisations

During 1999 **23%** of the medical and surgical discharges by Counties Manukau residents aged between 15-44 years were considered to be potentially avoidable (3,217 admissions out of 14,236). Males have a slightly higher percentage of PAH than females across all ethnic groups, but per head of population, females have higher rates than males (Table 52).

Table 52. Potentially avoidable hospitalisations, Counties Manukau residents in 1999 by sex and ethnicity, 15 - 44 years

	Maori		Pacific		Other		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
All hosps	1,114	2,086	1,288	2,084	3,263	4,401	5,665	8,571
PAH	302	519	329	498	718	851	1,349	1,868
%PAH	27%	25%	26%	24%	22%	19%	24%	22%
Rate per 1000 pop	18	31	20	31	13	16	15	21

Discharges from medical and surgical services only. Injury admissions are not included in PAH figures. PAH = potentially avoidable hospitalisation. Rate is age-specific.

The single largest potentially avoidable cause of hospital stay for Counties Manukau 15-44 year olds is **cellulitis** (Table 53). This is discussed in detail in chapter 7, page 130.

Maori and Pacific people have higher rates of avoidable admissions per head of population than the European and Other group. Table 53 presents the excess number of discharges for Pacific and Maori people for these conditions if they had had the rates found in those of the other ethnic group. For example, if Maori had the same age-specific discharge rate for cellulitis as those of the other ethnic group, there would have been 67 less hospitalisations to SAH in 1999. This data clearly shows that Maori and particularly Pacific people have far higher rates of infectious diseases (cellulitis, sexually transmitted disease, and respiratory infections), they also show increased rates of angina compared to those of the other ethnic group. These findings will reflect both social conditions and primary health care access.

Table 53. The leading causes of avoidable hospitalisation by ethnicity for Counties Manukau residents, 15- 44 years in 1999

		Hosps	% of total hosps*	Rate/ 1000 popn	Excess no. of hosps
Maori	Cellulitis	140	4.4%	4.2	67
	STD	105	3.3%	3.2	62
	Asthma	93	2.9%	2.8	50
	Respiratory Infections	90	2.8%	2.7	50
	Angina	82	2.6%	2.5	13
Pacific	Cellulitis	144	4.3%	4.5	76
	Respiratory Infections	118	3.5%	3.7	79
	STD	91	2.7%	2.8	49
	Asthma	84	2.5%	2.6	42
	Angina	75	2.2%	2.3	7
Other	Cellulitis	235	3.1%	2.1	
	Angina	232	3.0%	2.1	
	Gastroenteritis	170	2.2%	1.6	
	Asthma	138	1.8%	1.3	
	STD	137	1.8%	1.3	
	Respiratory Infections	134	1.7%	1.2	
Total	Cellulitis	519	3.6%		
	Angina	389	2.7%		
	Respiratory Infections	342	2.4%		
	STD (ectopics/PID)	333	2.3%		
	Asthma	315	2.2%		

Excess is calculated by taking the other rate vs the Maori and Pacific population to develop an expected discharge rate, which is then compared with the actual. Discharges from medical and surgical services only. STD = sexually transmitted diseases (includes ectopic pregnancy and pelvic inflammatory disease)

Injuries 15 - 44 years

In 1999 there were 3,292 public hospital discharges to Counties Manukau 15-44 year olds as a result of an injury or poisoning. This was 11.8% of all public hospital discharges to this group. The rate of 18.8/1000 population (95% CI 18.3-19.3) is significantly higher than the national rate of 15.6 (15.5-15.7). The specific forms of injury are covered in detail below. All discharge figures refer to public hospitals only.

Motor vehicle injury

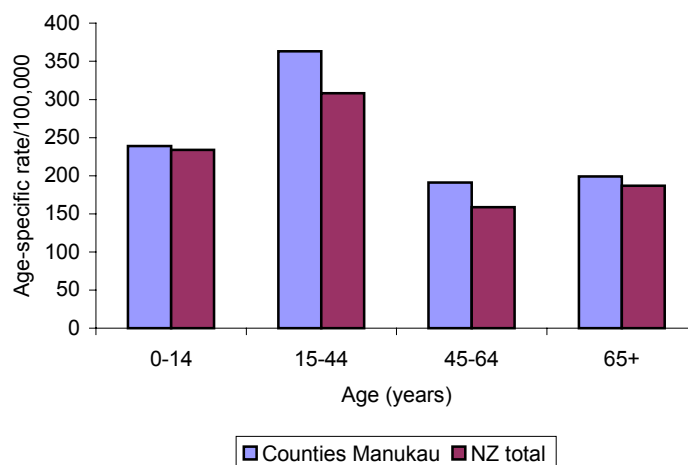
In 1999 a total of 1,139 discharges for Counties Manukau residents cited motor vehicle crash as the reason for hospitalisation, a rate of 289 per 100,000 (ICD-9-CM codes 810-829). Fifty-six percent of these were for those aged 15-44 years (Figure 57). The Counties Manukau rate is higher than the national rate for this age group.

Accident data gathered by the Land Transport Safety Authority sheds more light on the causes of accidents in the Manukau City area:

Road crashes in Manukau City over the 1995 to 1999 five-year period have killed 106 people, seriously injured 667 and caused minor injuries to 3468 people. The general trend in reported crashes and casualties since 1995 is downward.

- Crossing and turning crashes are the single most prevalent crash type in urban Manukau City, accounting for 35% of all injury crashes between 1995-1999.

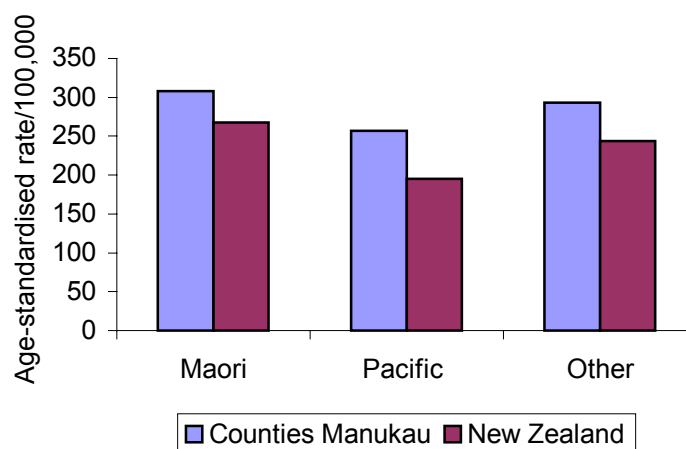
Figure 57. Motor vehicle injury: age-standardised discharge rates by age, Counties Manukau compared with New Zealand 1999.



Source: NMDS

- In Manukau City, alcohol remained the third most prevalent factor in urban areas, and the second most prevalent factor contributing to crashes in rural areas between 1995-99. In urban areas of Manukau City, the level of crashes due to alcohol in 1999 (19%) is above the total NZ rate (13%). Seventy-eight percent of all drivers involved in alcohol crashes were aged between 15-39.
- Crashes where speed is recorded as at least one of the contributing factors accounted for 17% of all injury crashes in urban Manukau City in 1999 and for 21% in the rural areas. The urban level is well above the national level (12%) and the rural level is about the same as comparison groups. A notable feature regarding speed as a factor contributing to crashes, is that for Manukau an upward trend for the past decade is evident, against a steady downward trend for all of NZ. Drivers aged between 15-29 are involved in 54% of speed related crashes.

Figure 58. Age-standardised discharge rate for motor vehicle injuries by ethnicity, all ages 1999



Source: NMDS

All ethnic groups have similar rates, but Counties Manukau rates are higher than the national rates (Figure 58). This finding may reflect, in part, socio-economic status.

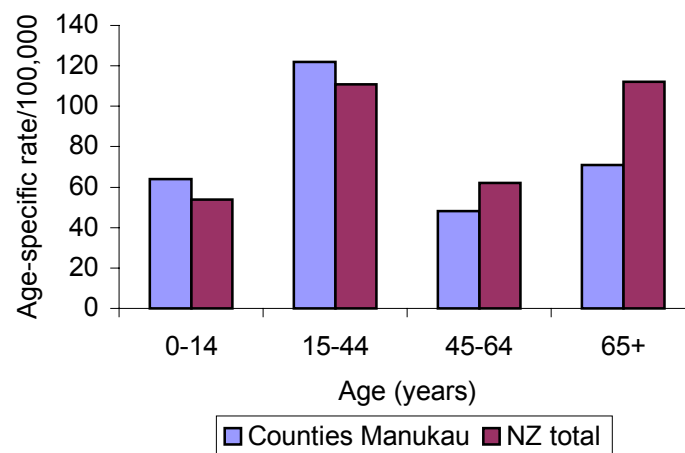
Previous research by Jackson et al (1998)⁵ found that the hospitalisation rate from motor vehicle injuries of the “very low” socio-economic group was more than twice that of the “very high” group. They suggest that factors involved might include the quality of car stock (newer cars being safer), different drink-driving rates, differing seat belt usage rates and exposure ie distances driven.

Rates of use of restraints are lower in Manukau than found nationally. In 2000 rear belt wearing rates for adults were about 10% lower than national rates (LTSA).

Sports injuries

Sports injuries (ICD-9-CM codes E8860, 9170 and 927) also account for a surprisingly high number of hospitalisations in this age group. In 1999 of the 340 discharges to Counties Manukau residents for sports injury 63% were for those aged 15-44 years (Figure 59). Figure 60 shows the sports injury discharge rates by ethnicity for Counties Manukau and New Zealand in 1999. Maori and Pacific people have slightly higher rates than do those of the other ethnic group, possibly related to exposure to sport. Counties Manukau rates are similar to the national rates for all ethnic groups. There was one death recorded as the result of a sports injury in 1998 to a 15-44 year old Counties Manukau resident.

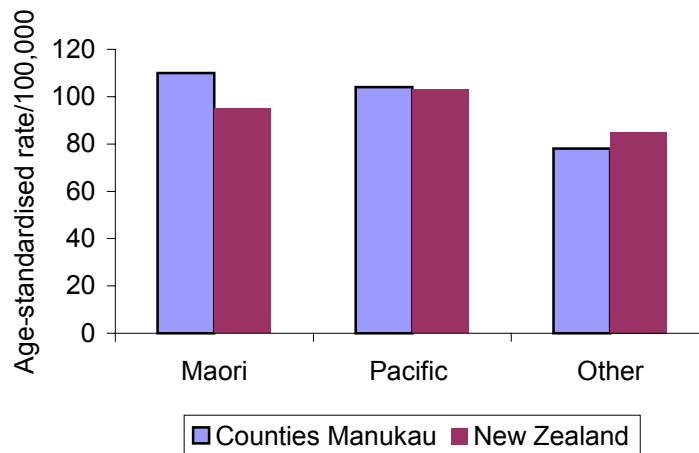
Figure 59. Sports injuries: age-specific discharge rates by age 1999



Source: NMDS

⁵ Jackson G, Kelsall L, Parr A, Papa D. *Socio-economic inequalities in health care*. North Health; 1998

Figure 60. Age-adjusted discharge rate for sports injuries by ethnicity for Counties Manukau and New Zealand, all ages, 1999



Source: NMDS

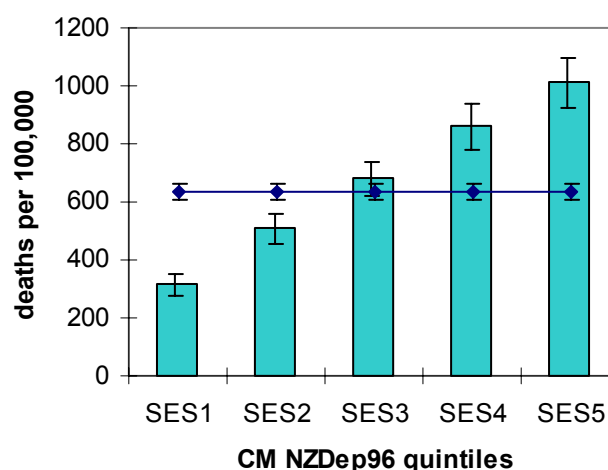
Summary

The familiar pattern of increasing mortality with increasing deprivation is again seen in this age group. The hospitalisation rates for 15-44 year olds are similar to those for the 1-14 age range but there is a shift towards more non-potentially avoidable hospitalisations. Only 22% of hospitalisations of this age group are considered potentially avoidable. Cellulitis and motor vehicle accidents are the main causes of potentially avoidable hospitalisations. Angina/chest pain and sexually transmitted disease are common reasons for admission in this age group. Maori and Pacific peoples are again over-represented in the hospitalisations for this age group.

Mature adult 45-64 years

The overall mortality rate in this age group for Counties Manukau for 1998 is 597 per 100,000 population (95% CI 541-652), significantly higher than that for all New Zealand of 529 per 100,000 (514-545). The mortality rate for people living in areas of the lowest two quintiles of NZDep96 had significantly higher rates, the most deprived quintile at 1012 per 100,000 per year. The difference in mortality rates between the least and most deprived is 697 deaths per 100,000.

Figure 61. Counties Manukau age-standardised mortality rate by deprivation level of area of domicile, 45-64 years, 1994-8



Source: NZHIS mortality data. Mortality per 100,000 45-64 year olds per year for 1994-8. Vertical lines indicate 95% confidence intervals, horizontal line indicates total CM mortality

In 1999 11 780 Counties Manukau residents aged between 45 and 64 years of age were hospitalised (the equivalent of 15% of the population). Sixteen percent were Maori, 17% were Pacific, and 67% were of other ethnicities. Considering 11% of the Counties Manukau population in this age group are Maori, 11% are Pacific, and 78% are of other ethnicities, Pacific people and Maori are over-represented in these discharge statistics. This is seen more clearly when discharges are expressed per 1000 adults in the population (Table 54). These findings are very similar to that found with the other age groups. The majority of Counties Manukau residents in this age group are treated by SAH.

Table 54. Counties Manukau residents 45-64 years, public hospital discharges by ethnicity, 1999.

	Maori	Pacific	Other	Total
Total discharged	1,897	1,956	7927	11,780
Discharge rate/1000	231	225	131	152
% SAH treated	76%	84%	77%	78%

Source: NMDS. SAH = South Auckland Health

Service utilisation

In the 45-64 age group the Pacific and Maori rate of discharge from medical services per 1000 population is almost double that of the other ethnic group (Table 55). Maori have the highest rate of use of surgical services followed by Pacific people. The Maori

and Pacific rates are approximately one and a half times that of the other ethnic group. The rates of use of the mental health services and DSS are low.

Maori appear to be the highest users of mental health services, and Pacific people the highest users of DSS. (Maternity services have not been included as the numbers are very low in this age group).

Table 55. Counties Manukau residents aged 45-64 years discharge rate in 1999 by ethnicity

	Maori	Pacific	Other	Total	Ratio M: O	Ratio P:O
Medical	150	151	79	94	1.9	1.9
Surgical	76	69	50	55	1.5	1.4
Mental Health	2	1	1	1	2.0	1.0
DSS	2	3	1	2	2.0	3.0

Source: NMDS. Rates per 1000 population. Ratio obtained by division of Maori or Pacific rate by other rate.

Potentially avoidable hospitalisations

From middle age, avoidable hospitalisation rates begin to rise with the emergence of chronic diseases, reflecting cumulative exposure to smoking, poor diet and physical inactivity over many decades. During 1999 **36%** of the medical and surgical discharges by Counties Manukau residents aged 45-64 years were considered to be avoidable (3,196 out of 8,953), mostly through effective chronic disease and risk factor management in the primary care setting. Maori and Pacific rates are higher than those of the other ethnic group (Table 56). In this age group, males and females have similar rates.

Table 56. Potentially avoidable hospitalisations, Counties Manukau residents aged 45-64 years by sex and ethnicity, 1999.

	Maori		Pacific		Other		Total	
	male	female	male	female	male	female	male	female
Total hosps	697	716	747	863	2,954	2,976	4,398	4,555
PAH	296	297	328	384	1,054	837	1,678	1,518
% PAH	42%	41%	44%	44%	36%	28%	38%	33%
Rate per 1000 pop	72	72	75	88	35	28	43	39

Source: NMDS. Discharges from medical and surgical services. Injury admissions are not included in PAH.

The single largest cause of potentially avoidable hospitalisation to SAH for Counties Manukau residents in this age group in 1999 was **angina and chest pain**, which accounted for fully **10%** of the total surgical and medical discharges (Table 57). This is further discussed in Chapter 7, page 124.

The leading causes of potentially avoidable hospitalisations in Maori and Pacific people are compared to those of the “other” ethnic group in Table 57. The excess discharge rate is then calculated using these rates. For example, if Maori had the same congestive heart failure (CHF) rates as found in those of the other ethnic group, there would have been 51 fewer admissions to SAH in 1999.

These statistics clearly show that although angina is the leading cause of potentially avoidable hospitalisations in this age group for all ethnic groups, there is a large ethnic differential in the other chronic diseases such as CHF and diabetes. Higher smoking rates, poor diet and lower levels of physical activity may all contribute to the ethnic differential. Poorer socio-economic conditions with poor housing, dampness and

overcrowding may also contribute to the higher rates of respiratory infections and asthma in Maori and Pacific people. For the chronic diseases such as angina, asthma, diabetes, COPD and congestive heart failure, avoidance of hospitalisation will depend on appropriate long-term medication management, access to good primary health care, ability to afford prescriptions and acceptance of taking medication as a preventive measure. Hospitalisation data on these conditions are discussed further in Chapter 7 *Medicine*.

Table 57. Leading causes of potentially avoidable hospitalisations to SAH by ethnicity 45-64 year olds, 1999.

Ethnicity	PAH	Discharges	% of total discharges	Rate per 1000 popn	Excess number of discharges
Maori	Angina	120	8.5%	14.6	1
	Resp. Infection	87	6.2%	10.6	45
	Congestive HF	72	5.1%	8.7	51
	CORD	56	4.0%	6.8	26
	Diabetes	44	3.1%	5.3	27
Pacific	Angina	130	8.1%	14.9	4
	Resp. Infection	72	4.5%	8.3	28
	Cellulitis	72	4.5%	8.3	41
	Asthma	66	4.1%	7.6	43
	CORD	48	3.0%	5.5	17
	Congestive HF	48	3.0%	5.5	25
Other	Angina	882	14.9%	14.5	
	Resp. Infection	308	5.2%	5.1	
	CORD	220	3.7%	3.6	
	Cellulitis	219	3.7%	3.6	
	IHD	181	3.0%	3.0	
	Congestive HF	158	2.7%	2.6	
	Asthma	157	2.6%	2.6	
	Diabetes	129	2.2%	2.1	
Total	Angina	882	10%		
	Resp infection	308	3%		
	CORD	220	2%		
	Cellulitis	219	2%		
	IHD	181	2%		

Discharges from medical and surgical services at SAH. Excess number of discharges = calculated by taking the other rate vs the Maori and Pacific population to develop an expected discharge rate, which is then compared to the actual. CORD = chronic obstructive respiratory disease. IHD = ischaemic heart disease. Congestive HF = congestive heart failure

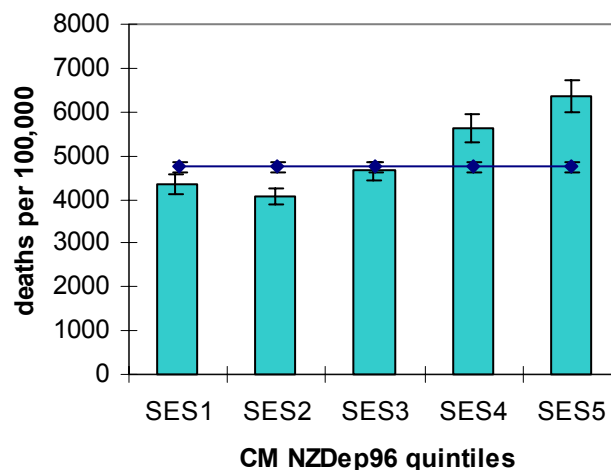
Summary

The difference in mortality between those living in the most and least deprived areas at time of death is significant for this age group. There are also a higher percentage of potentially avoidable admissions (36%) than for the 15-44 year olds (22%). Potentially avoidable conditions are often chronic conditions that become more prevalent in the over 50 year olds. Angina and chest pain are common reasons for admission in this age group and account for 10% of total medical and surgical discharges. Cellulitis and respiratory infections are the two infectious diseases that are important in this age group and they account for 5% of admissions.

Older adult 65+ years

The distribution of elderly people living in Counties Manukau is shown in Map 9 on the following page. Annual mortality rates in the elderly in this age-group are very high as the end of life expectancy is reached. Differences between socio-economic groups are still evident but becoming smaller than earlier age groups. The elderly are a diverse group with varying levels of health need.

Figure 62. Counties Manukau age-standardised mortality rate by deprivation level of area of domicile, 65+ years, 1994-8



Source: NZHIS mortality data. Mortality per 100,000 65+ year olds per year for 1994-8. Vertical lines indicate 95% confidence intervals, horizontal line indicates total CM mortality

In 1999, 14 439 Counties Manukau residents aged over 65 years were hospitalised (the equivalent of 43% of that age group). The over 65 are the highest users of hospital services and have significant impacts on the health services. Chronic care interventions have the potential to make significant impacts on hospitalisation rates in this group.

Five percent of the hospitalised over 65 were Maori, 8% were Pacific, and 87% were for those of other ethnicities. Although the numbers of Maori and Pacific discharges are low compared to those of other ethnicities, Pacific people still have the highest discharge rate per head of population, followed by Maori (Table 58 and Figure 62a).

Table 58. Counties Manukau residents aged 65+, public hospital discharges in 1999 by ethnicity

	Maori	Pacific	Other	Total
Total discharged	750	1,193	12,496	14,439
Discharge rate/1000	500	597	414	429
% SAH treated	85%	85%	84%	84%

Source: NMDS. SAH = South Auckland Health. All medical/surgical discharges.

Service utilisation

While the absolute numbers are not high, in terms of rates per 1000 population aged 65+ Maori and Pacific peoples are the highest users of medical services (Table 59). Their rates are 1.5 and 1.8 that of those of other ethnicities respectively. Surgical services are used almost equally amongst the different ethnic groups. Rates of use of disability support services differ slightly between the ethnic groups, with Pacific people having the lowest rates. Maori rates are also lower than those of the other ethnic groups.

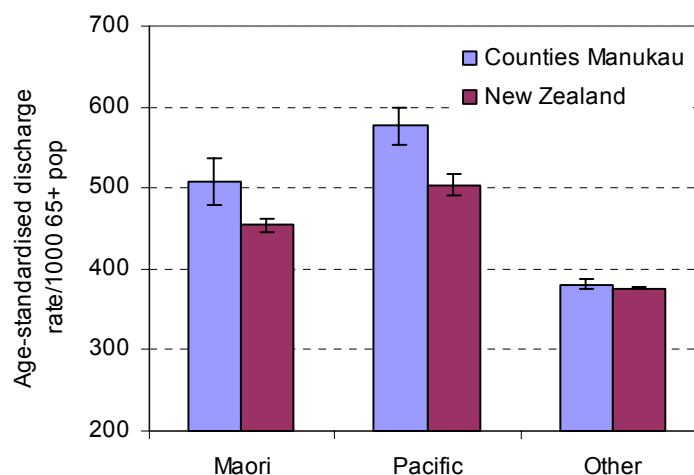
Table 59. Discharge rates by service, Counties Manukau residents 65+ in 1999

	Maori	Pacific	Other	Total	Ratio M:O	Ratio P:O
Medical	359	427	238	255	1.5	1.8
Surgical	105	142	136	135	0.8	1.0
Mental Health	0	0	0.06	0.06	0	0
DSS	36	28	40	39	0.9	0.7

Source: NMDS. Age-standardised rate per 1000 65+ population. Ratio obtained by division of Maori or Pacific rate by other rate.

Elderly Counties Manukau residents have significantly higher hospitalisation rates compared with all New Zealand, although only marginally so for “Other” (Figure 62a).

Figure 62a. Discharge rates for 65+ by ethnicity, Counties Manukau compared with New Zealand 1999



Source: NMDS. Age standardised rates per 1000 65+ population. Vertical lines represent 95% confidence intervals.

Potentially avoidable hospitalisations

During 1999 4 510 out of 10 840 discharges from medical or surgical services were considered potentially avoidable in this age group. This equates to **42%** of these discharges (these PAH figures do not include admissions for accidents). In this age group, males have higher rates of potentially avoidable hospitalisations (PAH) than females. The Maori and Pacific rates are higher than the other ethnic group.

The five major causes of avoidable hospitalisations for Counties Manukau residents in this age group in 1999 are shown in Table 61. Like the 45-64 year age group, the largest potentially avoidable cause of potentially avoidable hospital stay was **angina**, which accounted for **7.3%** of the total medical and surgical discharges. Again like the 45-64 year age group disease rates vary by ethnicity (Table 61). The epidemiology of these diseases is discussed further in the chapters on medical and surgical utilisation.

Table 60. Potentially avoidable discharges for Counties Manukau residents aged 65+ in 1999 by sex and ethnicity

	Maori		Pacific		Other		Total	
	male	female	male	female	male	female	male	female
Total discharges	282	304	474	480	4,456	4,848	5,212	5,632
PAH	127	140	249	243	1,821	1,928	2,197	2,311
% PAH	45%	46%	53%	51%	41%	40%	42%	41%
PAH rate per 1000 pop 65+	191	165	279	214	137	114	148	122

Source: NMDS. Total discharges = discharges from medical and surgical services. PAH = potentially avoidable hospitalisations excluding injuries.

Table 61. Leading causes of potentially avoidable hospitalisations by ethnicity for Counties Manukau residents age 65+, 1999.

	PAH	Discharges	% of total discharges*	Rate/1000 population	Excess number of discharges
Maori	Resp infections	47	8.0%	31.3	19
	angina	43	7.3%	28.7	8
	CORD	41	7.0%	27.3	17
	CHF	29	4.9%	19.3	10
	Diabetes	23	3.9%	15.3	17
Pacific	Resp infections	95	10%	47.5	57
	CORD	88	9.2%	44.0	56
	CHF	43	4.5%	21.5	18
	Angina	40	4.2%	20.0	-7
	Stroke	39	4.1%	19.5	16
Other	Angina	713	7.7%	23.6	
	Resp infections	567	6.1%	18.8	
	Skin cancers	480	5.2%	15.9	
	CORD	476	5.1%	15.8	
	CHF	384	4.1%	12.7	
	Stroke	353	3.8%	11.7	
	Diabetes	119	1.3%	3.9	
Total	Angina	796	7.3%		
	Resp infections	567	5.2%		
	Skin cancers	480	4.4%		
	CORD	476	4.4%		
	CHF	384	3.5%		

Discharges from medical and surgical services at SAH. Excess number of discharges is calculated by taking the other rate vs the Maori or Pacific population to develop an expected discharge rate, which is compared to the actual. CORD = chronic obstructive respiratory disease. CHF = congestive heart failure. Resp = respiratory.

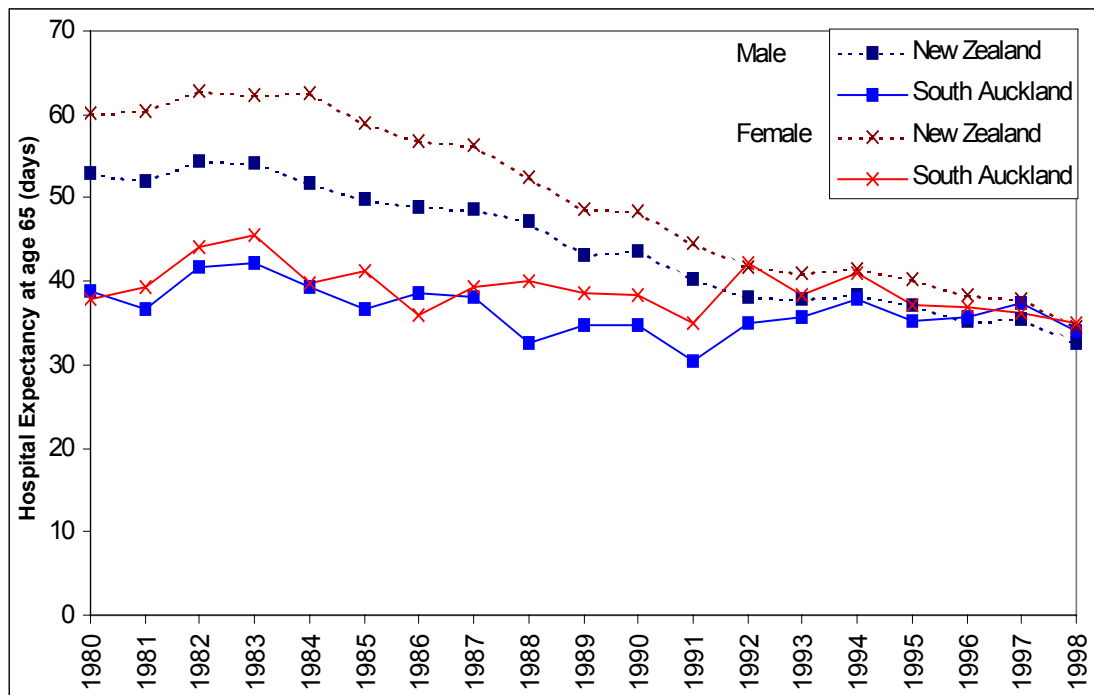
Hospital Utilisation Expectancy

As discussed in Chapter 2 (page 31), the Hospital Utilisation Expectancy (HUE) estimates expected lifetime hospital utilisation and can be used as an indicator of both health status and resource use. For the over 65 year old, contrary to popular perception the use of public hospital beds has been declining since the mid 1980s. Like the HUE from age 0 (see Figure 17 page 32) the NZ rate started higher than the Counties Manukau rate, and has fallen further until in the late 1990s the rates are similar.

The average Counties Manukau over 65 year old might expect to spend 34 days in a public hospital over the course of their remaining lifespan, 33 days for males, 35 for females (Figure 63). This represents around two-thirds of their lifetime HUE, again illustrating the heavy hospital utilisation of the later years of life. It is a nice illustration of the "rectangularisation" of the disability curve – not only are people surviving longer,

they are tending to do it with more disability-free years of life (see independent life expectancy, Chapter 2 page 23).

Figure 63. Expected hospitalisation in days at the age of 65 and over for Counties Manukau residents and all New Zealand 1980-98

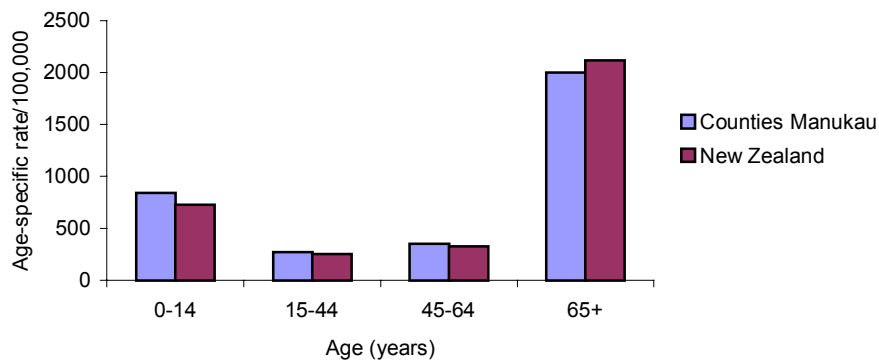


Source: Katzenellbogen et al; base data from NZHIS. HUE is the number of days a person would expect to spend in hospital should they experience the current age-specific hospitalisation rate and mortality rate. "South Auckland" here excludes Otahuhu

Injuries 65+ years - falls

In 1999 there were 2 284 discharges for Counties Manukau residents for accidental falls (ICD-9-CM codes E880-888). Thirty percent of these were for those aged over 65 years. This age group has the highest rate per head of population (Figure 64). The Counties Manukau rate of 629 per 100,000 is slightly higher than the national rate of 590 per 100,000.

Figure 64. Accidents caused by falls: age-specific discharge rates for Counties Manukau and New Zealand, 1999



Source: NMDS

High risk elderly

This section summarises the acute hospital discharges among the “high-risk elderly”. High-risk elderly has been defined here as residents of Counties Manukau aged over 64 years who have had three or more acute discharges in a given year to a South Auckland Health facility. The discharge patterns for this group have been described in terms of ethnicity, reason for admission based on primary diagnosis, place of residence, and referring doctor/IPA, for 1998 and 1999.

Figure 65. Age specific discharge rates per 1000 high-risk elderly by ethnicity, 1998/99.

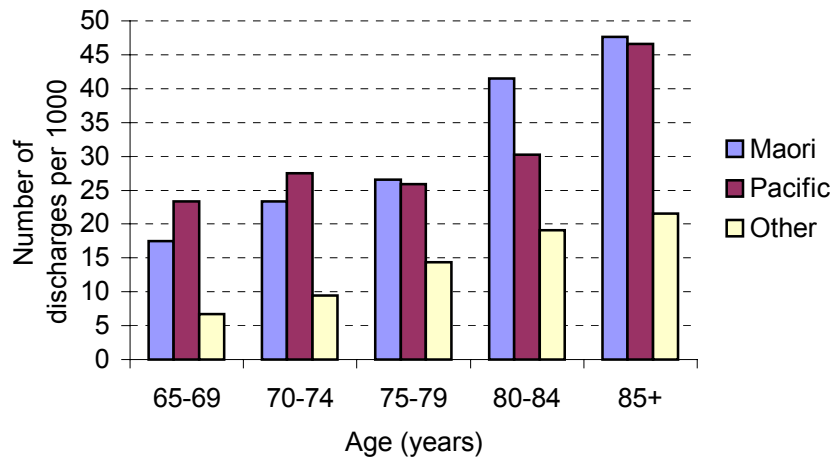
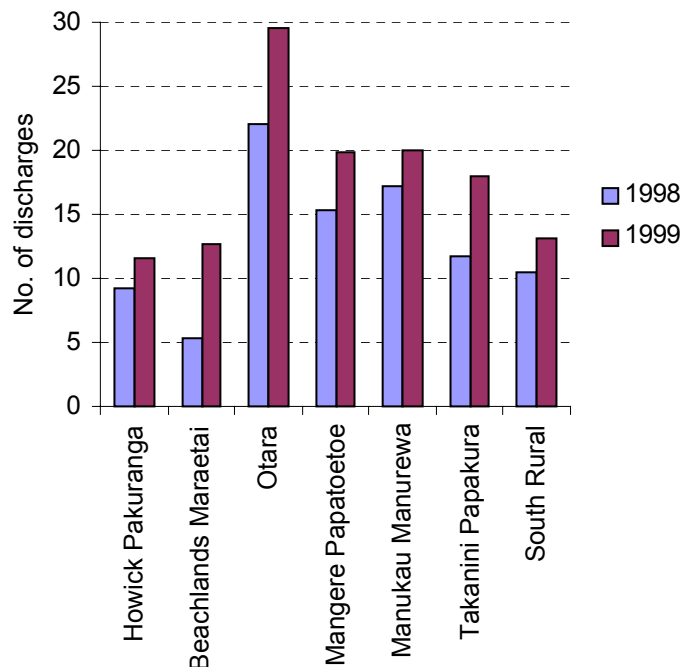


Figure 66. Geographic distribution of high-risk elderly individuals per 1000 discharges, 1998 (n = 394) and 1999 (n = 511).



Between 1998 and 1999 the number of high-risk elderly admitted acutely has increased from 394 individuals (11.7/1000) to 511 (15.2/1000). These individuals accounted for 1968 discharges or 24% of all discharges in those 65+ in 1999. The number of individuals classified as high-risk increases with advancing age. Maori and Pacific

people are more likely to be “high-risk” (Figure 65). Most of these people are likely to reside in Otara, Mangere/Papatoetoe and Manukau/Manurewa (Figure 66).

Ischaemic and other heart diseases (40%), and COPD (17%) are the most common primary diagnoses for those admitted acutely to hospital in this group. The greatest burden of these admissions is experienced by the general medicine service area, which receives 75% of all admissions from this group. Sixty-six (17%) of those discharged in 1998 were also admitted three or more times in 1999. This represents 15% of the admissions among the high-risk elderly in 1999.

Summary

Differences in mortality still exist by deprivation area in the over 65 age group although they are smaller than in younger groups. The picture of disease in the over 65's is dominated by chronic diseases such as heart disease, diabetes, stroke and cancers. The main infectious diseases that contribute to admissions in this age-group are respiratory infections. Potentially avoidable conditions make up 42% of admissions, although defining avoidability becomes more problematic as people reach the end of their lifespan. This is a similar percentage as for the 0-14 year olds but is a higher percentage than for other age-groups.