

Chapter 15: Hospital Use

Key points

- Altogether, 15% of adults and 11% of children in the 1996/97 Health Survey had been admitted to some kind of hospital, whether public or private, in the past year.
- For adults, the likelihood of any kind of hospital admission was closely related to age, with 19% of 65–74-year-olds and 25% of those in the 75 years plus age group admitted to a public or private hospital in the past year.
- Amongst children, those in the 0–4 years age group were most likely to be admitted to a public or private hospital, with 20% being admitted in the past year.
- Adults from the Māori, Pacific and European/Pākehā ethnic groups had similar overall rates of hospital admission, with 15–16% of the people in these groups being admitted to either a public or private hospital in the past year.
- Seven percent of adults and 2% of children used a private hospital service of some kind in the past 12 months.
- Rates of use of private hospital services varied significantly by family income and NZDep96 scores, with adults in the highest socioeconomic groups more likely than other adults to use private hospital services.
- About 1 in 10 adults and children were admitted to a public hospital in the last 12 months.
- Adults in the highest family income group (\$50,001 plus) were less likely to be admitted to a public hospital than adults in the other income groups.
- About 1 in 8 adults and 1 in 10 children used a public hospital outpatient department in the past 12 months.
- Eleven percent of adults and 13% of children used a public hospital accident and emergency department in the past year. Men were more likely than women to use an emergency department, although boys had a similar rate to girls.
- Nine out of ten adults reported being either very satisfied or satisfied with their overall health care in the past year.

Introduction

Public hospitals are publicly funded and administered and provide services at no or minimal financial cost to patients. Private hospitals are run by companies or charitable organisations and usually charge fees.

The 1996/97 Health Survey respondents were asked about their use of public and private hospitals in the past 12 months, with specific information collected on inpatient and day-patient services, accident and emergency department services and outpatient department services. This information is useful for developing a clearer understanding of which groups in the New Zealand population are more likely to use different kinds of hospital services, and why.

Unless otherwise stated, age- and sex-standardised rates, and 95% confidence intervals in parentheses, are given in the text. Tables at the end of this section show key standardised and unstandardised estimates. More detailed tables related to this section are available on the Ministry of Health website (www.moh.govt.nz).

Results

Admissions to hospital

Admission to any kind of hospital

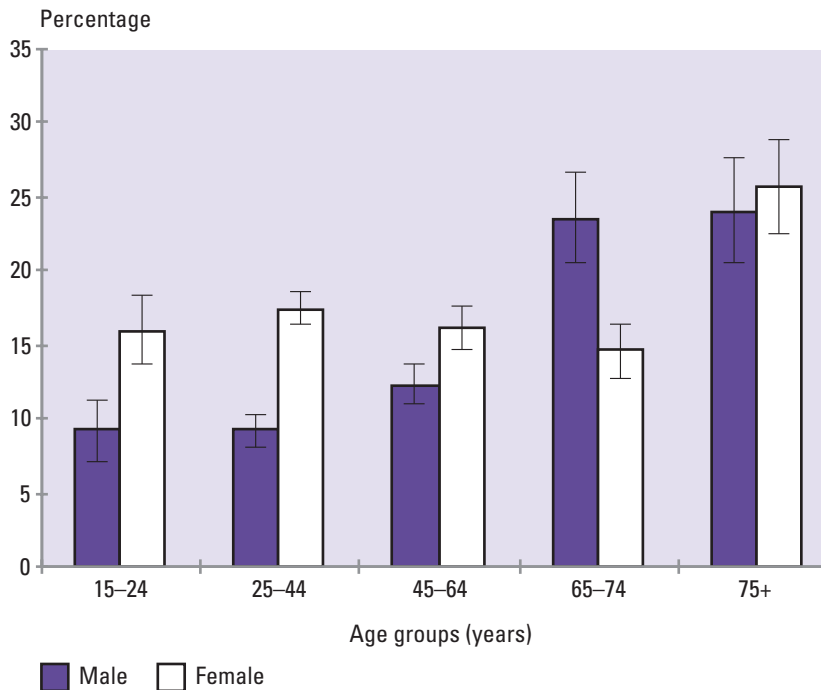
A person is classified as being admitted to a hospital as an inpatient if they stay at a hospital overnight, or for several nights, for treatment or care. They are classified as having been admitted to hospital as a day patient if they stay at a hospital for more than three hours for treatment, but not overnight. Day-patient admissions can include surgical operations as well as other kinds of treatment.

The 1996/97 Health Survey examined how many people were admitted to hospital as an inpatient or day patient, irrespective of whether the admission had been to a public or a private hospital. This information is useful for indicating overall rates of hospital admissions for different groups throughout the country.

Adults

Altogether, 14.6% (13.4–15.8) of adults, or an estimated 412,911 adult New Zealanders, had been admitted to some kind of hospital, whether public or private, in the past year. Women were admitted at a higher rate than men (17.1%; 15.5–18.7 compared to 12.1%; 10.5–13.7; $p < 0.0001$). The likelihood of any kind of hospital admission increased with age ($p < 0.0001$), with only 12.7% (9.8–15.6) of 15–24-year-olds admitted to hospital in the past year, compared to 19.3% (15.6–23.0) of 65–74-year-olds and 25.0% (20.5–29.5) of those in the 75 years plus age group (see Figure 115).

Figure 115: Proportion of adults admitted to any kind of hospital (public or private) in the last 12 months, by age and sex



Note: Error bars indicate 95% confidence intervals. For further explanation of graphs, see Appendix 2: Notes to Figures and Tables.

Adults from the Māori, Pacific and European/Pākehā ethnic groups had similar overall rates of hospital admission, with 15–16% of the people in these groups (15.5%; 12.8–18.2, 14.9%; 11.0–18.8 and 15.1%; 13.7–16.5 respectively) being admitted to either a public or private hospital in the past year. The corresponding rate for people in the Other ethnic group was 10.2% (3.1–17.3).

In the 1992/93 Health Survey there appeared to be a difference between Māori (18%) and non-Māori (13%) rates of hospital admission (Ministry of Health 1995).

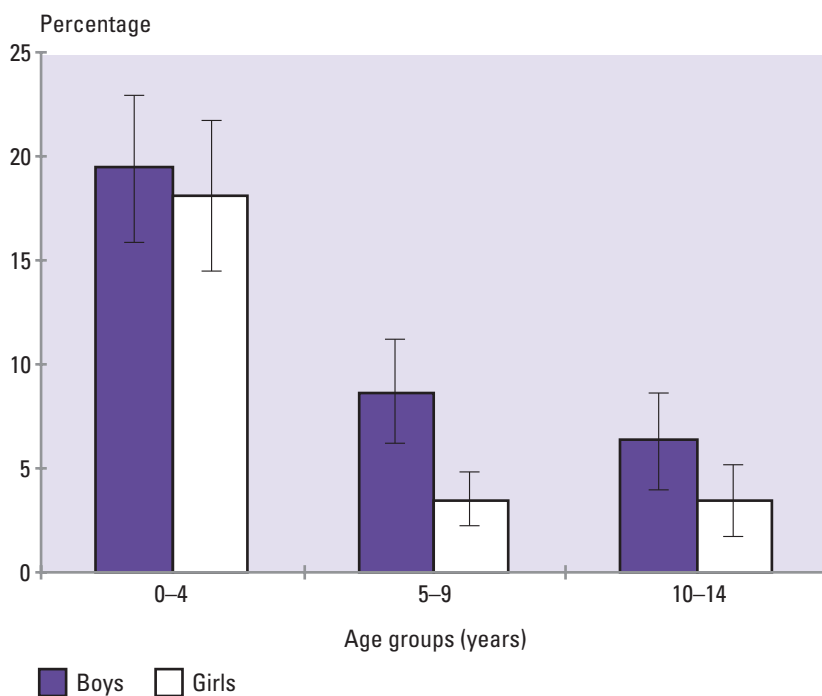
When examined by family income group, NZDep96 score and educational level, rates of overall hospital admission were generally similar, suggesting that adults from the higher socioeconomic groups were just as likely to be admitted to hospital in the last 12 months as adults from the lower socioeconomic groups.

As with all kinds of hospital services, the reasons for these similarities and differences in the use of inpatient and day-patient services are likely to be complex, reflecting, among other things, levels of exposure to disease risk factors, availability and utilisation of preventive and primary health care services, and hospital admission practices.

Children

Compared to adults, a smaller proportion of children (10.9%; 8.5–13.3) had been admitted to any kind of hospital in the past year, an estimated 92,771 young people. Boys (13.0%; 9.5–16.5) were admitted at a higher rate than girls (8.7%; 5.8–11.6) ($p < 0.01$), with children in the youngest age group (0–4 years) most likely to be admitted. One in five (20.2%; 14.9–25.5) of the children in this age group were admitted, compared with 7.1% (4.2–10.0) of 5–9-year-olds and 5.5% (2.6–8.4) of 10–14-year-olds ($p < 0.0001$; see Figure 116).

Figure 116: Proportion of children admitted to any kind of hospital (public or private) in the last 12 months, by age and sex



Note: Error bars indicate 95% confidence intervals. For further explanation of graphs, see Appendix 2: Notes to Figures and Tables.

Children from the different ethnic groups had reasonably similar overall rates of hospital admission, with Pacific children having the lowest rate (8.9%; 1.8–16.0) and Māori children the highest (11.8%; 6.9–16.7).

Admission to a public hospital

As previously mentioned, most New Zealand hospitals are publicly owned, funded and administered. For this reason, it is useful to consider the 1996/97 Health Survey's findings specifically on rates of admission to a public hospital.

Adults

Just over 1 in 10 adults were admitted to a public hospital as an inpatient or day patient at least once in the last year. Women were more likely to be admitted than men, (12.1%; 10.9–13.3 compared to 8.9%; 7.5–10.3; $p < 0.01$). In the 1992/93 Health Survey 13% of New Zealanders were admitted to public hospitals in the previous year (Ministry of Health 1995).

In general, adults in the older age groups were more likely to be admitted to a public hospital than those in the younger age groups ($p < 0.0001$), with 21.5% (17.0–26.0) of people in the 75 plus age group admitted in the past year. Exceptions to this trend were women in the two youngest age groups, 15–24 and 25–44 years (12.0%; 8.3–15.7 and 13.8%; 11.8–15.8 respectively). These women were more likely to be admitted to a public hospital than women in the 45–64 and 65–74 years age groups (8.0%; 6.2–9.8 and 10.2%; 7.3–13.1 respectively), reflecting their use of public hospital maternity services during the child-bearing years.

There were significant differences across ethnic group in the likelihood of being admitted to a public hospital ($p < 0.05$). Fourteen percent (14.2%; 11.5–16.9) of Māori, 13.2% (9.5–16.9) of Pacific adults, 10.5% (9.5–11.5) of European/Pākehā, and 5.6% (0.0–11.5) of adults from the Other ethnic group were admitted to a public hospital in the past year.

Admissions to public hospitals decreased with increasing income ($p < 0.05$), dropping most sharply in the highest income group. Similarly, when people's use of public hospital inpatient and day-patient services was compared to their NZDep96 score, adults from the more deprived NZDep96 groups were more likely to be admitted to a public hospital than adults from the less deprived NZDep96 groups ($p < 0.001$). Fourteen percent (13.5%; 11.9–15.1) of adults from the most deprived areas had been admitted to a public hospital in the past year, compared to 8% (8.2%; 6.2–10.2) of adults from the least deprived areas. In addition, those with fewer educational qualifications were more likely to be admitted to a public hospital ($p < 0.001$).

There was a similar negative association between income and hospital admissions in the 1992/93 Health Survey (Ministry of Health 1995).

One contributing factor to the above trends may be the greater affordability of private medical insurance and private hospital care for people in the higher socioeconomic groups (see the section below on *Use of any service at a private hospital*). As well, people in the lower socioeconomic groups may be more likely than other people to experience health problems that can only be treated by specialised services available in public hospitals.

Children

One in ten children (10.0%; 7.6–12.4) had been admitted to a public hospital as an inpatient or day patient in the past year, representing an estimated 84,489 children throughout the population. Reflecting in part age-related differences in the incidence and severity of illness among children, 0–4-year-olds (18.8%; 13.7–23.9) were more likely than 5–9 (6.2%; 3.5–8.9) and 10–14-year-olds (4.9%; 2.0–7.8) to be admitted to a public hospital ($p < 0.0001$).

Use of any service at a private hospital

Private hospitals provide a range of inpatient and day-patient surgical and medical services. It is therefore useful to examine features of the 1996/97 Health Survey respondents who used a service at a private hospital in the past year.

Adults

According to the 1996/97 Health Survey, 6.8% (5.8–7.8) of adults, or an estimated 189,963 adult New Zealanders, used a private hospital service of some kind in the past 12 months, with women slightly more likely than men to use these services (7.8%; 6.4–9.2 compared to 5.7%; 4.3–7.1; $p < 0.05$). People with the two highest rates of private hospital service use were women in the 45–64 years age group and men in the 65–74 years age group (10.9%; 8.2–13.6 and 9.0%; 4.5–13.5 respectively).

In the 1996/97 Health Survey nearly 5% of adults were admitted to a private hospital in the past 12 months, compared with 4% in the 1992/93 Health Survey (Ministry of Health 1995).

Rates of use of private hospital services varied significantly by family income ($p = 0.0001$) and NZDep96 scores ($p < 0.0001$), with adults in the highest socioeconomic groups more likely than others to use private hospital services. Amongst those in the \$50,001 plus family income group (10.5%; 6.8–14.2) and those living in the least deprived areas of New Zealand (9.6%; 7.2–12.0), 1 in 10 adults used a private hospital service in the past 12 months, more than twice the rate for those in the 0–\$20,000 (3.7%; 2.5–4.9) family income group and those living in the most deprived areas (3.9%; 2.9–4.9).

Children

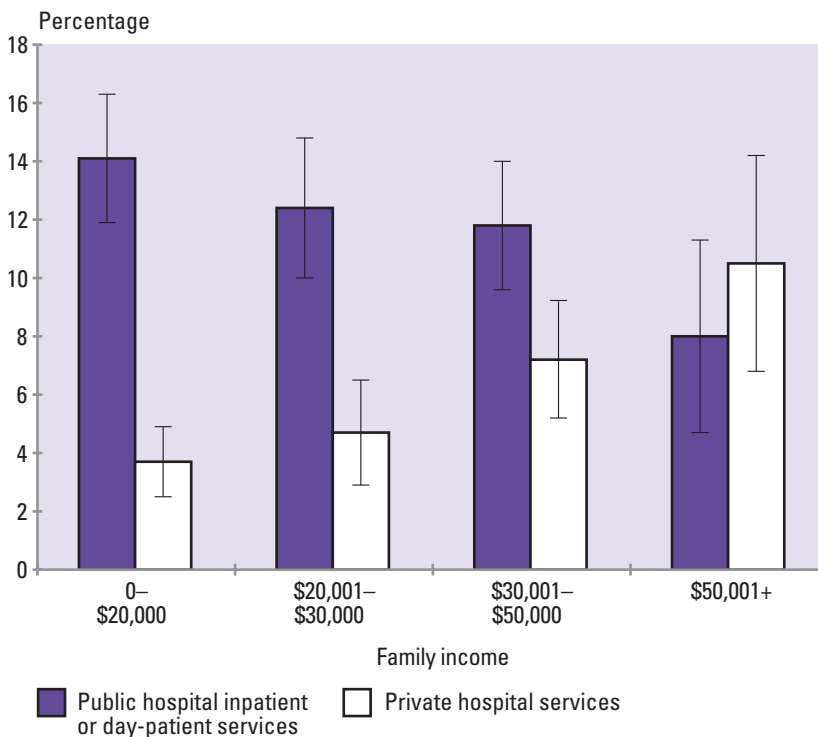
Only 1.9% of children (0.9–2.9) used a service at a private hospital in the past 12 months.

Overall patterns of public and private hospital use

Comparing features of the adults admitted to public hospitals with those of adults who used private hospital services reveals some interesting trends. As Figure 117 shows, adults from the higher income groups were more likely to use private hospital services in the past year, while adults in the lower income groups were more likely to be admitted to public hospitals.

Eight percent (7.6%; 6.4–8.8) of European/Pākehā adults used a private hospital service in the past 12 months, more than twice the rate for Māori and Pacific adults (2.9%; 1.7–4.1 and 2.6%; 1.0–4.2 respectively; $p < 0.0001$). This result may in part reflect differences in socioeconomic status across ethnic groups.

Figure 117: Adults' use of inpatient or day-patient public hospital services and any form of private hospital services in the past 12 months, by family income (age- and sex-standardised)



Note: Error bars indicate 95% confidence intervals. For further explanation of graphs, see Appendix 2: Notes to Figures and Tables.

Other services at public hospitals

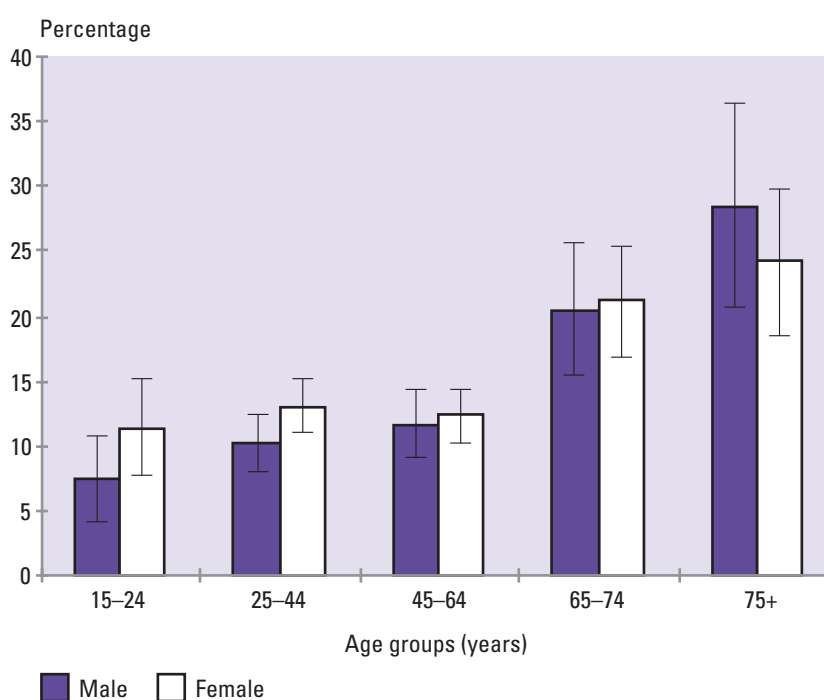
As well as admitting people as inpatients and day patients, public hospitals also provide a variety of services to people without admitting them to hospital. These services are usually obtained at a hospital outpatient department or an accident and emergency department.

The 1996/97 Health Survey found that just over a quarter of adults (26.6%; 25.2–28.0) and a quarter of children (24.9%; 21.0–28.8) were either admitted as an inpatient or day patient to a public hospital, or used a public hospital outpatient department or accident and emergency department in the previous 12 months. Extrapolated to the New Zealand population as a whole, this represents an estimated 750,278 adults and 211,266 children who used some kind of service at a public hospital.

Use of public hospital outpatient department services

In the 1996/97 Health Survey, a person was classified as having attended hospital as an outpatient if they visited a hospital outpatient department ward or clinic for some kind of health care-related service.

Figure 118: Proportion of adults who used a public hospital outpatient department in the last 12 months, by age and sex



Note: Error bars indicate 95% confidence intervals. For further explanation of graphs, see Appendix 2: Notes to Figures and Tables.

Adults

About one in eight adults in the 1996/97 Health Survey (13.0%; 12.0–14.0), an estimated 365,048 adult New Zealanders in the population as a whole, used a public hospital outpatient department in the past 12 months. Reflecting the fact that many of these outpatient departments provide services related to the diseases of aging, older people were more likely to use these services than younger people ($p < 0.0001$), with people in the 75 plus age group (26.1%; 21.4–30.8) almost three times as likely to use an outpatient department as people in the 15–24 years age group (9.5%; 7.0–12.0; see Figure 118).

The 1996/97 Health Survey found that European/Pākehā, Māori and Pacific adults had similar rates of public hospital outpatient department use (10.9%; 9.7–12.1, 12.9%; 10.2–15.6 and 9.6%; 6.7–12.5 respectively), although the rate was lower for adults from the Other ethnic group (6.3%; 1.8–10.8; $p < 0.01$).

In the 1992/93 Health Survey the same proportion (13%) of New Zealanders used a public hospital outpatient department in the past 12 months, and, similarly, there was no difference between Māori and non-Māori (Ministry of Health 1995).

Those adults in the highest family income group, living in least deprived areas of New Zealand and with the highest educational level were less likely than those from other family income, NZDep96 and education groups to use public hospital outpatient department services. In part this will be because adults from the more advantaged socioeconomic groups have fewer long-term health conditions. It may also be because they are more likely to be able to afford to pay for private specialist services, rather than attend a public hospital outpatient department. (As Chapter 13 described, adults from the higher income groups are more likely to see a medical specialist at a private clinic or hospital rather than at a public hospital, whereas the reverse is the case for those in the lower income groups.)

Children

Ten percent (9.9%; 7.7–12.1) of children, an estimated 84,365 children throughout the country, had used a public hospital outpatient department service in the past year. This is slightly lower than the rate of outpatient department use for children in the 1992/93 Health Survey (12%) (Ministry of Health 1995).

Children in the 0–4 years age group (14.7%; 10.6–18.8) were twice as likely as those in the 5–9 (7.6%; 4.7–10.5) and 10–14 years age groups (7.7%; 4.0–11.4) to visit an outpatient department ($p < 0.05$), although children from the Pacific, European/Pākehā and Māori ethnic groups all had similar rates of outpatient department contact (10.9%; 2.9–18.9, 10.4%; 7.7–13.1 and 9.8%; 5.3–14.3 respectively).

Use of public hospital emergency department services

In the 1996/97 Health Survey, a person was classified as an emergency department patient if they visited a public hospital accident and emergency department for health care.

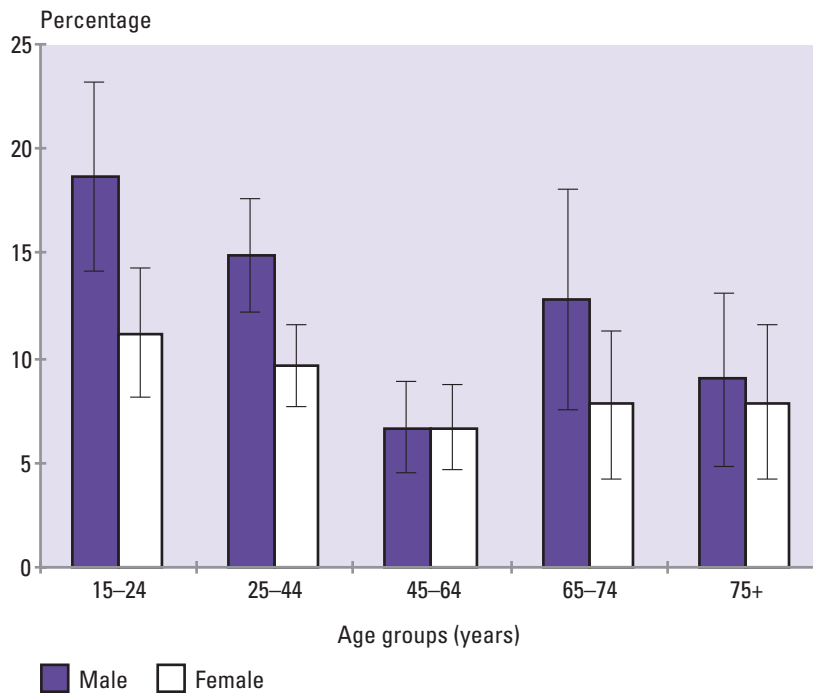
Adults

Over 1 in 10 adults (10.9%; 9.9–11.9) had used a public hospital emergency department service in the past year. Men were more likely than women to use emergency department services ($p < 0.0001$), with an estimated 177,936 men and 128,838 women in the New Zealand population using these services in the previous 12 months. This difference reflects in part the fact that men, especially younger men, are more likely than women to be hospitalised for unintentional and intentional injuries (Public Health Commission 1994).

The previous health survey found that 7% of adults had used a public hospital A&E department service in the past year (Ministry of Health 1995).

The use of emergency departments was associated with age ($p < 0.0001$). Adults in the 15–24 years age group (14.9%; 12.2–17.6) had the highest rate of emergency department use, with 18.7% (14.2–23.2) of men and 11.2% (8.1–14.3) of women in this age group using these services in the past year. By contrast, only 9.0% (4.9–13.1) of men and 7.9% (4.2–11.6) of women in the 75 plus age group used an emergency department (see Figure 119). Again, this trend is likely to be related to young people's greater risk of injury from such things as motor vehicle crashes and assaults (Public Health Commission 1994). There were no significant differences in the use of the emergency departments amongst ethnic groups.

Figure 119: Proportion of adults who used a public hospital accident and emergency department in the past 12 months, by age and sex



Note: Error bars indicate 95% confidence intervals. For further explanation of graphs, see Appendix 2: Notes to Figures and Tables.

While rates of emergency department use were similar across income groups and relative deprivation scores, adults in the most highly educated group were less likely than other adults to use these services ($p < 0.05$). Nine percent (7.2–10.8) of adults with both school and post-school educational qualifications used an emergency department in the past year, about two-thirds the rate for adults with no educational qualifications (12.5%; 10.3–14.7).

Children

Thirteen percent (13.3%; 9.8–16.8) of children, an estimated 113,162 of the country's young people, used a public hospital emergency department in the past year, with boys having a very similar rate of contact to girls (13.7%; 9.8–17.6 and 13.0%; 8.1–17.9 respectively). This is nearly double the rate identified for children in the 1992/93 Health Survey (7%) (Ministry of Health 1995).

In contrast to the other public hospital services, children's rates of contact with A&E services were similar across the different age groups. With regard to ethnicity, children from the European/Pākehā group were the most likely to have contact with an A&E department (15.5%; 11.0–20.0), while Pacific children were the least likely (5.4%; 0.3–10.5; $p < 0.01$).

Satisfaction with overall health care

The 1996/97 Health Survey asked respondents about their level of satisfaction with their overall health care* in the past 12 months. Nine out of ten adults (90%; 89.0–91.0) reported being either very satisfied or satisfied with their overall health care. About 1 in 20 (4.3%; 3.2–5.1) were either dissatisfied or very dissatisfied.

* This question was asked of those who had used any health services, not including GP services. The question was: 'Overall, how do you feel about how you have been looked after by the people you have seen for health care or advice, in the last 12 months?'



Rates of satisfaction increased significantly with age ($p < 0.0001$), with 86% (82.7–89.3) of 15–24 year olds either satisfied or very satisfied with their overall health care, compared with 95.3% (93.3–97.3) of those in the 65 plus age group. There were significant differences between ethnic groups ($p < 0.0001$) in the proportions who were either very satisfied or satisfied with their overall health care, with adults from the Pacific (91.0%; 88.1–93.9), European/Pākehā (90.4%; 89.2–91.6), Other (94.9%; 91.6–98.2) ethnic groups being somewhat more likely than Māori (84.0%; 80.7–87.3) to report being either satisfied or very satisfied with their health care.

Table 69: Admissions to any hospital in the last 12 months, by sociodemographic variables: percent (95% confidence intervals)

Hospital admissions			
	% (95% CI)		Pop est
	Unadj	Adj*	
Total	14.6 (13.4–15.8)		412,911
Sex			
Male	11.9 (10.3–13.5)	12.1 (10.5–13.7)	163,830
Female	17.2 (15.6–18.8)	17.1 (15.5–18.7)	249,081
Age			
15–24 years	12.6 (9.7–15.5)	12.7 (9.8–15.6)	66,260
25–44 years	13.5 (11.9–15.1)	13.4 (11.8–15.0)	153,669
45–64 years	14.2 (12.2–16.2)	14.3 (12.3–16.3)	106,666
65–74 years	18.9 (15.4–22.4)	19.3 (15.6–23.0)	46,126
75+ years	25.1 (20.6–29.6)	25.0 (20.5–29.5)	40,190
Ethnicity			
European/Pākehā	15.1 (13.7–16.5)	15.1 (13.7–16.5)	343,098
Māori	15.7 (12.6–18.8)	15.5 (12.8–18.2)	43,926
Pacific	13.1 (9.8–16.4)	14.9 (11.0–18.8)	17,384
Other	5.8 (2.5–9.1)	10.2 (3.1–17.3)	8504
Family income			
0–\$20,000	19.0 (16.8–21.2)	16.6 (14.2–19.0)	95,955
\$20,001–\$30,000	14.8 (12.3–17.3)	14.0 (11.6–16.4)	55,996
\$30,001–\$50,000	16.1 (13.6–18.6)	16.2 (13.5–18.9)	86,023
\$50,001+	12.0 (9.6–14.4)	14.5 (10.6–18.4)	105,338
NZDep96 score			
1 (least deprived)	14.0 (11.5–16.5)	14.9 (12.2–17.6)	112,947
2	13.5 (11.1–15.9)	13.4 (11.0–15.8)	94,869
3	16.0 (13.8–18.2)	16.0 (13.8–18.2)	101,427
4 (most deprived)	15.3 (13.7–16.9)	15.2 (13.6–16.8)	103,668
Education			
No qualifications	15.4 (13.4–17.4)	15.0 (12.8–17.2)	124,380
School or post-school only	14.9 (12.9–16.9)	14.9 (13.1–16.7)	150,966
School and post-school	13.6 (11.6–15.6)	14.1 (12.1–16.1)	134,764

* Adjusted rates are adjusted for age and sex, except when they are age-specific, in which case they are adjusted only for sex, or when they are sex-specific, in which case they are adjusted only for age.

Note: For further explanation of Tables, see Appendix 2: Notes to Figures and Tables.

Table 70: Admissions to any hospital in the last 12 months, by age and ethnicity, for males: percent (95% confidence intervals)

Hospital admissions			
Males	%(95% CI)		Pop est
	Unadj	Adj*	
Total	11.9 (10.3–13.5)	12.1 (10.5–13.7)	163,830
Age			
15–24 years	9.2 (5.1–13.3)		24,364
25–44 years	9.2 (6.8–11.6)		50,851
45–64 years	12.3 (9.6–15.0)		46,032
65–74 years	23.6 (17.7–29.5)		27,481
75+ years	24.1 (17.2–31.0)		15,101
Ethnicity			
European/Pākehā	12.5 (10.7–14.3)	12.3 (10.5–14.1)	138,280
Māori	12.8 (7.5–18.1)	13.6 (8.9–18.3)	16,867
Pacific	10.2 (5.7–14.7)	13.4 (7.7–19.1)	6,684
Other	2.8 (0.1–5.5)	5.8 (0.0–13.1)	1,999

* Adjusted rates are adjusted for age.

Note: For further explanation of Tables, see Appendix 2: Notes to Figures and Tables.

Table 71: Admissions to any hospital in the last 12 months, by age and ethnicity, for females: percent (95% confidence intervals)

Hospital admissions			
Females	%(95% CI)		Pop est
	Unadj	Adj*	
Total	17.2 (15.6–18.8)	17.1 (15.5–18.7)	249,081
Age			
15–24 years	16.0 (11.5–20.5)		41,896
25–44 years	17.5 (15.3–19.7)		102,818
45–64 years	16.1 (13.2–19.0)		60,634
65–74 years	14.6 (10.9–18.3)		18,644
75+ years	25.6 (19.3–31.9)		25,089
Ethnicity			
European/Pākehā	17.6 (15.8–19.4)	17.6 (15.6–19.6)	204,818
Māori	18.4 (15.1–21.7)	17.4 (14.1–20.7)	27,059
Pacific	16.0 (11.5–20.5)	16.3 (11.2–21.4)	10,699
Other	8.8 (3.1–14.5)	14.4 (2.8–26.0)	6,505

* Adjusted rates are adjusted for age.

Note: For further explanation of Tables, see Appendix 2: Notes to Figures and Tables.

Table 72: Admissions to any hospital in the last 12 months, for children: percent (95% confidence intervals)

Hospital admissions			
Children	% (95% CI)		Pop est
	Unadj	Adj*	
Total	10.9 (8.5–13.3)		92,771
Sex			
Male	13.0 (9.5–16.5)	13.0 (9.5–16.5)	56,737
Female	8.7 (5.8–11.6)	8.7 (5.8–11.6)	36,034
Age			
0–4 years	20.2 (14.9–25.5)	20.2 (14.9–25.5)	56,832
5–9 years	7.1 (4.2–10.0)	7.1 (4.2–10.0)	21,108
10–14 years	5.5 (2.6–8.4)	5.5 (2.6–8.4)	14,831
Ethnicity			
European/Pākehā	10.3 (7.6–13.0)	10.7 (8.0–13.4)	55,998
Māori	13.6 (8.1–19.1)	11.8 (6.9–16.7)	25,405
Pacific	9.8 (2.2–17.4)	8.9 (1.8–16.0)	6387
Other	9.6 (0.4–18.8)	10.5 (0.5–20.5)	4982

* Adjusted rates are adjusted for age and sex, except when they are age-specific, in which case they are adjusted only for sex, or when they are sex-specific, in which case they are adjusted only for age.
Note: For further explanation of Tables, see Appendix 2: Notes to Figures and Tables.

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