

Chapter 12. Disability Support Services

Introduction

From a population health perspective, disability represents a key dimension in terms of health-related quality of life. Disability may be defined as functional and /or role limitation that results from a health condition, and is expected to last for six months or more (WHO 1980).

Data from the NZ Disability Surveys (NZDS) and the 1996 Census show that approximately 702,000 people in NZ were living with disability in 1996-97, a rate of 197 per 1000 (or almost 20% of the population)¹. Of these, 110,000 people had a severe disability requiring assistance on a continuous or daily basis (a rate of 31 per 1000).

Approximately 161,000 people with a disability were aged 65 or more years. Throughout adult life, especially from middle age, the prevalence of dependent disability increases exponentially reaching very high levels in older age. Approximately 6% of people aged 0-44 are dependently disabled. The proportion doubles in middle age to 12%, and doubles again in the 65-74 age group to 25%. Among people aged 75 and over the figure is approximately 50% (*Our Health, Our Future*, Ministry of Health 1999).

Maori and Pacific people have much younger age structures than the European/Other ethnic group. Not surprisingly, overall numbers of disability are therefore lower for Maori than for non-Maori. However, these figures disguise ethnic inequalities. Summarising across all ages by age standardising, the NZDS showed that Maori are more at risk of disability than are non-Maori (in 1996-97 the age and gender standardised dependent disability prevalence rate was 118 per 1000 for Maori compared with 90 per 1000 for non-Maori). This is in keeping with the higher risk of both disabling chronic disease and injury experienced by Maori at most ages. This difference will be associated in part with socio-economic status. Using data from the NZDS 1996-97, a multiple regression model predicted that each additional \$10,000 in annual pre-tax household income will decrease the risk of a person being disabled by 7%. Similarly, having an educational qualification is associated with a 27% decrease in the risk of disability, and being unemployed is associated with a 43% increase in the risk of disability (*Our Health, Our Future*, MOH 1999).

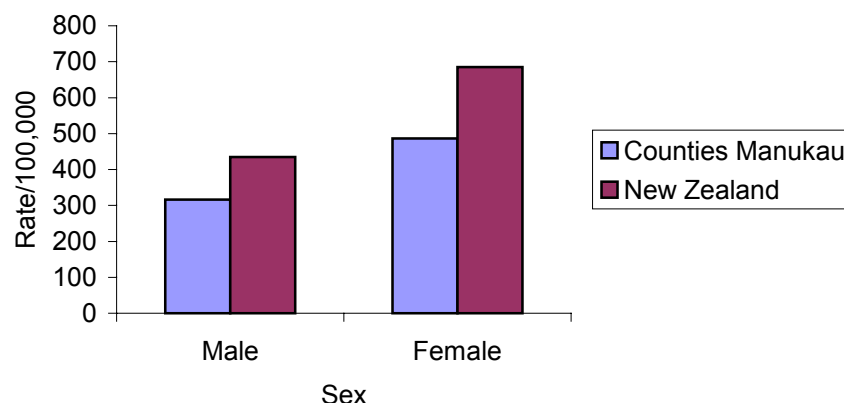
¹ *Disability in New Zealand. Overview of the 1996/7 surveys*. Wellington: Ministry of Health and Health Funding Authority. Undated - noted as Oct 1998 on www.moh.govt.nz (where it is available in pdf format)

Disability Support Services for Counties Manukau residents

A disability support service (DSS) is a service provided to someone with a disability or long-term illness, where 'long-term' is defined as relating to a condition which has been, or is likely to be, present for six months or more. Constraints of the data collection system mean that these patients tend to be classified as everyone cared for by certain services (ie. services for intellectual handicap or older people). They also include those within other services who are discharged after a stay of longer than six months or, in the case of psychiatric patients, who have been resident for more than six months. Difficulties in collecting data means that this chapter does not include all disability support services but only those supplied by the public hospital inpatient system.

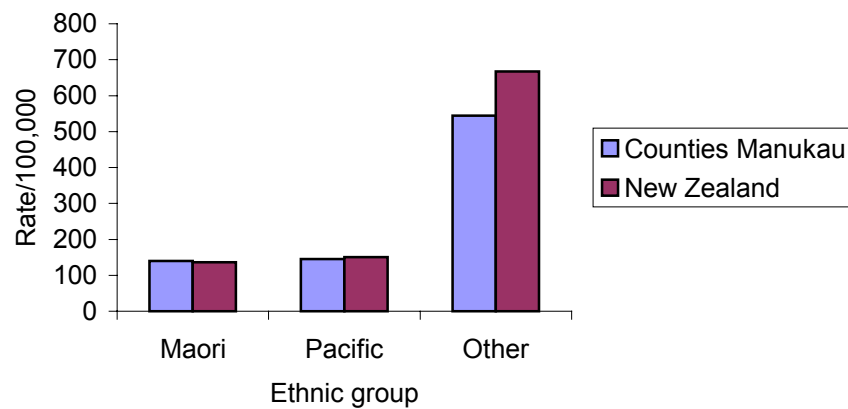
When public hospital DSS discharge rates for Counties Manukau residents are compared with the NZ population (figures 227 and 228), there are a number of trends evident². Firstly, females are higher users of this service than males per head of population. Females in both the Counties Manukau and national populations have rates that are one-and-a-half times higher than males. Secondly, those of the other/European ethnic group are higher users than Maori or Pacific people. For both the CM and national population, the "other" ethnic group (mainly European at these ages) have rates over three times that of the Maori and Pacific populations despite the data being age-standardised. While the longer life expectancy in this group is an issue (more time to become frail), the greater family cohesiveness seen with Maori and Pacific people will be a factor. Another issue needing further exploration would be internal and external migration - people returning to their original home (elsewhere in NZ, Samoa etc) as the end of life is reached. There may also be additional issues such as access to DSS services by Maori and Pacific people. The third trend seen with these graphs is that the Counties Manukau rates are generally lower than the national rates. Supply side issues (eg the number of assessment and rehabilitation beds in the public sector in Counties Manukau) are the main factor involved.

Figure 227. DSS discharge rates by sex 1999, CM and NZ



Source: NMDS. Rates age-standardised per 100,000 population. All discharges with a health speciality code of "D"

² The NMDS - national minimum data set - of public hospital discharges has been used. Varying rates of private provision of assessment, rehabilitation and other support services give this data less than complete coverage. All discharges with a health specialty code beginning with "D" were included.

Figure 228. DSS discharge rates by ethnicity 1999, Counties Manukau and New Zealand

Source: NMDS, Age standardised. All public hospitals in NZ, "D" health speciality code

At South Auckland Health disability support services are comprised of four services; geriatric assessment and rehabilitation (Middlemore Hospital, Pukekohe Hospital and Franklin Memorial Hospital); the spinal orthopaedic service (Otago Spinal Unit); the spinal neurology service (Middlemore Hospital) and psycho-geriatrics (Middlemore Hospital). The annual volume of the service includes 108,000 outpatient visits and home visits as well as 62,000 meals on wheels visits.

There are a range of medical, nursing and allied staff making up 97 FTE's (full-time equivalents). Of these 2% are medical, 43% nursing, 23% allied health, 8% social work, 15% clerical/administration and 9% other. The high volume services offered are nursing focused home care services, allied health focused home care, home aid and meals on wheels and finally spinal injury related rehabilitation.

The following analysis will focus only on in-patient services as this is the only data available in detail at present. The analysis is based on discharge data obtained from each service provider. This includes Middlemore Hospital, the Otago Spinal Unit, Pukekohe Hospital and Franklin Memorial Hospital.

Hospitalisations at Middlemore

Geriatric assessment and rehabilitation

South Auckland Health provides a number of services for older adults with a disability. These include in-patient services, community assessment and rehabilitation services as well as clinics for assessment and stroke follow-up. The in-patient service offered at Middlemore Hospital includes admissions for:

- Acute or chronic illnesses;
- Non-specific illness presentation with falls, confusion, immobility, incontinence;
- Rehabilitation needs following medical illness, stroke, surgery or fractures;
- Comprehensive assessment for future health needs.

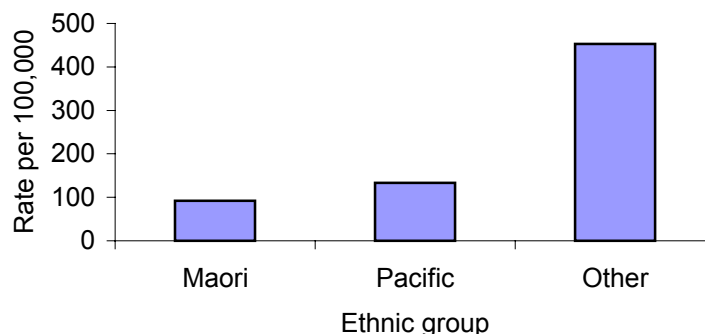
Spinal Neurology Service

The neurological rehabilitation service at Middlemore Hospital provides assessment and treatment services for the physically disabled residents of the SAH catchment area. It provides services to individuals between the ages of 16-65 years. This includes rehabilitation for strokes, head injuries and other neurological conditions such as multiple sclerosis. The in-patient services are provided on ward 23 at Middlemore Hospital.

Psycho-geriatric services

Mental Health Service for Older People (MHSOP) offers a fully integrated community and in-patient mental health service for older people (65 years +). The unit (ward 22) has 15 beds and sees people 65 years of age and older with functional disorders and dementia with behavioural disorders. In addition people under the age of 65 years of age are seen if they have a disorders such as. early onset dementia. There is also a community service team who provide assessment and treatment for patients 65+ in their own homes, in rest homes and in private hospitals. In addition, vocational rehabilitation services provide an environment where clients can learn practical skills. It includes a workroom, woodwork and a car-cleaning cooperative.

In 1999 1291 Counties Manukau residents were discharged from the Middlemore Hospital Disability Support Services (DSS). Of these, 804 (62%) were female and 487 (38%) were male. Eighty-nine percent of discharges were for those aged over 65 years. When broken down by ethnic group, 64 were Maori (5%), 91 were Pacific (7%) and 1136 were of the Other/European ethnic group (88%). When this data is converted to age standardised rates per 100,000 to take into account the different age structures, it is still clear that those of the other ethnic group are the highest users of this service (Figure 229).

Figure 229. Age-standardised discharge rates for CM residents from Middlemore Hospital DSS by ethnicity, 1999

When discharges from Middlemore Hospital DSS are analysed by Service Related Group (SRG) (Table 101), it is apparent that the most common reason for admission to this service is for non-acute care.³ Of the 794 admissions for non-acute care, 788 (99%) were stated as being for “rehabilitation” (Diagnostic Related Group number 941). Mental health and stroke are the next most common SRG’s. Of the 105 admissions that were included in the SRG of “mental health”, 30% were for major affective disorders, and a further 39% were for other affective and somatoform disorders. It should be noted that the “stroke” SRG includes in its numbers the DRG for dementia. 65% of the patients classified as an SRG of stroke were actually admitted for dementia and global disturbances of cerebral function. 32% of these patients were admitted for cerebrovascular disorders.

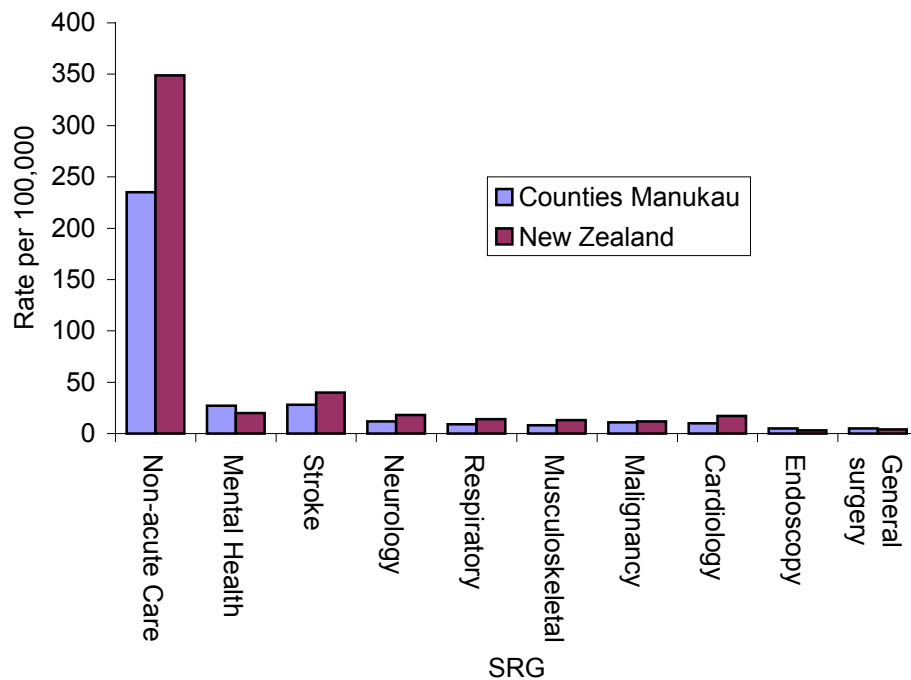
Table 101. The ten most common SRG’s listed as reasons for admission to DSS at Middlemore Hospital, 1999

SRG	No of patients	Percentage
Non-acute care	794	62%
Mental health	105	8%
Stroke	86	7%
Neurology	34	3%
Respiratory	25	2%
Musculoskeletal	25	2%
Malignancy	24	2%
Cardiology	23	2%
Endoscopy	19	1%
General surgery	19	1%
Other	137	11%
Total	1291	100%

Data is also available that allows us to compare Counties Manukau discharge rates by SRG with the New Zealand rates (Figure 230). The CM rates are similar to that found nationally for all SRGs except for the non-acute care where the CM rate of 235 per 100,000 is lower than that found nationally (349 per 100,000).

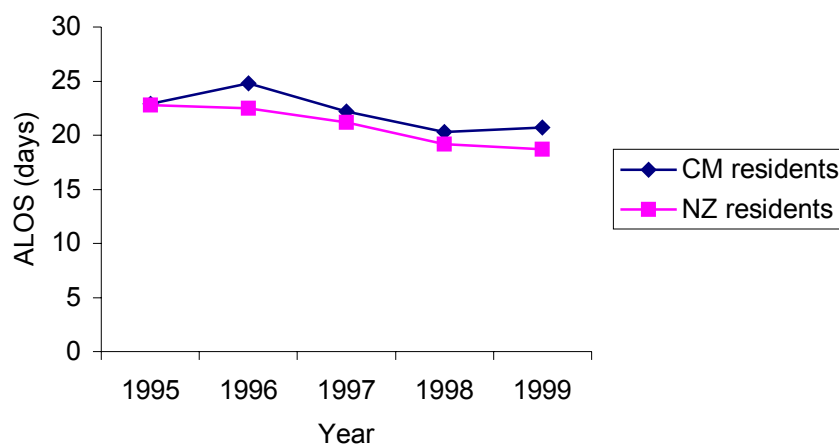
³ A service related group (SRG) is a number of DRGs that have been added together. Some organisations classify services in different ways so the same health speciality code might cover different services. Using DRGs gets around that problem.

Figure 230. The top 10 DSS discharge rates by SRG for Counties Manukau and New Zealand residents, 1999



We can also compare the average length of stay (ALOS) for Counties Manukau residents with an SRG of non-acute care, to all NZ residents (Figure 231). The Counties Manukau ALOS has been slightly higher than the national level over the past five years, over which time both have decreased their length of stay. A relative shortage of beds means the South Auckland Health facilities are likely to have a slightly more complex caseload.

Figure 231. Average length of stay for non-acute care discharges, CM residents compared to NZ residents, 1995-1999



The majority of patients admitted under the disability support services are admitted for non-acute care. As discussed, most of these admissions have been classified under DRG 941 “rehabilitation”. This term “rehabilitation” does not tell us a lot about the reasons for admission. Therefore the data was further analysed by secondary diagnosis to obtain a better overview. The most common secondary diagnoses recorded were

“diseases of the circulatory system” and “injury and poisoning” (Table 102). The New Zealand rate for all these conditions are higher than the Counties Manukau rate except for “endocrine, nutritional and metabolic diseases” and “infectious and parasitic diseases”.

Table 102. Secondary diagnoses recorded when primary diagnosis was DRG 941 “rehabilitation” 1999, Counties Manukau and New Zealand residents.

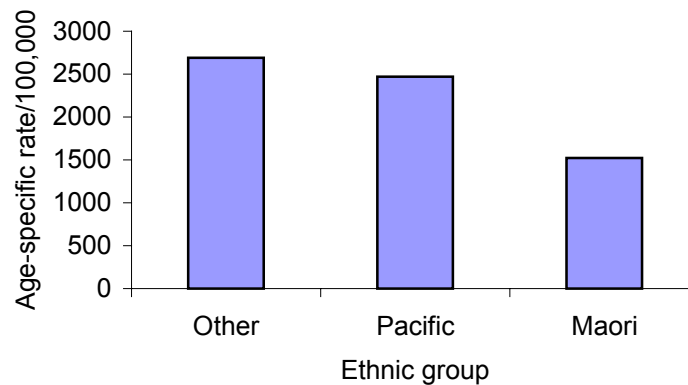
Secondary diagnosis – ICD chapter	Counties Manukau rate/ 100,000	New Zealand rate/ 100,000
001-139. Infectious and parasitic diseases	7	4
140-239. Neoplasms	6	9
240-279. Endocrine, nutritional and metabolic diseases	19	8
280-289. Diseases of the blood and blood-forming organs	2	1
290-319. Mental disorders	12	15
320-389. Diseases of the nervous system and sense organs	18	21
390-459. Diseases of the circulatory system	53	88
460-519. Diseases of the respiratory system	12	22
520-579. Diseases of the digestive system	5	10
580-629. Diseases of the genito-urinary system	5	7
680-709. Diseases of the skin and subcutaneous tissue	2	6
710-739. Diseases of the musculoskeletal system	13	22
740-759. Congenital anomalies	1	0
780-799. Symptoms, signs and ill-defined conditions	10	12
800-999. injury and poisoning	46	76
Other and no secondary diagnosis	15	36

Rates age standardised per 100,000 population

Further analysis of DRG data from SAH shows an ethnic differential. Of the 896 admissions to SAH which had “rehabilitation” recorded as the primary DRG, 789 (88%) were for those of the “other/European ethnic group. Even when converted to rates to take into account the different age structures of the populations, the other ethnic group had significantly higher rates than the Maori population (Figure 232). Possible reasons for this finding could be that:

- the surviving Maori population that reach 65 years are very healthy,
- that Maori extended families have a different pattern of care for their elderly which does not involve public hospital rehabilitation services,
- Maori elderly needing rehabilitation care move to a different area, eg their original home
- or that Maori are being under-served by this service.

Figure 232. Rehabilitation discharge rates for the over 65 year old CM population by ethnicity , 1999



Hospitalisations at the Otago Spinal Unit

The SAH spinal injury service is a regional service, which provides comprehensive care for people with spinal cord injury from the central North Island to the far North. Patients are admitted to Middlemore Hospital following diagnosis of a spinal cord injury under the care of the orthopaedic spinal surgeon. Once medically stable, they are transferred to the spinal unit in Otago.

In 1999, 31 Counties Manukau residents were discharged from the Otago Spinal Unit. Of these 24 (77%) were male and 7 (22%) were female. As well as the 31 SA residents, 57 non-SA residents from the Central North Island and far North were also admitted to this unit. Of these patients 42 (74%) were male and 15 (26%) were female. Males are at higher risk than females of spinal cord injury. When the discharge data is analysed by ethnic group, it also becomes apparent that Maori are at most risk. For all discharges in 1999 34 were for Maori, five were Pacific and 49 were for those of other ethnic groups. The greater risk for Maori becomes evident when the numbers are converted to rates per head of population (Figures 233 and 234).

Figure 233. Discharge rates for all discharges from the Otago Spinal Unit by ethnicity, 1999

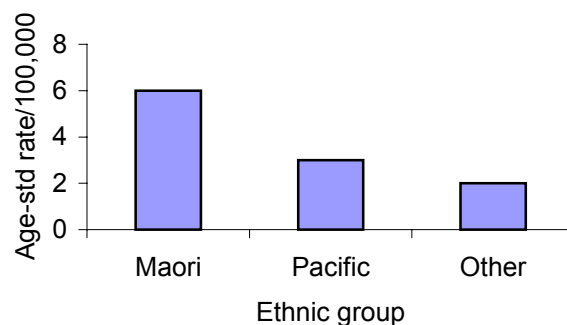
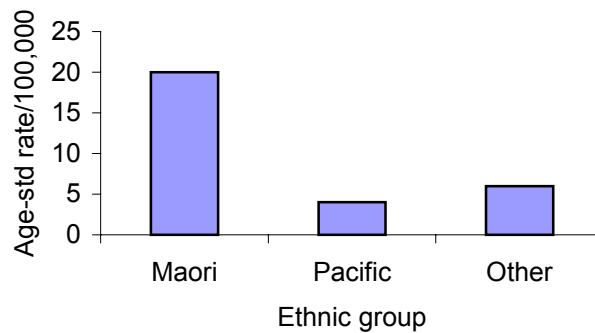
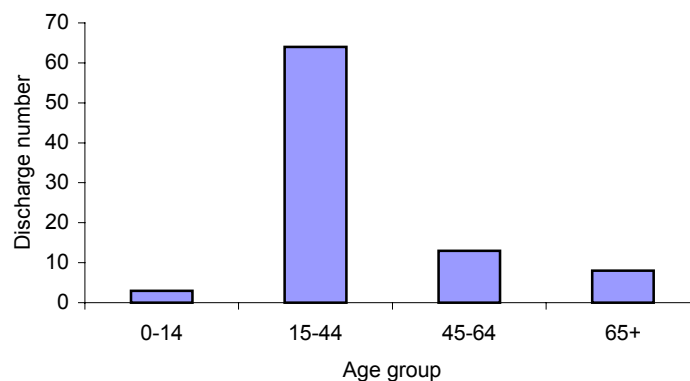


Figure 234. Discharge rates for Counties Manukau residents by ethnicity from the Otara Spinal Unit, 1999



Most patients admitted to the Otara Spinal unit are between 15 and 44 years (Figure 235). This is consistent with the age structure of injury, as outline in Chapter 4 *The Life Cycle* p79. The 15-24 year old group in particular are more likely to be involved in motor car crashes, the most common source of major trauma.

Figure 235. Age range of patients admitted to the Otara Spinal Unit, 1999



Hospitalisations at Pukekohe

Pukekohe hospital provides 26 geriatric long stay beds, and four AT&R (assessment treatment and rehabilitation), respite and terminal beds. In 1999 70 Counties Manukau residents were discharged from Pukekohe Hospital. Sixty-five of these people were aged over 65 years of age (93%). Forty-six were female (66%) and 24 (34%) were male. As for the DSS at Middlemore Hospital the majority of patients (86%) were from the other/European ethnic group.

Hospitalisations at Franklin Memorial Hospital

Franklin Memorial Hospital at Waiuku provides 12 long stay beds and 6 AT&R, respite and terminal care beds. In 1999 93 Counties Manukau residents were discharges from this hospital, 82 (88%) were aged over 65 years. Fifty-four were female (58%) and 39 (42%) were male. The majority of these patients were also of the other/European ethnic group (95%).

Summary

Data on rehabilitation are like those for mental health incomplete because of the lack of outpatient data. We have also not included disability support services provided by organisations other than South Auckland Health. The in-patient data also has limitations with poor classification of the problem for which people attend. The majority of DSS discharges are for the "Other" ethnic group. This is due mainly to the longer life expectancy in this age group. There may be also be some issues around Maori and Pacific people gaining access to these services. The young male injury excess discussed in Chapter 4 *The Life Cycle* (see page 77 et seq) is again apparent in the Otago Spinal Unit figures.