

THE HEALTH AND INDEPENDENCE OF OLDER WEST COAST RESIDENTS

A Health Needs Analysis

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First version November 2004, revised May 2006

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Acknowledgements

The first version of this paper was prepared in 2004 as part of the regional Health Needs Analysis project for five South Island DHBs, with help from Michael Taylor, Melita McKinlay, Petra Radnavadivel and other SISSAL staff, as well as Gill Coe of Canterbury DHB. Thanks are also due to Professor John Campbell of Otago Medical School who commented on the first draft in 2004, and to the many people who gave feedback on a Canterbury version of the paper during 2005. All mistakes and omissions are the responsibility of the author.

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INTRODUCTION

This report summarises some of the major pressures on health and disability support services for older people in coming decades, in terms of demographic changes and trends in the prevalence of various health problems.

The review is intended to aid the West Coast District Health Board in planning and allocating funding among services for older people. It covers a wide range of complex topics very cursorily and the reader is referred to the source documents for more detail.

Where the term 'Southern Region' is used, it refers to all South Island DHB areas excluding Nelson Marlborough. It is used wherever data has been available only for this geographic area. Where the term 'South Island' is used, it refers to all South Island DHB areas, including Nelson Marlborough

Unless otherwise stated, the term 'older people' refers to people aged 65 years or more.

KEY MESSAGES

More but healthier older people - the number of people in the 'young old' 65-74 year age group will increase fastest in the next 20 years, as baby boomers reach retirement age. However this generation is on average fitter and healthier than older people have been in the past. People's need for services is not related so much to their age per se as to chronic illness and disability and to the last year of life.

The impact of the 75+ year age group comes later - the biggest impact on health and particularly disability support services will come in 15 years time when the baby boomers reach their mid-70s, an age when people's use of hospital services peaks and their need for disability support services steadily increases.

Finding diverse ways of supporting one another - the vast majority of older people live at home until they die. Smaller and more mobile families mean fewer older people will be able to rely on their children as nearby carers. As the greater diversity of family types and ethnic groups in our society flows into older age groups, they are likely to develop innovative living arrangements for themselves. The challenge for DHBs will be how to support these fairly and ensure that people don't slip through the protective net of social support.

A growing group of chronically ill/disabled - although most 'young old' people are healthy, a minority have chronic illnesses or disability and use health services more than average. This group has often experienced social and economic hardship from middle age onwards (e.g. job loss and/or separation). They may develop illness and disability in late middle age and enter older age with fewer supports, such as a mortgage-free home or nearby family.

Maori and Pacific health - Māori and Pacific people are disproportionately represented in the low-income group with chronic illness described above. In contrast to the rest of the older population, life expectancy for older Maori and Pacific people did not increase during the 1980s and 1990s and the disparity in health between older Maori/Pacific and non-Maori/non-Pacific has widened during that time.

Access to effective primary care is critical - the rising life expectancy of older people over recent decades, particularly among higher income men, shows what can

be done with lifestyle changes (e.g. stopping smoking) and effective primary care (e.g. hypertension medication, flu vaccination, diabetic eye checks etc). The challenge for DHBs is to ensure that these are taken up by other groups, particularly low income people, Māori and Pacific people. This would enable DHBs to reverse the rise in avoidable hospital admissions which has occurred since the late 1980s.

Keeping physically and socially active is critical - keeping physically fit and active can reduce the likelihood or slow the progression of a number of illnesses common to older people, such as diabetes, osteoarthritis, cardiovascular and respiratory disease and hip fractures or other falls-related injuries. Keeping socially active is protective of people's mental as well as physical health.

Helping older people stay independent - a wide range of community services enable older people to stay active and independent. These range from active rehabilitation programmes to help people regain health and functioning after illness or injury, to long-term disability support services such as home help, special equipment or meals on wheels, and joint initiatives with local councils and other agencies for supportive housing, transport and social support.

Growing need for disability support services - nearly half of all people aged 75 years or over need some help to remain independent, with arthritis being the most common cause of disability. A very small minority need residential care in the last years of their life. It appears likely that the rate of severe disability in the older population may lessen but that the rate of mild or moderate disability may increase in future years. The ageing of the population in itself means a rising need for support services as the actual number of people with disabling conditions such as arthritis, impaired vision, stroke and dementia increases.

Making the most cost-effective use of resources - the increasing need for long-term support services is expected to be the major cost on the health system in coming decades. It is therefore crucial that DHBs put adequate resources into interventions that help people regain and maintain their ability to function and remain independent, and reduce the necessity for ongoing disability support services.

Extending the holistic palliative care approach to all those dying - over 80% of deaths in any year are of people aged 65+ years. The holistic palliative care approach to dying that was pioneered by the hospice movement mostly for cancer patients could be taken up more fully in other settings, such as general hospitals and residential care facilities.

Important service areas for development include:

- **Physical activity and falls prevention programmes** - physical activity is an important way of staying fit and healthy, and falls prevention programmes are effective in reducing hospital admissions, disability and deaths from hip fracture and other injury for older people at high risk.
- **Specialist services for older people** - these are effective in assessing, treating and rehabilitating older people with complex health problems, so as to reduce their need for hospital or long-term residential care. Specialist geriatric services play a crucial role in providing support and advice for primary care, general hospital wards, community agencies and residential facilities,
- **Access to effective primary care** - the history of the past decades shows the importance of effective primary health care (e.g. early diagnosis and treatment) in preventing and reducing the impact of illness and disability among older people.

The health gains made by the majority of the population need to be extended to those at greatest risk of ill-health and disability.

- **‘One-Stop-Shop’ needs assessment and service coordination** - older people should be able to get easily all the health and disability support services they need, with good communication among all the workers involved, including GPs, needs assessors, district nurses, home care agencies, hospital staff, mental health services and voluntary organisations etc.
- **Community-based support services** - such as home support, carer support and respite care, district nursing, community allied health and equipment services are important in reducing the need for hospital admission, long hospital stays and long-term residential care. These services need to be well coordinated and have a strong rehabilitation focus.
- **Stroke rehabilitation services** - these are effective in restoring functioning as fully as possible and reducing the need for ongoing disability support services.
- **Dementia services** - more rehabilitation-focussed specialist dementia services, as well as effective carer support, will be increasingly needed as the population ages.

An alternative scenario

Any analysis of the long-term future demand for health and support services needs to acknowledge the possible major social upheavals that may occur within the next twenty years due to world oil shortages, climate change and resulting global economic and political instability.¹ Although it is beyond the scope of this report to explore this in any detail, it is worth considering that in twenty years time it is possible that Canterbury’s communities may be facing all or some of the following:

- Severely reduced availability of imported medicines and equipment due to rising transport and manufacturing costs, and/or disruption of international transport, economic and social systems.
- Reduced living standards, including limited transportation and communication systems, and the necessity to move back to simpler technologies.
- Greater economic and social self-reliance within geographically local communities.
- A mass influx of people from other countries, escaping from resource wars and/or geographic areas that are becoming unliveable, resulting in greater conflict over resources within New Zealand.

The impact of such a scenario on the older people in our communities may include:

- Rising death rates due to lack of medical/pharmaceutical supplies, reduced living standards and greater difficulty in keeping in touch with family and friends.
- Possible generational conflict over access to scarce medical and other resources.
- Physical activity, healthy diet, social involvement and maintaining high morale becoming even more crucial for staying free from disease and disability.
- Greater social value placed on characteristics more typical of older people, such as endurance, patience, a broad and dispassionate social vision and knowledge of simpler technologies.

¹See the NZ Climate Change Office (www.climatechange.govt.nz), The Oil Depletion Analysis Centre (www.odac-info.org) and numerous recent in-depth articles in New Scientist (www.newscientist.com), Guardian Weekly (www.guardian.co.uk) and New York Times (www.nytimes.com).

THE AGEING POPULATION

Size of the Older Population

In 2001 the 4,077 West Coast residents aged 65 years or more made up 13.5% of the total resident West Coast population. Of these, the 363 people aged 85 years or more made up 1.2% of the population. West Coast has a slightly higher proportion of older people compared to the national average (Table 1). Westland has a noticeably lower proportion (12%) of older people than the West Coast average, while Buller has more (15%).

People in the 'young-old' group of 65-74 years make up the largest component of the older population, reflecting the post-war baby boom generation.

Table 1. Number and Percentage of People in Older Age Groups in the Usually Resident Population, 2001

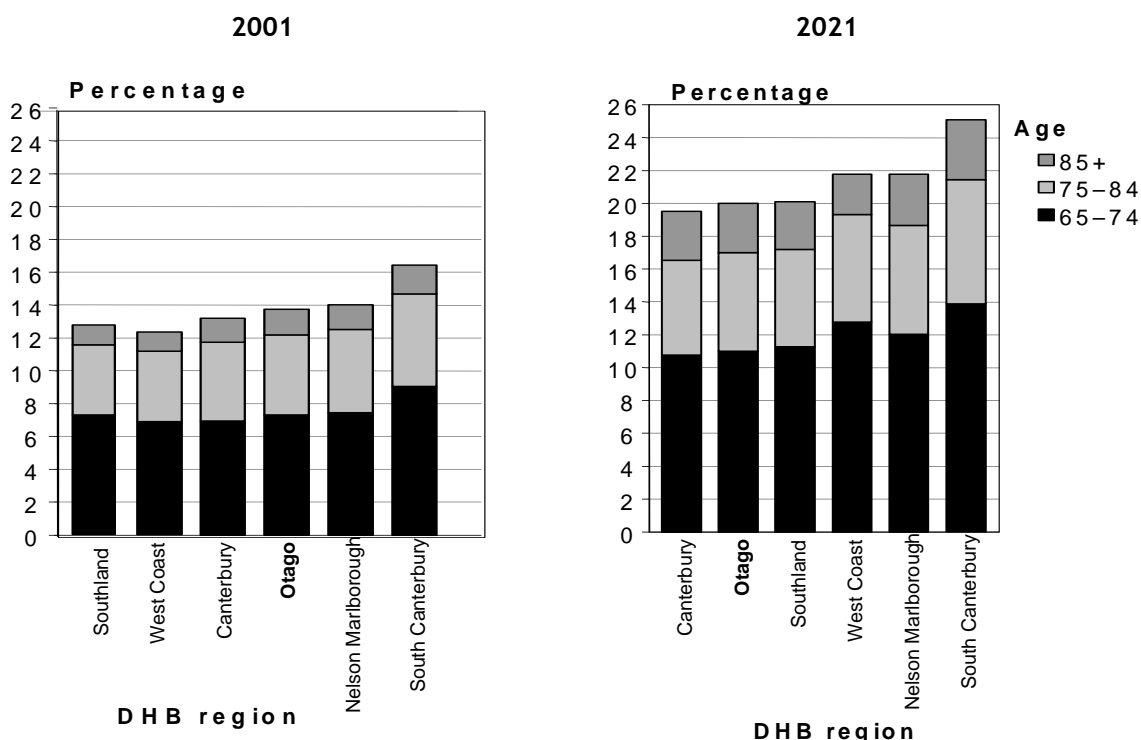
District Health Board & Territorial Authority	65-74 Years		75-84 Years		85+ Years		Total 65+ Years	
	No.	%	No.	%	No.	%	No.	%
Buller District	843	8.8%	477	5.0%	117	1.2%	1,437	14.9%
Grey District	939	7.3%	576	4.5%	156	1.2%	1,671	13.0%
Westland District	528	6.8%	348	4.5%	90	1.2%	966	12.4%
West Coast DHB	2,310	7.6%	1,404	4.6%	363	1.2%	4,077	13.5%
NelsonMarlborough DHB	9,354	7.6%	6,270	5.1%	1,854	1.5%	17,478	14.3%
Canterbury DHB	30,261	7.1%	20,640	4.8%	6,321	1.5%	57,222	17.2%
Otago DHB	13,182	7.7%	8,571	5.0%	2,808	1.6%	24,561	14.4%
South Canterbury DHB	4,920	9.3%	3,150	6.0%	1,008	1.9%	9,078	17.2%
Southland DHB	7,245	7.0%	4,374	4.2%	1,314	1.3%	12,933	12.5%
South Island Total	67,272	7.4%	44,409	4.9%	13,668	1.5%	125,349	13.8%
New Zealand Total	246,171	6.6%	155,616	4.2%	48,639	1.3%	450,426	12.1%

Source: Statistics New Zealand - New Zealand Population Census 2001

The number of people aged 65 or more years will rise by 59% between 2001 and 2021, from 4,077 to 6,495, an average growth of 3% a year. The number of people aged 85 or more years will rise even faster (96%), nearly doubling in this twenty year period with an average growth of 5% a year.

Although the 85+ year old group is increasing faster than younger old groups, in the next two decades the biggest growth in actual numbers will be of the 'young-old' 65-74 year age group, as the baby boom generation reaches retirement. From around 2025 the number of 85+ years will rise substantially as this baby-boom cohort moves into older age. (Table 2 & Figure 1) (Ministry of Health 2002)

Figure 1. Older Age Groups as a Percentage of the Total Population, by DHB, 2001 and 2021



Source: Statistics New Zealand, Population Projections (base 1999), Ministry of Health 2002

Older People in Rural Areas

The West Coast population, including older people, is widely dispersed over a very large geographic area. In contrast to more urbanised regions, older West Coasters are more likely to be living in a rural area. The Buller district has the highest proportion of residents over 65 years of age (15%) compared to Grey (13%) and Westland (12%).

People living in country areas remote from the health services of the bigger centres can have difficulty getting the health care they need, particularly if they are on low incomes or without effective means of transport.

Gender Differences

The greater numbers of women than men in the oldest age groups reflects women's higher life expectancy. This disparity has been reducing, since men's and women's death rates for some common illnesses (e.g. lung cancer) have been converging, and life expectancy of older men has been rising faster than that of older women (Statistics New Zealand 2004a).

Table 2. Expected Number and Percentage of People in Older Age Groups in the Usually Resident Population, 2021

District Health Board & Territorial Authority	Age Group							
	65-74 Years		75-84 Years		85+ Years		Total 65+ Years	
	No.	%	No.	%	No.	%	No.	%
Buller District	<i>Statistics New Zealand do not project to Territorial Authority level within age groups because the numbers are too small. A rough estimate of numbers in each age group could be made by assuming the age groups within each TA's 65+ population are distributed in the same % as for the DHB as a whole</i>						2,200	25.9%
Grey District							2,600	22.2%
Westland District							1,800	25.0%
West Coast DHB	3,755	13.8%	2,030	7.5%	710	2.6%	6,495	23.8%
Nelson Marlborough DHB	18,055	12.2%	10,210	6.9%	4,580	3.1%	32,845	22.2%
Canterbury DHB	53,400	10.6%	28,940	5.7%	13,910	2.8%	96,250	20.5%
Otago DHB	20,220	11.2%	20,500	6.2%	5,440	3.0%	36,910	20.5%
South Canterbury DHB	6,850	13.7%	3,970	7.9%	1,960	3.9%	12,780	25.6%
Southland DHB	11,440	11.3%	6,525	6.5%	2,880	2.9%	20,845	20.7%
South Island Total	113,720	11.3%	62,925	6.2%	29,480	2.9%	206,125	20.4%
New Zealand Total	447,760	9.9%	244,980	5.4%	106,485	2.3%	799,225	17.6%

Source: Statistics New Zealand - New Zealand Population Census 2001

Ethnicity

Most (97%) older West Coast residents in 2001 were of European origin. People of Māori descent made up 2.4% of older people, those of Pacific origin 0.1% and of Asian origin 0.3% (Table 3).

Younger age groups are more ethnically varied and this will pass on to older age groups as the population ages, making for more ethnic diversity among older people in the future. Nationally the number of Maori, Pacific and Asian people aged 65+ years is expected to grow over twice as fast as the overall older population between 2001 and 2021 (Cornwall & Davey 2004).

When planning for health services for people with chronic illness, it is important also to consider the number of Māori, Pacific people and low income people in the 50 plus age group, since these groups have a higher rate of chronic illness at an earlier age than the overall population.

Māori and Pacific people have lower life expectancy and higher rates of deaths and hospital admissions than the overall population, even when socioeconomic factors are taken into account. Death rates for Maori and Pacific people, particularly for middle-aged and older people, did not drop during the 1980s and 1990s as they did for non-Maori/non-Pacific, and the ethnic disparity in health status in fact widened during those decades (Public Health Intelligence 2001, 2003).

Table 3. Number of Usually Resident Population Aged 65+ Years by Ethnicity, South Island DHBs, 2001

District Health Board	Māori	Pacific People	Asian	Other	Total
West Coast	96	3	12	3,966	4,077
Nelson Marlborough	273	27	48	17,130	17,478
Canterbury	744	198	675	55,608	57,222
Otago	267	51	201	24,054	24,561
South Canterbury	96	3	36	8,940	9,078
Southland	348	39	42	12,507	12,349
South Island: % all 65+	1.5%	0.3%	0.8%	97.5%	100.0%
New Zealand: % all 65+	3.9%	1.7%	2.1%	92.3%	100.0%

Source: Statistics New Zealand - New Zealand Population Census 2001

LIVING ARRANGEMENTS AND SOCIAL NETWORKS

A sense of belonging and contributing to a group and community is crucial for a person's health and well-being at any age, and maintaining strong warm social relationships helps people stay fit and healthy for as long as possible. As people grow older, some experience loosening social and family ties, as they retire from work, as partners and friends die, and as younger family members shift to other places (Ministry of Health 1997, Alcohol & Public Health Research Unit 1999).

Some older people also experience a gradual or sudden loss of independence and isolation from others as deteriorating vision, hearing and mobility means they cannot drive or get about or socialise as easily as before. This can be especially difficult for people on low incomes and those living in rural areas and small towns with little or no public transport, which is a common situation on the West Coast (Ministry of Health 1997).

Living Alone

The number of older people living alone has been rising and is expected to continue, reflecting longer life expectancy, smaller family sizes, higher rates of separation and divorce, and a greater likelihood that adult children will move to find work elsewhere (Ministry of Health 2002, Statistics New Zealand 2004a).

Table 4 shows that 31% of the West Coast's population aged 65-74 years, 48% of those aged 75-84 years and 59% of those over 85 years lived alone in 2001, higher than the national average for each age group. Nearly three-quarters (72%) of Buller residents aged 85+ lived alone, compared to the national average of 57%.

Older women live alone more commonly than men, largely because they survive their older partners to reach older ages. Death rates for older men have been dropping - this suggests that in the future more couples may grow old together (with a consequent need for shared service arrangements), in a counter-trend to the rising number of people living on their own (Ministry of Health 2002).

Older Māori and Pacific people nationally are more likely than other ethnic groups to live with family: 60% of those over 75 years lived with family members (Ministry of Health 2002).

The availability of adult children as carers is likely to reduce in coming decades. This is due to the smaller family sizes of people now moving into older age, as well as greater mobility of younger people (Davey 2003).

Older people in the coming decades are likely to seek and develop diverse living arrangements that find a balance between independence and the need and desire for companionship and practical support. The challenge for DHBs will be how to support these arrangements fairly and effectively.

Table 4. Percentage of Older People Living Alone, by Age Group, 2001

District Health Board & Territorial Authority	Age Group		
	65-74 Years	75-84 Years	85+ Years
Buller District	31.6%	48.2%	72.0%
Grey District	28.5%	48.4%	46.9%
Westland District	33.3%	47.3%	60.9%
West Coast DHB	30.9%	48.1%	59.0%
Nelson Marlborough DHB	23.5%	40.4%	58.9%
Canterbury DHB	25.5%	42.9%	59.9%
Otago DHB	26.8%	44.3%	62.2%
South Canterbury DHB	24.6%	45.4%	62.7%
Southland DHB	27.2%	46.0%	62.6%
South Island Total	25.8%	43.5%	60.7%
New Zealand Total	24.3%	41.1%	57.0%

Source: Statistics New Zealand - New Zealand Population Census 2001

Care-Giving and Voluntary Work

An increasing number of older West Coast residents do unpaid work looking after a child or someone who is ill or disabled, or helping/voluntary work outside the home. Forty percent of those aged 65-75 years, nearly a quarter of those aged 75-84 years and 8% of those over 85 years look after children, sick or disabled people or do voluntary work. West Coast figures were a little lower than the national average for the 'younger old' groups (Table 5).

Women are more likely to look after children, while men are more often caregivers for their sick or disabled spouses. Older Māori and Pacific people are more likely than others to do these forms of unpaid work (Ministry of Health 2002).

The distinction between carers and cared-for may become more blurred in coming decades, presenting DHBs with the challenge of finding more flexible ways of funding the support needed by a household of older people.

Table 5. Percentage of Older People Doing Unpaid Childcare, Caring for Sick or Disabled People or Helping/Voluntary Work Outside the Home, by Age Group and DHB, 2001

District Health Board	65-74 Years			75-84 Years			85 Years and Over		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
West Coast	34%	47%	40%	22%	21%	22%	13%	5%	8%
Nelson Marlborough	38%	54%	46%	28%	26%	27%	10%	7%	8%
Canterbury	41%	54%	48%	26%	25%	25%	12%	6%	8%
Otago	39%	51%	45%	26%	22%	23%	10%	6%	7%
South Canterbury	38%	56%	47%	25%	24%	25%	11%	8%	8%
Southland	34%	49%	41%	21%	21%	21%	7%	6%	5%
Total New Zealand	39%	53%	46%	26%	26%	26%	12%	7%	8%

Source: *Statistics New Zealand - New Zealand Population Census 2001.*

Residential Care

The vast majority of older people live at home until they die, with only a small minority going to live permanently in residential care facilities (i.e. rest homes or long-stay hospitals) towards the end of their lives.

Data from the New Zealand Disability Surveys suggest that approximately 5.8% of all New Zealanders aged 65+ years lived in residential care in 2001, about the same percentage as in 1996/97. It was estimated that around 4.2% of older New Zealanders live in rest homes and 1.5% in long-stay hospitals. These percentages were also much the same as in 1996/97. (Statistics New Zealand 2002, Health Funding Authority/Ministry of Health 1998).

The national samples used in the New Zealand Disability Surveys are too small to give estimates of the numbers living in residential care at DHB or even regional level. It is difficult to get an accurate estimate of the number of people in long-term residential care, because some beds are always taken up with people staying temporarily for respite, convalescence or palliative care.

A more accurate measure of the number of older people in permanent residential care on the West Coast is the number of people receiving subsidies for long-term care. In 2004/05 313 West Coast older people received a long-term residential care subsidy, or 7.3% of the older population. This comprised about 167 people (3.9%) in rest homes, 121 (2.8%) in long-stay hospitals, and 25 (0.5%) in specialist dementia facilities. (Table 6).

To this number must be added an additional approximately 100-150 more people living in rest homes who did not receive any level of subsidy because of their assets.² This is an estimate only: censuses of rest home residents in other DHB areas have found that 45% of rest home residents are privately paying, i.e. do not receive any public subsidy. This percentage has been applied to the West Coast data, but needs to be confirmed.

² Some of these residents may also not be eligible for a subsidy in terms of their assessed level of need - however this number is believed to be small.

Table 6. Number of Older People Receiving a Residential Care Subsidy, as a Percentage of the Total Older Population, by DHB and Type of Care, During 2004/05

District Health Board	Rest Home*		Long-Stay Hospital		Dementia Unit (Rest Home Level)		Dementia Unit (Hospital-Level)		Total Residential Care	
	Number	%	Number	%	Number	%	Number	%	Number	%
West Coast	167	3.9	121	2.8	6	0.1	19	0.4	313	7.3
Nelson Marlb.	430	2.2	497	2.6	157	0.8	53	0.3	1,137	5.9
Canterbury	1,896	3.1	1,799	2.9	658	1.1	217	0.4	4,570	7.4
Otago	871	3.4	642	2.5	243	0.9	98	0.4	1,854	7.2
South Canty	241	2.5	204	2.1	57	0.6	29	0.3	531	5.6
Southland	413	2.9	324	2.3	117	0.8	45	0.3	899	6.4
Southern Region	4,018	3.0	3,587	2.7	1238	0.9	461	0.3	9,304	6.9

Source: HealthPAC - Client Centred Payment System (CCPS)

* The number of rest home residents refers only to people receiving some level of public subsidy and does not include wholly private payers. All people in hospital or dementia care receive a subsidy, so these numbers reflect the actual number of people in these types of facilities.

Comparable national data on the number and percentage of older people using residential care clients are not easily available. Comparisons of the amount spent per head of older population on long-term residential care show that the West Coast DHB spends about 30% more per head compared to the national average. .

There are probably a number of reasons for this higher use, including a possible higher rate of disability in the older population, differences in how older people are assessed as eligible for residential care, and the availability of residential care beds. (See section on Use of Services - Residential Care on page 55 and Tables A2 and A4 in the Appendix).

Retirement Villages and Supportive Housing

A national survey found that 6%-7% New Zealanders aged 65-84 years lived in retirement villages, rising to 12.5% of those aged 85 or more years (Fergusson et al 2001). Applying these rates to the West Coast population, we would expect that around 285 older people might live, or be interested in living, in retirement villages. However there is a relative lack of these facilities on the Coast.

There is increasing interest among DHBs, local councils and voluntary organisations (e.g. Abbeyfields) in developing a variety of different forms of supportive housing, to provide affordable accommodation alternatives for older people.

FINANCIAL SECURITY

A person's level and security of income directly affects their health and independence. People on low incomes are less likely to live in warm dry houses of their own, to be able to afford the taxi needed to get to the clinic, or to go to the doctor for a screening test or at an early stage of an illness, to pick up all the medicines they are prescribed or to use a private specialist or physiotherapist when

public health services are unavailable or have long waiting times (Statistics New Zealand 2004a, Public Health Intelligence 2001).

A national study of older people's living standards found that most older people report they are not experiencing particular material hardship. However a minority (5%-10%) did experience some hardship and a further 5% experienced marked hardship. Poor living standards in old age are associated with a mixture of adverse events from earlier in life, including high accommodation costs, having had a low paying occupation, marital separation and/or poor health (Fergusson et al 2001).

Having to pay rent or a mortgage has a big impact on older people's material well-being. Overall figures on income and home ownership for DHB populations mask the marked differences that exist within these populations between high and low income groups (Southern Regional Health Authority 1998, Public Health Intelligence 2001).

Poverty among older people is expected to become a greater problem in the next decade as the middle-aged people who lost low-income jobs in the economic changes of the 1980s reach old age. Many in this cohort were not able to get back into the workforce and have not built up housing or other assets in the same way as earlier generations.

This will be a particular issue for Māori and Pacific people, who moreover tend to develop chronic and disabling illnesses at an earlier age than the general population. The higher rate of marital separation in recent decades will also contribute to fewer assets held by older people in the future (Davey 2003, Statistics New Zealand 2004).

Poverty and problems in getting access to health services may become a particular issue for some poorer people in rural areas if they are trapped by rising house prices from being able to shift to the bigger towns or cities as they age and need specialist health and disability support services. This is likely to be a particular issue for the Coast.

Paid Work and Income Levels

Income is related to paid employment and older people on average have lower incomes than the working age population. The real income of older New Zealanders dropped by 7% between 1986 and 1991 and while it has not dropped further since then, by 2001 it was still below the 1986 level (Statistics New Zealand 2004).

Although paid employment drops markedly in later years, the number of people still in paid employment at older ages increased considerably after 1991, when the entitlement age for National Superannuation was raised from 60 to 65 years. In 2001 24% of New Zealand men and 11% of women aged 65-74 years, as well as 5% of men and 3% of women aged 75-84 years, were still in paid employment (Statistics New Zealand 2004).

Home Ownership

Around 82% of older New Zealanders own their own home and another 3% live in a home owned by a family trust. Not having to pay rent or a mortgage makes a big difference to older people's material wellbeing. In 2001 the proportion of people aged 60-74 years who owned their home mortgage-free ranged from 20% among Pacific people, to 48% of Māori and 72% of New Zealand European/Other ethnic groups (Davey 2003).

On the West Coast 79% of people aged 65 years or more owned or part-owned their own home in 2001, lower than the New Zealand average (Table 7).

As described above, the proportion of older people owning their own homes may decline in coming decades, due to the long-term effects of the recession of the 1980s and 1990s (Davey 2003).

Table 7. Percentage of People Aged 65 Years or over who Owned or Partly Owned Their Own Home, 2001

DHB & Territorial Authority	Percentage
Buller District	78.4%
Grey District	79.4%
Westland District	78.5%
West Coast DHB	78.8%
Nelson Marlborough DHB	85.1%
Canterbury DHB	83.5%
Otago DHB	81.4%
South Canterbury DHB	83.6%
Southland DHB	83.0%
South Island DHBs	83.1%
New Zealand	81.5%

Source: Statistics New Zealand - New Zealand Population Census 2001

LIFE EXPECTANCY AND DEATH RATES

Life Expectancy

The number of additional years that a 65-year-old can expect to live has steadily increased since the 1970s for the older population as a whole, particularly for men.

The most recent available regional data showed that in 1995-97 a 65 year old West Coast resident could expect to live an additional 16.1 years, more for women (17.8 years) and less for men (14.3) years. This is the lowest life expectancy for a 65 year old of any South Island DHB population and lower than the national average (15.6 years for men, 19.2 for women and 17.5 overall). (Statistics NZ 2004b).

The major causes of the rise in life expectancy have been the decline in smoking, as well as earlier and more effective treatments for cardiac and other diseases (Statistics New Zealand 2004a, Statistics New Zealand 2004b, Cornwall & Davey 2004, Ministry of Health 1997).

However this change is less evident for people on low incomes and did not occur at all for Māori. The higher death rates of Māori in middle and older age groups account for three-quarters of the overall difference in life expectancy between Māori and non-Māori. Among men in their 50s and women in their 50s and 60s, Māori are roughly three times more likely to die than non-Māori. Pacific people's life expectancy rates are higher than for Maori but lower than the average for the total population (Table 8). (Statistics New Zealand 2004a, Ministry of Health 2002, Cornwall & Davey 2004.)

Expected Years of Independent Life

Women live longer than men, but on average live for more years with disability. National (but not regional figures) are available on the number of years a person aged 65 could expect to live without some form of disability needing assistance - see Table 8 (Ministry of Health 2002).

Between 1996 and 2001, life expectancy increased for both women and men in the overall New Zealand population. However for men this was accompanied by fewer years of good health than for women (Public Health Intelligence 2004c).

Maori at age 65 years had markedly fewer years of independent life than the overall older population, while figures are not available for Pacific Island people due to small population size (Table 8).

Table 8. Life Expectancy and Independent Life Expectancy at Age 65 Years, New Zealand Population

New Zealand Population	Life Expectancy at Age 65	Independent Life Expectancy at Age 65
All New Zealand	17.8	10.9
All Male	16.1	9.9
All Female	19.5	11.9
Māori - Male	12.6	7.4
Māori - Female	15.0	7.5
Pacific People - Male	13.4	not available
Pacific People - Female	16.6	not available

Source: Ministry of Health 2002

Overall Death Rates

While everyone has to die of something at some time, the changes in death rates shows that this point is being put off to later ages for many people. Overall national death rates for older people dropped between 1980 and 1998, with the biggest reduction being among people aged 65-74 years. Death rates for New Zealanders aged 65-74 years dropped by about a third in this 18-year period. DHB comparisons cannot easily be made because of the small size of DHB populations and lack of easily available data over time for DHB populations (Ministry of Health 2002).

While death rates declined in the overall New Zealand population during the 1980s and 1990s, death rates for Maori and Pacific people, particularly older people, remained level. Thus the gap in life expectancy between Maori, Pacific and non-Maori/non-Pacific groups widened during this period (Public Health Intelligence 2003). There is some evidence however that Maori death rates may be reducing at a faster than average rate since 1996, lessening the disparity (Public Health Intelligence 2004).

Death rates for low income people declined during the 1980s and 1990s but at a slower rate than for the high income group, resulting in a widening disparity between high and low income groups for men (but not for women) (Public Health Intelligence 2005).

Death rates increase with age, but tend to slow down at the very oldest ages. This trend is becoming more marked and has been seen as possibly reflecting the survival of the fittest people into very old age (Ministry of Health 2002).

Care at the End of Life

The care of older people cannot easily be separated from the care of people as they die. Most (79%) of the 281 deaths in West Coast in 2001 were of people aged 65 or more, and a quarter (69) were of people aged 85 years or more (Table 9). This compares to Canterbury, for instance, where people aged 85+ made up nearly a third of all deaths, and reflects the West Coast higher death rate for people in their 'young' old age.

Table 9. Number and Percentage of People Dying in West Coast, by Age, 2001

Age at Death	Number of Deaths in 2001	Percentage of Deaths in 2001
Under 65 Years	60	21%
65-84 Years	152	54%
85+ Years	69	25%
All Ages	281	100%

Source: NZ Health Information Service

The need for and the cost of health and disability support services are greatest in the last year of life, regardless of the age at death. In their last year people are more likely to be frequently hospitalised, to receive more intensive hospital care and in some cases to need nursing home care. The increase in life expectancy may not so much increase the demand for services as postpone it to the last year of life at an older age (Cornwall & Davey 2004).

Nationally the most common causes of death among older people are ischaemic and other forms of heart disease (31%), cancer (25%), stroke (12%) and respiratory disease

(8%). Most older people die at home, in general hospitals or in residential care facilities (Statistics New Zealand 2004a) (Table 10).

Hospice and specialist palliative care services in New Zealand have tended to be directed towards people dying from cancer and at somewhat younger ages. There is scope for extending the palliative care approach that the hospice movement has developed to older people who more commonly die from other causes and in a range of other places (Gibbs 1998).

Table 10. Major Causes of Death Among Older New Zealanders Compared to Those Under 65 Years

Cause of Death	% Dying from this Cause	
	People Aged 65+ Years	People Aged Under 65 Years
Heart Disease, All Types	31%	15%
Cancer, All Types	25%	35%
Stroke/Cerebrovascular Disease	12%	Less than 1%
Respiratory Disease	8%	4%
Injury/Suicide	Less than 1%	13%

Source: Statistics New Zealand 2004a

Avoidable Deaths

Death rates per se are a less useful indicator of the health of the older population than the rate of avoidable deaths before the age of 75 years, since at some point everyone dies from some cause.

Deaths that have been identified as theoretically preventable or reducible in the 'young-old' 65-74 year age group include ischaemic heart disease, various cancers (e.g. colorectal, lung, skin, oral and breast), alcohol related disease, chronic respiratory disease and respiratory infection, stroke, road traffic deaths, diabetes, hypertensive disease and renal failure (Ministry of Health 1999, 2002).

A Ministry of Health review identifies different types of 'prevention' that can be undertaken at different stages of an illness or injury to stop it happening or worsening (Ministry of Health 1999):

- 'primary prevention' to prevent an illness or injury occurring (e.g. not smoking, wearing seat-belts)
- 'secondary prevention' to catch illness at an early stage (e.g. managing diabetes or hypertension)
- 'tertiary prevention' to stop it getting worse (e.g. early surgery for cancer).

The rate of 'avoidable' deaths in the older population as a whole has been dropping steadily since the 1980s, as a result of a combination of all these forms of prevention - healthier lifestyles, timely screening and early diagnosis and effective medical and surgical treatment (Ministry of Health 1999).

However deaths from avoidable causes are more common within some groups in the population than others - people on low incomes more than those on high incomes, Maori and Pacific people more than non-Maori/non-Pacific people, and men more than women. The lowest level of death rates achieved by some groups within the population show the level that theoretically could be reached for all people if optimum prevention and access to treatment existed (Ministry of Health 1999).

Table 11 shows that the West Coast had a higher death rate per head of older population for many causes compared to the national average in 1999-2001. Numbers for the West Coast are very small and it is not known the extent to which the differences are significant or due to chance.

Table 11. Deaths of Older People: Numbers and Rate per 10,000 Age-Specific Population, for Selected Causes, West Coast and New Zealand, 1999-2001

Selected Causes of Death	West Coast		New Zealand	
	Number of Deaths	Deaths per 10,000 people of that age	Number of Deaths	Deaths per 10,000 people of that age
65 - 74 Years				
Ischaemic Heart Disease	47	69	3,708	49
Other Heart Disease	7	10	418	5
Stroke/Cerebrovascular Diseases	10	15	1,129	15
Cancer of Lung & Trachea	12	18	1,478	20
Colorectal Cancer	15	22	1,033	14
Prostate Cancer	8	12	483	6
Breast Cancer	<5	N/A	387	5
All Other Forms Of Cancer	24	35	3,032	40
Chronic Respiratory Disease	18	27	1,335	18
Influenza and Pneumonia	-	-	95	1
Diabetes Mellitus	6	9	580	8
Injury from Fall	-	-	77	1
Intentional Self-Harm	<5	N/A	84	1
All Causes - 65-74 years *	187	275	16,237	215
75 Years And Over				
Ischaemic Heart Disease	104	206	12,478	205
Other Heart Disease	37	73	2,805	46
Stroke/Cerebrovascular Diseases	42	83	6,395	105
Cancer Of Lung & Trachea	25	50	1,596	26
Colorectal Cancer	13	26	1,527	25
Prostate Cancer	16	32	1,120	18
Breast Cancer	<5	N/A	598	9
All Other Forms Of Cancer	43	85	5,013	82
Chronic Respiratory Disease	44	87	3,355	55
Influenza and Pneumonia	8	16	1,219	20
Diabetes Mellitus	16	32	1,199	20
Injury from Fall	<5	N/A	609	10
Intentional Self-Harm	-	-	78	1
All Causes - 75 Years and Over*	432	856	47,527	782
All Causes - 65 Years and Over*	619	523	63,764	468

Source: NZ Health Information Service - National Minimum Data Set (NMDS)

* Deaths from All Causes sums to more than the selected causes shown in the table because it includes all the other causes of death not shown in this table

HEALTH AND ILLNESS

Keeping fit and healthy

The falling death rates for heart disease, stroke, some cancers and other conditions show the importance for older people of maintaining a fit and healthy lifestyle. Exercising regularly, eating well, not smoking and maintaining a good weight are protective habits that, the evidence suggests, people are never too old to adopt (Public Health Intelligence 2004a).

Many of the older generation have retained habits of gardening, preparation of home-grown food, walking and involvement in local social activity. If current trends continue, these habits may be less prevalent in 15 years time, which may result in a declining capacity among older people to take care of themselves in these ways. On the other hand, if economic and social conditions worsen, as described in the alternative scenario earlier, these habits may be resumed.

Due to lack of information at DHB or regional level, much of the following information on older people's habits is based on national figures from the New Zealand Health Survey 2002/03 - see Table 12 (Public Health Intelligence 2004, 2004a).

Physical activity

Regular physical activity is one of the most important ways for people to maintain their health and fitness as they age. Thirty minutes of moderate physical activity on most days can help prevent the onset or worsening of many diseases and disabling conditions, such as osteoarthritis, heart and respiratory disease, some cancers, diabetes, injury due to falls and dementia. Physical activity, together with good nutrition, helps people maintain a healthy bodyweight and reduces the risk of obesity-related illnesses such as diabetes. Enjoyable activity shared with others also reduces the risk of depression, anxiety and other mental illness (Ministry of Health 2003b).

Physical activity drops with age, and is consistently higher for men than women, with little difference among income groups. Being sedentary (i.e. having less than half an hour's activity per week) rises sharply after 75 years, especially among women (Public Health Intelligence 2004).

The Ministry of Health has identified older people as a priority group to support in undertaking more physical activity, in part because of the relatively greater and quicker payoff in terms of reducing illness and disability (Ministry of Health 2003b).

Healthy eating and bodyweight

Malnourishment is a risk for a sizable proportion of older people - a Christchurch Hospital study found that more than 42% of older people admitted with fractured hips were significantly malnourished (Hanger et al 1999). Malnourishment may result from a combination of factors that make it difficult to shop, garden or prepare food - such as mobility difficulties, lack of mealtime company, isolation and depression, cognitive impairment, eyesight problems or other disabling conditions (Stratton et al 2-3, Amarantos et al 2001).³

There is considerable evidence of the importance of a diet rich in fruit and vegetables (Ministry of Health 1996, 2003c). Vegetable and fruit intake rises with age and is

³ References are from Sally Watson to CDHB's consultation on the Health of Older People Strategy report, November 2005

consistently higher for women and people in higher income groups (Public Health Intelligence 2004).

High cholesterol, a risk factor for heart disease, rises with age to 75 years then drops, with little difference between men or women or among income groups. Overall rates have been dropping since the 1980s (Public Health Intelligence 2004, 2004a).

Being overweight or obese is a risk factor for a number of diseases. Being overweight is more common among older men than older women; men aged 65-74 years are the most overweight of any age/sex group. Being overweight does not vary by income group, although obesity is more common among low income groups. The rapid increase in obesity ('obesity epidemic') experienced by the overall population since the 1980s may now be slowing (Public Health Intelligence 2004, 2004a, 2004b).

Use of tobacco and alcohol

Tobacco smoking decreases with age for both sexes and smoking rates are similar for older men and women. Smoking rates are higher in lower income groups and among Maori and Pacific people (Public Health Intelligence 2004).

There is strong evidence that it is never too late to improve health by quitting smoking, that older smokers are more likely to succeed in quitting and that smoking cessation programmes for older smokers are cost-effective in reducing health care costs (New Zealand Guidelines Group 2002, Ministry of Health 2005).

Potentially hazardous drinking drops with age for both sexes, but hazardous alcohol drinking is mostly done by men (Public Health Intelligence 2004).

Dental/oral health

Older people are more likely to have kept their own teeth than in earlier generations - a Canterbury DHB Oral Health Department study found 59% of older Cantabrians living in the community (average age 75 years) had their own teeth in 2002, compared to 16% in 1992. Even people living in residential care (average age 85 years) were twice as likely to have their own teeth - 32% compared to 15% (Carter et al 2004).

But oral health among older people may in fact be no better than in earlier years, because most older people living in the community do not get regular checkups. People living in residential care often receive poor dental care - the study found that 65% had caries and 38% needed extractions (Carter et al 2004).

Poor teeth can result in poor nutrition, and can also contribute to infections and aspiration pneumonia. A National Health Committee report made recommendations for preventive dental strategies for older people in 1997, which still need to be implemented (Carter et al 2004, Cautley et al 1997).

Social inclusion

Social inclusion - being a valued part of a community of friends and family - is crucial for maintaining older peoples' health and independence (Scharf et al 2005).⁴

'Interdependence' is as important as 'independence' - being part of a network of around 15-20 other people, with whom we share practical and emotional support.⁵

⁴ See <http://www.socialexclusionunit.gov.uk> for this interesting UK report on the causes of social exclusion among some older people.

⁵ Comment from the Presbyterian Support Services submission to Canterbury DHB's consultation on Health of Older People Strategy report, November 2005

A New Zealand study of factors affecting older people's ability to remain living in their own home identified the following important social factors (Dwyer et al 2000):

- Positive attitudes towards ageing
- Adequate income
- Staying actively involved in social networks
- Family support and care
- Having health and disability support needs met
- Adequate housing and security
- Access to transport

Table 12. Percentage of New Zealanders Aged 65 Years or Over with Some Specific Risk Factors for Ill Health, 2002/03, and Estimated Number of West Coast Residents Based on this

Reducing the Risk of Illness	% of New Zealanders		Estimated No. of West Coast Residents*	
	65-74 Years**	75+ Years**	65 - 74 Years	75+ Years
High Cholesterol	35 - 43% m-f	24 - 25% f-m	900	430
Three+ Vegetable Servings a Day	75 - 80% m-f	80% m+f	1,790	1,410
Two+ Fruit Eaten A Day	50 - 70% m-f	60 - 75% m-f	1,390	1,190
Physically Active ***	65 - 75% f-m	43 - 53% f-m	1,620	850
Sedentary ***	12 - 17% m-f	33 - 40% m-f	340	650
Over-Weight	38 - 51% f-m	36 - 45% f-m	1,030	720
Tobacco Smoking	12% m+f	4 - 6% f-m	280	90
Potentially Hazardous Drinking	12% m	3% m	150	20

Source: Public Health Intelligence 2004

* Estimates for West Coast are based on applying the NZ rates to the West Coast 2001 population. Numbers are rounded to the nearest 10.

** The range shows the male/female difference

*** Physically Active = At least 2.5 Hours moderate activity In the last week. Sedentary = Less than 30 minutes physical activity a week.

Avoidable Hospital Admissions

While many hospital admissions for illness or injury are unavoidable, admissions from some causes have declined or remained steady over recent decades. Overall admission rates per head of population for conditions such as lung cancer, alcohol-related disease, myocardial infarction, some strokes, some chronic respiratory conditions, falls and other injury have remained stable since the 1980s. This reflects healthier lifestyle changes (e.g. reduction in smoking among men) and more effective investigation and treatment (e.g. for hypertension) (Ministry of Health 2002).

Table 13. Public Hospital Admissions & Average Length of Stay - Numbers and Rates per 10,000 Population Aged 65+ by Age, West Coast and NZ, 2003

Selected Causes of Hospital Admission	West Coast				New Zealand			
	All* Discharges	Day-Cases	Average Days Stay	Discharges per 10,000	All* Discharges	Day-Cases	Average Days Stay	Discharges per 10,000
65 - 74 Years								
Ischaemic Heart Disease	70	4	4.4	389	7,366	1,193	5.2	288
Other Heart Disease	69	8	3.7	383	4,638	850	5.1	181
Bypass Surgery	8	0	13.5	44	1,466	-	13.8	57
Stroke/Cerebrovascular Dis.	31	0	6.5	172	1,880	62	9.3	73
Colorectal Cancer	7	2	9	39	1,117	213	10.5	44
Prostate Cancer	11	2	4.9	61	579	186	4.8	23
Cancer of Lung & Trachea	19	3	9.8	106	880	229	7.5	34
All Other Forms of Cancer	45	12	7.8	250	7,576	3,734	7.5	296
Chronic Respiratory Disease	65	0	6	361	3,814	238	5.8	149
Influenza and Pneumonia	10	0	3.9	56	1,614	51	6.8	63
Arthritis	74	22	6.3	411	2,905	502	6.5	113
Hip Replacement	26	0	7.3	144	1,045	-	7.8	41
Knee Replacement	21	0	6.7	117	739	-	7.7	29
Injury from Fall	27	1	4.1	150	3,222	373	8.8	126
Hip Fracture	2	0	1	11	478	4	9.0	19
Diabetes Mellitus	22	5	7.9	122	1,660	598	8.9	65
Cataract Operations	18	17	2	100	1,879	1,737	2.2	73
All Causes - 65-74 Years**	1,097	242	9	6,094	93,395	31,403	7.4	3,649
75+ Years								
Ischaemic Heart Disease	88	7	5	489	9,321	574	7.6	423
Other Heart Disease	114	8	26.1	633	8,124	663	12.3	368
Bypass Surgery	10	0	13	56	608	-	15.7	28
Stroke/Cerebrovascular Dis.	56	0	15.7	311	3,964	54	33.8	180
Colorectal Cancer	17	1	62.1	94	1,417	179	13.0	64
Prostate Cancer	10	2	3.1	56	756	191	10.0	34
Cancer of Lung & Trachea	4	0	9	22	700	159	12.2	32
All Other Forms of Cancer	93	27	5.7	517	9,772	5,117	8.6	443
Chronic Respiratory Disease	73	0	4.7	406	4,624	210	9.9	210
Influenza and Pneumonia	25	1	11.9	139	3,687	42	18.2	167
Arthritis	48	9	6.7	267	2,841	358	16.0	129
Hip Replacement	15	0	8.4	83	1,001	-	10.1	45
Knee Replacement	11	0	9.5	61	676	-	9.1	31
Injury from Fall	100	1	10.4	556	13,883	882	11.6	629
Hip Fracture	31	0	9.2	172	3,313	18	10.7	150
Diabetes Mellitus	10	3	362.3	56	1,767	642	22.5	80
Cataract Operations	25	21	1.3	139	4,125	3,824	2.2	187
All Causes - 75+ Years**	1,574	238	34.8	8,744	135,182	29,762	16.1	6,129
All Causes - 65+ Years**	2,671	480	24.7	14,839	228,577	61,165	12.9	10,364

Source: NZ Health Information Service - National Minimum Data Set (NMDS)

* 'All Discharges' includes inpatients and day pats. Average days stay is calculated on inpatients only.

** Admissions from 'All Causes' sums to more than the selected causes shown in the table because it includes all the other causes of admission not included in this table.

Table 13 compares West Coast DHB's and New Zealand's rates of hospital admission and average length of stay for some common conditions and procedures for older people in 2003. Although the significance of the differences has not been calculated, West Coast admission rates and length of stay are markedly higher than the national average for nearly all conditions in both older age groups.

Reasons for the higher rate could include greater ill-health, fewer options for community-based care in a small and highly dispersed rural population, and also the double-counting of people admitted to Grey Hospital, transferred to Christchurch for treatment, then readmitted to Grey Hospital.

The effect of good primary care

Some hospital admissions are for conditions that could have been treated through effective primary care and support services - these have been called 'ambulatory sensitive admissions'. Admissions from these causes have been rising since the late 1980s, among older people as well as the overall population. Examples include breast cancer, hepatitis, angina, congestive heart failure, respiratory infections, asthma and cellulitis (Ministry of Health 1999, Ministry of Health 2002, Aish et al 2003).

National studies of 'avoidable hospital admissions' as related to older people look just at the 65-74 year age group, as people aged 75+ years are more likely to have a combination of illnesses (Public Health Intelligence 2004c).

A recent research study looked at some specific conditions that should not have resulted in hospital admission if the person had received effective primary health care. Although this study covered all ages, conditions affecting older people included pneumonia, cellulitis and abscess, congestive heart failure, malignant hypertension, perforated/bleeding ulcer, kidney infections, gangrene, diabetic ketoacidosis and diabetic coma. The study showed that rates of hospital admissions for these conditions rose for all areas between 1980 and 1997 (Dharmalingam et al 2004).

Table 14. Age-Standardised Avoidable Hospitalisation Rates per 10,000 Po.p (All Ages), New Zealand, South Island DHBs and the Highest and Lowest Scoring DHBs, for the Three-Year Periods 1980-1982, 1985-1987, 1990-1992 and 1995-1997

Region	Rates of Avoidable Hospital Admissions per 10,000 Population (all ages)			
	1980-1982	1985-1987	1990-1992	1995-1997
Tairāwhiti (highest score 1995-1997)	109	135	143	171
West Coast	114	120	91	95
Christchurch City	66	81	76	95
Southland	70	74	75	81
Rural Canterbury	62	69	64	74
Otago	66	78	66	83
South Canterbury	66	76	70	73
Nelson Marlborough	55	57	47	61
Rodney (lowest score 1995-1997)	35	42	42	56
New Zealand Average	73	83	75	96

Source: Dharmalingam et al 2004

West Coast was the highest of all South Island DHBs in all time periods, although it moved from being 56% above the national average in 1980-82 to being under the national average by 1995-97 (Table 14).

The study estimated that 8.3% of all hospitalisations for West Coast residents in 1995-1997 could have been avoided if these conditions had been managed adequately in primary care, less than the national average (10%) (Dharmalingam et al 2004).

Admission rates were strongly related to socioeconomic status (Dharmalingam et al 2004).

Chronic and Disabling Diseases - inequalities in prevalence ⁶

The figures below come from the New Zealand Health Survey 2002/03 and show the percentage of older people who answered yes to the question: "Have you been told by a doctor that you have ...?" The figures for the younger 55-64 year age group have been included because chronic diseases tend to develop at this earlier age among Māori, Pacific people and low income groups (Table 15).

Table 15 estimates the number of older Cantabrians with these chronic conditions, assuming that West Coast has the same percentages as New Zealand as a whole.

Table 15. Prevalence of Some Chronic Diseases in the Older Population - Estimated Numbers in West Coast in 2001, Based on New Zealand Percentages

Chronic Disease	New Zealand Percentage of Total Population*			West Coast Estimated Number of People**		
	55-64 Years	65-74 Years	75+ Years	55-64 Years	65-74 Years	75+ Years
Heart Disease	13 - 19%	26 - 33%	37 - 44%	520	680	720
Stroke	2 - 4%	4 - 8%	9 - 14%	100	140	200
Chronic Respiratory Disease	3 - 6%	5 - 10%	6 - 11%	150	170	150
Arthritis	26 - 32%	42 - 50%	48 - 56%	950	1,060	920
Osteoporosis	3 - 5%	6 - 10%	9 - 14%	130	190	200
Cancer	6 - 9%	11 - 16%	14 - 21%	250	310	310
Diabetes	7 - 11%	10 - 16%	7 - 13%	290	300	180

Source: Public Health Intelligence 2004

* Percentages show upper and lower confidence levels (i.e. the likely range); numbers are calculated from mid way between these and rounded to nearest 10.

** New Zealand percentages applied to the estimated West Coast population in 2001.

Socioeconomic Differences

The prevalence of most chronic diseases is significantly higher in lower income groups than in the population as a whole (Ministry of Health 2004a, Public Health Intelligence 2005). Overall rates in the older population may mask differences in rates among socioeconomic groups, especially within large urban populations where socioeconomic disparities are most marked.

⁶ Good detailed discussions of trends in the prevalence of specific conditions can be found in Cornwall & Davey (2004), Ministry of Health (2004a) and Public Health Intelligence (2003, 2005)

As an example - when Christchurch suburbs were clustered into five groups according to their level of socio-economic disadvantage in 1996, it was found that older people living in the most advantaged suburbs had a rate of 16% fewer hospital admissions and 20% fewer re-admissions from most causes than those living in the least advantaged suburbs (Southern Regional Health Authority 1998).

This study also found that the socio-economic difference in Christchurch city death rates widened between 1984 and 1994, from a 21% difference to a 33% difference between the most and least advantaged groups (Southern Regional Health Authority 1998). This growing disparity in health between low and high income groups during this period is also reflected in more recent national studies (Public Health Intelligence 2005, Dharmalingam et al 2004).

Māori and Pacific People

The prevalence of many forms of chronic illness is significantly higher in Māori and Pacific people than in the population as a whole, especially for people in the middle and older age groups. Some of this is due to the fact that these groups are also in the lowest income groups. However the poorer health is evident even when socioeconomic status is taken into account.

As noted above, premature death rates for Maori and Pacific Island people, particularly middle-aged and older people, did not decline during the 1980s and 1990s as they did in the overall population. This led to greater disparity in health status between Maori/Pacific people and the rest of the population during this period (Public Health Intelligence 2001, 2003).

It has often been noted that Maori and Pacific people are more likely to develop the illnesses that are typical of older age while they are in later middle-age - 50 years and onwards. District Health Boards are recognising that there is a sizable group of people aged under 65 years whose needs for health and disability services are similar to those of older people. This group also includes non-Maori/Pacific people, mostly on low incomes, and may be expected to rise in coming years (see earlier section on Financial Security).

The marked inequalities in the prevalence of different illnesses and disabilities among different social and ethnic groups is an indicator of the potential that exists for improving older people's health to the level of the most fortunate. The following section looks at some common health problems for older people and identifies some of the things that could be done to reduce the illness and disability burden of each type of condition.

Heart Disease and High Blood Pressure

Coronary heart disease can cause angina and heart attacks (acute myocardial infarction) and lead to heart failure. Modifiable risk factors include high blood cholesterol, high blood pressure, smoking, being overweight, physical inactivity, diabetes, high salt intake and inadequate fruit and vegetable intake. The likelihood of having heart disease rises with age, to reach around 40% of those aged 75+ years, slightly more men than women (Statistics NZ 2004).

Rates of heart disease are higher than average among men, low income groups and Maori and Pacific peoples. Differences in rates of heart disease (and in the risk factors for heart disease, such as smoking and high blood pressure) account for much of the gap in death rates between advantaged and disadvantaged groups, and between

Maori/Pacific people and the overall population (Public Health Intelligence 2003, 2005).

The overall incidence of ischaemic heart disease and deaths has been steadily dropping, reflecting the effectiveness of lifestyle changes and medical interventions (Ministry of Health 2004a, Public Health Intelligence 2004).

High blood pressure is a risk factor for heart disease, as well as stroke. The National Nutrition Survey 1997 found that around two thirds of New Zealanders aged 65+ years had high blood pressure. Less than half of these were on medication, and in only about half of these cases was the medication effective in controlling the high blood pressure (Statistics New Zealand 2004).

Men are significantly more likely than women to receive treatment for heart disease, such as aspirin, medication, angioplasty and bypass surgery (Public Health Intelligence 2004).

West Coast's overall death rates from ischaemic heart disease for older people in the three-year period 1999 to 2001 were higher than the national average for the 65-74 year group and much the same for the 75+ group. Rates of hospitalisation for all forms of heart disease were markedly higher for both older age groups, while rates of bypass operations were higher than the national average for the 65-74 year age group but lower for the 75+ age group (Table 11 & Table 13).

Stroke

Stroke is a major cause of death and disability among older people and accounts for 7% of all cases of severe disability. The likelihood of experiencing stroke rises with age, peaking in the 70s. Having a first or subsequent stroke is likely to affect 3.4% of people aged 65-74 years, 6.2% of those aged 75-84 years and 9% of those aged 85 years or more. Men at all ages are more likely than women to have strokes. Māori and Pacific people have higher than average rates, and the average age of first stroke in these groups is 10 years younger than for Europeans. Socio-economic status has an impact on death rates from stroke for older men, but not older women (New Zealand Guidelines Group 2003a, Public Health Intelligence 2002, 2003, 2005, Ministry of Health 2004a).

About 20% of stroke survivors are left with disabilities severe enough to need help with daily activities, and 20% of stroke patients are discharged from acute hospital into residential care (New Zealand Guidelines Group 2003, Public Health Intelligence 2002, Cornwall & Davey 2004).

A detailed Ministry of Health study of the likely burden of stroke in the future found no particular trend in the incidence of stroke during past decades. There may have been an increase in less severe strokes and a reduction in death rates but this may partly be due to changes in diagnosis, as well as better treatment. However, even at current rates, the actual number of people having a stroke will increase as the population ages unless risk factors are addressed (Public Health Intelligence 2002, Ministry of Health 2004a).

Modifiable risk factors for stroke are similar to those for heart disease, and the rate of deaths and hospital admissions could be reduced. Even modifying one factor (e.g. reducing the salt content of manufactured foods) would have a significant impact on the incidence of strokes (Public Health Intelligence 2002). In 1997 the Ministry of Health identified a target for the New Zealand health service of 11 hospital

admissions per 1,000 men aged 65+ years, and 8 admissions for women by 2010 (Ministry of Health 1997).

Organised stroke services are effective in reducing deaths, hospital admissions and long-term disability due to stroke. The New Zealand Guidelines Group guideline for the management of stroke gives a detailed analysis of the impact of stroke on health and disability support costs, and the most cost-effective mix of services (New Zealand Guidelines Group 2003, Public Health Intelligence 2002).

The West Coast had the same death rate for stroke for 65-74 year olds as the New Zealand average, but a higher rate for 75+ year olds. Hospital admission rates were markedly higher than the national average for both age groups, with a shorter than average length of hospital stay (Table 11 & Table 13).

Diabetes

Type 2 diabetes is a health condition with potentially serious complications if not adequately controlled, including coronary heart disease, stroke, blindness, renal failure and circulatory problems leading to limb amputation. Diabetes typically develops in people around 40-50 years of age, so most people with diabetes are faced with many years of managing their condition. The incidence increases with age, particularly between 45 and 75 years (Cornwall & Davey 2004, Ministry of Health 2003).

The prevalence of diabetes in New Zealand is rising (as are some of the risk factors, such as obesity) - this represents a major potential burden to the health system. (Ministry of Health 2003).

The New Zealand Health Survey found that 10-15% older men and women had been diagnosed with diabetes. Diabetes may develop some years before symptoms are noticed and it has been estimated that only about half of those with diabetes have been diagnosed (Ministry of Health 2003).

Diabetes is twice as common among Māori and Pacific people as among people of European origin, and the condition is also strongly associated with socioeconomic deprivation. While 4% of European New Zealander's deaths are caused by diabetes, 20% of Maori and 17% of Pacific deaths are diabetes-related. The incidence of diabetes peaks at an earlier age (55-60 years) among the latter groups (Public Health Intelligence 2002b, 2002c, Cornwall & Davey 2004).

The prevalence of diabetes is projected to increase by 75% between 1996 and 2011, particularly among older people (Public Health Intelligence 2002c, Cornwall & Davey 2004).

Diabetes is a substantially preventable and controllable condition, linked to obesity, physical inactivity and smoking. The complications of diabetes can be avoided by good primary care and early intervention, including retinal screening for eye disease and management of high blood pressure. The Ministry of Health has developed indicators for good diabetes management (Ministry of Health 2003).

West Coast deaths attributed to diabetes were above the national rate for both older age groups. However death rates are not a good measure of the burden of diabetes, as they tend to under-report the contribution of diabetes to heart disease and renal failure (Cornwall & Davey 2004). West Coast hospital admissions for diabetes were higher than the average for the 65-74 year group, but lower for the 75+ group. The oldest group had a markedly longer than average stay in hospital (Table 11 & Table 13).

Arthritis and Joint Replacement

Osteoarthritis and rheumatoid arthritis are the major cause of long-term disability among older people, limiting their mobility, independence and enjoyment of life. Around half of people aged 65+ years have some form of arthritis and many of these people need some help with everyday activities as a result. Prevalence rises with age and is more common among women (Public Health Intelligence 2004, Cornwall & Davey 2004).

It is not clear whether the incidence of osteoarthritis and rheumatoid arthritis in the population has increased over time, and there are very few New Zealand data on this condition. However it is clear that if current rates of arthritis remain steady, there will be a considerable increase in the actual number of people disabled by this condition as the population ages. A Canadian study predicted large increases in the number of people with arthritis over the next 20 years (Badley & Wang 1998).

There are no well-established modifiable risk factors for rheumatoid arthritis, which has a strong genetic component. Risk factors for osteoarthritis include joint injury, obesity, repetitive occupational joint use, and physical inactivity (Australian Bureau of Statistics 2004). A US study noted that physical activity decreases joint pain, improves function and delays disability, and that maintaining healthy weight and avoiding joint injuries reduces the risk of developing arthritis and slows down its progression (Center for Disease Control 2002).

When arthritis, hip and knee replacements are combined, they made up the most common reason for hospital admission (in the list of selected conditions shown in Table 13) for people aged 65-74 years in West Coast in 2003, with a rate of 672 admissions per 10,000 people aged 65+. West Coast's admission rates for arthritis and hip and knee replacement were markedly higher than the national average, especially for the 65-74 year age group. The average length of stay in West Coast hospitals was similar to or lower than national rates for both age groups (Table 11 & Table 13).

Falls and Hip Fracture

Women from the age of 80 years and men from 85 years have a 1 in 100 annual risk of a fall leading to a hip fracture. The same level of risk is run by women aged 70-79 years and men aged 75-84 years if they also have additional risk factors, including cognitive impairment, osteoporosis, usage of specific medications (especially psychotropic drugs), a history of falls or poor eyesight. People living in residential care have a 2 in 100 annual risk of hip fracture and women from 70 years and men from 75 years living in residential care should be considered as being at high risk. Women have higher rates of hip fractures, in part due to lower bone mass and a greater risk of osteoporosis following menopause. Maori and Pacific people have significantly lower than average rates of falls and hip fractures (New Zealand Guidelines Group 2003a, Cornwall & Davey 2004, Ministry of Health 1999).

It is not clear if the incidence of hip fractures is increasing among older New Zealanders. Death rates for older people from falls dropped by 60% between 1988 and 1998, however the rate of hospitalisations for falls in fact rose steadily by 37% in the same period. This may reflect better care and/or more frail older people (Ministry of Health 1999). It is clear that the growth in the number of older people in itself will inevitably result in an increase in deaths and hospital admissions for hip fracture and other injury unless active interventions are made (New Zealand Guidelines Group 2003a, Cornwall & Davey 2004).

Hip fracture in the very old significantly increases the risk of death and illness and the likelihood of further hospitalisation, and can precipitate disability and entry into residential care among the 75%-80% who survive the year following the fracture. Only 60% of those who survive 6 months recover their pre-fracture walking ability, and only 50% recover their ability to perform physical acts of daily living (Thwaites et al 2005, New Zealand Guidelines Group 2003a).

A New Zealand study found that regional variations in the death rate following hip fracture could be reduced by reducing delay in time to surgery (Ministry of Health/NZHIS 2002).

The risk of hip fracture or other injury from falling is related to poor muscular strength and balance, poor mobility, poor eye-sight, osteoporosis and low body-weight, certain medications (e.g. sedatives, hypnotics), incontinence (particularly night-time), a hazardous housing situation (steps, lack of handholds etc), a history of smoking and a history of previous falls. (New Zealand Guidelines Group 2003a).

Older people living in the community can reduce their risk of falls and hip fractures by exercise programmes for muscle strengthening and balance training, as well as general physical activity, Tai Chi, getting help to change the household environment, getting their eyesight checked, and maintaining a healthy weight. Multi-disciplinary assessment and intervention is important, and individual exercise programmes are effective for high-risk people. For people in residential care and those who have already had a fracture, Vitamin D, calcium supplements and hip protectors are also effective (New Zealand Guidelines Group 2003b).

The West Coast's small numbers for deaths and hospital admissions due to hip fracture make it difficult to compare to national rates. Admissions for injury due to falls were higher than the national average for the 65-74 age group but lower for the 75+ group. (Table 11 & Table 13).

Chronic Respiratory Disease, Pneumonia and Influenza

Chronic respiratory diseases, such as bronchitis and emphysema, are the fourth major cause of death among people aged 65+ years, and acute bouts of flu and pneumonia are a major cause of hospital admission (Table 13). A small but significant number of people become disabled by the disease to the point of needing residential care.

Death rates are higher among low income groups and also among Maori and Pacific people, in part due to higher smoking rates in these groups. Overall death rates for men have been dropping, but more slowly for low income groups and Maori, leading to a widening disparity. Death rates have been in fact increasing for women aged 60-77 years in the low income group and have remained level among higher income women (Public Health Intelligence 2005).

Smoking is the major preventable risk factor for chronic respiratory disease. It is expected that more women will develop chronic respiratory illness in future decades, reflecting women's higher uptake of smoking in recent decades. Warm dry housing is another prerequisite for respiratory health - West Coast has a comparatively old housing stock, much of which needs retro-fitting to make it warmer and drier.

Deaths and hospital admissions caused by influenza could be reduced by yearly flu vaccination of older people and their carers. Pneumonia is seen as a condition that could be managed more often at home without admission to hospital if the older person has access to good primary care (Dharmalingam et al 2004).

Deaths from chronic respiratory diseases among the West Coast's older population were higher than the national average. Numbers for flu and pneumonia deaths are too small to compare. In both age groups, the West Coast's hospital admissions for chronic respiratory disease were markedly higher than national rates, but admissions for flu and pneumonia were slightly lower. The length of hospital stay for all respiratory conditions was fairly similar to the national average (Table 11 & Table 13).

Cancer

Nationally around 20% of men and 15% of women aged 75+ years have had a diagnosis of cancer (Public Health Intelligence 2004), and around 25% of all deaths in the 65+ year age group are due to cancer (Table 10). The prevalence and incidence of cancer rises with age, with lung cancer, colorectal, prostate and breast cancer being the most common forms of cancer in older people.

Public Health Intelligence (2002a) has produced a detailed analysis of the projected changes in New Zealand death rates and incidence of cancers of different types by age group, to which the reader is referred.

The incidence of new cases of cancer is likely to increase slowly, while the actual number of new cases will increase at a faster rate than this, due to the population getting older. The overall death rate from cancer has been dropping since the early 1980s, probably due to earlier detection and treatment for at least some cancers.

Among men in the 65-74 year age group, prostate cancer is likely to take a greater share of cancer cases, while lung and colorectal cancers are expected to reduce their share. Among women, breast cancer cases are expected to increase (but death rates to drop), while lung cancer deaths are expected to rise. Colorectal cancer is expected to reduce in incidence. The cancer burden among the 75+ year age group for men is dominated by prostate cancer, and this is likely to continue. Lung cancer is likely to drop as a proportion of deaths and new cases, although for women lung cancer is likely to increase its share of the cancer burden (Public Health Intelligence 2002a).

West Coast's death rates for various forms of cancer compared to the national averages were mixed, and numbers too small to allow comparison. West Coast hospital admission rates showed a similarly mixed picture for specific cancers. (Tables 11 & 15).

Memory Loss, Dementia and Delirium

Worldwide estimates of the prevalence and incidence of dementia vary, depending on how the condition is defined. A New Zealand study found that 8% of New Zealanders aged 65 and over have dementia, with the prevalence roughly doubling with every five years of life. (New Zealand Guidelines Group 2004) This is very similar to Australian and Canadian prevalence estimates for moderate or severe cases of dementia that 'cannot be ignored by the health care system' (Giles et al 2003, Hopkins et al 2004) (Table 16).

Alzheimer's Disease accounts for 50-70% of all cases of dementia, while vascular dementia (similar to stroke but may occur in the absence of stroke) accounts for another 10-20%. The prevalence of dementia is similar for men and women (New Zealand Guidelines Group 2004).

It is not clear whether the incidence of dementia is increasing. However it is clear that at current rates of prevalence, the actual number of people with dementia will

rise in the coming decades as the population ages (Table 16) (New Zealand Guidelines Group 2004).

Table 16. Prevalence of Dementia in New Zealand, with Estimated and Projected Numbers for the West Coast for 2004 and 2021, Calculated from the New Zealand Prevalence

Age Group	% of Older New Zealanders With Dementia	Estimated Number on West Coast 2004*	Projected Number on West Coast 2021*
60 - 64 Years	1.0%	20	20
65 - 74 Years	3.8%	90	140
75 - 79 Years	6.4%	60	80
80 - 84 Years	11.0%	60	90
85+ Years**	32.0%	130	230
Total 60+ Years	7.7%	340	540

Source: New Zealand Guidelines Group 2004

* Based on New Zealand rates, with numbers rounded to the nearest 10.

** New Zealand prevalence is 23.6% for 85-89 years and 40.4% for 90-94 years, but as population numbers were not obtained for breakdowns over 85 years, prevalence in the 85+ year group was calculated as 32% (midway between 23.6% and 40.4%). The exponential increase in prevalence with age appears not to continue after 95 years (New Zealand Guidelines Group 2004).

Dementia ranges from mild to severe, and around 70% of those with dementia are cared for at home, usually by an elderly spouse or adult child, at least in the early stages of the disease (New Zealand Guidelines Group 2004). An Australian study of the prevalence of disability in older people found that of the 8% of older people with dementia, about 40% could be categorised as severe or profound, with moderate or mild cases making up the remainder (Giles et al 2003).

The New Zealand Disability Surveys estimated that in 2001 about a third (34%) of all disabled older people in residential care had psychological/psychiatric disability (mostly dementia), a rise from 27% in 1996/97. However this was the main form of disability in only 10% of all older people living in residential care. The percentage increases with age (Statistics New Zealand 2002).

Delirium is a generally reversible condition which occurs as a result of an acute disturbance of brain function. It is often precipitated by a physical illness or drugs, and thus most frequently seen in a general hospital setting (National Advisory Council on Aging 2002).

Good screening is important to distinguish dementia from delirium and depression (see below), and to see if any other potentially reversible conditions exist so that appropriate treatments are given. Good management can delay the progression of the disease and support the carers (New Zealand Guidelines Group 2004).

Based on the New Zealand prevalence rates, it is expected that currently around 340 older West Coast residents suffer from dementia to a significant degree. In 2004/05 around 25 (0.5%) of older West Coast residents lived in specialist dementia facilities, receiving rest home or hospital-level care. If the prevalence estimates are accurate, this suggests that a sizable group of 315 people with moderate to severe dementia

may be living in non-specialist rest homes and long-stay hospitals, as well as being cared for at home.⁷

The percentage of older people using West Coast's specialist residential dementia facilities was lower than the South Island average (1.2% - Table 6). Comparisons with national average client numbers cannot be made. (See also Use of Services.)

Depression and Suicide

The prevalence of depression among older people living in the community has been estimated at around 2-4% people experiencing clinical depression, rising to 10-15% experiencing depressive symptoms (Ministry of Health 1997, Evans 2003, National Council on Aging 2002).

Depression is more common among women than men, and is linked to severity of chronic illness and/or disability, low income, lifetime experience of stressful events (financial crisis, serious illness or injury and separation or divorce), as well as bereavement, loneliness and restricted social networks, living in residential care and previous mental illness (Evans 2003, Ministry of Health 1997).

A 1997 Ministry of Health report noted that depression in older adults tends to be under-treated.

A national Australian study is looking at ways of preventing depression in older people, testing previous findings that depression can be prevented by using folate and Vitamin B12, by physical activity, and by giving older people more information about the use of medication in treating depression.⁸

Importance of social networks - some people become more socially isolated with age, as they find it harder to get about due to poor vision or mobility, and as spouse, family and friends die. Living alone and becoming more socially isolated may be (although not always) experienced as loneliness, which can be a risk factor for depression (National Advisory Council on Aging 2002).

Suicide may be seen as a complication of depression, and rates among older New Zealand men have been as high as for young men, though have remained fairly level over the decades. Suicide is more common among men, and is linked to social isolation, depression, physical illness, alcoholism and mild dementia (Ministry of Health 1997). There were fewer than 5 suicides among West Coast older people between 1999 and 2001, which is too small a number to compare to the national rate (Table 11).

⁷ In Australia around 60% of 'nursing home' (long-stay hospital) residents and 28% of 'assisted hostel' (rest home) residents are estimated to have dementia (Cornwall & Davey 2004)

⁸ See beyondblue: the national depression initiative, of The Beyond Ageing Project at the Centre for Mental Health Research at the Australian National University (www.anu.edu/cmhr/beyond_ageing)

Elder Abuse

It has been estimated that 2%-5% of the older New Zealand population experience elder abuse, that is, action or lack of action on the part of someone in a relationship of trust to the older person, which causes harm or distress to them. Such abuse includes neglect and financial, emotional or physical abuse, and may occur in private homes or institutional facilities. Most abusers are related to the older person, most often sons or daughters. (Age Concern 2002, Ministry of Health 2003a).

Elder abuse is more likely to occur when: the abuser and abused live together, there is a history of family violence and/or unresolved previous sexual abuse, the level of dependency is increasing, there is a lack of adequate support and relief for the caregiver, and/or there has been a recent change in living arrangement. An older person's vulnerability to abuse is related to poor or failing health, cognitive impairment and lack of family, financial or community support. People more likely to abuse may have a history of violence, alcohol or substance abuse or mental illness, may be financially dependent on the older person, in poor health and socially isolated (Ministry of Health 2003a).

Using the estimated prevalence of 2%-5% of the older population, it may be calculated that between 80 and 200 older West Coasters experience elder abuse.⁹

Impaired Vision and Blindness

The Royal New Zealand Foundation for the Blind has around 75 registered members aged over 65 years in West Coast, or 1.8% of the 65+ population. These RNZFB were younger than those elsewhere in the South Island - 31% were aged 65-79 years, compared to the South Island average of 22%. The number of people aged 65+ years registered as blind or visually impaired is a little higher than the New Zealand average (1.7%) (Royal New Zealand Foundation for the Blind 2004).

The New Zealand Disability Survey estimated that 8% of the Southern Region population aged 65+ years had impaired vision¹⁰ in 2001, slightly higher than the national rate (7%). People aged 75+ years were twice as likely to have impaired vision than those aged 65-74 years (Statistics New Zealand 2002).

Having poor vision can limit older people's ability to drive, socialise, read or manage everyday activities, leading to isolation and depression and a higher risk of falls, as well as a greater need for support services. Some forms of impaired vision may be preventable or controllable by screening and early intervention for high-risk people, including diabetic retinopathy and some forms of glaucoma.

Cataracts are the leading cause of blindness in older people and their incidence increases with age. Women are more at risk than men and diabetes is a major risk factor. Impaired vision due to cataract formation can usually be improved by cataract surgery, and delay in receiving treatment may increase the severity of the disease and the level of functional impairment. Rates of surgery have increased since the mid 1980s (Cornwall & Davey 2004).

Estimates of the total need for cataract surgery vary markedly depending on the threshold levels that are used for lens opacity, visual acuity/ability to see and patients' concern (McCarty et al 1999).

⁹ Based on estimated population aged 65+ years in 2004

¹⁰ Impaired vision is defined as having difficulty seeing newsprint and/or the face of someone across a room despite corrective lenses.

Active investigation of impaired vision in older people is important for identifying those cases where it can be prevented, managed and/or treated. A UK study of people aged 75+ years living in the community found that about 12% were visually impaired. For nearly a third of these people, impairment could be reduced by corrective lenses and for another quarter it could be reduced by cataract surgery. Another third (3.7% of the 75+ year old population) had age-related macular degeneration, for which little preventive or curative intervention is possible (Evans et al 2004).

The small number of admissions for cataract surgery make it difficult to compare the West Coast rate with the national average (Table 13).

Continence

While mostly a symptom of other diseases, the prevalence of incontinence rises with age. A New Zealand study found that 12% of people aged 65+ years had significant urinary incontinence, rising to 22% among people aged 80+ years. About 3% of people aged 65+ years had faecal incontinence (Campbell et al 1985). Similar rates were found in an international review of the prevalence of severe/significant incontinence: 10% of women and 4-7% of men aged 65+ years (Hunskar et al 2000).

Incontinence in older people is strongly linked to frailty, physical disability, cognitive impairment, stroke and heart failure (Fonda et al 1999). About a third of rest home residents and two-thirds of long-stay hospital patients have urinary incontinence, with an estimated 10-30% having faecal incontinence. (Department of Health c2000) The onset of incontinence has been identified as one of the triggers for people entering long-term residential care, along with dementia and mobility problems (Thom et al 1997, Australian Department of Health & Ageing 2003).

Some incontinence may be transient and due to delirium, infection, medication, restricted mobility or other causes (Fonda et al 1999). Active investigation and treatment/management of incontinence, even in the very old and frail, can help to reduce the likelihood of entry to residential care and the need for continence products, as well as improve quality of life and reduce stress on carers. An Australian study found that most older people living in residential care who were incontinent had never sought or received a detailed continence assessment (Australian Department of Health & Ageing 2003, Thom et al 1999).

Based on the New Zealand prevalence rates, it is estimated that around 490 West Coast residents aged 65+ years have significant urinary continence problems, including 80 people aged 85+ years. Around 15 older people are estimated to have faecal incontinence.

No national, regional or DHB-level data is routinely or easily available on the number of people receiving continence services in New Zealand. However some one-off studies are being done.

DISABILITY

While more attention tends to be paid to the sometimes more short-term illnesses such as heart disease and cancer, it is long-term disabling conditions such as dementia, stroke and arthritis that often have a greater impact on health and support services, as well as on the lives of older people (Cornwall & Davey 2004).

Statistics New Zealand have undertaken two major sample surveys of New Zealanders with disability, in 1996/97 and 2001, and used these to estimate the number of people with disabilities in the overall population. These surveys are too small to provide DHB-level data, but some regional level data is available (based on the former Transitional Health Authority areas).

In this section estimates of the number of disabled older people in West Coast have been based on regional and national data from these surveys wherever possible.¹¹ Please note that these are rough estimates only.

Prevalence of Disability

Just over half (54%) of all New Zealanders aged 65+ years in 2001 reported some form of long-term disability that limited their activity.¹² Just over a quarter (27%) of people aged 65+ years had a moderate disability, while a further 12% had a severe disability that needed daily assistance with personal care (Table 17).

Table 17. New Zealanders Aged 65+ Years with Disabilities as a Percentage of the Total Older Population (Disabled and Non-Disabled), by Residence and Level of Severity, 1996/97 and 2001

Level of Disability	1996/97			2001		
	Living in Private Households	Living in Residential Care	Total	Living in Private Households	Living in Residential Care	Total
Mild	24.5%	0.8%	25.3%	14.9%	Nil	14.9%
Moderate*	15.9%	1.3%	17.3%	25.9%	0.9%	26.8%
Severe**	6.1%	3.6%	9.7%	7.5%	4.7%	12.2%
All Disability Levels	46.6%	5.7%	52.3%	48.3%	5.6%	53.9%

Source: Statistics New Zealand - New Zealand Disability Surveys

* Moderate = need special aid or equipment

** Severe = need daily help with bathing, meals etc

Ethnicity - the rate of severe disability for Maori over 65 years is significantly higher than for the total population, and Pacific peoples in this age range have a higher rate of moderate disability than the total population (Ministry of Health 2002). Data on socio-economic differences in disability are not available.

Gender differences - women have the same rate of disability as men in the 65- 74 age group, but in the 75+ age group women have a higher disability rate than men (Cornwall & Davey 2004).

¹¹ Data from 1996/97 and 2001 surveys are mostly from the Reference Report publications on Statistics NZ website (www.stats.govt.nz) plus some specific data analyses done for SISSAL by Statistics NZ.

¹² The New Zealand Disability Surveys define 'disability' as any self-perceived limitation in activity resulting from a long-term condition or health problem, lasting or expected to last six months or more and not completely eliminated by an assistive device (eg hearing aid)

Age - the severity of disability rises with age: in the Southern Region 27% of people aged 65-74 years who lived in their own home had moderate or severe disability in 2001, rising to 49% of people aged 75+ years.

Where people live - most (90%) of all older New Zealanders with disabilities lived in private households in 2001; even 60% of those with severe disabilities lived in a private household. In 2001 about 6% of older New Zealanders lived in residential care due to disability - much the same proportion as in 1996/97. However it is noticeable that the severity level of people in residential care increased in that period: severely disabled people made up 84% of all disabled people in care in 2001, compared to 63% in 1996/97 (Table 17).

Disability in the Southern Region - regional data from the New Zealand Disability Surveys are available only for people living in private households, not for those in residential care. In 2001 the Southern Region had a slightly higher rate of disability in people aged 65+ years living at home than the national average: 49.6% compared to 48.3%. In both older age groups the Southern Region had slightly higher rates of moderate disability, lower rates of mild disability and much the same rates of severe disability as the New Zealand average (Table 17 shows national figures and Table 18 Southern Region figures).

West Coast - estimates of the number of older West Coast residents who have disabilities have been calculated, based on Southern Region rates for people living in private homes and on New Zealand rates for those in residential care (Table 18).

Table 18. Estimated Number of Disabled People Aged 65+ Years, by Residence and Level of Severity, Southern Region, New Zealand and West Coast, in 2004

Level of Disability	Disability Rate, 2001 (as % of 65+ Population)		Estimated Number with Disability on West Coast, 2004*		
	Living In Private Households (Southern Region)	Living In Residential Care (New Zealand)	Living In Private Households	Living In Residential Care	Total
Mild	13.5%	Nil	580	-	580
Moderate**	29.3%	0.9%	1,270	40	1,300
Severe**	7.7%	4.7%	330	190	530
All Disability Levels	49.6%	5.6%	2,190	230	2,410

Source: Statistics New Zealand - New Zealand Disability Surveys

* Figures are based on the percentage of disabled people in the Southern Region and New Zealand populations aged 65+ years in 2001, applied to the estimated 65+ age group population of West Coast in 2004. Numbers rounded to the nearest 10

** Moderate = need special aid or equipment; Severe = need daily help with bathing, meals etc

The New Zealand Disability Survey estimated that 97% of people living in residential care in 2001 had some disability. Based on estimates from the New Zealand Disability Survey, we might expect about 240 people in residential care in West Coast (230 + 3%). However actual numbers of West Coast people receiving subsidies for all forms of long-term residential care in 2004/05 are higher, around 313 (or more if private paying rest home residents are included) (see Table 6).

This may be explained in part by West Coast's higher proportion of older people. It is also likely that if the Southern Region has a higher percentage of older people living at home with disability than the New Zealand average, there will also be a higher rate

of disability among West Coast people in residential care, so that applying the national residential care rate is likely to under-estimate numbers for South Island DHB areas.

It is impossible to draw any conclusions from these data as to whether West Coast has an appropriate level of provision of residential care for its older population, without more information on the assessed level of need of these residents relative to those in other parts of New Zealand. The implementation of a standard national assessment tool will help to provide this information.

Types of Disability

Nearly all New Zealanders in residential care and 70% of people living at home in 2001 had more than one disability. Around 30-40% of people aged 65+ years living at home in the Southern Region had problems with mobility and agility, 22% had hearing impairment, 8% vision impairment and 7% problems with memory (Table 19).

No easily available data exists at DHB level on the types of disability among older people. However Table 19 estimates the number of older West Coast residents living at home and in residential care who may be experiencing various types of disability, based on regional and national rates from the New Zealand Disability Surveys 2001.

Table 19. Percentage and Number of Type of Disability among People Aged 65+ Years, by Residential Status, Southern Region, New Zealand and West Coast, 2004

Type of Disability	Disability Rate, 2001 (as % of 65+ pop.)			Estimated Number on West Coast, 2004*		
	Living in Private Households (Southern Region)	Living in Residential Care (New Zealand)	Total 65+ Years	Living in Private Households	Living in Residential Care	Total 65+ Years
Mobility**	38.2%	91.4%	41.3%	840	210	1,050
Agility**	29.5%	88.7%	32.9%	650	200	850
Partially Sighted/Blind***	7.7%	45.2%	9.9%	170	100	270
Hearing Impaired/Deaf***	22.1%	40.4%	23.1%	480	90	570
Speaking	2.8%	27.2%	4.2%	60	60	120
Remembering	6.8%	53.3%	9.5%	150	120	270
Learning Disability	2.9%	48.0%	5.5%	60	110	170
Psychiatric/Psychological	2.5%	32.7%	4.2%	50	80	130
Intellectual	0.9%	10.6%	1.5%	20	20	40
Disability type (other)	8.0%	15.4%	8.4%	180	40	220

Source: Statistics New Zealand - New Zealand Disability Surveys

* Figures are based on the percentage of disabled people in the Southern Region and New Zealand populations aged 65+ years in 2001, applied to the older population of West Coast in 2004. One person may be counted several times, for different disabilities. Numbers are rounded to the nearest 10.

** Mobility = walking, carrying weight, climbing stairs. Agility = bending, dressing, grasping, getting into bed.

*** Defined as having difficulty hearing what is said in a conversation despite hearing devices, and as having difficulty seeing newsprint and/or the face of someone across a room despite corrective lenses.

Need for Services

The 2001 New Zealand Disability Survey gives some indicators of need for services. The mostly higher rates in the Southern Region may reflect the region's higher rates of disability. Looking just at people living in private homes, the sample survey found:

- **Living alone** - 33% of the 65-74 year age group and 46% of the 75+ group live alone in the Southern Region - substantially higher than the national averages of 24% and 41%. (However these differences are not so marked in the 2001 Population Census- see Table 4)
- **Use of special equipment**¹³ - 46% of the 65-74 year group and 67% of the 75+ year group in the Southern Region use special equipment, a little higher than the national rate of 42% and 65% respectively.
- **Unmet need for equipment** - 12% of the 65-74 year and 17% of the 75+ year group in the south reported an unmet need for special equipment, compared to 13% and 14% respectively nationally.
- **Receiving help with everyday activities** - 48% of the 65-74 year and 67% of the 75+ year group in the south received help with everyday activities, compared to 44% and 67% nationally.
- **Type of help received** - 7% of the 65-74 year and 11% of the 75+ year group in the south received personal cares (7% and 12% nationally).

Further discussion of the need for long-term support services may be found in the section on the Use of Services.

Unpaid Carers

People's need for formal support services is clearly influenced by the amount of informal support they receive from spouses, family and other unpaid carers. It has been estimated that formal paid services may account for only one fifth of the total care resources used by older people (Cornwall & Davey 2004).

Several factors affect the likely future availability of unpaid care-givers in different ways, including increasing life expectancy for older men, smaller families and more separated families, women leaving child-bearing until later or entering the paid workforce and cultural differences in parents living with adult children (Cornwall & Davey 2004).

Carer stress is an increasingly important factor for DHBs to consider when implementing an 'ageing in place' vision of long-term care for older people. UK studies looking at the best mix of home-based and residential services for an older population used 'carer stress' as one outcome indicator, which sometimes could only be optimised at the expense of other outcomes, such as the older person's preferences and vice versa (Davies 1997).

Trends in the Rate of Disability

National figures show a shift towards greater severity of disability in older people, among both those living at home and those in residential care. In the 1996/97 survey 22% of all older New Zealanders living at home reported moderate or severe disability

¹³ A definition of 'special equipment' can be found in the survey questionnaires in Statistics NZ (2002) Disability Counts 2001. Wellington:Stats NZ

- by 2001 this had risen to 33%. Similarly the proportion of residential care residents with severe disability rose from 63% in 1996/97 to 84% in 2001 (Table 17).

Although rates of moderate and severe disability have risen, the percentage of older people reporting mild disability has dropped, from 25% to 15% of home-dwellers. This means that the overall disability rate has risen only slowly over the five-year period, from 52.3% to 53.94% of all people aged 65+ years (Table 17).

Overseas studies give conflicting evidence on trends over time in the rate of disability among older people. United States data shows an increase in the average length of disability-free life while Australian data suggest a rise in disability among older people (Cornwall & Davey 2004, Giles et al 2003). Overall the evidence points to lower rates of severe disability for older people in the future, but a rise in light and moderate disability during the extra years at the end of life. Current rates of smoking, obesity and insufficient exercise may however act to increase disability in the older population in the future.¹⁴

Even if the rates remain the same as in 2001, the simple fact of an increasing older population means a substantial increase in the actual number of people with disabilities at all levels in coming decades.

An Australian study has estimated the future number of disabled older people, based on the prevalence of the major disabling conditions (Table 20) (Giles et al 2003). These percentages were applied to West Coast's projected 65+ year old population to estimate the likely numbers of disabled people in 2004 and 2021 (Table 21). These figures are necessarily rough, but illustrate the impact that an ageing population will have on disability support services.

Table 20. Estimates of the Percentage of Older People Disabled by Specific Conditions, by Age Group and Severity of Disability, Australia 2001

Disabling Conditions	Profound/Severe Disability			Moderate/Mild Disability		
	65-74 Years	75-84 Years	85+ Years	65-74 Years	75-84 Years	85+ Years
Musculoskeletal	4.05%	8.22%	19.93%	12.05%	11.99%	8.87%
Nervous System	1.23%	4.64%	15.87%	0.47%	0.31%	0.04%
Respiratory	0.95%	1.31%	2.39%	2.43%	2.69%	0.56%
Circulatory	0.88%	2.62%	6.69%	3.66%	3.65%	2.07%
Stroke	0.87%	2.03%	5.44%	0.09%	0.64%	0.46%
Vision	0.51%	1.44%	3.50%	0.53%	1.95%	0.80%
Psychiatric	0.49%	0.91%	1.58%	0.48%	0.38%	0.03%
Cancer	0.26%	0.33%	0.80%	0.58%	0.64%	0.41%
Hearing	0.22%	0.20%	1.93%	3.04%	4.39%	3.06%

Source: Giles et al 2003

¹⁴ See Cornwall & Davey (2004) for a detailed discussion of the overseas literature on trends in disability rates and its implications for the New Zealand older population.

Table 21. Estimated Number of West Coast Residents Likely to be Disabled by Specific Conditions by Age Group, 2004 and 2021, Based on Australian Prevalence Rates

Disabling Conditions	2004						2021					
	Profound/Severe Disability			Moderate/Mild Disability			Profound/Severe Disability			Moderate/Mild Disability		
	65-74 Years	75-84 Years	85+ Years	65-74 Years	75-84 Years	85+ Years	65-74 Years	75-84 Years	85+ Years	65-74 Years	75-84 Years	85+ Years
Musculoskeletal	90	150	120	170	120	140	280	450	170	240	30	60
Nervous System	30	50	70	90	70	110	10	20	-	10	-	-
Respiratory	20	40	20	30	20	20	60	90	40	60	-	-
Circulatory	20	30	40	50	40	50	90	140	50	70	10	20
Stroke	20	30	30	40	30	40	-	-	10	10	-	-
Vision	10	20	20	30	20	30	10	20	30	40	-	10
Psychiatric	10	20	10	20	10	10	10	20	10	10	-	-
Cancer	10	10	10	10	10	10	10	20	10	10	-	-
Hearing	10	10	-	-	-	10	70	110	60	90	10	20

Source based on Australian rates in Table 20 and rounded to nearest 10.

USE OF SERVICES

Impact of an Ageing Population on the Need for Services

It is difficult to get nationally consistent data at DHB-level on expenditure by age of client/patient for most services, so much of the following analysis is based on national data, except where noted.

Total expenditure per head on health and disability support services rises with age. Expenditure levels are similar for men and women, but men use more personal health services and use them at younger ages, while women use more disability support services and at older ages (Ministry of Health 2002).

There is growing evidence that acute medical/surgical costs do not rise with age so much as with proximity to death. Around a quarter to a third of health expenditure costs are incurred by people in their last year of life. The rise in life expectancy in the 'young-old' 65-74 year age group has pushed this last year of life out to older ages (Ministry of Health 2002, Cornwall & Davey 2004).

Acute medical/surgical care costs per person tend to peak around 75-79 years and then taper off. Expenditure on long-term support and residential care however tends to increase steadily with older age. This suggests that, as the population ages, relatively greater expenditure increases will be needed in long-term disability support than in acute health care (Ministry of Health 2002).

A Ministry of Health study of the likely impact of the ageing population on health costs found that:

- Population ageing will put inevitable pressure on health spending, making it likely to increase as a percentage of GDP for this reason alone.
- Older people's share of health expenditure is likely to increase from 40% to 63% because of the increase in the older population. However the cost per older person is likely to drop by around 25% relative to younger people, because until 2025 the main increase will be of the relatively healthy 65-74 year age group.
- A more significant pressure on health costs comes from the growth in health spending and service coverage that is independent of population aging - i.e. new technology and wage costs, and increases in volumes and scope of service coverage. These contribute more to health costs than population ageing per se.

The study recommends that policies to maximise the benefits to society of the ageing population should focus on interventions to reduce disability rates. Improvements in health status and life expectancy will have complex effects on health spending, as they may increase the number of people living in a state of mild/moderate disability.¹⁵ Both reducing disability and extending life are desirable, yet it may be a wiser use of resources to concentrate on the former relative to the latter:

"... plausible reduction (e.g. 0.5% per year...) in disability prevalence could offset a substantial proportion of the anticipated increase in total spending pressure..."
(Public Health Intelligence 2004d, page 34)

The pressure that an ageing population will put on health and disability support services in coming decades makes it imperative that DHBs find the most cost-effective

¹⁵ An example is the reduction in deaths from heart attack but increase in cases of chronic heart failure.

ways of organising and delivering these services within their resources, so that older people's needs are met as effectively, fairly and efficiently as possible.

This is a particularly urgent imperative for West Coast DHB, given the reduction in relative funding for West Coast in coming years as national funding is allocated according to population share.

There is a considerable literature on ways of managing the demand for both specialist hospital care and long-term residential care, and on the most cost-effective mix of primary, home-based, hospital and residential services. This literature is too extensive to summarise here.¹⁶ It includes the Canadian multi-site National Study of the Cost-Effectiveness of Homecare, (Hollander and Chappell 2002) the Manitoba Centre for Health Policy's analyses of routine health datasets, the Personal Social Service Research Unit's UK work on the most cost-effective mix of long-term community care for older people, and UK NHS work on making more cost-effective use of acute hospital services by developing 'intermediate care', home-based services and stronger rehabilitation services for older people (See also section on Home-Based and Residential Support Services).¹⁷

Primary Health Care

Data on the use of primary health care services in West Coast (such as GP visits, pharmaceuticals and laboratory tests) are not routinely or consistently available by age breakdown. The following is mostly based on national New Zealand Health Survey data (Ministry of Health 2002).

The use of and expenditure on general practice services rises with age. In 2000/01 both men and women aged 85+ years visited a GP around nine times a year, compared to 6-7 visits for people aged 65-74 years.

Most (71%) people aged 65+ years held Community Services Cards, entitling them to a subsidy on GP visits. Another 5% had High Use Health Cards, since they visit a GP more than 12 times a year.

The pattern for pharmaceutical and laboratory test usage is similar to that for GP visits.

It has been estimated that primary health care costs for older people will rise by 31% over the period 2001 to 2021 due to population ageing, an average of 1.6% a year, higher costs being incurred by women than men (Cornwall & Davey 2004).

¹⁶ See CDHB paper: Planning health and disability support services for older people over the next 20 years - a brief literature review

¹⁷ See www.umanitoba.ca/centres/mchp for Manitoba Centre for Health Policy publications, www.pssru.ac.uk for Personal Social Services Research Unit reports, and www.modern.nhs.uk for UK's National Health Service reports. Wainwright (2003) summarises much of the literature on the most cost-effective mix of long-term care services.

Hospital Specialist Services¹⁸

Inpatient and Daypatient Services

A third of all New Zealand publicly funded medical and surgical hospital admissions¹⁹ in 2000/01 were for people aged 65 years or more. Men in all older age groups were more often admitted than women.

Admission rates have been rising faster for older New Zealanders than for people under 65 years in recent decades. Admission rates for older people rose by around 3.1% per year between 1988 and 1997, and at 4.2% per year between 1997 and 2001.

There is some evidence that the national rate of re-admissions for older people also rose in the 12-year period 1988-2001, since the ratio of hospital admissions to number of patients rose by 1% per year. Admission rates for older Maori and Pacific people rose even faster, by 6.1% and 9.6% per year respectively.

The per capita cost of hospital admissions increased nationally in that period. There has been a shift away from less complex or costly forms of surgery towards more costly and complex forms of treatment, and an increase in cardiac and orthopaedic surgery.

Figure 4 shows how West Coast DHB compared to other DHBs and the national average in its hospital admission rates for older people in the three-year 1998/99 to 2000/01 period, after differences in case complexity, age, ethnic and socioeconomic structure of the DHBs' population were taken into account. West Coast had a markedly higher than average number of hospital discharges for older people compared to the national average (the 1.00 line).

Older people are spending less time in hospital after treatment than in the past, though this trend, which started around 1988, was starting to tail off by 2001. Some of this reflects the rapid increase in day surgery through the 1990s.

A Manitoba study of hospital use by older people found that a minority of 5% of older patients used 78% of the total days stay (Menec et al 2002).

It has been estimated that hospital costs will rise by around 42% between 2001 and 2021, due to population ageing, an average rise of 2.1% per year, with higher costs being incurred by men than women (Cornwall & Davey 2004).

There has been little reported analysis as to the impact that the drop in length of hospital stay may have had on re-admission rates or on the need for post-discharge community services, such as district nursing, allied health and home support (Wainwright 2002).

Outpatient and Emergency Department Services

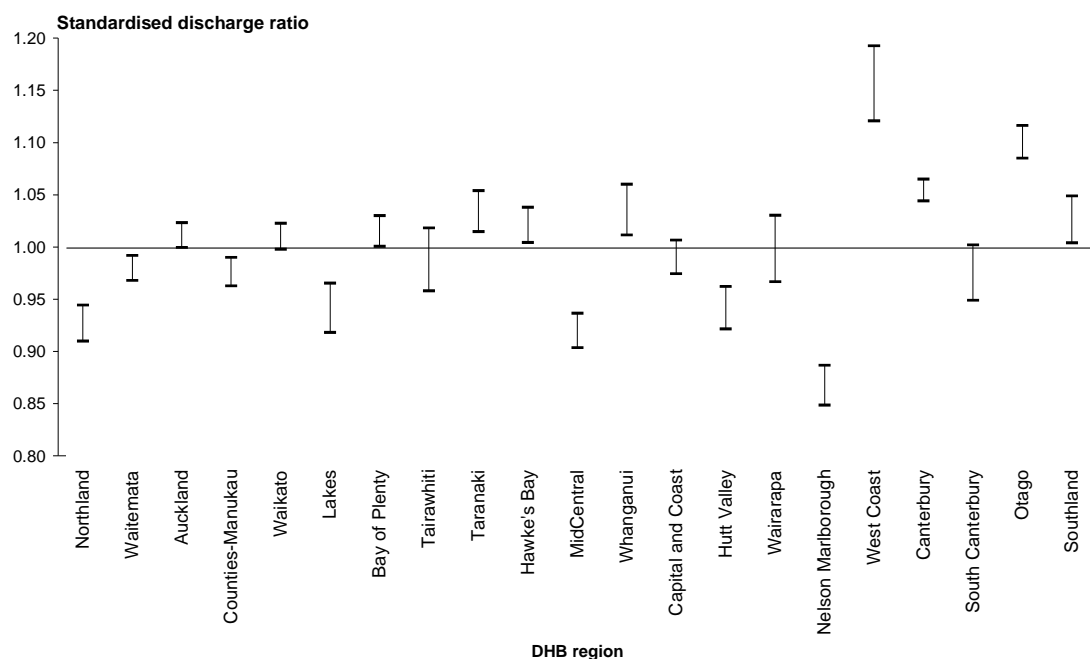
Older people use outpatient services considerably more than young people, nationally accounting for 25% of medical/surgical outpatient attendances and expenditure. However older people use Emergency Departments less frequently than younger people (Ministry of Health 2002).

¹⁸ ¹⁸ Nationally consistent data on inpatient and daypatient usage are available by age group at DHB level, but lack of time prevented detailed analyses for this review, so the data presented is almost all at a national level. Data for this section are taken from the Ministry of Health's statistical report on older people's health: Ministry of Health (2002).

¹⁹ Including day-patients but excluding outpatients and maternity admissions

The lack of a client-level national data collection for hospital outpatient services precludes any DHB or even regional comparisons.

Figure 4. Standardised Case-Weighted Discharge Ratios For People Aged 65 and Over, by DHB, 1998/99 to 2000/01 Combined (99% Confidence Intervals)



Source: Ministry of Health 2002

Specialist Assessment, Treatment and Rehabilitation (AT&R) Services for Older People

Specialist services for older people provide comprehensive multi-disciplinary assessment, treatment and rehabilitation for the minority (around 7%) of older people who have a complex mixture of health problems. Specialist services play a crucial role in advising and supporting the primary, community health and disability support sector in the best practice management of health conditions in older people (Ministry of Health 2004).

The earlier discussion of specific illnesses has highlighted the importance and cost-effectiveness of early and comprehensive diagnosis and intervention, even for people in the oldest age groups and those in residential care, to prevent conditions worsening and to reduce the need for more complex and costly services.

Specialist AT&R services for older people have developed differently around New Zealand over the past 15 years, making it difficult to compare DHB or regional expenditure and utilisation rates. The difference in size of DHBs and AT&R services also makes comparison difficult

Some AT&R services are sited in the community, while others (including West Coast) have a hospital base. Some North Island AT&R units provide services for younger people with disabilities as well as for people over 65 years, while those in the South Island (including West Coast) provide services solely for older people (Ministry of Health 2004c).

A major problem in comparing expenditure on specialist AT&R services per head of older population to a national average has been that DHBs in the former Southern and

Central Regions include mental health services for older people within their specialist AT&R service, while DHBs in Northern and Midland Regions include these services within the mental health service budget.

West Coast DHB spent over \$1.7 million on AT&R services in 2003/04, or \$399 per head of older population. This includes AT&R services for mental health conditions, and was a little higher per head than the South Island average. However expenditure comparisons among DHBs need to be treated with caution as services are not comparable, especially between large and small DHBs (Table 22 and Table 23).

Specialist Mental Health Services

A recent New Zealand literature review of the effectiveness of specialist mental health services for older people found that the most positive outcomes were noted in community settings, particularly for multidisciplinary team assessment and treatment of depression, and comprehensive case management of dementia. In terms of inpatient settings, multidisciplinary team approaches in specialist units had the best patient outcomes, and behavioural modification programmes done by multidisciplinary teams within specialist units were also effective. For patients and their caregivers, holistic services tailored to the individual and which included training and education as well as assessment and treatment were most effective (Ahuriri-Driscoll et al 2004),

As described above, the different organisation of specialist mental health services for older people around New Zealand makes it difficult to compare expenditure on or utilisation of these services among DHBs, or even to estimate total expenditure for the whole country (Ministry of Health 2004b, 2004c).

Comparable DHB and national data exist for expenditure on specialist residential facilities for dementia at both rest home and long-stay hospital level. However comparisons among DHBs need to be treated with caution because of the differences in their size and population.

It must be noted that a sizeable number of people with less severe dementia live in 'ordinary' rest homes and long-stay hospitals, as well as at home (see earlier section on Dementia).

On the West Coast around 25 people lived in specialist dementia units in 2004/05 (6 at rest home level and 19 at hospital level). These residents comprised 0.5% of the total population aged 65+ years, less than the South Island average of 1.2% (Table 6). It is difficult to compare South Island DHB areas as people with profound disability may shift from smaller DHBs to the specialist facilities that are only sustainable in larger cities: this needs further investigation.

West Coast DHB spent over \$840,000 on specialist dementia services in 2003/04 or \$200 per head of older people, more than the South Island average of \$189 per head or the NZ average of \$116 per head (Table 22 and Table 23).

Community Nursing, Rehabilitation, Intermediate Care and Short-Term Home Support

The combination of rising admissions and re-admissions and a declining length of hospital stay have meant a growth in district nursing, community-based physiotherapy and other allied health services and short-term home support, to enable people to leave hospital earlier and recover at home. Older people make up over 75% of district nursing and short-term home support patients.²⁰

Specialisations have developed in continence treatment, stomal care, home oxygen services, chronic/complex wound care, IV therapy, enteral and parenteral feeding and palliative care, as well as in rehabilitation and equipment.

Many DHBs have also developed various forms of 'intermediate care' - that is, short-term non-acute (step-up/step-down, convalescence) inpatient services in general hospitals, rural hospitals or private residential care facilities. 'Intermediate care' is also seen as a service that preferably is delivered in a person's home, rather than an institution, and in this respect the concept overlaps somewhat with home-based 'slow-stream' rehabilitation, 'rapid response' services to avoid the need for hospital admission and other forms of intensive nursing, medical or rehabilitation care delivered at home.

Innovative home and community-based services are being rapidly developed around New Zealand in an ad hoc manner, and it is difficult to get accurate or comparable data on expenditure or usage.

The lack of a national client-level data collection for outpatient, community and home-based services and non-acute inpatient services makes it very difficult for DHBs to assess their relative expenditure on or usage of these services. It also makes it difficult to assess the impact of any planned changes that DHBs might make to the ratio of inpatient, outpatient and community-based services.

A 2001 national joint DHB/Ministry of Health costing study estimated that the actual cost to DHBs of delivering short-term community services was around 20% more than was formally allocated to those services. (Ding 2001, Wainwright 2002)

²⁰ Based on analysis of Christchurch data.

Table 22. Estimated Expenditure on Services for Older People, by South Island DHB 2003/04* (Dollars)

Note these figures are approximations only, as the table is based on several different sources
 Note also that expenditure for many services had risen by 2004/05 - see Table A1 & A2 in Appendix A

Service	West Coast	Nelson Marl	Canterbury	Otago	Sth Canty	Southland
AT&R	1,702,570	5,159,440	25,976,220	10,657,470	3,235,160	4,269,380
NASC	110,470	594,000	2,367,480	822,360	296,880	363,340
Home Help	1,124,764	2,461,046	9,145,356	4,363,083	1,405,648	2,032,685
Personal Care	473,903	1,818,472	4,784,190	2,454,354	1,254,926	1,192,599
Carer Support	179,742	114,420	2,072,310	1,178,703	394,485	677,563
Respite Care	59,998	289,346	1,081,501	426,122	141,660	264,910
Equipment	104,710	333,480	628,710	473,650	61,490	223,440
Day Programmes	8,909	260,566	311,523	52,060	53,200	60,835
Rest Home	2,161,080	6,214,210	29,038,630	13,063,640	3,568,600	5,695,980
Long-Stay Hospital	2,948,280	9,352,230	33,031,400	12,181,710	3,813,210	6,318,820
Dementia - Rest Home	96,260	1,304,820	7,436,240	2,463,200	785,250	1,291,250
Dementia Unit - Hospital	747,630	1,832,910	4,893,960	2,568,140	704,650	891,420
Other**	298,180	18,520	1,086,350	282,080	143,870	100,940
TOTAL	10,016,496	29,753,460	121,853,870	50,986,572	15,859,029	23,383,162

Source: HealthPAC CCPS (see Appendix) and DHB Price Volume Schedule 2003/0

* Figures for Home Support, Carer Support, Respite Care, Residential Care and Dementia Units (which have uncapped/ (open-ended budgets) have been based on actual expenditure for the year ending 30 June 2004 (annualised on the 9 months from 1 October 2003 when the services were devolved to DHBs to 30 June 2004). Figures for the remaining services (which mostly have set yearly budgets) have been based on the Price Volume Schedule for DHBs for 2003/04. Figures for Equipment are underestimated as this funding is held by MoH and not all allocated to DHBs. Numbers have been rounded to the nearest 10.

** Includes Disability Information & Advisory Services and other unspecified community services.

Table 23. Estimated Expenditure on Services for Older People per Head of 65+ Population by South Island DHB, 2003/04 (Dollars)

Note these figures are approximations only, as the table is based on several different sources

Service	West Coast	Nelson Marl	Canty	Otago	Sth Canty	Southland	South Is	NZ
AT&R	399	272	428	416	345	309	384	
NASC	26	31	39	32	32	26	34	
Home Help	267	130	151	171	150	148	155	Not avail.
Personal Care	112	96	79	96	134	87	90	Not avail.
Carer Support	43	6	34	46	42	49	35	Not avail.
Respite Care	14	15	18	17	15	19	17	Not avail.
Equipment	25	18	10	18	7	16	14	Not avail.
Day Progs	2	14	5	2	6	4	6	Not avail.
Rest Home	513	329	479	511	380	413	451	381
Longstay Hosp	700	495	544	476	406	458	510	500
Dem. Rest Hm	23	69	123	96	84	94	101	68
Dem. Hospital	177	97	81	100	75	65	88	48
Other	70	1	18	11	15	7	15	Not avail.
TOTAL	2,371	1,574	2,008	1,992	1,689	1,695	1,900	

Source: Based on Table 22. See Appendix A

Home-Based and Residential Support Services

Although a national client-level data collection exists for long-term support services, it has been managed primarily as a payment system and so far is not able to provide much data that is nationally consistent or historically reliable, particularly for non-residential services. This limits the information available to DHBs on their expenditure on and usage of these long-term services.

Tables 22 and 23 indicate the overall expenditure on all services for older people for 2003/04. Appendix A gives more detailed and recent figures on expenditure and client numbers for 2003/04 and 2004/05. **NOTE:** Ongoing limitations of the datasets mean that all of these tables need to be interpreted cautiously.

Although several recent reports have considered the impact of an ageing population on the need for services (e.g. Cornwall & Davey 2004, Public Health Intelligence 2004d), lack of reliable national or local data has limited any detailed analysis of the use of long-term support services by older people in New Zealand.

Considerable work has been done in other countries on the likely need for and most cost-effective mix of long-term support services for older people.²¹ Policy research from Canada (Hollander & Chappell 2002), the UK (Davies 1997) and Australia (Turvey & Fine 1996, Howe & Gray 1998) suggests that:

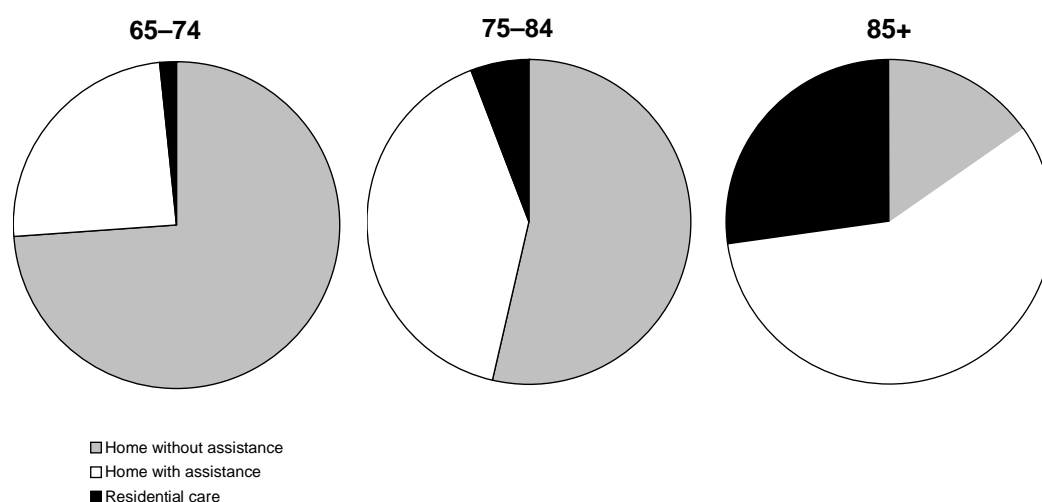
- It is difficult for a funder to know if they have the right ‘mix’ of home-care and residential care services, or to change the relative allocation of funding, unless the needs of people using these services have been assessed using a standard needs assessment process (such as InterRAI).
- Transitions (e.g. from home to general hospital, from hospital to rest home and vice versa) are what cost: it pays to help people maintain their health and independence as much as possible, through good primary care, home support, active rehabilitation etc.
- The main cost to the health and welfare system of an older person living at home comes not from their home-care services but their greater likelihood of acute hospital admission - primary and community-based services aimed at reducing admissions and re-admissions are worth developing.
- It is cost-effective, in terms of reducing admissions to hospital and residential care, to provide the low level home support services that many older people need to enable them to maintain their independence.
- For a small group of people, intensive home care is less costly and more acceptable than residential care.
- It is worth developing clinical pathways/optimum packages of care for specific conditions (e.g. stroke and dementia). As well as being good clinical practice, this helps the funder build up a more accurate picture from the bottom-up of the resources being used by and needed for different subgroups of the older population.
- It is cost-effective to concentrate case management on the minority of older people with high and/or complex needs, and to develop standard packages of home-care with minimal assessment and universal entitlement for the majority who have low needs.

²¹ Wainwright (2003) provides a summary of overseas literature on the cost-effectiveness of homecare in relation to acute hospital care and long-term residential care.

- The burden on carers has increased over recent decades: adequate resources need to go into carer support if older people are to stay healthy and independent.
- It is important to have a strong rehabilitation focus in long-term home-based and residential services and to ensure adequate rehabilitation resources in these services.

Disability increases with age and people often need increasing support to remain at home as they grow older. The New Zealand Disability Survey 2001 found that nationally 74% of people aged 65-74 years lived at home without assistance. This dropped to 54% among 75-84 year olds and to only 15% of those aged 85 or more. However most (57%) of those aged 85+ years lived at home with assistance - only 27% had gone into residential care. (Figure 3).

Figure 5. Where Older New Zealanders Live, by Age and Level of Disability, 2001



Source: Ministry of Health 2002

'Home with assistance' includes people needing assistance or specialist equipment either daily or less frequently

Needs Assessment and Service Coordination (NASC) Services

NASC services have been the entry point for older people accessing long-term support services. These services have developed differently around New Zealand over the past 15 years. In Southern Region areas (including West Coast) NASC services for older and younger people are provided separately, while in other parts of New Zealand they have been combined. Southern Region NASC services (including West Coast) tend to be based in the general hospital near the Older Persons specialist AT&R services, while in many North Island areas they are sited in the community.

DHBs are currently exploring methods of streamlining the way that older people get their needs assessed and have their services coordinated, to ensure better communication and linkage among the variety of health and disability support workers that an older person sees. Evidence suggests that needs assessment and service coordination services need to be primary/community based, and include both health and disability support workers. A 'one-stop-shop', bringing together district nursing, community physio and other rehabilitation and allied health services as well as long-term home support and carer support, would help older people and their GPs to ensure they get the services they need. (Wainwright 2003, Davies 1997).

In 2003/04 West Coast spent over \$110,000 on NASC services or \$26 per head of 65+ population, under the South Island average of \$34 per older person (Table 22 and Table 23). However this budget difference may just reflect the use of provide-arm-funded needs assessors on the West Coast.

Home Support (Home Help and Personal Care)

Long-term home support is organised and funded somewhat differently around New Zealand. Although the data is limited, there is some evidence that expenditure on long-term home support rose during the late 1990s in the Southern and Central Regions at around 3% a year. This was accompanied by a drop in the number of clients and a higher spend per client, suggesting that services were increasingly directed towards people with higher needs. However these regional figures may mask differences among DHBs (Chan et al 2001, Wainwright 2003).

In 2004/05 West Coast had a much higher rate of spending per head of older population on home help (\$264) and personal care (\$108) than the South Island average (\$162 and \$100 respectively - see Table A1, Appendix A). West Coast also provided home help (but not personal care) to a higher percentage of its older population than the South Island average - 16% compared to 13% (Table A3). (Comparisons with national averages for expenditure or clients are not available).

In 2004/05 West Coast DHB spent around \$1.6 million on long-term home support comprising \$1.14 million on home help and just under \$0.5 million on personal care. Expenditure per head of older people on home support services rose slightly by 0.2% between 2003/04 and 2004/05 (see Table A1, Appendix A).

This rise in expenditure per head was accompanied by a drop in the actual number and percentage of older people receiving home help (9% drop) and personal care (17% drop - see Table A3, Appendix). In 2004/05 around 700 (16%) older people received home help and 200 (5%) received personal care (Table 24).

Table 24. Number and Percentage of Older People Receiving Long-Term Home Help, Personal Care, Carer Support, Respite Care & Day Care, by South Island DHB, 2004/05

NB these client numbers are for 2004/05, while expenditure data in Tables 22 & 23 are for the previous year, 2003/04. Numbers are higher than in Table A3 in App. A because a full year is shown.

District Health Board	Home Help		Personal Care		Carer Support - Respite - Day Care	
	Number	%	Number	%	Number	%
West Coast	708	16.5	207	4.8	105 - 34 - 21	2.4 - 0.8 -0.5
Nelson Marlborough	2,549	13.3	11,052	5.4	171 - 203 - 312	0.9 - 1.0 -1.6
Canterbury	8,148	13.2	2,828	4.6	1,748 - 833 - 384	2.8 - 1.3 - 0.6
Otago	3,935	15.2	1,490	5.8	829 - 299 - 91	3.2 - 1.2 -0.4
South Canterbury	1,238	13.0	611	6.4	281 - 144 -124	2.9 - 1.5 -1.3
Southland	1,851	13.1	748	5.3	487 - 212 - 75	3.5 - 1.5 -0.5
Southern Region	18,459	13.7	6,933	5.1	3621 - 1,725 - 1,007	2.7 - 1.3 -0.7

Source: HealthPAC CCPS

People receiving more than one service are counted under each service, so there is some overlap.

Carer Support, Respite Care and Day Care

These services, which enable older people to remain living independently home by giving them and/or their carers a regular break, are funded and organised even more differently around the country than home support, and data problems mean that comparisons even among South Island DHBs should be treated with caution.

There is evidence that expenditure on these services and numbers of clients per head of older population remained fairly stable during the late 1990s in the Southern Region (Chan et al 2001).

In 2004/05 West Coast DHB spent around \$310,000 on carer support, respite care and day care combined (Table A1, Appendix A). Per capita expenditure on daycare rose by 53% between 2003/04 and 2004/05, while spending per head on carer support dropped by 3% and respite care by 15% (see Table A1, Appendix).

This change in expenditure per head was accompanied by a marked drop in the number and percentage of older people receiving these services - a 33% drop in day-care clients, 23% for respite care and 15% for carer support (Table A3, Appendix). In 2004/05 105 (2.4%) older people used carer support, 34 (0.8%) used respite care and 21 (0.5%) used day care (Table 24).

Equipment and Housing Modifications

This includes wheelchairs and seating appliances, walking equipment, hearing and vision equipment, housing and vehicle modifications and grants for vehicle purchase. A 2001 regional analysis of the data suggested little change occurred during the 1990s in per capita expenditure for older people for the Southern Region (Chan et al 2001).

The funding for older persons services that was devolved by the Ministry of Health to DHBs in October 2003 shows an equipment budget of \$104,710 allocated to West Coast DHB. At \$25 per head of older population this was above the South Island average (Table 22 and Table 23).

However, this budget is managed nationally by the Ministry of Health through contracts with regional providers and it is not clear whether this allocation represents the full amount of expenditure on equipment for older residents of the DHB. Client-level data are not easily available.

Residential Care

Data for the Southern Region suggest that both expenditure and occupied bed-days for long-term residential care rose slowly by around 4% per year during the late 1990s (about the same as the growth in the 85+ population). This rate was slowing down by 2000 (Chan et al 2001).

Although the data need to be treated cautiously, it appears that West Coast DHB's overall spending per head of older population on long-term residential care in 2004/05 was around 31% higher than the national average. In 2004/05 West Coast DHB spent around 30% more per head on both rest home and long-stay hospital care than the national average.

In terms of dementia care, West Coast data shows 77% lower expenditure on rest home level care per head than the national average but 68% higher spending on hospital level dementia care. This may be due to definitional differences and needs further exploration. (Table A2 in Appendix A).

In 2004-5 West Coast DHB spent over \$6.4 million on all forms of subsidised residential care. This was a rise of about \$1 million from 2003/04, and represented 17% more spent per head of older population than in the previous year. This increase was the highest of the South island DHBs and considerably higher than the NZ average change in spending (Table A2 in Appendix A).

In 2003/04 West Coast DHB spent about 20% more per head than the South Island average on all forms of long-term residential care; by 2004-05 this difference had increased to 27% more.

Some of this increase is reflected in a 200% increase in per capita expenditure on rest home level dementia care, although ordinary rest home and longstay hospital spending also increased per head between the years (Table A2, Appendix A)

The number of people entering permanent residential care in fact dropped between 2003/04 and 2004/05, both in actual numbers (from 307 to 291) and as a percentage of the older population (from 7.3% to 6.8%). This drop was reflected in most forms of care (Table A4, Appendix A).

National data on client numbers are not currently accessible, so comparisons can only be made with the South Island average. In both years a slightly higher percentage of the West Coast older population used all forms of residential care more than the South Island average.

During 2004/05 West Coast rest homes had around 167 residents receiving some level of public subsidy and an unknown number of private paying residents. 121 people lived in long-stay hospitals and 25 people lived in specialist dementia facilities. (Table 6 - see also the earlier section on Living Arrangements - Residential Care).

The likely demand for residential care over the next few years will be affected by the progressive changes to income and asset testing for these services.

GLOSSARY

Acute services - the (usually short-term) medical and surgical specialist services provided at a general hospital. 'Acute' admissions refer to urgent admissions, in contrast to 'elective' admissions where the person is booked to come into hospital for treatment. 'Acute hospital beds' refer to beds in a general hospital's medical/surgical wards, which are fully staffed by medical and nursing specialists, in contrast to 'non-acute' beds in residential facilities or country hospitals etc, which have lower staffing and fewer facilities.

Age-standardised rate - the number of people in a population that have a specific condition, when age is taken into account. If the rate of dementia, for instance, is age-standardised the reader knows that XDHB having more people with the condition than YDHB is not because XDHB has more older people.

Annualised - data for disability support services for 2003/04 was annualised because only 9 month's worth of data was available. The available data was divided by 3 and multiplied by 4.

Chronic illness - conditions (e.g. arthritis, emphysema, diabetes) that tend to worsen over a long period of time rather than get better quickly (e.g. flu) or worsen quickly (e.g. some cancers)

Disability support services - the New Zealand Disability Surveys define 'disability' as any self-perceived limitation in activity resulting from a long-term condition or health problem, lasting or expected to last six months or more and not completely eliminated by an assistive device (e.g. hearing aid). Disability support services are services for people assessed as having a disability to help them in tasks of daily living.

Elective services - see Acute services

Functional impairment/disability - the ability to carry out the usual tasks of daily living (e.g. cooking, showering, dressing, walking, shopping etc)

Incidence - see Prevalence

New Zealand Guidelines Group - a national statutory body that draws together experts in specific health fields to create guidelines for good practice. See website www.nzgg.org.nz

NZHTA - New Zealand Health Technology Assessment, an organisation that undertakes reviews of the research literature on specific health topics and manages a national clearing house of health-related research information (www.nzhta.chmeds.ac.nz).

Palliative care - treatment (e.g. pain relief) and care given in situations where nothing further can be done to change the course of a terminal illness.

Projected population - estimate made by Statistics NZ of the likely number of people in future years, based on specific assumptions about births, deaths and migration.

Prevalence - the number of people in a population who have a specific condition (e.g. diabetes) at any one time. It is in contrast to 'incidence,' which refers to the number of new cases occurring during a specific time period.

Primary (health) care - the services available at the local health centre or general practice, (such as GP and practice nurse), as well as other health services that people can 'walk into' without a referral, such as pharmacist, optometrist, dentist, nurse practitioner, asthma educator, dentist etc

Rate - the proportion of a population. So the actual *number* of deaths in the 65-74 year age group has risen (because that age group has increased in number), but the *rate* of deaths per 1,000 older people has in fact dropped (because more older people are healthier). A percentage is a rate per 100 people.

Screening - 'screening programmes' offer checks to the 'normal' population to see if anyone has a specific disease (e.g. breast cancer). 'Screening' an individual person refers to checking them to see if a problem (e.g. dementia) exists.

Southern region - the area formerly covered by the Southern Regional Health Authority, i.e. all the South Island except Nelson Marlborough District. Some disability data are available only for this area.

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APPENDIX A. LONG-TERM SUPPORT SERVICES - EXPENDITURE AND CLIENTS

See notes at end of this Appendix for details of the data on which these tables are based.

Table A1 Expenditure on long-term home-based services, South Island DHBs, 2003/04 and 2004/05, showing percentage change in \$ per head of older population

DHB	Service	Expenditure 2003-2004 \$ (annualised)	Expenditure 2004/05 \$	\$ per cap 65+ 2003/04	\$ per cap 65+ 2004/05	% change per cap 2003/04 to 2004/05
West Coast	Home Help	1,124,764	1,136,826	267	264	-0.9
Nelson Marl	Home Help	2,461,046	2,782,912	130	143	10.1
Canterbury	Home Help	8,974,068	9,669,919	148	156	5.7
Otago	Home Help	4,344,841	4,684,596	170	181	6.4
South Canty	Home Help	1,405,648	1,519,356	150	159	6.4
Southland	Home Help	1,973,821	2,049,236	143	146	1.6
South Island	Home Help	20,284,188	21,842,845	153	162	5.7
West Coast	Personal Care	473,903	465,665	112	108	-3.7
Nelson Marl	Personal Care	1,818,472	2,230,219	96	115	19.4
Canterbury	Personal Care	4,673,618	5,050,967	77	82	6.0
Otago	Personal Care	2,442,897	2,821,884	96	109	14.0
South Canty	Personal Care	1,254,926	1,634,752	134	171	28.3
Southland	Personal Care	1,154,034	1,309,992	84	93	11.1
South Island	Personal Care	11,817,850	13,513,478	89	100	12.2
West Coast	Carer Support	253,916	250,502	60	58	-3.3
Nelson Marl	Carer Support	122,685	139,577	6	7	10.8
Canterbury	Carer Support	3,170,488	4,072,284	52	66	26.0
Otago	Carer Support	1,887,622	2,118,159	74	82	10.8
South Canty	Carer Support	584,433	649,015	62	68	9.4
Southland	Carer Support	956,868	1,188,600	69	84	21.6
South Island	Carer Support	6,976,012	8,418,138	53	62	18.4
West Coast	Respite Care	55,220	47,601	13	11	-15.5
Nelson Marl	Respite Care	289,346	273,912	15	14	-7.8
Canterbury	Respite Care	1,059,878	1,401,656	17	23	29.8
Otago	Respite Care	415,683	527,146	16	20	25.2
South Canty	Respite Care	139,022	263,136	15	28	86.4
Southland	Respite Care	260,621	367,571	19	26	38.1
South Island	Respite Care	2,219,770	2,881,022	17	21	27.4
West Coast	Day Care	8,051	12,554	2	3	52.9
Nelson Marl	Day Care	260,566	281,550	14	15	5.2
Canterbury	Day Care	279,646	428,310	5	7	50.3
Otago	Day Care	47,319	76,097	2	3	58.7
South Canty	Day Care	48,533	111,109	5	12	125.5
Southland	Day Care	55,459	59,248	4	4	4.6
South Island	Day Care	699,573	968,867	5	7	35.9

(Table A1 continued)

DHB	Service	Expenditure 2003-2004 \$ (annualised)	Expenditure 2004/05 \$	\$ per cap 65+ 2003/04	\$ per cap 65+ 2004/05	% change per cap 2003/04 to 2004/05
West Coast	All Home-Based	1,915,854	1,913,149	455	445	-2.1
Nelson Marl	All Home-Based	4,952,115	5,708,169	262	294	12.2
Canterbury	All Home-Based	18,157,698	20,623,136	299	334	11.4
Otago	All Home-Based	9,138,361	10,227,882	357	395	10.5
South Canty	All Home-Based	3,432,563	4,177,367	365	438	19.8
Southland	All Home-Based	4,400,802	4,974,647	319	353	10.6
South Island	All Home-Based	41,997,393	47,624,350	317	353	11.3

Table A2 Expenditure on long-term residential services, South Island DHBs, 2003/04 and 2004/05, showing percentage change in \$ per head of older population, and difference from the NZ average in \$ per head of older population

DHB	Service	Expenditure 2003-2004 \$ (annualised)	Expenditure 2004/05 \$	\$ per cap 65+ 2003/04	\$ per cap 65+ 2004/05	% change per cap 03-04 to 04-05	% difference from NZ per cap 2004/05
West Coast	Rest Home	2,053,032	2,415,678	487	562	15.3	31.6
Nelson Marl	Rest Home	5,888,014	6,345,744	312	327	4.9	-17.4
Canterbury	Rest Home	27,713,595	28,785,018	457	466	1.9	17.5
Otago	Rest Home	12,470,735	13,016,608	488	502	3.0	23.6
South Canty	Rest Home	3,406,036	3,293,513	363	345	-4.8	-11.2
Southland	Rest Home	5,427,523	5,921,517	394	420	6.8	8.7
South Island	Rest Home	56,958,934	59,778,079	430	443	3.0	13.2
New Zealand	Rest Home			381	384	0.8	
West Coast	Longstay Hosp	2,590,784	3,139,708	615	730	18.8	29.5
Nelson Marl	Longstay Hosp	8,346,990	9,981,669	442	514	16.4	-0.1
Canterbury	Longstay Hosp	29,434,696	34,720,868	485	562	15.7	8.3
Otago	Longstay Hosp	10,856,177	12,233,229	425	472	11.2	-9.1
South Canty	Longstay Hosp	3,383,099	4,119,237	360	432	19.9	-19.3
Southland	Longstay Hosp	5,575,007	6,438,805	404	457	13.1	-12.6
South Island	Longstay Hosp	60,186,754	70,633,517	454	523	15.2	1.5
New Zealand	Longstay Hosp			500	515	3.0	
West Coast	Dement. Rest Hm	57,018	179,180	14	42	200.0	-77.6
Nelson Marl	Dement. Rest Hm	1,229,256	1,523,670	65	79	20.7	5.8
Canterbury	Dement. Rest Hm	7,074,688	7,660,143	117	124	6.2	40.3
Otago	Dement. Rest Hm	2,339,455	2,815,622	91	109	18.8	31.9
South Canty	Dement. Rest Hm	750,345	827,519	80	87	8.6	14.7
Southland	Dement. Rest Hm	1,242,944	1,271,709	90	90	0.1	18.1
South Island	Dement. Rest H	12,693,707	14,277,843	96	106	10.4	30.0
New Zealand	Dement. Rest H			68	74	8.8	

(Table A2 continued)

DHB	Service	Expenditure 2003-2004 \$ (annualised)	Expenditure 2004/05 \$	\$ per cap 65+ 2003/04	\$ per cap 65+ 2004/05	% change per cap 03-04 to 04-05	% difference from NZ per cap 2004/05
West Coast	Dement. Hosp	642,518	648,942	152	151	-1.0	68.2
Nelson Marl	Dement. Hosp	1,627,558	1,758,645	86	91	5.2	47.0
Canterbury	Dement. Hosp	4,411,285	5,511,381	73	89	22.6	46.1
Otago	Dement. Hosp	2,290,769	2,794,793	90	108	20.4	55.5
South Canty	Dement. Hosp	612,422	700,858	65	73	12.7	34.7
Southland	Dement. Hosp	779,681	1,073,479	57	76	34.8	37.0
South Island	Dementia Hosp	10,364,233	12,488,097	78	92	18.2	48.1
New Zealand	Dementia Hosp			48	48	0.0	
West Coast	All Residential	5,343,352	6,383,508	1,268	1,485	17.1	31.2
Nelson Marl	All Residential	17,091,818	19,609,729	905	1,011	11.7	-1.0
Canterbury	All Residential	68,634,264	76,677,410	1,131	1,240	9.6	17.7
Otago	All Residential	27,957,136	30,860,252	1,093	1,191	9.0	14.3
South Canty	All Residential	8,151,903	8,941,127	868	937	8.0	-8.9
Southland	All Residential	13,025,155	14,705,509	945	1,044	10.5	2.2
South Island	All Residential	140,203,629	157,177,537	1,058	1,164	10.0	12.3
New Zealand	All Residential			997	1,021	2.4	

Table A3 People aged 65+ years using long-term home-based support services, South Island DHBs, in the 9 months between 1 October & 30 June 2003/04 and 2004/05 - number of people and percentage of the total older population

DHB	Service	No. of clients Oct 03- Jun04 (9 months)	No. of clients Oct 04- Jun05 (9 months)	Clients as % 65+ pop 2003/04	Clients as % 65+ pop 2004/05	% change in clients as % 65+ pop 0304-0405
West Coast	Home Help	748	692	17.7	16.1	-9.3
Nelson Marl	Home Help	2,333	2,485	12.3	12.8	3.7
Canterbury	Home Help	7,958	7,731	13.1	12.5	-4.7
Otago	Home Help	3,541	3,782	13.8	14.6	5.4
South Canty	Home Help	1,158	1,159	12.3	12.1	-1.4
Southland	Home Help	1,745	1,794	12.7	12.7	0.6
South Island	Home Help	17,483	17,643	13.2	13.1	-1.0
West Coast	Personal Care	232	196	5.5	4.6	-17.2
Nelson Marl	Personal Care	884	933	4.7	4.8	2.8
Canterbury	Personal Care	2,618	2,551	4.3	4.1	-4.4
Otago	Personal Care	1,308	1,345	5.1	5.2	1.5
South Canty	Personal Care	538	550	5.7	5.8	0.7
Southland	Personal Care	677	712	4.9	5.1	2.9
South Island	Personal Care	6,257	6,287	4.7	4.7	-1.4

(Table A3 continued)

DHB	Service	No. of clients Oct 03- Jun04 (9 months)	No. of clients Oct 04- Jun05 (9 months)	Clients as % 65+ pop 2003/04	Clients as % 65+ pop 2004/05	% change in clients as % 65+ pop 0304-0405
West Coast	Carer Support	141	122	3.3	2.8	-15.2
Nelson Marl	Carer Support	114	158	0.6	0.8	35.0
Canterbury	Carer Support	1,991	2,243	3.3	3.6	10.5
Otago	Carer Support	1,092	1,085	4.3	4.2	-1.9
South Canty	Carer Support	350	340	3.7	3.6	-4.3
Southland	Carer Support	544	534	3.9	3.8	-3.9
South Island	Carer Support	4,232	4,482	3.2	3.3	3.9
West Coast	Respite Care	33	26	0.8	0.6	-22.8
Nelson Marl	Respite Care	142	162	0.8	0.8	11.1
Canterbury	Respite Care	612	640	1.0	1.0	2.6
Otago	Respite Care	195	229	0.8	0.9	15.9
South Canty	Respite Care	81	106	0.9	1.1	28.9
Southland	Respite Care	119	188	0.9	1.3	54.6
South Island	Respite Care	1,182	1,351	0.9	1.0	12.2
West Coast	Day Care	22	15	0.5	0.3	-33.2
Nelson Marl	Day Care	219	364	1.2	1.9	61.8
Canterbury	Day Care	460	352	0.8	0.6	-24.9
Otago	Day Care	99	72	0.4	0.3	-28.2
South Canty	Day Care	108	109	1.1	1.1	-0.6
Southland	Day Care	124	66	0.9	0.5	-47.9
South Island	Day Care	1,032	978	0.8	0.7	-7.0
West Coast	All non-residential	748	692	17.7	16.1	-9.3
Nelson Marl	All non-residential	2,333	2,485	12.3	12.8	3.7
Canterbury	All non-residential	7,958	7,731	13.1	12.5	-4.7
Otago	All non-residential	3,541	3,782	13.8	14.6	5.4
South Canty	All non-residential	1,158	1,159	12.3	12.1	-1.4
Southland	All non-residential	1,745	1,794	12.7	12.7	0.6
South Island	All non-residential	17,483	17,643	13.2	13.1	-1.0

Table A4 People aged 65+ years using long-term residential support services, South Island DHBs, during the 9 months 1 October to 30 June 2003/04 and 2004/05 - number of people and percentage of the total older population

DHB	Service	No. of clients Oct 03-Jun04 (9 months)	No. of clients Oct 04-Jun05 (9 months)	Clients as % 65+ pop 2003/04	Clients as % 65+ pop 2004/05	% change in clients as %65+ pop 0304-0405
West Coast	Rest Home	161	156	3.8	3.6	-5.0
Nelson Marl	Rest Home	422	399	2.2	2.1	-7.9
Canterbury	Rest Home	1,847	1,739	3.0	2.8	-7.6
Otago	Rest Home	866	798	3.4	3.1	-9.0
South Canty	Rest Home	243	215	2.6	2.3	-12.9
Southland	Rest Home	382	382	2.8	2.7	-2.1
South Island	Rest Home	3,921	3,689	3.0	2.7	-7.7
West Coast	Longstay Hosp	122	112	2.9	2.6	-10.0
Nelson Marl	Longstay Hosp	449	452	2.4	2.3	-2.0
Canterbury	Longstay Hosp	1,631	1,638	2.7	2.6	-1.5
Otago	Longstay Hosp	601	584	2.4	2.3	-4.1
South Canty	Longstay Hosp	167	186	1.8	1.9	9.7
Southland	Longstay Hosp	298	290	2.2	2.1	-4.7
South Island	Longstay Hosp	3,268	3,262	2.5	2.4	-2.1
West Coast	Dementia Rest Hm	4	6	0.1	0.1	50.0
Nelson Marl	Dementia Rest Hm	130	143	0.7	0.7	7.1
Canterbury	Dementia Rest Hm	591	596	1.0	1.0	-1.1
Otago	Dementia Rest Hm	215	220	0.8	0.8	1.0
South Canty	Dementia Rest Hm	50	53	0.5	0.6	4.4
Southland	Dementia Rest Hm	109	102	0.8	0.7	-8.4
South Island	Dementia Rest Hm	1,099	1,120	0.8	0.8	0.0
West Coast	Dementia Hosp	20	17	0.5	0.4	-16.7
Nelson Marl	Dementia Hosp	49	46	0.3	0.2	-8.6
Canterbury	Dementia Hosp	213	209	0.4	0.3	-3.7
Otago	Dementia Hosp	101	89	0.4	0.3	-13.0
South Canty	Dementia Hosp	27	26	0.3	0.3	-5.2
Southland	Dementia Hosp	40	42	0.3	0.3	2.8
South Island	Dementia Hosp	450	429	0.3	0.3	-6.5
West Coast	All Residential	307	291	7.3	6.8	-7.1
Nelson Marl	All Residential	1,050	1,040	5.6	5.4	-3.6
Canterbury	All Residential	4,282	4,182	7.1	6.8	-4.2
Otago	All Residential	1,783	1,691	7.0	6.5	-6.4
South Canty	All Residential	487	480	5.2	5.0	-2.9
Southland	All Residential	829	816	6.0	5.8	-3.7
South Island	All Residential	8,738	8,500	6.6	6.3	-4.6

Notes on the Tables

Years are financial years ending 30 June. Data were derived from HealthPAC CCPS, November 05.

Annualising – DHBs took over the funding for these services in October 2003 and do not have access to accurate data before that time. Expenditure data for 2003/04 has been annualised from data for October 03-June 04 to give an estimate of the total year's expenditure. Annualising the data for the number of clients is not appropriate as most people use the services all year – so we have compared the 9 months 1 October-30 June for both years to see the change in people using the services.

Comparable national expenditure data is available only for residential services. National client data is not accessible for comparison for any service.

Clients = a count of all individuals using that service in the year, as seen by the number of unique client identifiers (NHIs). The number of people using a service or in residential care on any one day (e.g. 30 June 2004) will be lower.

One person may use several services, so client numbers should not be summed over services.

'Rest home' clients refer only to people receiving some level of public subsidy. To include people who are paying wholly privately would raise the number of rest home clients by 40-50%, depending on DHB.

'Home-Based' services refer only to the services described in the tables - i.e. do not include meals on wheels, district nursing etc