Avoiding admissions:

The most cost effective delivery of acute care to residents of aged-care facilities in the Hutt Valley.

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Abstract

The highest annual costs of health care occur in the last one to two years of life. The most expensive part of health care provision during this period is aged-residential care. As residents of aged-care facilities are frail and suffer from chronic illness, periodic medical care is required. For residents of aged-care facilities in the Hutt Valley, this medical intervention is either provided on-site with the assistance of the contract general practitioner or the resident is acutely admitted to the Hutt Hospital. Such admissions incur a significant cost to the District Health Board, which continues to pay for the aged-residential care bed for up to 21 days in any one calendar year even if a bed is vacated for an acute hospitalisation. This study examined acute admission data of aged-care facility residents admitted into Hutt Hospital during 2003 from 1 Dec 2002 to 30 November 2003. This was compared the acute admission data to a census of 18 aged-care facilities in the Hutt Valley to identify the most cost effective delivery of acute care to the residents.

Analysis of data collected from the study supported a number of variables that impact on acute admission rates. These variables included attitude of the aged-care facility manager to acute admission, access to registered nursing, facility characteristics and contractual arrangements with general practitioners.

Five alternative models of acute care delivery were examined for possible impact on acute admission rates and cost effectiveness. The most cost effective delivery of acute care to residents of aged-care delivery is through a twenty-four hour contractual arrangement with a general practitioner.

However, variables such as contractual obligations of aged-care facilities, profit status, staffing configuration and whether a facility also offers other retirement options such as villas impact on acute admission rates and have implications in the development of older persons policy in New Zealand. Health researchers in New Zealand have not explored this area to date. Given the cost to the economy and the future fiscal risk with the increasing number of older people, this is an area that requires urgent research attention.

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This thesis would not have been possible without the significant support, advice and assistance offered to me by many people throughout the two years of completion.

I wish to acknowledge the managers of the facilities who were kind enough to participate in the census and share information. The general practitioners on the primary/secondary steering group who answered my questions and discussed limitations of the current system provided invaluable advice. I wish to acknowledge the time and effort of Kate Wang and Elizabeth Lucie-Smith, analysts from Hutt Valley District Health Board who identified the admissions, diagnoses codes and admission costs.

Special thanks to my supervisors, Caroline and James Lockhart, who provided me with endless guidance and advice. Finally I wish to acknowledge my extended family and friends for their support and patience, and allowing me the time to work, especially Dick Edwards who painstakingly proofread the final version.

Approval for this research was obtained from the Massey University Human Ethics Committee.

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New Zealand Legislation

The following legislation has been discussed in Chapter Two.

Health Act (1956)

An act to consolidate and amend the law relating to Public Health

Hospitals Act (1957)

An act outlining the law in relation to public hospitals (repealed by section 59(1) Health and Disability Services (Safety) Act (2001) on October 1, 2004.

Social Security Act (1964)

An act that outlines social welfare benefits.

Old Peoples Home Regulations (1987)

Regulations for old peoples homes (rest homes). Repealed by section 59 (3) Health and Disability (Safety) Act (2001) on October 1, 2004.

Hospitals Regulations (1993)

Regulations for private hospitals (including continuing-care hospitals) (repealed by section 59 (3) Health and Disability (Safety) Act 2001 on October 1, 2004.

Health and Disability Services Act (1993)

An act to reform the public funding and provision of health services, repealed by section 110 (1)(a) New Zealand Public Health and Disability Act (2000).

New Zealand Public Health and Disability Act (2000)

An act to provide for public funding and provision of personal health services, public health services and disability support services and to establish new publicly-owned health and disability organisations.

Health and Disability (Safety) Act (2001)

An act to promote the safe delivery of health and disability services to the Public.

Chapter One: The importance of understanding cost effective delivery of acute care to older people.

1.1 Introduction

Health professionals frequently express the opinion that residents of aged-care facilities are admitted inappropriately to public hospitals for treatment. These concerns appear to be related to a perception that once older people reside in an aged-care facility, all of their social, environmental and health needs should be met, and further, that these facilities are funded to provide such services. Aged-care providers offer multiple levels of support and the fact that government funding is not universal across these levels is poorly understood. Aged-care facilities receive funding based on a price per day for each occupied bed. This is known as a bed-day price. The bed-day prices received by each care level (rest home, dementia and hospital) in each territorial local authority area are listed in Appendix A. When such facilities were first established, the purpose was to provide residential care, not clinical care, and that funding is based on this premise is not well recognised.

The author is employed in the Planning and Funding Division of the Hutt Valley District Health Board (HVDHB) and has developed a specialist interest in aged-care.[1]

Significant changes in practice have occurred over the past twenty years in provision of health services to older people. Older people admitted to hospital having had a stroke or illness in the 1980's were offered months of hospital inpatient stay and rehabilitation. Admission to a rest home was often because an older person no longer wished to live alone. Those who required twenty-four hour care resided in a geriatric ward

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[1] The author has twenty years of health delivery experience in both primary and secondary care. This has included employment as an occupational therapist, hospital service manager and latterly in policy development and service design. This period has seen constant structural and technological change.

of a public hospital. Twenty years later the average length of stay has been reduced to a few days. A designated specialist assessor decides who is frail enough to warrant public spending on residential care. All levels of residential care are provided in the community and the acute hospital no longer offers permanent stay.

Some funding decisions resulting in these changes appeared to have occurred without considering the total needs of the aged-care resident. That is, the level and availability of medical care changed significantly when residents were moved out of acute hospitals into community-based institutions, but the clinical needs of the residents did not change and may have increased since that time. Increasing demands on public funding has raised the eligibility thresholds for aged-care facilities. This has meant that residents are older and more frail than which they have been in the past.

Acute hospital staff complain regularly about residents of aged-care facilities being acutely admitted to hospital when it is considered that clinical care should be available on site. In addition, complaints, some unsubstantiated, have been made about inappropriate acute admissions or acute admissions for conditions that are avoidable. It has been noted that some facilities appear to have an unusually high acute admission rate. In explanation, facility managers indicate staffing levels are not adequate to manage an acutely unwell resident nor is funding enough to cover high-level clinical care (Manager Facility Five, personal communication, June 24, 2004).

Facilities in the Hutt Valley vary in size from 12 residents through to more than 100 and occupancy rates range between 84% and 99%. What appears to be a high acute admission rate of aged-care facility residents to the acute hospital may relate to the number of residents residing in a particular facility, rather than an unusually high need for the facility to hospitalise residents. The absence of research-based literature for New Zealand makes these claims difficult to analyse and restricts the ability to make changes that satisfy both funders and providers. This study sets out to identify the most cost effective delivery of acute care to residents of aged-care facilities contracted by the Hutt Valley District Health Board.

1.2 Hutt Valley District Health Board

The Hutt Valley is made up of two satellite cities of New Zealand's Capital, Wellington. Approximately 132,000 people (Statistics New Zealand, 2001) live in the region of who almost 1,000 live in aged-care facilities (see Appendix B, Occupancy Graphs, p. 2-3). The area is serviced by a secondary care hospital.

One of the roles of a District Health Board (DHB) is to "promote effective care or support for those in need of personal health services or disability support services" (New Zealand Government [NZ Govt], 2000, p 23). Under this mandate, the Hutt Valley District Health Board (HVDHB) administers funding for the government subsidised payments for residents of aged-care facilities within the Hutt Valley. The current cost to the HVDHB of aged residential care for the four care levels is substantial. Current monthly expenditure is approximately $390,000 for rest homes, $70,000 for dementia units, $800,000 for continuing care facilities and $160,000 for psychogeriatric care (see Appendix B, monthly cash payments, p. 4). For a 30-day month, this equates to approximately $47,000 per day.

$$\$390,000 + \$70,000 + \$800,000 + \$160,000 = \$1,420,000/30 = \$47,000$$

From July 2005, it is anticipated this sum will increase as the Government lowers the threshold for asset testing further (Ministry of Health [MoH], 2004a). In addition to these provider payments, the DHB subsidises additional medical and pharmaceutical costs and the cost of any acute hospital admission.

1.3 Levels of aged residential care

Two levels of residential care are researched in this thesis. These are medium level care, commonly known as *rest home,* and high-level care, known as *hospital* or *continuing-care.* To avoid confusion with the acute hospital, hospital level care in aged-care facilities will be referred to as continuing-care throughout this thesis except where quoting from a contractual document. At the time of this study there were 18 residential care facilities of various sizes. Eight provided rest-home care only, eight provided both continuing-care and

rest-home care and two provided continuing-care only. Dementia and psychogeriatric care have been excluded, as there were only three dementia units and one pyschogeriatric hospital at the time of this study.

1.4 Purpose of the study

The aim of the research was to identify the most cost effective delivery of acute care to residents of aged-care facilities in the Hutt Valley. In addressing this research question the following objectives were pursued:

1. To identify whether there were variations in acute admission rates between facilities and between the two levels of care offered by facilities.

2. To identify whether the staffing levels and skill mix of medical, nursing and caregiver staff had any relationship to the acute admission rate.

3. To identify whether facility characteristics had any relationship to the acute admission rate.

4. To identify which clinical delivery models could be expected to reduce transfer rates to the acute hospital.

5. To identify which of the clinical delivery models would be most cost effective.

6. To identify the implications of the study which could have significance on the development of health policy in respect to older persons in New Zealand.

The first objective outlines the total acute admissions and attributes each acute admission to a facility according to the level of care received by the resident. From this data, the acute admission rate is calculated for each facility. The second objective compares staffing models and skill mix to the acute admission data to identify whether there is any relationship between these variables. Thirdly, facility characteristics are explored and the varying characteristics compared to the acute admission rates to identify any relationship. Using the results of these comparisons, alternative clinical delivery

models will be considered which may reduce acute hospitalisation and conclusions are drawn as to which of these models is the most cost-effective. The results that apply to the Hutt Valley will be used as a basis from which to make suggestions for health policy in New Zealand.

1.5 Significance of the study

In 2002, the New Zealand Ministry of Health (MoH) reported that the annual *Vote Health* costs on a per capita basis were as follows:

Table 1.1: New Zealand annual per capita Vote Health expenditure

Age	<15	15-64	54-74	75-84	>85
Annual Cost per capita	$949	$1329	$3643	$6863	$13,568

Source: MoH, 2002 , p. 56

Life expectancy in New Zealand, like that of the rest of the Western world has increased during the 20th Century. This increase has meant a changing overall demographic makeup of the country as the proportion of the population in the older age groups increases (MoH, 2002). Between 2001 and 2051 the New Zealand population is projected to increase by a further 20%. Within this increase, the over 65-year-old population is projected to increase by 158% and the over 85-year-old population by 485% from current levels. These growth projections are attributed both to increasing longevity and the aging of the baby-boomer generation (MoH, 2002).

In addition to the ageing population, total health costs have escalated during the last few decades as technology has offered increasing treatment options that can increase longevity. Increases in costs have far outweighed any increase in Gross Domestic Product in most of the Western world countries (Schneider & Guralnik, 1990). In the United Kingdom, spending in the National Health Service (NHS) increased by 48% during the period between 1981 and 1986 and in the United States of America, spending on medical

care exceeded inflation by almost 80% between 1976 and 1987 (Schneider & Guralnik, 1990). In the New Zealand context, health expenditure increased by an average of 2.5% per year *above* the Consumer Price Index between 1980 and 1997 (MoH, 1998). The international increase in expenditure has increased the pressure to find methods of rationing public health care, including a suggestion to exclude people from accessing high technology health care on the basis of age (Scitovsky, 1994). In order to identify where costs may be minimised and to develop subsequent policy, it is important to understand which age group within the population incurs the majority of health costs.

The highest health costs occur when people are within the last one to two years of life (Zweifel, Felder & Meiers, 1999). Within these last two years, the proportion of health cost related to long-term care, of which aged residential care is a component, increases at an accelerated rate until death (Spillman & Lubitz, 2000). Therefore, information that adds to the understanding of the impact of service delivery on costs at this stage in life will contribute to future design of health services.

New Zealand literature and research relating to specific clinical delivery of care to residents of aged-care facilities is sparse. This may in part be due to the recent structural changes that moved the responsibility of residential care from social welfare to health (Gauld, 2003). Regardless of the reason, health policy makers have been developing the direction of aged-residential care without the benefit of robust data. While policy makers use expert advice and consult stakeholders, impartial and objective studies are required in order to have confidence that policies will be effective. This study will provide some baseline information about current delivery care within aged-care facilities in the Hutt Valley and assist in future decision-making and service design.

1.6 Research process

Aged-care facility residents are admitted to the acute hospital for both acute and elective reasons. Elective procedures must be managed within the acute hospital or specialised clinic and, therefore, an alternative model of clinical care will not impact on these arranged admissions. Only acute admissions are included in the study. To calculate

the current number and cost of acute admissions a 12-month audit was conducted of acute admissions of residents from aged-care facilities to Hutt Hospital between December 1, 2002 and November 30, 2003. Data on each acute admission included, diagnostic codes, the cost of the acute admission, the care level and name of the aged-care facility of residence.

A census was undertaken of aged-care facilities contracting with the Hutt Valley District Health Board. The census included information on occupancy rates, bed numbers, staffing models, skill mix, contractual arrangements and costs. Managers were sent a census form (see Appendix C) in preparation for an audio taped face-to-face interview.

One facility did not participate in the census so data was not available about staffing for that facility. Since the 12 month period used for the acute admission audit, the non-responding facility has had a change of manager and half the rest home beds have become continuing-care beds. The new manager would have been unable to contribute data on staffing relating to the previous year so this was not actively pursued. The lack of census data from this facility does not affect the identification of variables. Acute admission data was available for that facility through the Hutt Hospital Patient Management System (PMS). This has been used in order to consider the savings that could be attributed to the funder if alternative models of acute care delivery were implemented.

1.7 Thesis outline

A review of the relevant international and New Zealand literature is discussed in Chapter Two including the influence of legislation and contractual obligations on aged-care facilities in New Zealand. The variables affecting the rate of acute hospitalisation are examined in Chapter Three. The methodology used for data capture of acute admission information and aged-care facility characteristics related to the delivery of clinical care is outlined in Chapter Four. The findings as a result of comparing facility data from the census to acute admission data is found in Chapter Five. Chapter Six discusses the findings of the data and answers the research objectives outlined in Chapter One. In the final Chapter conclusions are drawn and recommendations made as to the most cost effective

delivery of acute care to residents in aged-care facilities in the Hutt Valley. In addition recommendations are made for further research and the development of older persons policy in New Zealand.

Chapter Two: The literature related to the cost of health care and older people

2.1 Introduction

Chapter Two explores the literature outlining relationships between costs and delivery of clinical care to residents of aged-care facilities. Beginning with information about the current and future health costs of older people, the chapter moves through to explore the impact of funding structures on service delivery. New Zealand legislation related to these services is outlined and the contractual implication on delivery of care is discussed. Finally, the various models of staffing that have been studied as a method of increasing the quality of aged residential care provision and reducing the requirement for acute hospitalisation are identified.

2.2 Financial impact of demographic changes on health expenditure

The *ageing population* has been a well-used phrase in recent years. The impending social and fiscal impact of the baby boomer generation entering retirement is one that interests policy makers, entrepreneurs and funders. The ageing population is not a new phenomenon. The proportional growth in the older population began many years ago as improvements in nutrition, lifestyle, and health technology led to a steady increase in the average age of mortality. As these variables corresponded with a reduction in fertility, the overall demographics of the population began to change, with a proportional decrease in the number of younger people and a corresponding increase in the number of older people (MOH, 2002). This changing demographic through increasing longevity, will be exaggerated further when the bulge in population number created by baby boomers, that is, those who were born in the fifteen years after World War II, reach retirement age. It is the impact of this population bulge which is concerning government policy makers throughout the Western world (Schneider & Guralnek, 1990).

2.2.1 The impact of longevity on health costs including aged residential care

The following section seeks to explore the projected fiscal impact that increasing longevity and the increasing number of older people will have on the health sector. It will also identify where the healthcare costs of older people lie in relation to delivery of acute and long-term care and why cost efficiencies are important when considering different models of clinical care delivery.

The potential impact of increasing age on healthcare costs has been discussed, researched and debated at length over the past two decades. Beginning with some landmark research by Roos, Montgomery & Roos (1987), who identified that annual costs of health were highest in the last year of life, this area has been of considerable interest to health economists. Zweifel, Felder & Meiers (1999) examined health costs from 20 Organisation of Economic Co-operation and Development (OECD) countries using longitudinal and cross-sectional data. While agreeing that the highest costs are in the last year of life, it was suggested that increasing age has no effect on health expenditure once people were over 65 years of age. The inference was that there was no cause to be concerned that the ageing population would lead to untenable demands on health expenditure. This study compared only costs of acute healthcare and did not include the costs of long-term aged-care. Historical data may not provide a sound basis for future health cost growth predictions. Technological changes in healthcare have enabled treatments to be offered to an increasing number of individuals at increasingly older ages. Modern anaesthetic techniques and minimally invasive surgery now allows elective surgery to be offered to individuals in their 80's and even 90's. Not only does this have the effect of increasing longevity but also increases health costs in the latter years of life.

Academic literature about various aspects related to the cost of long-term aged-care is not readily available (Seshamani & Gray, 2002). This appears to be due to the different social service structures in various countries and the variations in the level of insurance cover, private spending and government subsidies. Even studies including costs of long-term care, have indicated limitations related to the inability to calculate costs of private and insurance contributions or informal care (unpaid care provided by family and friends)

(Meerding, Bonneux, Polder, Kroopmanschap & van der Mass, 1998; Murtaugh, Kember, Spillman & Carlson, 1997). Murtaugh et al. calculated that in the United States of America, Medicare and Medicaid met only 50% of aged-care facility costs with insurance, individuals and their families meeting the remaining costs.

In addition, there has been blurring of long-term expenditure patterns over the past ten years, as the trend has been to move long-term care out of acute hospitals and into the community. Information from the United Kingdom suggests that between 1988 and 1998, funding for the aged-care facility sector increased by 43% while the cost of long-term stay in hospitals decreased by 53% (Seshamani & Gray, 2002). New Zealand has a similar pattern, due to the privatising of continuing-care for the older person that occurred during the mid 1990's.

Despite the difficulties in calculating the total costs of long-term aged-care, studies have been undertaken using actual public expenditure (McGrail et al., 2000; Meerding et al., 1998; Spillman & Lubitz, 2000). Analysis from The Netherlands, Canada and the United States of America, have shown that annual costs of acute care either decreases or minimally increases with age but the annual costs of long-term care increases substantially with age.

In the Netherlands, Meerding et al. (1998) used national health utilisation data and expenditure from 22 healthcare sectors (such as pharmacy, hospitals and home support services) and considered both acute and long-term aged-care. Finding that overall costs are strongly influenced by age and disability, that is, the highest costs were for care (home support and aged-care facilities) not cure, the conclusion was that long-term care costs were likely to increase with an ageing society. The authors noted that any reduction in the level of informal care would make the impact of increasing costs even more significant.

Spillman & Lubitz (2000) identified that the annual cost of hospital and physician services increases slowly as a person ages and then decreases once someone is over 90, whereas the annual cost of long-term care increases at an accelerated rate until death. The researchers suggested therefore that the impact of longevity on acute costs was minimal but significant in long-term care.

McGrail et al. (2000) undertook a study comparing the costs of acute care and long-term care of over 150,000 individuals in British Columbia who had accessed health and long-term care services in 1987-88 and 1994-95. By comparing the costs of those who died with those who did not, the researchers tested how the costs of acute, social (services such as meals, assistance with activities of daily living) and nursing care (including long-term care) related to age at death and also the relationship between total costs and proximity to death. Additional hospital costs (the hospital costs of those who died minus the costs of the individuals who survived) of those close to death fell with age, but nursing and social costs increased both with age and with proximity to death. The conclusion was that the mix of services being received by individuals as they age was an important factor when predicting the effects of population change on health costs.

Using United States of America figures from 1996, table 2.1 shows the annual Medicare expenditure and nursing home expenditure of a person who dies at age 75 compared with an individual who dies at age 95 (Spillman & Lubitz, 2000).

Table 2.1: Differences in health expenditure during the last year of life.

	Age at Death	
	75	95
Acute care costs	$37,000	$21,000
Long term care costs	$6,000	$32,000
Total	$43,000	$54,000

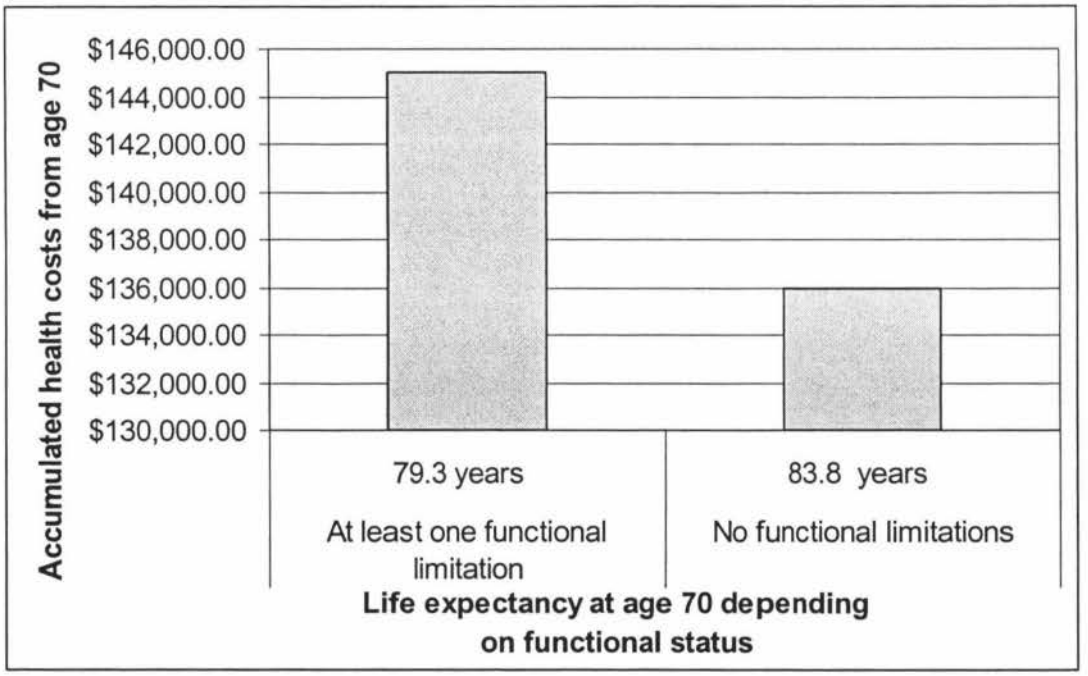
Source: Lubitz and Spillman, (2000). The effect of longevity on spending for acute and long- term care, *Massachusetts Medical Society*, 342 (19) 1409-1415, p. 1412.

Considering data by annual cost is useful to health funders for predicting the impact of an increasing number of older people on a year-by-year basis. Predictions of the number of individuals of a specified age year-by-year can be compared with annual costs to identify

the level and costs of services likely to be required in any one year in the future. It is possible that increasing longevity is pushing costs out into future years.

The studies previously discussed, focus on the health costs per annum as individuals age, rather than the accumulated costs as a person lives for longer. The Medicare Current Beneficiary Survey undertaken in the United States of America is a rotating panel design annual survey where one third of the sample is replaced every year. Using survey data from between 1992 and 1998, Lubitz, Cai, Kramarow & Lentzner (2003) calculated the cost of healthcare from age 70 to death. Modelling indicated that the accumulated costs of someone who was less healthy and therefore died younger, and someone, who had a healthy old age and died older, was not significantly different. Table 2.2 shows the life expectancy and estimated accumulated health costs of an individual with at least one functional limitation at age 70, compared to an individual with no functional limitation at age 70 (Lubitz et al., 2003).

Table 2.2: Health status and accumulated health costs from age 70 until death.



Source: Lubitz et al., (2003). Health, life expectancy, and health care spending among the elderly. *New England Journal of Medicine*, 349, 1048-1055, p. 1053.

In contrast with other studies (Spillman & Lubitz, 2000; McGrail et al., 2000), Lubitz et al. (2003) indicated longevity did not appear to impact on the incidence of institutionalisation. It was estimated that all people living in the community at age 70 could expect to live 0.7 of a year in an institution prior to death, irrespective of health status, although those who were already in an aged-care facility at age 70 had much higher accumulated costs. The authors concluded therefore, that longevity had no bearing on accumulated healthcare costs including costs of aged-care facilities.

While the studies discussed appear to agree in principle that annual acute costs in the last year of life begin to decrease with very old age and annual long-term costs increase, debate remains about the extent of these changes. This will be due to the difficulty in calculating actual costs across the sectors involved in funding and administering the combined acute and long-term health care services. Table 2.3 summarises the outcomes of the studies researching the impact of increasing longevity on health costs.

Table 2.3: Summary of investigations into the impact of increasing longevity on health costs.

Date of publication	Key researchers	Reference	Findings
1998	Meerding et al.	British Medical Journal	Annual acute health costs decrease with age
2000	McGrail et al.	Age and Aging	
2000	Spillman & Lubitz	The New England Journal of Medicine	Annual long-term care costs increase with age
2003	Lubitz et al.	The New England Journal of Medicine	Accumulated total healthcare costs is similar for all individuals between 70 and death

Given the varying conclusions in the most recent research (Spillman & Lubitz, 2000; McGrail et al., 2000; Lubitz et al., 2003), more detail is required to confirm whether or not longevity impacts on the cost of long-term aged-care. While the research (Meerding et al., 1998; McGrail et al., 2000; Spillman & Lubitz, 2000) is suggesting that increasing

longevity may not have an overall impact on health expenditure, the conclusion still remains that for each individual the peak in annual health expenditure occurs in his or her last year of life. Researchers (Knickman & Snell, 2002; Spillman & Lubitz, 2000; O'Neill, Groom, Avery, Boot & Thornhill, 2000) also agree that while the impact of longevity on overall health costs should be minimal, the population bulge will impact on total health costs including long-term costs. Funders however will remain interested in annual costs and the resulting impact of increasing longevity when predicting expenditure on a year-by-year basis.

2.2.2 The impact of the baby boomer bulge on health costs including aged residential care

Serup-Hansen, Wickstrom & Kristiansen (2002) examined the impact of the future growth of the Danish population on hospital inpatient care and primary care. The authors estimated the expected 8.2% in population growth would result in a 15.1% increase in health costs. This study did not include the cost of long-term aged-care but if these predictions are correct the impact of the baby boomers will be significant.

Spillman & Lubitz (2002) studied nursing home usage in the United States of America to identify whether utilisation patterns had changed. The authors predict that the number of people entering nursing homes will double by 2020 due to both longevity and the baby boomers ageing. The percentage increase related to long-term care residents was not specified but it was inferred that this was a negative cost implication of the ageing of the population.

In considering the impact of the number of baby boomers, Rosenberg & Everitt (2001) showed that the dependent proportion of the population is shifting. The high young dependent population is becoming a high old dependent population. These authors considered that the societal burden would be much greater with a higher older dependent cohort. Knickman & Snell (2002) however disagreed concluding that the economic burden on the United States of America as the baby boomers aged would be no higher than when this group were dependent children. Knickman & Snell explained that despite the increasing number of older people, the dependent-to-working adult ratio in the United

States of America would be lower in 2030 than in the 1960's when the baby boomers were children. However, the baby boomers' increasing proximity to death, which in turn leads to higher total health costs than a large cohort of children, was not considered in this calculation. Caveats placed on the Knickman & Snell claim of a similar dependency ratio, indicate that in order to prevent *aging shocks* (the personal financial shock of ageing) individuals need to consider future care requirements and start saving for them now. The authors state that the most significant ageing shock is the cost of long-term residential care[2].

2.2.3 The impact of the ageing of the baby boomers to the New Zealand health budget

Johnston & Teasdale (1999), working for the MoH, considered the economic burden to New Zealand as the baby boomer generation reached beyond 85 years of age. The estimate was that public health expenditure in New Zealand would continue to increase as a percentage of gross domestic product from 6.5% in 2001 to 8.4% in 2051, the highest growth years being between 2020 and 2040. The authors explained that additional uncalculated impacts of health expenditure include price, technological changes and changes in public expectations. Johnston & Teasdale's publication was prepared prior to the New Zealand Government deciding to increase the level of assets a resident may keep before being eligible for a government subsidy (MoH 2004a). This will have the effect of increasing the number of residents eligible for a government subsidy. The cost of this change in policy will have yet another uncalculated effect on overall health spending in New Zealand, especially end of life expenditure.

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[2] The cost implications of a changing adult:dependency ratio analysis, especially from the United States of America, needs to be treated with caution. Differences in public expenditure applied to various health costs, especially the amount of available public subsidy, can vary significantly from country to country.

2.2.4 Summary of future health costs

In summary, the overall cost impact of the ageing population appears to support the theory that increasing longevity will have minimal impact on future acute health costs but there is no agreement about the cost of long-term aged-care. This may be due to the different proportion of public and private contributions to long-term aged-care that occurs in different countries. It is likely that the higher the proportion of public spending, the more likely longevity will impact on long-term aged-care. The highest annual costs remain in the one to two years preceding death, irrespective of age.

The baby boomer bulge will definitely impact on future healthcare costs as the number of people reaching the years immediately preceding death increases. The focus for funders must be on cost containment and cost effectiveness if this impact is to be managed. An important part of maintaining control of annual healthcare expenditure, is ensuring that the clinical care older people receive is both appropriate and delivered in the most cost-effective manner.

2.3 Impact of health funding structures on delivery of clinical care

Delivery of healthcare is significantly influenced by the structure and methods by which funding is administered. Healthcare structures differ in every country and most of the OECD countries are grappling with the most cost effective delivery of healthcare as the demand continues to increase beyond the financial capacity of both countries and individuals to fund services.

The different funding structures make service delivery comparisons between countries difficult. In order to evaluate the efficacy of overseas research in the New Zealand context, it is important to have a basic understanding of how funding structures may influence service delivery and the relevance of research outcomes.

This section briefly outlines the health funding structures of New Zealand and the countries that have published English language research into acute healthcare delivery to aged-care facilities. Research has mainly occurred in the United States of America, but the

United Kingdom and Australia also make contribution to the overall understanding of integrated models of care.

These countries all have a combination of private and publicly funded health systems. Public funding may be dependent on personal income or may be applied to some parts of the health sector and not others. Funding administration is undertaken by a combination of private companies, local authorities and national and regional organisations, both private and public. This fragmentation of administration can lead to cost shifting, duplication or gaps in services and inefficiencies in the delivery of healthcare across the continuum of providers. A brief discussion of the variation between Australia, the United Kingdom and the United States of America will be provided prior to a discussion on the health funding structure of New Zealand.

2.3.1 Health Funding Structure in Australia

The Australian health system is one of universal coverage with approximately 33% of the population holding private health insurance in addition to services covered by public funding. Some co-payments are allowed to subsidise publicly funded primary care (Schoen & Doty, 2004). Administration of public health funding in Australia is complex. Australia has three levels of Government; Commonwealth or Federal Government, State and Territory Governments, and Municipal or Local Authority Government. All three play a role in the administration and delivery of healthcare. The Federal Government subsidises and administers medical and pharmaceutical costs through Medicare, a government health insurance scheme, and the Pharmaceutical Benefits Scheme. Hospitals are funded and administered by the State or Territory Government with the Commonwealth contributing about 50% of the revenue through a *Health-care Agreement* with the Commonwealth Department of Health and Ageing (CDHA) (Duckett, 2002).

General practice receives funding from Medicare. Patients either claim back payments or the practice enters into a *bulk-billing* scheme where the practice is capitated and receives bulk funding based on the number of patients on their practice register. Bulk-billing practices are not able to surcharge patients (CDHA, 2004).

The CDHA booklet on Aged Care in Australia (2000) explains how healthcare for older people is funded across the three levels of government. Like acute health services, all three levels of Government administration have a role in funding, administering or providing aged residential care and other long-term services for older people. The Federal Government funds subsidies and regulates aged-care services. Residential care and home support services are provided by non-governmental and charitable organisations, although State Governments with Federal funding operate a small number of residential care facilities. The Federal and State or Territory Governments jointly fund community care (district nursing and domiciliary therapy services), and State or Territory Governments and Local Authorities also function as providers of some of these services (CHDA, 2000).

Residents of facilities contribute to the cost, depending on income level. Pensioners pay a lower basic fee than non-pensioners, but additional fees are income tested. A number of fully subsidised places are retained for individuals who cannot afford the charge (CDHA, 2003).

Aged-care facilities provide high level and low level care. High level care is known as *nursing home* and low level care known as *hostel.* A formal assessment to identify eligibility is required prior to admission to either of these care levels. Older people are assessed by a team of professionals who make recommendations as to their level of need. This can take the form of high or low level residential care or co-ordinated packages of community care which allows the person to remain in their own home (CDHA, 2000).

Until recently the two forms of residential care were administered separately, but these are now administered under the one system which has enabled facilities to provide the full continuum of care. Nursing homes provide twenty-four hour nursing care and hostels usually employ some registered nurses but do not provide registered nurses on site at all times. The federal government pays for residential care at eight different levels depending on the dependency of the resident (CDHA, 2000).

In summary, responsibility for service delivery for older people is divided across three areas of general practice, hospital care and long-term care and is administered by three different levels of government.

2.3.2 Health funding structure in the United Kingdom

The health system in the United Kingdom is a public one with full funding for both primary and secondary care, although approximately 12% of the population have private insurance (Schoen & Doty, 2004).

Health funds are distributed by the Department of Health (DoH). The National Health Service (NHS) administers funding for hospitals, general practice and other health institutions such as Walk-in Centres and the Health Helpline. Local authorities administer social services funding, which includes aged-care facilities and such services as domiciliary therapy (Bertelsman Foundation, 2003).

While healthcare is free, the low rate of private insurance and lack of co-payments appears to have the adverse effect of reducing accessibility. Of the people surveyed in the 2001 Commonwealth Fund International Health Policy Survey, 58% reported having to wait more than one day to see a doctor, with 16% needing to wait in excess of five days (Schoen & Doty, 2004).

Non-governmental, charitable organisations or local authorities provide most aged-care facilities but some are managed by primary health trusts (Guide2care, 2003). Individuals are eligible for state assistance if *means-testing* determines their capital is less than £19,000. The NHS funds the cost of any nursing or medical care required while in residential care. Local authorities fund the cost of social services (e.g., meals, linen, assistance with activities of daily living). Nursing services may be provided by the care facility, in which case the NHS pays a fee to the facility depending on the care level required; low need, medium or high need. In other facilities, nurses enter the facility to provide care. Residents are entitled to bypass the public system and employ privately funded nursing care (Guide2care, 2003) within the facility. General practitioners deliver medical care to facilities under a General Medical Services Contract with the NHS (Turrell, 2001), although facilities may supplement these payments (Kavanagh & Knapp, 1998) to acknowledge the additional time aged-care facility residents require over an older person who resides in their own home.

Disconnect between providers of health services and those of aged residential care has been recognised by policy makers and recently there has been overt encouragement to form integrated alliances between the NHS services and local authority social services (DoH, 2003).

2.3.3 Health funding structure in the United States of America

Health funding systems in the United States of America vary across States. There is no central administration and no single health system. The majority of health funding in the United States of America is covered by private health insurance, usually through employer-financed schemes with 24.8% funded through government insurance schemes, Medicaid and Medicare. About 16% of Americans have no health insurance (Bertelsman Foundation, 2003).

Medicare pays for services for the disabled and people over 65 years of age and is funded predominantly via a Federal health insurance programme. Medicaid, which provides healthcare for people with no or low income, is funded through both federal and state tax and is administered by State governments (Centers for Medicare and Medicaid Services, [CMS] 2003a).

Some home-based care is financed through private insurance plans. Private long-term care policies are available for individuals who wish to purchase insurance against the need for long-term care (CMS, 2003b). Medicare will fund the long-term care if asset testing reveals an individual can no longer pay for services (CMS, 2003b).

As Weiner, Stevenson & Kasten (2000) explained in their report to Congress, the separation of financial responsibilities creates a strong incentive for the federal government to shift costs to the States and vice versa. Difficulties in co-ordination of services mean that nursing-home residents may be unnecessarily discharged to a hospital because adequate physician services are not available in long-term care facilities. This lack of co-ordination can lead to total costs being higher than if services were provided within an integrated system (Weiner et al., 2000).

Four key goals are outlined by Weiner et al. (2000) to assist individual States to integrate acute and long-term care. These include better quality care, lower costs, including explicitly shifting costs of Medicaid to Medicare, reducing the number of providers so that contract standards can be set and shifting risk to providers to make State spending more predictable.

In order to contain costs, some insurance companies or health groups have formed Managed Care Organisations (MCO's). Using health premiums as income, MCO's manage health needs across the sector. MCO's tend to restrict the choice of enrolees to providers who are certified or employed by their organisation. Clinical practice is often defined through pathways and clinical protocols and has a focus on patient education and empowerment (Salazar, 1998). It is these groups for whom the integration of services and minimising ongoing costs are of particular interest. Most of the research related to residential facilities published in the English language is analysis of systems or programmes generated by Medicare-funded MCO's (Boult, Kane & Brown, 2000).

A number of studies (Burl, Bonner, Maithili & Khan, 1998; Fama & Fox, 1997; Kane, Keckhafer, Flood, Bershadsky, & Siadaty, 2003) have been undertaken in order to identify where costs may be minimised for aged-residential care within an MCO environment. It is these studies that have the most relevance to New Zealand, as MCO's are reasonably close in funding philosophy to the New Zealand District Health Boards (DHBs).

In summary, all three countries have subsidised aged-care facilities for those who cannot afford to pay. The United Kingdom and Australia fund primary and secondary care through taxes and the United States of America through private health insurance premiums. The United Kingdom divides funding in two, between the NHS and local authorities and Australia divides health funding between the three levels of Government. In the United States of America there is no single funding model but MCO's, that combine insurance premiums to deliver an integrated health system, appear to be the closest model to the current DHB structure in New Zealand.

2.3.4 Health funding structure in New Zealand

Historically, levels of health spending in New Zealand were determined by demand. In the 1980's the Department of Health organised funding and individual hospital boards identified which hospital services would be available in their area. The Department of Social Welfare oversaw funding for disability services such as subsidies for rest homes, adaptive equipment or housing alterations.

In 1989, the first of fourteen Area Health Boards (AHB's) were established imposing a corporate management model on hospitals and superseding the historic clinical management of Medical Superintendent and Matron (Gauld, 2003). A contractual relationship was established between the Government and each of the AHB's. The AHB's had output and outcome orientated accountabilities to the Government and were required to meet population-based health goals (Gauld, 2003).

The focus on cost containment and corporate management continued and became increasingly formal. A market-orientated model was introduced with the Health and Disability Services Act (1993) (MoH, 2003a) facilitating a funder/provider split. The AHB's were disbanded and four Regional Health Authorities (RHAs) and the Public Health Commission were created. Hospitals were turned into Crown Health Entities (CHE's) with a Board of Directors and were expected to return a profit to the *shareholder* - the government. Responsibility for government subsidies for rest homes, equipment and housing alterations was transferred from Social Welfare to the RHAs (MoH, 2003a). By design, this was a competitive environment and privatisation of a number of services such as hospital cleaning and food services occurred during this period. Also contracted out to private providers was continuing-care for older people, a service previously provided within the public hospital system.

It was apparent to those working within the sector that a competitive environment within a public health system was impractical in a country the size of New Zealand. The distance between hospitals, the size of the population and the scarcity of resources meant that consumers had little choice between providers. In addition, hospitals were bulk funded

and in deficit (Gauld, 2003) leaving no incentives for increasing market share by drawing patients from other hospitals.

The National/NZ First Coalition Government of 1996 removed the emphasis on competition. A single Health Funding Authority (HFA) replaced the four RHA's and the Public Health Commission was disbanded (MoH, 2003a). Profit-making intent was relaxed and CHEs renamed as Hospital and Health Services (HHSs). HHSs were expected to perform as break-even, not-for-profit businesses.

The HFA was divided into funding directorates; *Personal Health* administered funds for HHSs, general medical subsidies [general practice subsidies], pharmaceutical subsidies and laboratory costs; *Public Health*, managed population health, infectious diseases, disaster and epidemic planning and disease prevention; the *Mental Health Directorate* funded hospital services and non-government organisations including residential care and home supports for mental health consumers. The *Disability Directorate* administered funding for disabled and older people requiring rehabilitation or long-term care (MoH, 2003a). The directorates were administered as discrete units despite being within the same organisation. Funding decisions seldom appeared to be made in an integrated fashion. Consequently healthcare appeared to be funded via relatively autonomous directorates that created duplication in some contracts and gaps between others.

The Labour-led coalition Government resulting out of the 1999 election, facilitated another round of restructuring. Arising from the HHS's, 21 DHB's were established in 2001. The intent was that locally-controlled decision making would increase the focus on service integration and collaboration to improve health delivery (Gauld, 2003). Currently each DHB has an elected governance board and several board advisory committees. The Boards, with their advisory committees, administer all health funding for a defined geographic area (NZ Govt, 2000), for example, the Hutt Valley District Health Board administers health funding for the geographic area covered by the Hutt City and Upper Hutt City councils.

Health funding in New Zealand differs from the other three countries in that the majority of secondary and tertiary level care (i.e., public hospitals) is publicly funded and the majority of primary care (i.e., general practice) is privately funded (MoH, 2003a). Although most New Zealanders pay the full cost of visiting a general practitioner, children, pensioners and those on very low incomes receive a government subsidy and only have to pay partial fees (MoH, 2003a). Many people have private health insurance, which dependent on the policy, may fund elective surgery, specialist visits, general practice and diagnostics. Injuries are funded by the Accident Compensation Corporation (ACC), a Crown entity responsible for preventing injury, collecting insurance premiums, paying compensation and funding health and disability support services to treat and rehabilitate injury victims (MoH, 2003a).

Currently, New Zealand health funding is divided across the DHB's, ACC, a small portion retained by the MoH (Public Health and under 65 year olds disability support services) and the individual. Funding arrangements and accompanying legislation impact on service design and delivery.

2.4 Impact of New Zealand legislation and contracts on delivery of clinical care

The following section outlines the influence of legislation and contractual obligations on the design and delivery of residential aged-care services. During the 20th Century New Zealand aged-care facilities became known as *old peoples homes* or *rest homes*. In 1987 the Old Persons Home Regulations (1987) pursuant to the Health Act (1956) began to regulate the sector. The Old Persons Home Regulations outlined the minimum requirements to gain a license as an old persons home or rest home. For subsidised residents, most of the requirements had been over-ridden by more recent contracts and was repealed under the Health and Disability Services (Safety) Act 2001 on October 1, 2004. Facilities now have to be certified against health and safety standards and must provide twenty-four hour staffing (NZ Govt, 2001; MoH, 2003b). However, up until October 1, 2004, the Old Persons Home Regulations specified the only legal obligation the

facilities had to non-subsidised residents. Analysis of these regulations indicates an expectation that residents of old persons homes were fairly independent.

The Old Persons Home Regulations (NZ Govt, 1987) stated that every facility with fewer than 15 residents must have a staff member present on the premises at all times, however it was not until there were 16 or more residents that there was a requirement for a staff member to be on duty at all times. The Old Persons Home Regulations (1987) did not outline skill mix or qualifications of staff, however the low staffing numbers would indicate an expectation that residents would be fully independent in performing activities of daily living for example, toileting, dressing and bathing. In effect, it was likely that the provision of meals and a warm clean environment were the key components of the service at the time in which the Old Persons Home Regulations were written.

In 1987, individuals who required supervision for activities of daily living or overnight care were permanently admitted to a continuing-care ward in a geriatric hospital. Medical and nursing staff were employed specifically to provide on-site clinical care to the residents. Specialist care was easily accessible as specialists were either working on the same site or at least employed by the same employer. Provision of long-term aged residential care in a public hospital was legislated under the Hospitals Act (NZ Govt, 1957). This service was privatised in the early 1990's and The Hospitals Regulations (NZ Govt, 1993) was introduced. The Hospitals Regulations specify that a registered nurse must be on duty at all times in a continuing-care hospital but the resident-to-staff ratio is not specified (NZ Govt, 1993).

Individuals requiring financial assistance to reside in an aged-care facility in New Zealand can apply to be *means and asset tested* under the Social Security Act (1964). The Ministry of Social Development (MSD) undertakes this service and residents may be eligible for a full or partial subsidy (MSD, 2004). The DHB administers funding for this subsidy. The DHB enters into a contractual arrangement for services for subsidised residents living in facilities under the Aged Residential Care Contract, a national contract originally developed by the MoH (MOH, 2003b). The Aged Residential Care Contract

contains a service specification for both rest home and hospital level care (see Appendix D).

2.4.1 Clinical requirements under the Aged Residential Care Contract, MoH 2003b

As discussed above, the legislative requirements of facilities are minimal. To counter this, the HFA followed by the MoH outlined requirements for the delivery of care under the Aged Residential Care Contract (MoH, 2003b). The Aged Residential Care contract specifies the type of care a subsidised resident is entitled to but only a small section of the contract relates to clinical care. A general practitioner must examine subsidised residents of both rest home and continuing-care facilities at least once a month. If a resident is considered medically stable examinations may reduce to at least once every three months. General Practitioner visits are therefore funded by the facility for subsidised residents. Depending on the resident agreement between the facility and non-subsidised residents, a general practitioner visit may be included in the weekly facility service fee or charged directly back to the resident.

Provision of emergency medical services must be available at all times as stated in the Aged Residential Care Contract (MoH, 2003b), but how this should be provided is not defined or explicitly funded. A house call by the After Hours Service will be paid under a fee-for-service arrangement by the facility and can cost as much as $200.

Registered nursing requirements are slightly different between the two care levels. The Aged Residential Care Contract states that at least one registered nurse must be employed in rest homes. The registered nurse must "assess subsidised residents on admission, when the subsidised residents health status changes, when the subsidised residents level of dependency changes and at each 6 month review date" (MoH, 2003b, p. 48). There is no direct nurse:resident ratio stated. All other requirements of the registered nurse in the Aged Residential Care Contract relate to the supervision and oversight of non-clinical staff or enrolled nurses.

In continuing-care facilities at least one registered nurse must be on duty at all times, however no reference is made of the nurse:patient ratio in the Aged Residential Care

Contract. There must be at least two care staff (nurse or caregiver) on duty at all times, irrespective of the number of residents; however it is not clear whether there must be a registered nurse plus two care staff. If the facility provides both rest home and continuing-care, the continuing-care staff may provide on-call duties for the rest home wing (MoH, 2003b).

2.4.2 Gate Keeping entry to aged residential care

In order to have control over expenditure, the MoH and latterly the DHBs require subsidised residents to undertake a formal assessment to confirm that the level of resident disability requires twenty-four hour supervision. Needs assessment and service co-ordination (NASC) agencies are contracted by the DHB's to undertake a gate keeping function by identifying the level of need. The Support Package Assessment or SPA tool (see appendix E) was developed by the Ministry of Health for use by assessors to provide guidance as to the level of need and subsequent funding entitlement. For individuals assessed as having low or medium level support needs, funding is provided for home-based support only. For those who are assessed as high or very high needs, funding may be used for personal care assistance in the home of the individual, respite or temporary residential care to give the main caregiver a break or may be used for aged-residential care provided the individual meets the entitlements for public subsidy as defined by Ministry Social Development (MSD, 2004).

The aim of the NASC is to maintain individuals within their own home where possible and home support packages of care – usually in the form of meeting personal hygiene needs or housework – assist individuals and their carers to manage. These services are provided by Home Support Agencies. Maintaining frail, disabled individuals in their own home is usually reliant on supportive family members. Individuals assessed as having high or very high support needs can access residential care if they live alone or have a frail spouse. High needs are identified when "the disabled person's ability to remain in their environment is compromised due to significant safety issues and complex support needs" (MOH, n.d.).

There is no legal or contractual reason to restrict entry to facilities of privately funded individuals but facility managers have indicated a reluctance to accept residents who have not been previously *needs assessed* (Aged care managers forum, personal communication, August 23, 2003). Individuals who are not eligible for services may become a business risk for the organisation if they run out of money. Therefore most facilities will only admit non-subsidised residents who have been needs assessed and met the dependency criteria established by the MoH for entry into aged-care facilities. This has the effect of ensuring that all residents, subsidised or not, require a similar amount of care at each care level. The dependency eligibility for access to aged-care facilities does not equate with the staffing requirements of the Old Peoples Home Regulations (NZ Govt, 1987) and would indicate that restricting entry to facilities may have had the effect of increasing the frailty and acuity of residents since the time when the regulations were promulgated.

This therefore raises the question of whether the traditional staffing levels in aged-care facilities in New Zealand meet the needs of residents. The English language research that has occurred in the area of staffing would indicate that other countries are asking the same question. The following section outlines the staffing models and delivery of clinical care that is being trialled and discussed in academic literature.

2.5 Current staffing models and delivery of clinical care

In this context, staffing models refer to the number and skill mix of health professionals employed by a facility. This section explores the research that has been undertaken to identify the staffing models that optimise care in aged-care facilities in the United States of America.

Managed-care Organisations (MCO's) in the United States of America are responsible for the provision of healthcare across the health sector and it is these organisations which have begun to evaluate the options that are most effective in improving the quality of care while maintaining cost effectiveness of acute care provision to residents of aged-care facilities.

Several large MCO's have begun to address the issue of early and immediate clinical intervention and have studied the effect of *primary care teams* in aged-care facilities. Such teams appear to vary slightly in composition between States depending on the availability of staff, but are usually compiled with a physician, and either a physician assistant (PA)[3] or geriatric nurse practitioner (GNP)[4]. PA's and GNP's are collectively described as physician extenders.

2.5.1 Primary care teams

Primary care is the term used to indicate clinical care offered to the ambulatory (non-hospitalised) patient. Primary care clinicians are community based. As MCO's have considered ways in which to reduce nursing home expenditure, primary care teams have been adopted as one model to provide the clinical care required for residents of aged-care facilities.

A number of studies from the United States of America (Burl et al., 1994; Fama & Fox, 1997; Kane, Flood, Keckhafer, Bershadsky & Lum, 2002) illustrate that primary care teams produce a cost effective alternative to physician-only care. Primary care teams have been shown to reduce the number of hospitalisations (Burl et al., 1994; Kane et al., 2002; Farley, Zellman, Ouslander & Rueben, 1999; Reuben et al., 1999), reduce the number of Emergency Department visits (Burl et al., 1994; Reuben et al., 1999), reduce the number of specialist visits (Burl et al., 1994) and to increase resident satisfaction (Fama & Fox, 1997; Farley et al., 1999). In addition, one study illustrated that when residents managed by primary care teams did require secondary care, the average costs of emergency department visits and hospitalisations was less than for those residents cared for by a physician alone

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3 Physician assistants are a professional group unique to the United States of America. They provide healthcare services under the supervision of physicians (United States Department of Labor, 2002-3).

4 At the advanced level, *nurse practitioners* provide basic, primary healthcare. They diagnose and treat common acute illnesses and injuries. Nurse practitioners also can prescribe medications—but certification and licensing requirements vary by State. (United States Department of Labor, 2004-05)

(Burl, Bonner & Rao, 1998). Table 2.4 compares the difference in hospital utilisation between the residents who received clinical care from primary care teams and those who received it from physicians only.

Table 2.4: Percentage difference in hospital utilisation between primary care teams and physician only intervention

	GNP/physician	Physician only	% difference
Hospital days per 1000[1]	6163	9404	34%
Ave cost of hospital per resd per month[2]	$233.04	$323.37	28%
% resd hospitalised per year A[3]	5	18	72%
% resd hospitalised per year B[4]	17	30	43%
% resd hospitalised per year C[5]	18	7	-150%
ER visits[6]	430	685	37%
Average no. of hosp per 100 residents per month[7]	2.4	4.6	48%
ER visits per 100 residents per mth[8]	3.1	5.7	46%

Key: resd – residents, ER – Emergency room, no. – number, hosp – hospitalisations, GNP/physician - Geriatric Nurse Practitioner/ physician team

Note: 1. Burl et al., (1994); 2. Burl et al., (1998); 3. Reuben et al., (1999); 4. Reuben et al., (1999); 5.Reuben et al., (1999); 6. Burl et al., (1994); 7. Kane et al., (2002); 8. Kane et al., (2002).

Analysis of the various models indicates a level of similarity in skill mix with dedicated physicians and physician extenders. The actual model of care varies, but physicians always have a higher caseload than physician extenders, which would indicate greater face-to-face contact time by the extenders. Outcomes vary between minimal and significant cost effectiveness, but no comparative work has been published which would indicate which model has the greatest efficacy. This makes it difficult to extrapolate a model of care for the New Zealand context from the information available. If the caseload is too high, it is possible the programme will cost more without generating a corresponding decrease in hospital utilisation. Nether-the-less, the comparison of the studies shown in table 2.4 suggests that with the exception of one model that clearly did not work, the implementation of primary care teams as opposed to physician only care reduces hospital utilisation. Although most of the primary care team models were proven to, or appeared to,

reduce the rate of acute admission, the variations in delivery and efficacy suggest that further studies are needed to identify the crucial variables that have the greatest impact.

2.5.2 Nurse Practitioners

A team of researchers at the School of Public Health, from the University of Minnesota has undertaken several studies related to the impact of GNPs on quality of care (Garrard et al., 1990; Kane et al., 2003; Kane et al., 1988; Kane et al., 1989). The studies indicated that GNPs may reduce hospitalisations and emergency department visits (Kane et al., 1989; Kane et al., 2003) but the main advantage is increasing satisfaction (Kane et al., 1988; Kane et al., 2002). The most recent study indicated that GNPs were able to manage the clinical needs of the residents more cost effectively than the residents who did not have the services of a GNP. However the researchers indicated that this was cost-effective only where hospitals were funded per bed-day (Kane et al., 2003). As New Zealand hospitals are funded using the Weis caseweight method (as explained in 4.2.2), the study by Kane et al. (2003) would suggest that GNPs might not be cost effective in this country.

2.5.3 Staffing levels within facilities

Increasing concern about decreasing profit margins facilitated the aged-residential care sector in New Zealand to commission a report by accounting company, PriceWaterhouseCoopers in collaboration with the MoH. The terms of reference indicated that the reason for commissioning the report was to move to national consistency and to develop a national pricing framework (Health Funding Authority [HFA], 1999). PriceWaterhouseCoopers identified staffing costs made up 67% of total bed-day costs of rest homes and 74% of total bed-day costs of continuing-care facilities. Medical costs were 3.5% and 4.25% respectively (HFA, 2000). This pricing framework considered the proportion of staffing costs but did not consider whether this generated optimum staffing levels in the wider context of health delivery. There has been no attempt in New Zealand to identify optimum staffing levels for aged-residential care facilities but considerable work has been recently undertaken in the United States of America.

The Omnibus Reconciliation Act (USA) 1987 set minimum standards for Medicare and Medicaid residents in nursing homes by legislating that all homes must have a registered nurse as director of nursing. Nursing homes must have a registered nurse on duty for eight hours per day, seven days per week and a licensed (either registered nurse or licensed vocational nurse) on duty at all times. The Omnibus Reconciliation Act (1987) does not specify a staff:resident ratio (Harrington, Zimmerman, Karon, Robinson & Beutal, 2000). The standards in the Omnibus Reconciliation Act (USA) (1987), are higher than those specified in the Old Peoples Homes Regulations (1987) and similar to those in the Hospitals Regulations (1993). Twenty-one States have either proposed or are considering proposals for new legislation (Harrington, Kovner et al., 2000), for example, California set minimum nursing staffing levels at 3.2 hours per resident day in 1999 (Harrington & Swann, 2003).

2.6 Summary

Provision of aged residential care is a complex activity. There are few areas where the literature is conclusive enough to dictate specific service delivery. In part, this is due to the relatively recent interest in studying the cost impact of this group of the population. The literature does give some significant indicators when considering future service design, however. The first is that the cost of healthcare lies in the last one to two years of life and the provision of aged-residential care is a significant contributor to that cost. The number of baby boomers reaching the last years of life will have a negative fiscal impact on the public health budget.

As people age, therefore, there are two key areas on which to concentrate when considering cost minimising strategies. One is the cost of long-term care and the other is the cost of acute care. A significant proportion of the cost of acute care occurs when an individual is hospitalised and needs to receive overnight care. A resident of an aged-care facility is already receiving twenty-four hour supervision so examining the reasons for hospitalisation and the options for reducing the transfer rate is one method of identifying alternative options of acute clinical care delivery.

Chapter Three: Variables affecting the need for acute admission from aged-care facilities to hospital

The need for physical assistance for activities of daily living such as bathing or walking defines a disability. Older people live in aged-care facilities because they have a significant disability requiring twenty-four hour assistance and supervision. For older people, disability is usually a consequence of poor health, predominantly of chronic conditions (Rozzini et al., 2002). A chronic illness is one that can be managed but cannot be cured. Common chronic illnesses suffered by older people include diabetes, stroke, heart disease, chronic obstructive pulmonary disorder, and dementia. Comorbidity is the term used to indicate when individuals have more than one such illness. Comorbidity is significantly correlated with disability; that is, the more comorbidities an individual has, the more disabled an individual (Rozzini et al., 2002). This would indicate that people who are disabled enough to require long-term residential care are likely to have a number of chronic illnesses requiring monitoring and periodic medical intervention.

Residents of aged-care facilities may be taking a number of medications to manage the symptoms of chronic illnesses, but the balance between fluid intake, food, medication, exercise, mobility and hygiene means that maintaining a state of relative wellbeing can be difficult. Monitoring physical wellbeing relies on the ability of staff to assess correctly the daily needs of the residents and anticipate any change in functional or physical state. For many of these residents, an illness as minor as a common cold can precipitate a deterioration in health and functional status. It is this sudden deterioration in physical condition requiring immediate clinical intervention that is known as an acute illness. In most New Zealand facilities, residents will be transferred to the acute hospital if they develop an acute illness that facility staff are unable to manage on site.

Many researchers indicate that transferring elderly residents to an acute hospital for management of an acute illness is detrimental to the wellbeing of a resident of an aged-care facility. Acute admission may lead to unnecessary complications (Turrell, 2001; Zimmerman, Gruber-Baldini, Hebel, Sloane & Magaziner, 2002), increased incidence of

mortality (Turrell, 2001), irreversible functional decline (Creditor, 1993; Finucane, Wundke, Whitehead, Williamson & Baggoley, 2000) including confusion, falls and ceasing to eat (Godden & Pollock, 2001). Increased susceptibility to relocation stress experienced by older people (Kayser-Jones, Schell, Porter, Barbaccia & Shaw, 1999) means acute admission can be emotionally and physically difficult for both resident and family (Bergman & Clarfeild, 1991). Rubenstein, Ouslander & Wieland (1988) go so far as to suggest "acute admission prolongs the dying process, often uncomfortably"(p. 482).

Formal investigations into acute admissions from aged-care facilities to acute hospitals vary significantly in both the approach and the variables used. Some studies reviewed focussed on whether such acute admissions were appropriate or avoidable (Bowman, Elford, Dovey, Campbell & Barrowclough, 2001; Intrator, Castle & Mor, 1999; Tresch, Simpson & Burton, 1985). Teresi, Homes, Bloom, Monaco & Rosen (1991) considered the barriers to residents being managed on site while yet another set of authors from the United Kingdom questioned whether aged-care facilities should be an alternative to acute hospitals at all, in the provision of clinical care (Beringer & Flanagan, 1999; Turrell, 2001). Beringer & Flanagan, for example, suggested that most acute admissions were unavoidable and therefore investment should be made in reinstating wards for older people who require long stay residential care within acute hospitals.

Different funding and staffing configurations in various countries appear to be influential in research design. The United Kingdom research is influenced by the lack of explicit funding for residents of aged-care facilities. Pell & Williams (1999) explained that when long-term aged care was moved from the acute hospital setting into the community, general practitioners were expected to provide clinical care for this group of individuals for the same funding as for those who live in their own home. As residents of aged-care facilities are a high need group who are unable to travel to the general practice clinic, provision of care is more expensive. Concern by clinicians over the lack of acknowledgement of the time requirements and subsequent funding arrangements for clinical care of residents of long-stay facilities (Pell & Williams, 1999; Kavanagh & Knapp, 1998) appears to contribute to the reasons why acute admissions are considered to be unavoidable by researchers.

An increasing number of studies, mainly from the United States of America, have considered reasons for acute admission from aged-care facilities and why facilities that appear to provide a similar level of care may differ between acute admission rates (Intrator et al., 1999; Kasyer-Jones, Weiner & Barbaccia, 1989; Carter & Porrell, 2003). These can be grouped into broad categories of; resident acuity, staffing characteristics, access to diagnostic and therapeutic intervention, family pressure, funding, future care requests and facility characteristics. These variables are outlined and considered in the order presented in the facility census (see Appendix C).

3.1 Medical acuity of the residents

Individuals appear to be entering aged-care facilities in an increasingly frailer, sicker condition (Hendrix & Foreman, 2001; Teresi et al., 1991). Weiner et al. (2000) outlined the extent of frailty by identifying that 34% of those living in assisted living facilities or at the lower care level (rest home equivalent) had cognitive impairment and 24% required help with three or more activities of daily living.

Medical acuity is a measure of the level of care a patient or resident requires. It has been suggested that facilities that have higher transfer rates may have residents with a higher acuity (Intrator et al., 1999), that is, a frailer, more unwell group, who are therefore more likely to experience functional decline and increased chance of mortality. As in New Zealand, most countries producing English language research have some form of *gate-keeping* provision for publicly-subsidised residents meaning that the dependency of residents within a care level is fundamentally the same (Tresch et al., 1985; MoH, n.d.). That is, in New Zealand, while residents in continuing-care facilities will have a higher acuity (require a higher level of care) than rest home residents, residents within each care level should have a similar acuity irrespective of the facility of residence.

Researchers have considered low and high transfer rates from aged-care facilities and have excluded medical acuity as a predictor for acute admission (Intrator et al., 1999; Tresch et al., 1985). Intrator et al. controlled for residential demographics, advance directives (documented advice as to how actively a resident wishes to be treated in the

event of a future acute illness), diagnoses, selected clinical signs and types of payer and found that medical acuity did not appear to impact on acute admission rate.

3.2 Staffing characteristics

3.2.1 Staffing levels and Skill mix

Based on the literature and the relevant government web sites, it appears that most of the countries producing relevant research (United States of America, Australia, United Kingdom) have two levels of aged residential care. The higher care level (continuing-care equivalent) employs more registered nurse hours per resident day than the lower care level (rest home equivalent) facilities which have a higher ratio of low or non trained staff (Kayser-Jones et al., 1989). The skill mix of medical and nursing staff employed within a facility has been cited as being relevant to acute admission rates (Kayser-Jones et al. 1989; Teresi et al., 1991).

Nurses employed in aged-care are trained to a number of levels, beginning with a nurse aide or assistant with little or no training up to a nurse practitioner with post graduate qualifications and the ability to undertake some procedures and prescribing usually left to medical staff[5]. A limited number of enrolled nurses[6] are still employed by aged-care facilities in New Zealand and can be equated to licensed vocational nurses employed in the United States of America. As aged-care facilities are primarily places of residence rather than hospitals, the majority of staff are in the nursing assistant or caregiver categories. In the United States of America, a similar skill mix to New Zealand means that the majority of

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[5] There is one nurse practitioner working in an aged-care facility in New Zealand at the time of writing this paper.

[6] Enrolled nurses received one year of training and work alongside registered nurses in New Zealand hospitals. The scope of practice of an enrolled nurse is significantly less than for a registered nurse. Enrolled nurse training has not been available in New Zealand for several years and the number of enrolled nurses is steadily decreasing.

care therefore, is carried out by poorly trained health care assistants (Kayser-Jones et al., 1989; Teresi et al., 1991), who are less capable of assessing medical symptoms and managing care regimes (Carter & Porrell, 2003) and who may exert pressure on skilled staff to agree to hospitalise residents who become acutely unwell (Carter & Porrell, 2003; Kayser-Jones et al., 1989).

Carter & Porrell (2003) identified that the facilities with a higher proportion of nursing expenses allocated to non-registered staff had a greater risk of acute admission, suggesting that the skill mix was too heavily weighted to non-registered staff. This weighting may also facilitate acute admission by physicians if it is considered staff are not skilled in managing an unwell resident (Kayser-Jones et al., 1989). Barker et al. (1994) found strikingly higher acute admission rates from intermediate (equivalent of rest home) care level facilities than those from skilled (equivalent of continuing-care) level facilities. The assumption of Barker et al. that the higher acute admission rates were due to lower staffing skill level must be considered in the context of dependence of residents. Active clinical intervention by the acute hospital (e.g., rehabilitation) may maintain residents at the lower care level and therefore these residents may be offered interventions that would not benefit residents of higher care level facilities who are already fully dependent.

In support of the assumptions of Barker et al. (1994), there is also the possibility that poorly trained or unsupervised lower level staff increase the risk of acute admission by failing to understand fully the daily needs or changing condition of residents. Poorly trained staff may not understand the reasons for ensuring that older people have adequate fluid intake. Older people who do not consume adequate amounts of fluid are more susceptible to urinary tract infections, pneumonia, pressure ulcers, hypotension (low blood pressure), confusion and disorientation (Kayser-Jones et al.,1999); all reasons for acute admission and increased mortality rates.

Chapter 9 of Phase I of the Report to (United States of America) Congress on the "Appropriateness of minimum nurse staffing ratios in nursing homes" (CMS, 2000) considered the effects of nurse staffing on the need for acute admission. The researchers analysed acute admissions for five diagnoses: congestive heart failure, electrolyte

imbalance, respiratory infection, urinary tract infection and sepsis. This group of conditions were chosen as they are a major cause of acute admission from aged-care facilities and these admissions may be preventable with adequate care. The researchers used Medicare claims and OSCAR (On-line Survey Certification and Reporting System)[7] data from three States to evaluate the acute admissions. Testing of a number of different staffing levels illustrated that there was a clear association between staffing and quality of care and acute admission for avoidable conditions. The researchers identified staffing levels or thresholds below which facilities were at substantially greater risk of quality problems and hospital transfer (CMS, 2000).

Availability of appropriately trained medical staff also appears to have an influence on transfer rates (Intrator et al., 1999). The experience of the attending physician was found to be influential in an Italian study (Bellelli et al., 2001) with availability of geriatric specialists shown to reduce acute admission rates in two studies from the United States of America (Phillips, Paul, Becker, Osterweil & Ouslander, 2000; Rubenstein et al., 1988). While these studies have indicated that medical skill is influential, others have identified variables that may be as important as or even override skill mix. Employing on site medical staff (Barker et al., 1994) and twenty-four hour physician coverage (Teresi et al., 1991), including holiday and night cover, by a physician familiar with the facility (Belleli et al., 2001) were suggested as variables that may reduce acute admissions.

The Aged Residential Care Contract in New Zealand makes no recommendations for non-subsidised residents but states that "a subsidised resident may choose to be attended by a general practitioner of their own choice who agrees to visit the facility and maintain the facility's medical records as prescribed in this contract" (MoH, 2003b, p. 45). The contract does not therefore specify experience or skill mix of medical staff or provide for on-site medical availability. Apart from the mandatory one or three monthly medical

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[7] Facilities receiving Medicare funding are measured against a set of documented standards and this information is fed into a national database known as OSCAR.

assessments, medical assessment is activated by an illness and funded on a case-by-case basis.

3.2.2 Staff turnover

Zimmerman et al. (2002) suggested that high registered nurse turnover impacted adversely on the quality of care provided by aged-care facilities and therefore increased the risk of a transfer to an acute hospital. The study by Zimmerman et al. considered infection (sepsis) as a marker for quality of care and found that while other staffing variables related to incidence of infection, it was nursing turnover that related to acute admission for infection. The authors found that with each loss of a nurse full time equivalent position (FTE) per 100 beds, the rate of infection increased by 30% and the rate of acute admission by 80%. There were several suggestions as to why this may occur, including the high nurse turnover making it difficult to implement infection control policies. A second assumption was that, if the relationship between nurse and resident was not well established, staff may not recognise problems before they become too acute to avoid (Zimmerman et al., 2002).

If high registered nursing turnover is negatively implicated in quality of care and need for acute admission, then it is useful to understand why high nurse turnover might be happening. Harrington & Swan (2003) suggested that total nurse and registered nursing hours were negatively associated with nurse staff turnover and positively associated with resident case mix. The researchers assumed higher staffing resulted in a lower turnover because the higher staff:resident ratio meant that workload was less onerous, but staff turnover may also be influenced by terms and conditions of employment and the culture of the facility.

3.2.3 Attitude of staff towards acute admission

Teresi et al., (1991) suggested that nurses who worked in facilities that rarely transferred residents to hospital, viewed acute admission more negatively than nurses who worked in facilities that had a higher acute admission rate. In addition, the study by Teresi et al. identified that the attitude of the nurse supervisor who raised the possibility of an acute admission and the attending physician who made the final decision, are a key driver

in acute admission rates. Teresi et al. found that facilities with high acute admission rates, transferred residents with conditions that did not always require acute hospital intervention. Facilities with lower acute admission rates on the other hand only transferred those residents who had conditions that required *definitively mandated hospital treatment* (Teresi et al., 1991), that is, treatment that can only be provided in an acute hospital.

3.3 Access to clinical equipment and therapy

Aged-care facilities in New Zealand are not required to have on-site access to the expensive diagnostic equipment that aids clinical decisions. Neither do staff have access to all of the equipment that may be required to treat an illness. Residents therefore need to be sent off site in order to access diagnostic tests like x-rays, and sometimes to access interventions such as intravenous (IV) therapy.

The Aged Residential Care Contract outlines the clinical equipment required under the contract to meet the general needs of the subsidised resident. Although it states, "included but not limited to:" (MoH, 2003b, p. 43) the equipment stated in the contract are small inexpensive items such as scissors, forceps and blood glucose testing equipment. Further, the exclusion section specifies that the services *do not* include "the provision of equipment, aids, medical supplies or services that relate to conditions covered by DHB funding except where these are specified in Section D or Section E as forming part of the service" (MoH, 2003b, p. 42).

The Aged Residential Care Contract outlines in detail the services purchased to meet physical, psycho-social, spiritual and cultural needs of the resident, but services to maintain health status are not specified. The contract states that when a resident suffers from a marked deterioration in health status, the general practitioner may refer the resident on to specialist assessment services including those provided by the assessment, treatment and rehabilitation services provided by the District Health Board (MoH, 2003b) and there is no requirement to provide those services under this contract. It appears that the Aged Residential Care Contract and funding streams are limiting the type of services that may be

offered on site and this in turn may be having an effect on the acute admission rates of residents of New Zealand aged-care facilities.

The ability to administer IV therapy appears to be fairly significant in a number of studies undertaken in the United States of America (Gillick, Serrell & Gillick, 1982; Kayser-Jones et al., 1989; Ouslander, 1989; Tresch et al., 1985; Turrell, 2001). The number of acute admissions estimated to be avoidable was somewhere between 17% (Turrell, 2001) and 70% (Kayser-Jones et al., 1989) if IV therapy was available on site.

A qualitative study of opinions of nursing home employees in the United States of America by Read (1999) found that acute admissions could be prevented with activities such as access to equipment (that is IV poles), multidisciplinary staff (for instance physiotherapy and expanded skills to support subcutaneous and intravenous therapy) and phlebotomy (taking of blood). The ability to receive general advice over the telephone was indicated as an advantage in managing acutely unwell residents.

Access to such services varies in different regions within New Zealand, but the facilities in the Hutt Valley have had access to IV therapy via a *hospital-at-home* service for approximately two years. Access to multidisciplinary staff and specialist nursing skills however is less available on site.

3.4 Family expectations

Family pressure has been established as one of the factors associated with acute admission by Kayser-Jones et al. (1989), possibly because of the perception by people in the community that *better* care is provided by the acute hospital. Families may feel comforted by the increased level of specialist support available to them in the acute hospital and can encourage acute admission to hospital.

3.5 Future treatment requests

It is important that frail older people are given the opportunity to identify the desired level of treatment required in the event of being unable to articulate wishes at the time of an acute illness. Many older people wish only to be kept comfortable and do not want to receive invasive or uncomfortable treatments at that stage in their lives. Such plans are known as *future care requests* and may include a range of wishes such as *do not resuscitate* in the event of a cardiac arrest, or *do-not-hospitalise* or *comfort-care only* if a resident contracts pneumonia, for example. Comfort-care refers to pain management and treatments that allow the resident to be comfortable but does not treat the underlying condition or actively prolong life. A comfort-care order would mean little could be done by the acute hospital that could not be undertaken at the facility. While some aged-care facility managers arrange for future care requests as part of the admission processes into the facility, others find such a discussion difficult and the resident is not offered the choice to consider options for future care at a time when they are cognitively able to do so (Aged-care managers forum, personal communication, March 16, 2004).

Mott & Barker (1988) found that asking residents for future care requests reduced acute admission by 79%. Fried, Gillick & Lipsitz (1995) suggested that physician reluctance to treat on site may be as a result of having to use the telephone to evaluate resident needs and make treatment requests, but suggested that a *do-not-hospitalise* order may make the physician feel more comfortable about using such a modality. Despite a do-not-hospitalise order, comfort with using the telephone will be influenced by the knowledge the attending doctor has of the resident and the relationship with the nurse making the treatment request.

3.6 Facility characteristics

Multivariate analysis undertaken by Carter & Porrell (2003) of facilities within the United States of America identified that while medical need did influence acute admission rates, facility characteristics were significant. Factors that reduced the rate of acute admission included not-for-profit status, facilities with higher patient acuity, those

reimbursed more highly by Medicare and those who invested more heavily in registered nurses. Conversely those facilities managed by profit chains, those who were more likely to employ non-registered nurses and those more highly reimbursed by Medicaid were more likely to hospitalise. These findings suggest that funding structures and profit making requirements do have an impact on the level of clinical care that can be provided on site and therefore the need transfer of the acutely ill to hospital.

Numerous studies from the United States of America have considered whether for-profit or not-for-profit status impact on the way care is delivered within aged-care facilities (Carter & Porrell, 2003; Grabowski & Hirth, 2003). Grabowski & Hirth (2003) performed a literature review identifying inconsistent findings regarding for-profit or not-for-profit incentives and whether these impact on the quality of care provided. Rosenau & Linder (2003) also produced a literature review of 149 studies. That review showed that 59% of the studies concluded that not-for-profit facilities were superior, 12% considered for-profit facilities were superior and the remainder concluded there was no difference. Rosenau & Linder found that differences were decreasing in later studies, that is, those that occurred in the 1990's, which may relate to the increasing number of regulated quality inspections that occur in the Untied States of America and have been instigated in New Zealand. Harrington & Swan (2003) found overall staffing levels were lower in for-profit facilities, however Intrator et al. (1999) found that lower staffing levels did not always mean that the rate of acute admission was higher.

Grabowski & Hirth (2003) suggested that it was desirable for both types of facility, for-profit and not-for-profit, to remain in the market to maintain a quality balance. These authors suggested that while not-for-profit facilities have an advantage due to *trustworthiness,* the for-profit facilities have competitive incentives for efficiencies. The inference was that overall these two competitive influences provided better outcomes than just one type of organisation.

3.7 Contractual arrangements and funding structures

Contractual arrangements and funding structures can be used to define which funding organisation or division pays for specific clinical activities. This in turn may encourage cost shifting between acute hospitals and residential care facilities. Rubenstein et al. (1988) concluded that government funding strategies in the United States of America encouraged *ping ponging,* with residents being transferred between acute and aged-care facilities frequently due to funding availability. Likewise, Zimmer, Eggert, Treat & Brodows (1988) suggested that residents may be acutely admitted because the facilities were not reimbursed financially for the higher level of care required during an acute illness, and did not maintain staffing patterns to meet acute care needs.

In New Zealand, the funding arrangements may have an impact on the ability of aged-care facility staff to manage an acute illness. When a resident becomes acutely unwell the facility continues to be paid for up to 21 days in any financial year while a resident is in hospital (MoH, 2003b). In addition, the facility has extra consumable or human resource costs to met when managing an acutely unwell resident, which creates a disincentive to manage the resident on site.

3.8 Summarising reasons for acute admission

In summary, while access to equipment and funding structures are included as reasons for acute admission to hospital, the predominant reason relates to staffing issues. These include staffing levels, skill mix and staff turnover. Most studies illustrated that increased availability and higher skill levels of staff will result in a reduction of acute admissions. These would appear to have relevance to the New Zealand situation. The legal and contractual requirements for skilled staffing in New Zealand aged-care facilities are limited. The cost to the government of increasing the staffing requirements would be substantial as it could only occur with a significant funding increase to the aged-care facility sector. Any decision to increase the minimum staffing requirements would be undertaken with some caution by the funder and with an expectation that such an increase would at least in part be offset by a decrease in costs elsewhere in the health system.

Table 3.1 summarises the scope of the research in relation to the variables. Some variables have been researched extensively and the evidence is conclusive; such as the impact of staffing and skill mix on acute admission rate. Other variables such as staff attitude require further exploration in order to define exactly what the impact of staff attitude is in relation to acute admission rates. The range of variables that have been discussed in the literature and the accompanying results, most of which suggest a relationship between the variable and acute admission rates, illustrates the complexity of the research problem.

Table 3.1: Impact of variables on acute admission rates of residents of aged-care facilities

Variable	Key researchers	Reference	Findings
Medical Acuity	Intrator et al.(1999); Tresch et al. (1985)	Medical Care; Journal American Geriatric Society (JAGS)	Not a reason for acute admission
Staffing skill mix	Kayser-Jones et al. (1999); Teresi et al., (1991); Carter & Porrell, (2003); Phillips et al., (2000)	Journal American Geriatric Society (JAGS); The Gerontologist; The Gerontologist; JAGS	May be a reason for acute admission
Staff turnover	Zimmerman et al., (2002)	JAGS	High staff turnover increases acute admission rates
Staff attitude	Teresi et al., (1991)	The Gerontologist	Can affect acute admission rates
Access to clinical equipment	Gillick et al., (1982); Kayser-Jones et al., (1989); Ouslander, (1989); Tresch et al., (1985); Turrell, (2001)	Social Science Medicine; The Gerontologist; Journal of American Medical Association; JAGS; Age and Aging	Lack of access to equipment can be a reason for acute admission (IV poles, mobile x-ray machines)
Family expectations	Kayser-Jones et al., (1989)	The Gerontologist	May facilitate acute admission
Future care requests	Mott et al., (1988); Fried et al., (1995)	JAGS; Journal of Internal General Medicine	May reduce acute admission rates
Facility characteristics	Grabowski & Hirth, (2003); Rosenau & Linder, (2003)	Journal of Health Economics; Social Science Quarterly	Varying results; unclear whether or not facility characteristics impact on acute admission rates
Contracts and funding	Rubenstein et al., (1988); Zimmer et al. (1998)	Clinics in Geriatric Medicine; JAGS	Can impact on acute admission rates

The implication from this body of research is that increasing staffing levels and skill mix would be partly offset by a decrease in the cost of acute admission to the funder. Further research is required in order to test this hypothesis in the New Zealand context to determine overall cost effectiveness.

Chapter Four: Data collection technique

4.1 Chapter Outline

Chapter Four explains the two stages of data gathering used for the study. The first part of the chapter outlines the admission data gathered from the Hutt Hospital Patient Management System (PMS) (a database holding information about each person who presents to the hospital as an inpatient or outpatient). The coding systems used to classify and cost the admission, are identified. The second part explains the census process for gathering information on staffing and costs from the facilities.

4.2 Admission data

Patients may be admitted to hospital in two ways. The first is a planned or elective admission, where procedures and treatments are organised in advance. The majority of elective procedures are surgical and require specialised facilities, equipment and personnel.

The other is by acute admission. An acute illness generates a visit to a general practitioner or emergency department with a condition that requires urgent treatment. A condition that cannot be treated in a patient's own home or aged-care facility generates an acute admission to hospital.

4.2.1 Admission process

When a patient is admitted to the Hutt Hospital, a ward clerk enters personal details into the PMS. This information includes name, age, address, name of general practitioner and next-of-kin. While the name and address of an aged-care facility is entered into the database where appropriate, this information does not specify the care level received by a resident. If the facility is part of a retirement village, the database does not differentiate between a villa and an aged-care facility resident.

Throughout the duration of the hospital stay, information about the patient is written on to a paper-based patient record. After discharge, trained coders analyse the patient record to code and cost each admission.

4.2.2 Classification and costing

The Hutt Hospital uses the International Statistical Classification of Disease and Related Health Problems – Australian modification (ICD-10) system (Tabular list of diseases, 2000) (see glossary) to code each patient discharge. This system awards every patient a code for the primary diagnosis and codes for other diagnoses in order of importance.

As part of the coding system each discharge is allocated a caseweight using the *weighted equivalent inlier separations 8c* New Zealand modification of the Victorian Caseweight model (WEIS caseweight) (New Zealand Health Information Service [NZHIS], 2004). The WEIS caseweight system uses IDC-10 codes and other information such as length of hospital stay to calculate a caseweight value. The caseweight gives an indication of complexity of the admission. For instance, a patient who is admitted for one day for observation but receives no procedures or treatment will receive a low caseweight such as 0.3. A patient who is admitted for major surgery, has a subsequent stroke and has to stay for 30 days will receive a high caseweight such as 3.5. The method of calculating caseweights is reviewed regularly by an official monitoring group of experts (NZHIS, 2004). A caseweight is attributed a price which is recalculated periodically by the MoH. In 2003, one caseweight cost the funder $2,168.

Patients may be transferred to the rehabilitation wards once a medical condition is stable, if it is considered there is potential for functional improvement. Rehabilitation is funded by bed-day so while caseweights are calculated to identify complexity, the hospital is funded per bed-day for this part of the acute admission. In addition the cost of the emergency department assessment is included in the final cost. This will vary depending on length of time the resident stayed in the emergency department. For example, the cost of the acute admission for a resident who had suffered from a stroke and who had both an acute ward stay and a rehabilitation ward stay will be a combination of the cost of the

emergency department visit, the total caseweight cost for the acute part of the hospital stay and bed-day cost for the rehabilitation part of the hospital stay.

That is, if the acute part of the admission were 2.3 caseweights this would cost the funder $2168 for each casweight. If the resident then had 16 days in the rehabilitation ward, while an additional caseweight measure would be allocated to the admission, the hospital would be funded a bed-day rate of $380. For instance, if the emergency department stay for this resident was $300, the final cost of the acute admission to the funder would be (2.3 x 2168) + (16 x 380) + 300 = $11,366.40. This means that caseweights alone cannot be used to calculate cost to the funder of each admission.

4.2.3 Admission data set

Aged-care facility residents may be admitted to the acute hospital for both acute and elective reasons. For the purposes of this study, the author has made the assumption that elective procedures must be managed within the hospital and therefore have no relevance to the data collected. Acute admissions only are included in this study.

In order to calculate the current number and cost of acute admissions, an audit was conducted of acute admissions of residents of aged-care facilities over a 12-month period between December 1, 2002 and the November 30, 2003. The data extracted contained national health index number, primary diagnosis, secondary diagnosis, facility of residence, caseweight, length of stay and the cost of the care received by the resident.

4.2.4 Confirming the data

In order to clarify which admissions needed to be included in the study, the data was cross-checked with the assistance of the NASC agency to identify whether the individual was an aged-care facility resident. Those who were in villas or supported apartments were excluded and others were coded to identify whether they were in rest home, continuing-care, dementia unit or psychogeriatric unit. Some residents were admitted from a facility whilst they were on respite care. Respite care is short-term stay in an aged-care facility

designed to offer relief to the carers of older people. Residents in the respite category were classified as rest home residents for the purposes of this study.

4.2.5 Preventable conditions

Researchers attempting to define minimum nursing levels for aged-care facilities in the United States of America, identified congestive heart failure, urinary tract infection, respiratory infection, sepsis and electrolyte imbalance as key preventable conditions empirically related to low staffing levels (CMS, 2000). One of the HVDHB coders identified the ICD-10 codes that are attributed to the five conditions (see appendix F for ICD codes of preventable conditions). In order to investigate whether staffing levels in the aged-care facilities in the Hutt Valley impacted on the admission rates for preventable conditions, the acute admissions in the 12-month audit were sorted using appropriate ICD-10 codes. Acute admissions that had one of the identified ICD-10 codes attributed to the primary or secondary diagnosis were counted as preventable conditions. All others were counted as non-preventable conditions.

4.3 Census information

To obtain the information on staffing models, skill mix and costs, a census of all the facilities in the Hutt Valley was undertaken. Managers were sent a census form (see Appendix C) in preparation for an audio taped face-to-face interview.

4.3.1 Registered nursing and caregiver hours

Nurse and caregiver staffing was recorded on a twenty-four hour basis by recording the number of individuals working each hour by skill mix. This information was recorded on a table such as table 4.1. The top row of the table lists each hour of the twenty-four hour day. The second row shows how many individuals of each skill mix were working during each hour.

Table 4.1: Recoding method for number of staff on duty during each hour of the day

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
CG	1	1	1	1	1	1	5	6	6	5	5	5	4	4	5	5	6	6	3	2	1	1	1	1
RN							1	1	1	1	1	1	1	1										

Key: CG – caregiver, RN – registered nurse

This information was then used to calculate the average number of staffing hours per day by skill mix received by each resident. Weekend staffing ratios are lower than during the week so the hours were averaged across the week to give the same daily allocation. Table 4.2 was used to calculate the number of hours per resident day for caregivers. That is, the first line shows that there was one caregiver on duty for ten hours of the day and for four hours of the day, there were six caregivers on duty. As illustrated in the total column in table 4.2, it can be seen that the total number of hours worked by caregivers is 77 hours per day. This is then divided by 31.5 average occupied beds, which gives a result of 2.4 hours of caregiver time per resident day. $77 \div 31.5 = 2.4$ hours of caregiver time per resident day.

Table 4.2: Calculating caregiver hours per resident day

Number of Caregivers on duty per hour	Number of hours per day worked by caregivers	Total caregiver hours
1	10	10
2	1	2
3	1	3
4	2	8
5	6	30
6	4	24
Total	24	77

A similar table was used for registered nurses where more than one was employed. Where only one registered nurse was on duty per day, as in Table 4.1 the calculation was eight hours divided by 31.5 occupied beds which gave 0.25 registered nurse hour per resident day i.e., $8 \div 31.5 = 0.25$ registered nurse hours per resident day. In facilities where the manager was a registered nurse, held a practising certificate and participated in clinical decisions, the manager's hours of employment were included in the registered nurse hours.

4.3.2 Contractual arrangements with general practitioners

As part of the census, managers were asked if the facility contracted with a specific general practitioner. The arrangements of the contract in terms of after-hours cover and regular attendance times were outlined. Specific terms and conditions of the contract such as salaries or casual payments were not recorded.

Technically residents of facilities are able to retain their own general practitioner if they choose to. Managers were asked how many residents retained their own general practitioner and whether the clinical practice of the non-contract general practitioners was different to that of the contract general practitioner. Finally, the total general practitioner costs for the 2003 calendar year were requested.

4.3.3 Contractual arrangements with registered nurses

Rest homes do not have to employ registered nurses for twenty-four hours a day. To identify allocation of registered nursing cover in rest homes, managers were asked what on-call arrangements were made with registered nurses. On-call means that a registered nurse is available for the facility staff to contact out of normal working hours. Managers were asked to outline whether the on-call nurse must physically assess an ill resident and whether on-call registered nurses were paid a retainer or an on-call rate. In addition, the manager was asked if the registered nurse was required to make an assessment of acutely ill residents and any limitations in this analysis. For instance, was there a written protocol that specified at what stage the on-call registered nurse should be contacted and when the registered nurse would contact the general practitioner?

Managers were asked to explain if they thought the staff were experienced in delivery of acute care to older people. Budgeted costs for nursing and caregiver staff by skill mix was recorded, where available, for the 12 month period.

4.3.4 After Hours Arrangements

The District Health Board contract with general practitioners stipulates that a twenty-four hour primary medical service must be available to all patients. General practitioners in the Hutt Valley meet this obligation by contracting with a local After Hours Service to provide after-hours and public holiday cover. General practitioners who join the After Hours Service are rostered across the shifts.

Facility managers were asked whether the contract general practitioner provided after-hours medical cover. If the After Hours Service was used, managers were asked how often the After Hours Service was contacted. Further questions included whether After Hours Service general practitioners ever made a house visit, that is, visited the resident in the facility. Finally, what the manager considered was the best after-hours arrangement for that particular facility was recorded.

4.3.5 Acutely unwell residents

Managers were asked which acute conditions staff were unable to manage and whether this differed between normal working hours and after-hours. Managers were asked what they felt would assist staff to manage when a resident became unwell and whether there were additional resources that would enable better management of acutely unwell residents.

4.4 Summary

In summary, the admission audit identified the number of acute admissions by facility, care level, diagnoses, caseweight and cost. The census data outlined the actual bed numbers and annual average occupancy of facilities. Details about staffing, out-of-hours cover and management of acutely unwell residents were also recorded.

Chapter Five: Data from admission audit and facility census

5.1 Introduction

An analysis of the initial audit data of acute admissions into Hutt Hospital is undertaken. Acute admissions are categorised into preventable and non-preventable conditions. Preventable conditions are defined using ICD-10 codes identified by a Hutt Hospital coder that match the five conditions outlined in the Medicaid research document (CMS, 2000). Caseweights and costs are analysed as defined by a Hutt Hospital coder. This data provides information against which individual facility data gathered through the census can be compared to identify the variables that impact on acute admission rates.

The census data is analysed by identifying the number of beds and average occupancy in order to allocate an average occupied bed number to each aged-care facility. Information about staffing allocation and contracts is identified so staffing characteristics may be considered as a variable for acute admission rates. Nursing and caregiver hours per resident day are calculated. Contractual arrangements with general practitioners are detailed, again to explore whether this is a variable relevant to acute admission rates. Subjective comments by managers about contractual arrangements are analysed thematically. Cost data is explained and contractual relationships with registered nurses defined. Finally, after-hours arrangements are explored, as are the options for increasing resources that would enable on site management of acutely unwell residents.

5.2 Acute admissions into Hutt Hospital

There were a total of 215 acute admissions from the aged-care facilities to Hutt Hospital included in the study. Continuing-care residents contributed to 55 acute admissions, while 160 were from rest homes. Of the acute admissions from continuing-care, 34 were categorised as preventable and 21 categorised as non-preventable conditions. Of the 160 acute admissions from rest homes, 65 were preventable and 95 were non-preventable. Table 5.1 outlines the number of acute admissions from each facility by

preventable (e.g., respiratory infection) and non-preventable (e.g., appendicitis) acute admissions. Some facilities only provide one care level. Cells that relate to the care level not provided by a facility are labelled not applicable (N/A).

Table 5.1: Number of acute admissions from continuing-care and rest homes of preventable and non-preventable conditions.

	Continuing-care facility		Rest home facility	
Facility code	**Preventable**	**Non-preventable**	**Preventable**	**Non-preventable**
F1	0	0	N/A	N/A
F2	1	1	0	1
F3	1	3	3	11
F4	2	1	N/A	N/A
F5	2	4	5	5
F6	2	1	1	1
F7	3	1	2	3
F8	4	2	2	6
F9	5	1	10	5
F10	14	7	8	6
F11	N/A	N/A	2	4
F12	N/A	N/A	0	3
F13	N/A	N/A	3	1
F14	N/A	N/A	6	8
F15	N/A	N/A	12	22
F16	N/A	N/A	2	6
F17	N/A	N/A	3	8
F18	N/A	N/A	6	4

5.2.1 Caseweights and Cost

The caseweight attributed to an acute admission is an indication of complexity and the severity of illness, that is, the higher a caseweight the more severe and complex an acute admission. Teresi et al. (1991) identified that facilities with lower acute admission rates only transferred residents who definitely required hospital treatment. While the caseweight will not indicate necessity for hospital-only treatment, the average caseweight may indicate whether a facility has a higher or lower threshold for acutely admitting a resident to the hospital when unwell.

Table 5.2 illustrates the number of acute admissions from each facility, the average caseweight of those admissions and the total cost to the funder of all the acute admissions from each facility. As explained in section 4.2.2, total costs are made up of a combination of emergency department visit, caseweight and rehabilitation bed-day price. Each acute admission is attributed with a price as part of the coding process. The total costs to the funder recorded in table 5.2 are the sum of each admission cost provided by the Hutt Hospital analysts while compiling the 12-month acute admission audit data. For instance, facility two had two continuing-care admissions, the first admission had a caseweight of 0.95 and a cost of $2053, the second had a caseweight of 6.32 and a cost of $14,609 (total cost, $16,662). The high caseweight of the second acute admission suggests this resident had a stay in the rehabilitation ward.

Facility two (F2) had one acute rest home admission with a caseweight of 3.37 and a cost of $7,317 indicating a complex and severely ill resident. Facility 14 had 14 rest home residents admitted with an average caseweight of 1.42 and total cost of $49,857 (ave admission cost, $3,561), which may indicate a lower threshold for requesting an acute admission than facility two.

Table 5.2: Total number of acute admissions, average caseweights and total cost by care level and by facility

	Continuing-care			Rest Home		
Facility Code	**No of acute admissions**	**Ave CW**	**Cost to the funder**	**No of acute admissions**	**Ave CW**	**Cost to the funder**
F1	0	N/A	N/A	N/A	N/A	N/A
F2	2	3.63	$16,662	1	3.37	$7317
F3	4	2.16	$20,710	14	1.93	$55,985
F4	3	2.16	$17,415	N/A	N/A	N/A
F5	6	1.13	$14,524	10	1.68	$33,679
F6	3	0.75	$4,861	2	1.23	$5,341
F7	4	1.44	$12,472	5	1.69	$17,458
F8	6	1.74	$22,612	8	2.03	$34,792
F9	6	1.10	$14,257	15	1.83	$61,430
F10	21	1.52	$68,441	14	1.55	$50,329
F11	N/A	N/A	N/A	6	1.59	$16,473
F12	N/A	N/A	N/A	3	2.82	$22,483
F13	N/A	N/A	N/A	4	0.98	$10,680
F14	N/A	N/A	N/A	14	1.42	$49,857
F15 (NR)	N/A	N/A	N/A	34	1.81	$124,951
F16	N/A	N/A	N/A	9	2.92	$52,423
F17	N/A	N/A	N/A	11	2.42	$61,265
F18	N/A	N/A	N/A	10	1.46	$35,914
Total			$191,954			$640,377

Key: NR – non responder, Ave CW – average case weight, no of acute admissions – number of acute admissions

Note: (calculated using the costs provided by the Hutt Hospital analysts of each admission. Costs include ED visit, caseweight cost and rehabilitation bed-day cost.)

In order to estimate the cost of acute admissions for preventable conditions, table 5.3 outlines the average case weight of preventable conditions and the total cost of acute admissions of preventable conditions from each facility. These costs will be useful if an

alternative model of clinical care delivery is identified that may reduce the incidence of preventable conditions.

Table 5.3: Average caseweights of acute admissions of preventable conditions and total costs of acute admissions per facility

	Continuing-Care			Rest Home		
Facility Code	**Total number of preventable condition acute admissions**	**Ave CW**	**Total Cost**	**Total number of preventable condition acute admissions**	**Ave CW**	**Total Cost**
F1	0	N/A	N/A	N/A	N/A	N/A
F2	1	0.95	$2,053	0	N/A	N/A
F3	1	0.97	$2,095	3	1.05	$6,843
F4	2	1.50	$8,205	N/A	N/A	N/A
F5	2	1.36	$5,899	5	1.61	$14,773
F6	2	0.76	$3,296	1	1.73	$1,593
F7	3	1.18	$7,656	2	1.02	$3,548
F8	4	1.41	$12,185	2	0.89	$3,849
F9	5	1.18	$12,738	10	1.33	$28,866
F10	14	1.23	$37,062	8	1.21	$21,120
F11	N/A	N/A	N/A	2	1.40	$6,067
F12	N/A	N/A	N/A	0	N/A	N/A
F13	N/A	N/A	N/A	3	1.05	$8,619
F14	N/A	N/A	N/A	6	1.49	$23,812
F15 (NR)	N/A	N/A	N/A	12	1.24	$32,920
F16	N/A	N/A	N/A	2	1.73	$7,297
F17	N/A	N/A	N/A	3	1.23	$6,562
F18	N/A	N/A	N/A	6	1.26	$20,003
Total			$91,189			$185,872

Key: NR – non responder, Ave CW – average case weight, preventable conditions – sepsis, respiratory infection, electrolyte imbalance, urinary tract infection, chronic heart failure

Note: (calculated using the costs provided by the Hutt Hospital analysts of each admission. Costs include ED visit, caseweight cost and rehabilitation bed-day cost.)

5.3 Census Data

Facility 15 did not participate in the census. Therefore, data for the following sections is not available for this facility. Since the end of 2003, facility 15 has changed a number of beds from rest home to continuing-care and now has a new manager. The new manager is unable to provide information related to the acute admissions recorded in the audit. The lack of census data for facility 15 does not affect the results.

5.3.1 Bed number and Occupancy

Some facilities have contracts for unresourced beds, that is, beds that are not used or staffed for and may not exist. This may be because the beds are in double rooms that would only be used if there were a couple in residence or because the facility has been remodelled and these rooms are no longer available. Facility managers were asked to state the number of beds normally available for all residents. They were also asked what the average occupancy was for the 2003 calendar year. Table 5.4 shows the bed number and average annual occupancy as stated by the facility managers.

Table 5.4: Bed number and annual average occupancy by facility

Facility Code	CC beds	CC occupancy	RH beds	RH occupancy
F1	22	0.85	N/A	N/A
F2	43	0.98	42	0.98
F3	36	0.98	36	0.92
F4	55	0.95	N/A	N/A
F5	32	0.83	82	0.84
F6	34	0.99	17	0.99
F7	31	0.99	9	0.99
F8	23	0.96	47	0.99
F9	24	0.97	33	0.97
F10	34	0.98	23	0.98
F11	N/A	N/A	40	0.90
F12	N/A	N/A	12	1.00
F13	N/A	N/A	15	0.93
F14	N/A	N/A	43	0.95
F15 (NR)	N/A	N/A	79	0.98
F16	N/A	N/A	19	0.99
F17	N/A	N/A	20	0.96
F18	N/A	N/A	15	0.85

Key: NR – non responder, CC, continuing-care, RH, rest home

5.3.2 Nursing and Caregiver hours per resident day.

Only four of the seventeen facilities surveyed employed enrolled nurses and where they did, rostered them into caregiver shifts. Enrolled nurses have therefore not been included as a separate skill mix and where employed have been included in caregiver hours.

Three facilities did not separate staff rostering between rest-home and continuing-care residents. One facility separately rostered caregivers to each care level but registered nurses were employed to provide nursing cover for the whole facility. Comparing both

roster models would result in a skewed figure as rostering irrespective of care levels gives a higher than average hour-per-resident day for rest home residents and a lower one for continuing-care residents. The figures for the facilities that did not differentiate staffing between care levels have been analysed independently.

Table 5.5 shows the hours per resident day by rest home and caregiver. The facilities that roster by care level are shown and the facilities that roster irrespective of care level are shown only in the total columns. These are facilities six, seven and ten. Facility nine maintained two rosters, rostering caregivers by care level and registered nurses irrespective of care level.

Table 5.5: Hours per resident day by registered nurse and caregiver.

Facility code	CCRN	CCCG	RHRN	RHCG	Total RN	Total CG
F1	**1.7**	**2.6**	N/A	N/A	N/A	N/A
F2	**1.05**	**2.34**	**0.21**	**2.10**	N/A	N/A
F3	**1.29**	**2.3**	**0.11**	**1.57**	N/A	N/A
F4	**1.09**	**2.31**	N/A	N/A	N/A	N/A
F5	**1.26**	**2.42**	**0.19**	**1.73**	N/A	N/A
F6	N/A	N/A	N/A	N/A	**2.46**	**3.31**
F7	N/A	N/A	N/A	N/A	**2.23**	**2.72**
F8	**1.44**	**3.34**	**0.37**	**1.67**	N/A	N/A
F9	N/A	**2.46**	N/A	**1.81**	**0.58**	N/A
F10	N/A	N/A	N/A	N/A	**0.71**	**2.33**
F11	N/A	N/A	**0.16**	**1.87**	N/A	N/A
F12	N/A	N/A	**0.47**	**2.83**	N/A	N/A
F13	N/A	N/A	**0.30**	**2.46**	N/A	N/A
F14	N/A	N/A	**0.11**	**1.90**	N/A	N/A
F15 (NR)	N/A	N/A	N/D	N/D	N/A	N/A
F16	N/A	N/A	**0.35**	**2.30**	N/A	N/A
F17	N/A	N/A	**0.43**	**2.38**	N/A	N/A
F18	N/A	N/A	**0.14**	**2.58**	N/A	N/A

Key: NR – non responder, CCRN, continuing-care registered nurse, CCCG, continuing-care caregiver, RHRN, rest home registered nurse, RHCG, rest home caregiver.

5.3.3 Contractual arrangements with general practitioners

Two facilities did not have a formal arrangement with a general practitioner for the provision of medical services. The non-responder has a formal relationship with a general practitioner but no details are known about the relationship. All facilities had general practitioners attend the facility on an as-required basis. In most cases the contract general practitioner was paid a retainer and in addition, was paid by fee-for-service if they attended the facility out of set clinic times. General practitioners were contracted to provide medical cover for the facility either for twenty-four hours a day, seven days a week (known as twenty-four hour cover) or to provide a Monday to Friday service with out-of-hours backup. A twenty-four hour contract required the general practitioner to be personally on-call for the facility at all times including nights and weekends. Where the general practitioner provided a Monday to Friday service only, out-of-hours medical cover was provided by an After Hours Service as explained in section 4.3.4. Most facilities had set clinics during the week where residents who were due to have a regular review or who were unwell could be booked in. Non-contract general practitioners attended residents who had chosen to retain an existing relationship, as required. Non-contract general practitioners did not have set clinic times.

Table 5.6 indicates the number of contract general practitioners retained by each facility during the 12-month period of the audit, the after hours availability of the contract general practitioner and the number of clinics and set times when the contract general practitioner was available. Facilities 12 and 17 did not have a formal contract with a general practitioner.

Table 5.6: General practitioner contractual arrangements and established clinic hours by facility

Facility Code	Number of contract general practitioners	Type of contract	Clinic hours per week
F1	1	24-hour	30 mins 1x a wk
F2	1	24-hour	4 hrs 2x a wk
F3	4	Mon- Fri	2 hrs 4x a wk
F4	1	24-hour	3 hrs 2x a wk
F5	2	24-hour	4 hrs 1x a wk
F6	1	24-hour	3 hrs 2x a wk
F7	1	Mon – Fri	4 hrs 1x a wk
F8	1	24-hour continuing-care Mon – Fri rest home only	4 hrs 1x a wk
F9	1	Mon- Fri	4 hrs 1x a wk
F10	1	Mon – Fri	2.5 hrs 2x a wk
F11	2	Mon – Fri	2 hs 2x a wk
F12	No contract	N/A	N/A
F13	1	Mon – Fri	1.5 hrs 1x mth
F14	2	Mon – Fri	2 hrs 1x a wk
F15 (NR)	No information	No information	No information
F16	1	Mon – Fri	3.5 hrs 1x wk
F17	No contract	N/A	N/A
F18	1	Mon - Fri	2 hrs 1x wk

Key: NR – non responder, N/A-no information, hrs – hours, mth – month, wk-week, 2x – two times, mins- minutes

If a resident moves into a facility that is some distance from where they previously lived, it can be difficult to retain the previous general practitioner. Non-contract general practitioners do not have set clinic times, so if they are prepared to do house visits to residents of aged-care facilities, these will be at times that do not conflict with normal surgery hours. This means it can become impractical to visit a facility that is too far away.

Table 5.7 outlines the information received about non-contract general practitioners. Facilities one and six had the contract general practitioner as the sole general practitioner attending residents. Fifteen facilities had a number of general practitioners attending residents who had chosen to retain their original general practitioner. Only one facility had a general practitioner who was outside the local area, that is, further than 5 kilometres away.

Table 5.7: Arrangements with non-contract general practitioners

Facility Code	Residents own GP	Total no of GP's	Distance from facility
F1	Contract GP only	1	
F2	6	3 – 4	All local
F3	15	9 – 10	1 outside area
F4	8	2	Local
F5	6- 10	6	Local
F6	Contract GP only	1	Local
F7	3	4	Local
F8	28	7	Local
F9	3	3	Local
F10	6	4	Local
F11	1-2	3-4	Local
F12	12	3	Local
F13	4	3	Local
F14	1-2	3-4	Local
F15 (NR)	No Information	No Information	No Information
F16	3-4	4	Local
F17	12	4	Local
F18	1	2	Local

Key: NR – non responder, GP – general practitioner, no - number

Facility managers were asked if there was a variation in treatment protocols from general practitioners, particularly in the case of an acute illness, and if so whether, in their

opinion, it had an effect on nursing staff. It is anticipated that a facility that has a number of different general practitioners attending residents may have an impact on acute admission rate to the Hutt Hospital.

Three facility managers indicated that the various general practitioners managed their residents' illnesses according to similar protocols; one manager indicated that they made sure that the general practitioners managed residents according to standard protocols and the remaining facility managers stated that general practitioners managed residents' illnesses differently. Various managers stated that the main difficulties experienced by staff were in ensuring that non-contract general practitioners met the quality standards of the facility. Four facility managers stated that it was difficult or impossible to get non-contract general practitioners to attend residents by house call.

One of the two facility managers without a contract general practitioner indicated a preference to have one. Two other facility managers stated a preference for all residents to be seen by the contract general practitioner and a third indicated that she would like to have two contract general practitioners to enable leave cover. The remaining facility managers stated that current general practitioner arrangements were adequate.

Table 5.8 provides a summary of the comments made by facility managers on the adequacy of current medical contracts. Although, in general, facility managers stated that they were reasonably happy with the level of medical cover provided, there appears to be two key difficulties with non-contract general practitioners. The first is that facility managers stated that there was some difficulty getting non-contract general practitioners to follow the documented quality standards of the facility, for instance documenting treatment regimes in the resident care plan and signing it (Manager Facility Nine, personal communication, June 10, 2004). The other main problem was getting non-contract general practitioners to attend the resident in the facility, that is, complete a house call. This meant that the facility manager either had to arrange to take the resident to the general practice surgery or had to call an ambulance to take the resident to Hutt Hospital.

Table 5.8: Issues with non-contract general practitioners

Facility Code	Managers are satisfied with current medical cover	Managers consider GPs use varying methods of treatment.	Effect on staff of use of non-contract GPs
F1	Yes	N/A	N/A
F2	Yes	Yes	Did not comment
F3	Would like GPs to attend clinical meetings	No	Did not comment
F4	Yes	Ensure they adhere to facility protocols	N/A
F5	Yes	Yes	Difficulty getting non-contract GPs to meet standards
F6	Yes	N/A	N/A
F7	Would prefer everyone to have contract GP	Yes	Difficulty getting non-contract GPs to meet standards
F8	Would like to have only two really good GPs	Yes	Difficulty getting non-contract GPs to meet standards
F9	Yes	Yes	Difficulty getting non-contract GPs to meet standards
F10	Yes	Yes	House calls difficult
F11	Yes	Yes	House calls difficult
F12	Prefer a GP on contract	Yes	Difficulty getting non-contract GPs to meet standards
F13	Yes	No	No comment
F14	Yes	Yes	House calls difficult
F15 (non responder)	Information not available	Information not available	Information not available
F16	Prefer all to have contract GP	Yes	Difficulty getting non-contract GPs to meet standards
F17	Yes	No	No comment
F18	Yes	Yes	House calls difficult

5.3.4 Budgeted costs for general practitioners

Information on costings for general practitioners was difficult to obtain. Eight of the facility managers recorded medical costs in a way that was easily retrievable. Four of the managers were able to make an estimate based on monthly expenditure or by adding up invoices. Two facility managers combined medical costs with pharmaceutical costs and clinical consumables and were unable to separate these costs. Three could not provide any data as the information was not available to the facility manager. There was no data from the non-responder. In order to estimate the comparable cost of medical cover, the costs provided were divided into the annual average occupied bed number for each facility. This provides an estimate of the annual cost of medical cover per average occupied bed. For instance facility four spent $26,000 per annum on medical costs. This facility had 52.38 average occupied beds giving an annual cost of medical cover per bed of $496.37. That is, 26,000 ÷ 52.38 = $496.37 per average occupied bed per year.

Table 5.9 shows the annual cost of general practitioners per annual occupied bed for each of the 12 facilities that were able to provide an estimate of the general practitioners costs. Costs were divided evenly into the average occupied bed numbers irrespective of whether the beds were continuing-care or rest home as the Aged Residential Care Contractual (MoH, 2003b) obligations are the same for both care levels. These costs are aligned with the contractual arrangements of the contract general practitioner and whether the contract was for twenty-four hour cover or Monday to Friday cover.

Table 5.9: Estimated annual cost of general practitioners per average occupied bed

Facility Code	Contractual arrangement with general practitioner	Annual general practitioner costs per average occupied bed
F1	24-hour	$577.54
F2	24-hour	$536.16
F3	Mon-Fri	$478.11
F4	24-hour	$496.37
F5	24-hour	$362.50
F6	24-hour	$257.00
F7	Mon – Fri	$410.00
F8	24-hour for continuing-care Mon-Fri for rest home	$262.00
F9	Mon – Fri	No data available
F10	Mon – Fri	$680.00
F11	Mon – Fri	$220.00
F12	No contract GP	No data available
F13	Mon – Fri	No data available
F14	Mon – Fri	No data available
F15	Non –responder	Non-responder
F16	Mon –Fri	$107.00
F17	Non contractual arrangement	$233.40
F18	Mon – Fri	No data available

5.3.5 Contractual arrangements with registered nurses for rest homes

The questions about contractual arrangements with registered nurses only applied to rest home facilities as continuing-care facilities have registered nurses on duty at all times. Rest home managers were asked whether there was registered nurses on-call and what the requirements of the on-call duty entailed. The managers were also asked whether the nurses were paid an on-call allowance and if they were reimbursed for their time when a resident was attended out-of-hours.

Most of the facilities that had both continuing-care and rest home residents expected the registered nurses in the continuing-care wing to cover the rest home at night and weekends if required. All of the rest home facilities had registered nurses on-call and indicated that they would come in if required. For two of the owner-operator facilities, the on-call work was part of the management position and no additional remuneration was paid. Two of the managers had an on-call requirement built into their salary package. One facility paid an on-call allowance irrespective of whether or not the registered nurse had to attend the facility out-of-hours. The remaining two facilities paid the hours where the registered nurse attended the facility out-of-hours and one of those also paid a petrol allowance.

5.3.6 Experience of staff in caring for older people

All facility managers indicated training was provided for caregivers. Most managers indicated that they had a stable registered nursing workforce skilled in acute care delivery of older people. It became apparent during the census that this question was not asked in a manner that could generate comparisons. Information therefore was found to be inconclusive.

5.3.7 Budgeted costs for registered nurses and caregivers

Data on budgeted costs for registered nurses and caregivers was also difficult to obtain retrospectively. Some managers were able to provide actual costs, some were able to provide budgeted costs and some were unable to separate the disciplines. One manager (Manager Facility Seven, personal communication, June 2, 2004) was allowed to spend 45% of the income on all staffing. Most were able to give an indication of hourly rates of pay for staff. Caregivers varied between $10.35 an hour and $12.00 an hour. The average hourly rate for registered nurses was $20 per hour.

5.3.8 After Hours Arrangements

Apart from the facilities that employed contract general practitioners on a twenty-four hour basis, all facilities used an After Hours Service. The number of times this service was used varied. One facility manager indicated that the After Hours Service was called twice a month, three managers stated that it was once a month, two managers indicated that the After Hours Service was called four times a year and four managers stated approximately twice a year. Once facility could not state an amount but said the After Hours Service was called rarely.

The availability of After Hours Service general practitioners for making a house call varied. This appeared to relate to which After Hours Service the facility had to use and which general practitioner happened to be on duty at the time of a contact.

Table 5.10 indicates the number of times the After Hours Service is used by the staff of those facilities that *do not* have a contract general practitioner providing twenty-four hour cover. An indication is provided as to whether the managers consider After Hours Service general practitioners usually make a house call to the facility on request.

Table 5.10: Use of After Hours Services

Facility Code	Number of times per year the AH Service is used	Do AH GPs make a house call
F1	24-hour cover arrangement	N/A
F2	24-hour cover arrangement	N/A
F3	1x mth	Not always
F4	24-hour cover arrangement	N/A
F5	24-hour cover arrangement	N/A
F6	24-hour cover arrangement	N/A
F7	Rarely used	N/A
F8	4x year	Not always
F9	1x mth	Not always
F10	2x mth	Usually
F11	1 x mth	Not always
F12	2x year	Usually
F13	2x year	Usually
F14	2x mth	Usually
F15	Not available	Not available
F16	4x year	Usually
F17	Usually called an ambulance	N/A
F18	4x year	usually

Key: mth – month, 2 x - two times, N/A – no information, AH – After Hours Service, GP – general practitioner

5.3.9 Acutely unwell residents

Facility managers were asked which conditions staff were unable to manage on site, that is, necessitated an acute admission to hospital. The responses varied. Four facility managers did not feel there was any condition unable to be managed on site. Three managers suggested anything that required IV antibiotics was difficult to manage on site. One manager said that any condition that occurred out-of-hours when the registered nurses were not on duty was difficult to manage. Two facilities mentioned chest pain or cardiac

related conditions. One facility manager mentioned aggression and another mentioned *big bleeds*, for instance, a stroke. Two facilities listed fractures as something they could not manage and one facility also mentioned blood transfusions. Table 5.10 summarises the conditions that were stated by facility managers as being difficult to manage on site.

Table 5.11 Conditions unable to be managed by a facility

Conditions unable to be managed by facility	Number of facilities stating the condition
No conditions	4
IV antibiotics	3
Any condition that occurred when the registered nurse was off-site	1
Cardiac conditions	2
Aggression	1
Stroke	1
Fractures	2
Blood transfusions	1

Facility managers were asked what resources would assist them to manage acutely unwell residents. Two managers stated that they were managing well and there were no resources required that would allow better management of acutely unwell residents. Four facilities mentioned that an increase in staffing levels, especially during peak periods when a resident was acutely unwell would be beneficial. Three of the rest home managers said that on-site registered nurse access at all times would assist management of acutely unwell residents. Three managers mentioned access to specialist equipment on loan. Two facilities said a geriatric nurse consultant would be useful and one facility manager stated that they would like After Hours doctors "to come without a fight" (Manager Facility Seven, personal communication, June 2, 2004).

5.4 Summary

Chapter five outlined the number of the preventable and non-preventable acute admissions from aged-care facilities into Hutt Hospital. The average caseweights and total cost by facility was illustrated for total acute admissions and preventable acute admissions. The available bed numbers and average occupancy was described. The hours per resident day of registered nurses and caregivers was discussed. Contractual arrangements with general practitioners was defined and discussed including the influences and issues surrounding non-contract general practitioners. Contractual arrangements with registered nurses were discussed. Finally, information on after-hours arrangements and utilisation of resources that would assist facilities to manage acutely unwell residents were presented.

Chapter Six Discussion

6.1 Introduction

The reasons for transferring acutely ill residents from aged-care facilities to Hutt Hospital are complex. As discussed in Chapter Three, many variables have been identified that may affect acute admission rates. Structural and administrative systems vary significantly between facilities, influencing which variables can be used for comparative analysis without a controlled study. During the course of the study, it became clear that making some comparisons between the phenomena observed and the literature was not possible. The research design expectation was that the 18 facilities and 215 acute admissions would be sufficient to observe distinct relationships with dependent variables. The differences in governance and management structures between the facilities meant that some variables were not comparable. However, there were a number of variables that could be analysed identifying which of these would have an impact on acute admissions from facilities in the Hutt Valley. Chapter Six addresses the study objectives using the findings of the 12-month acute admission audit, the aged-care facility census data and the variables outlined in Chapter Three.

6.2 Variations in acute admission rates between facilities

Objective One of the study sought to identify firstly, whether there were variations in acute admission rates between facilities of the same care level and secondly, whether there was a variation between the two care levels.

In order to calculate the acute admission rate of each facility by care level, the first step was to identify the average number of occupied beds. This was gained from the following calculation.

Average occupied beds = available beds x average occupancy.

As some facilities had contracts for beds that did not exist in reality (e.g., the rooms had been turned into bathrooms) at the time of the census, only available beds were

counted. Managers confirmed the annual occupancy as part of the census. (Quarterly reports sent to the MoH and latterly the DHB was the source of information for the annual average occupancy for facility 15, non-responder). Therefore, for a facility that had 34 beds calculating the available beds by the average occupancy of 98%, gives an annual occupied bed number of 33.32, that is, 34 x 0.98 = 33.32. The following calculation was then used to gain the acute admission rate.

Acute admission rate = number of acute admissions x average occupied beds.

If the number of acute admissions is 21, this figure is divided by the number of annual average occupied beds, 33.32, and the annual acute admission rate is identified as 0.63, that is, 21 ÷ 33.32 = 0.63. This means that for every ten beds, the facility had 6.3 admissions during the 12-month period of the audit.

6.2.1 Comparing acute admission rates between facilities

Data from the census shows that there was a difference both between care levels and within the care levels in the average acute admission rate. Rest home acute admission rates ranged from 0.02 to 0.62 with an average of 0.34. Continuing-care acute admission rates ranged from 0 to 0.63 with a average of 0.18. The average rest home acute admission rate was therefore 88% higher than that of the average continuing-care acute admission rate. However, the facility with the 0.63 continuing-care acute admission rate was a distinct outlier with the other seven continuing-care facilities all having an acute admission rate of less than 0.27. In fact, this facility had the highest acute admission rate in both care levels and has since been the subject of a quality audit due to concern over the manner of two resident deaths during the 12-month period of the audit. Removal of this outlier means that the average acute admission rate of rest home residents was 161% higher than that of continuing-care residents. This result supports the findings of Barker et al., (1994) who found strikingly higher acute admission rates from facilities providing a lower care level.

The average acute admission rates and range for both rest home and continuing-care residents including the outlier are shown in Table 6.1.

Table 6.1: A comparison of acute admission rates

	Rest Home	Continuing-care
Average acute admission rate	0.34	0.18
Range	0.02 – 0.62	0.00 – 0.63

6.2.2 Considering resident acuity as a predictor of acute admission rate

Continuing-care residents have a higher acuity (require more care) than rest home residents. Tresch et al., (1985) and later, Intrator et al., (1999) both concluded that higher resident acuity was not an influencing variable for acute admission rates. Results in this research were expected to show that rest home acute admissions would be higher than continuing-care acute admissions in accordance with Barker et al., (1994). There were a number of reasons for this assumption. Residents of rest homes are often reasonably independent and able to undertake activities of daily living. Weiner et al. (2000) estimated that 34% of residents in the equivalent of rest home level in the United States of America had cognitive impairment. There is no such estimate available for New Zealand but a similar phenomenon has been observed in this country meaning many rest home residents have cognitive disabilities making it unsafe to remain at home. They are still able to undertake activities or daily living however and are therefore more likely to be offered active treatment and rehabilitation in order to maintain independence at the lower care level if they suffer from a condition such as a stroke. Continuing-care residents on the other hand are already at the highest care level available and, therefore, rehabilitation is less likely to be beneficial.

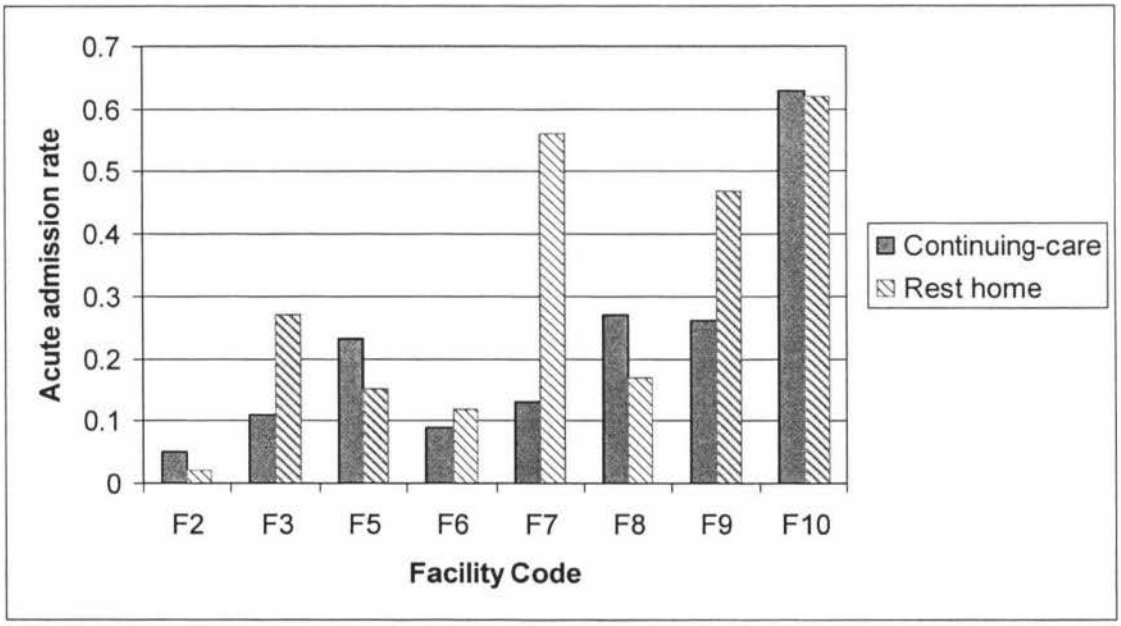
Rest homes have lower resident:staff ratios than continuing-care facilities. An acutely ill resident, especially one who requires skilled nursing care, will need to be transferred to the hospital as registered nurses are not always available on site.

Although the average acute admission rate is higher for rest home residents than for continuing-care residents, the similarity in range between the two care levels indicates that caution is required before stating that the lower acuity residents will always have a higher acute admission rate. If this assumption had some validity, it would be expected that

the facilities offering both care levels would have a consistently higher rest home acute admission rate than continuing-care acute admission rate. Analyses of the acute admission rates of facilities providing two care levels did not confirm this hypothesis.

Acute admission rates of the eight facilities that provide both care levels are presented in Figure 6.1. Of these, four had higher acute admission rates of rest home residents, three had higher acute admission rates of continuing-care residents and one had very similar rates.

Figure 6.1: Acute admission rates of residents from rest home and continuing-care levels of facilities that provide both care levels



This data suggests that despite the average rest home acute admission rate being higher than the average continuing-care acute admission rate, care level and therefore resident acuity may not be a variable for acute admission rates. These findings support the research of Tresch et al., (1985) and Intrator et al., (1999).

6.3 Relationship between staffing and skill mix and acute admission rates

Objective Two of the study posed the question of whether there was a relationship between skill mix and staffing levels, and acute admission rates. In this instance, staffing includes any staff who provide direct care to residents including the manager, registered nurses, caregivers and general practitioners.

Four facilities had both rest home and continuing-care residents in the same wing and staffed irrespective of the care level required. As staff are not directly allocated to residents by care level, calculating the total hours per resident day gives an impression that the rest home residents are receiving a higher amount of staff time and the continuing-care residents a proportionately low amount of staff time. This staffing model is referred to as "staffing across the floor". The four facilities that staff across the floor have been excluded from the comparisons of registered nurse and caregiver levels as they skew the staffing levels. The following section will consider the relationship of each discipline with acute admission rates.

6.3.1 Influence of the facility manager

Although managers were rarely mentioned in the literature, the experience and clinical skills of the facility manager appear to be influential in the overall management of residents in facilities in the Hutt Valley. In most of the facilities surveyed, the manager was a registered nurse, had some clinical responsibilities and supervised clinical staff. Registered nurse managers indicated an occasional need to undertake a shift during vacancies and most of them maintained a clinical role at all times. Where the manager did not have a clinical role or where the manager was not a registered nurse, a senior or principal nurse supervised the clinical staff. The amount of clinical involvement of managers varied and did not appear to have any correlation to the size of the facility. Some of the largest facilities had managers who were clinically active on a daily basis (for

instance, Manager Facility Five, personal communication, June 24, 2004; Manager Facility Six, personal communication, June 3, 2004).

Varying responses and attitudes were displayed when discussing the need to send a resident to hospital. The philosophy and attitude of the manager to the management of an acutely ill resident may be an indicator of the tolerance for an acute admission to hospital. Teresi et al., (1991) found that staff in facilities with a low acute admission rate indicated a sense of failure when a resident had to be admitted. The manager will influence staff attitude and such attitudes can be reflected in some of the comments made by managers of the facilities in this study. The opinions of managers varied considerably as to what was considered *best practice* when a resident became acutely unwell.

The managers of facilities 17 (acute admission rate, 0.57) and 14 (acute admission rate, 0.34) clearly believed transfer to hospital was the best option for the resident, especially in the case of chest pain (Manager Facility 17, personal communication, June 2, 2004; Manager Facility 14, personal communication, June 24, 2004). This was in contrast to managers from Facility One (acute admission rate, 0) and Facility Four (acute admission rate, 0.06) who expressed a strong dislike for having to transfer acutely ill residents to Hutt Hospital (Manager Facility One, personal communication, June 11, 2004; Manager Facility Four, personal communication, June 2, 2004). The manager of Facility 13 (acute admission rate, 0.29) indicated that the decision to transfer to Hutt Hospital was resident choice (Manager Facility 13, June 15, 2004).

Teresi et al., (1991) concluded that the combined attitude of the manager and the physician, being the two individuals making the final decision on transfer to hospital, was a key variable in determining acute admission rates. Informal discussions with the contract general practitioner for Facility One confirmed the opinion of the manager that on-site treatment was the preferred option (Manager Facility One, personal communication, June 11, 2004; Contract general practitioner Facility One, personal communication, July 20, 2004). The contract general practitioner for Facility Four also indicated her preference was for on-site clinical treatment where practical (Contract general practitioner Facility Four, personal communication, August 18, 2004). As managers organise a contract with a

general practitioner, it is likely that they choose one whose preference for place and method of treatment aligns with their own.

Management style and competence may be reflected in the number of times the manager is called out of hours, as out-of-hours calls may be an indicator of staff autonomy and accountability. The number of times managers were called out of hours, when not acting as the on-call registered nurse, varied between twice in three years (Manager Facility Six, personal communication, June 3, 2004) (acute admission rate, rest home, 0.12, continuing-care 0.09) to several times in a weekend (Manager Facility 10, personal communication, June 23, 2004) (acute admission rate, rest home, 0.62, continuing-care, 0.63).

Informal discussions by general practitioners (Primary/secondary steering group, personal communication, March 16, 2004) indicated that sometimes families insist on their relative being moved to hospital even when the facility manager and the general practitioner do not believe it is in the resident's best interests to be transferred. Kasyer-Jones et al., (1989) found that family pressure was one reason for transferring acutely unwell residents. None of the facility managers specifically suggested during the census that families insisted on residents being transferred. Although the manager of Facility Seven said families in that particular facility were involved in all decisions to send a resident off site for treatment (Manager Facility Seven, personal communication, June 2, 2004).

6.3.2 Influence of registered nurses

Acuity of rest home residents appears to be increasing and this will be demanding a higher skill level and higher staffing ratio than previously required. Publications by Teresi et al. (1991) and Hendrix & Foreman (2001) suggest that acuity and frailty has increased in the United States of America and, therefore, residents now require a higher level of care than was previously required. A similar trend has been observed in New Zealand. While the Old Peoples Home Regulations were repealed in October 2004 (NZ Govt, 2001), it appears there has been significant change in the dependence of residents of rest homes in

the 17 years since the regulations came into force. Rest home managers reported that the independence and complexity of needs of the rest home residents has clearly increased in the last few years (e.g., Manager Facility 11, personal communication, June 10, 2004; Manager Facility 12, personal communication, June 17, 2004). Legislated staffing requirements do not appear to have kept pace with the changes in resident acuity and clinical need. Increasing acuity and insufficient staffing may be causing an increasing average rest home acute admission rate into hospital.

Data from this study suggests that increasing acuity did not appear to be an issue with continuing-care residents. In fact, one manager commented to the contrary, explaining that the development of disposable continence products had significantly decreased the workload and in addition reduced the rate of skin tears and bruising (Manager Facility One, personal communication, June 11, 2004).

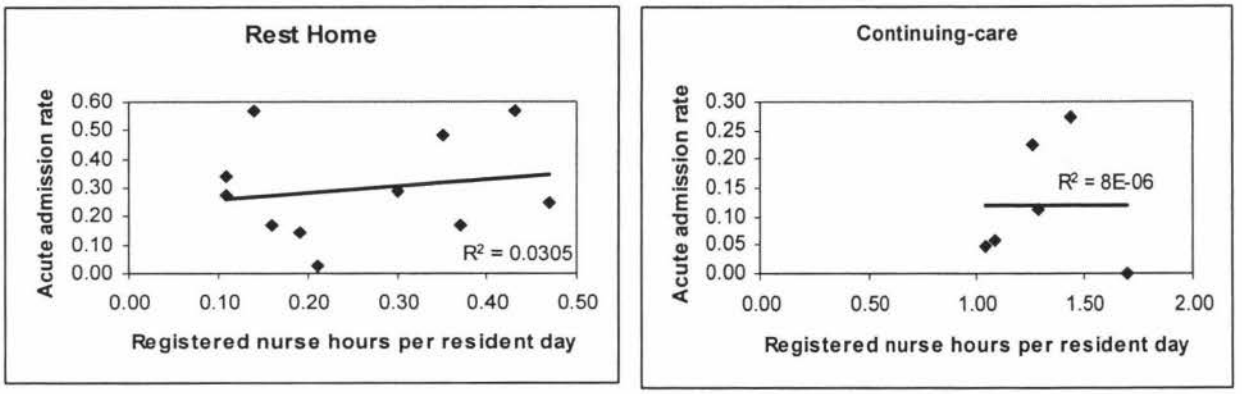
The census showed that all facility managers staffed in excess of the minimum legislated or contract requirements. There was considerable variation in the number of registered nurse hours per resident day for rest homes. The registered nursing hours per resident day ranged from 0.11 to 0.47. That is, the range of average registered nursing time each rest home resident received varied from 6.6 minutes per day to 28.2 minutes per day depending on the facility. That meant that residents in the rest home with the highest registered nurse ratio received 327% more registered nursing time than the residents in the facility with the lowest registered nurse ratio.

The range for continuing-care residents was less spread than for rest home residents and ranged from 1.05 to 1.7 hours per resident day. That is, continuing-care residents received on average between 64.2 minutes and 102 minutes per day. The residents in the facility with the highest registered nursing ratio received 60% more registered nursing time than the residents in the facility with the lowest registered nursing ratio.

The hours per resident day of registered nurses against the admission rate for each facility are shown in Figure 6.2. Facilities staffing across the floor, and the non-responder (rest home, Facility 15) have been excluded. The correlation coefficients suggest that

registered nurse hours cannot be linked to acute admission rates of either rest home or continuing-care residents within this study.

Figure 6.2: A comparison of registered nurse hours per resident day with acute admission rates



While the correlation coefficient applied to continuing-care residents suggests no relationship between registered nursing levels and acute admission rates, the high registered nurse hours per resident day and lack of acute admissions from Facility One have impacted on the correlation to a significant extent. Removing Facility One, gives a correlation coefficient of 0.8151, strongly suggesting that the more registered nurses employed by a facility, the higher the acute admission rates. This result is intriguing as it does not align with the research suggesting that the lower the registered nursing levels, the higher the acute admission rate (CMS, 2000; Carter & Porrell, 2003). Suggestions for the reason for this trend are discussed in Section 6.3.6.

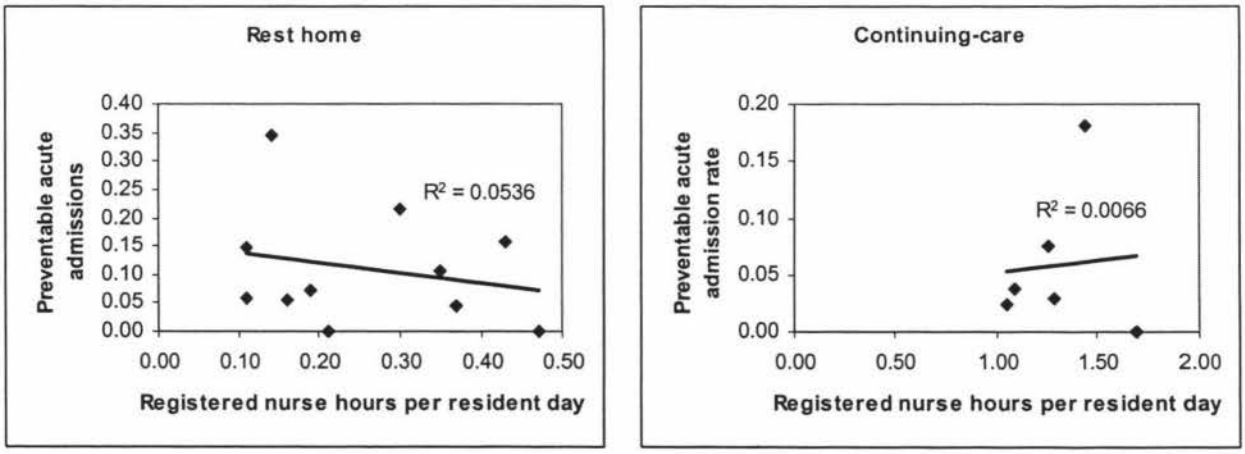
6.3.3 Registered nurse levels and preventable conditions

The Report to Congress on minimum nursing levels in nursing homes (CMS, 2000) empirically linked staffing levels to acute admission for preventable conditions (preventable conditions are defined in section 3.2.1). These researchers identified staffing levels below which it was likely that the acute admission rate would increase. A rest home resident is likely be offered and to accept active treatment for chronic conditions or illnesses, such as a stroke, in the anticipation that treatment and rehabilitation may facilitate

a relative level of independence that will maintain the resident at the same care level. Conditions such as stroke and myocardial infarction (heart attack) are not preventable at this stage in life and, therefore, staffing levels are not likely to impact directly on acute admissions for non-preventable conditions of rest home residents. However, the impact of registered nursing hours per resident day on acute admissions for preventable conditions may illustrate a different relationship. Registered nursing numbers may be too low in some facilities to avoid these conditions deteriorating to the extent that acute admissions are required.

The acute admission rate of preventable conditions against the registered nurse hours per resident day are shown in Figure 6.3. Facilities that staff across the floor have been excluded and the non-responder (rest home, Facility 15) is not included in the figures. The correlation does not indicate a relationship with registered nursing hours and preventable conditions in either rest home or continuing-care facilities. This result does not support the research undertaken in the Report to Congress on minimum staffing hours (CMS, 2000).

Figure 6.3: A comparison of registered nurse hours per resident day with preventable acute admission rate



The total number of registered nursing hours per resident day may not impact on the number of acute admissions, but it is possible that it is the actual hours in the day where a

registered nurse is available on site that is important. Most of the rest homes have no registered nurse on duty between 4.00 pm on a Friday and 8.00 am on Monday. While all rest home managers indicated that their caregivers were skilled in assessing the condition of a resident, the 64-hour stretch without a registered nurse on duty is long enough for an illness to develop unnoticed. Kayser-Jones et al., (1989) and Carter & Porrell (2003) considered that low or non-skilled staff were less confident in managing acutely unwell residents and were more likely pressure higher skilled staff to transfer residents to the acute hospital. All rest home facilities had registered nurses on call during the weekend and many indicated nurses were called and did attend the facility during the weekends and out of hours. The on-call component does not mean a registered nurse is expected to work an entire shift, however, and there is little incentive to stay and nurse an ill resident on top of a regular working week.

Facility managers are legally required to employ a registered nurse on site at all times for provision of continuing-care. Facility managers who offered both care levels tend to roster registered nurses on the rest home wing Monday to Friday but provided back up from the continuing-care registered nurses out of hours. In some cases this was on an on-call basis such as Facility Three, where the registered nurse was called as required (e.g., Manager Facility Three, personal communication, June 15, 2004). In others, checking the rest home wing was included in the job description of the registered nurses employed for the continuing-care residents (e.g., Manager Facility Eight, personal communication, June 3, 2004). While the facilities with both levels of care did not employ registered nurses directly for the rest home residents during the weekends, it appears that on-site access to registered nurses may have assisted to reduce the average acute admission rates. Rest homes with no on-site, out-of-hours access to registered nurses had an average acute admission rate 70% higher than the facilities that had on-site, out-of-hours access to registered nurses.

Table 6.2: A comparison of on-site access to registered nursing to no on-site access to registered nursing for rest home residents with acute admission rates

	On-site access to registered nurse out of hours	No on-site access to registered nurse out of hours
Average	0.28	0.48
Range	0.02 – 0.62	0.25 – 0.57

The acute admissions rates shown in Table 6.2 would support the theories of Kayser-Jones et al., (1989) and Carter & Porrell (2003) that a higher ratio of skilled staff is influential in reducing acute admission rates.

Harrington & Swan (2003) and Zimmerman et al., (2002) showed that high nursing turnover increases the risk of acute admission rate. A high turnover increases the risk of having a position unfilled which may also influence acute admission rates. Casual nurses who may or may not know the facility usually cover vacancies. If a resident becomes unwell, the lack of baseline information that would be known to the nurse from previous contact with the resident makes it difficult to confidently make clinical decisions (Harrington & Swan, 2003). This is likely to result in a call for assistance. Out-of-hours shifts can be difficult to fill and vacancies can occur for some months. Intermittent availability of casual nurses means that facilities may have to function on a lower staffing level than may be desirable (e.g., Manager Facility 10, personal communication, June 23, 2004).

6.3.4 Influence of enrolled nurses

Enrolled nurses are employed in some facilities, but not in others. Enrolled nurses have not been trained in New Zealand for over ten years so the employment pool is becoming increasingly limited. While some facility managers (e.g., Manager Facility 10, personal communication, June 23, 2004) indicated that while enrolled nurses would be employed where available, they were rostered in place of a caregiver. Two of the rest home

managers indicated a preference to employ enrolled nurses in the weekends when the registered nurses were not on duty but enrolled nurses are not consistently employed, and therefore, cannot be used as a comparable variable (Manager Facility Three, personal communication, June 15, 2004; Manager Facility 17, personal communication, June 2, 2004).

6.3.5 Influence of caregivers

Caregivers have limited formal qualifications but are increasingly encouraged to undertake basic training. Caregivers provide personal care for residents, such as assisting residents with activities of daily living; dressing, toileting and eating. Caregivers may undertake household duties but many of the facilities in the study indicated that separate household staff were employed who cleaned and participated in the delivery of meals. This allowed caregivers to focus purely on the personal needs of the residents. Caregiver hours per resident day have been linked to acute admission for preventable conditions and to quality of care (CMS, 2000).

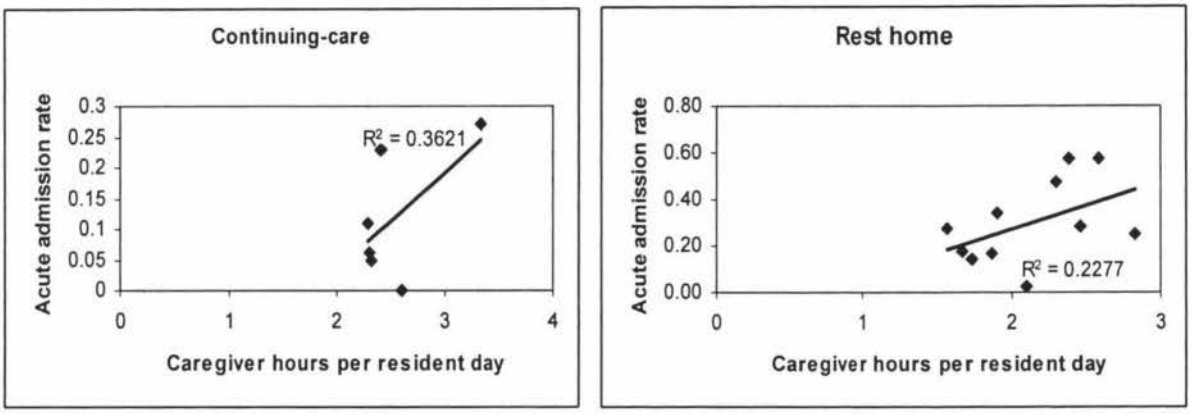
Excluding the facilities that staff across the floor, the caregiver hours per resident day for rest homes ranged from 1.57 (94 minutes) to 2.83 (170 minutes) with an average of 2.08 (125 minutes). That is, residents in the facility with the highest caregiver ratio received 80% more caregiver time than residents in the facility with the lowest caregiver ratio.

The average caregiver hours per resident day for continuing-care was 2.66 hours (160 minutes) ranging from 2.30 (138 minutes) to 3.34 (200 minutes). That is, continuing-care residents with the highest caregiver ratio received 45% more caregiver time than residents in the facility with the lowest caregiver ratio.

The relationship between acute admission rate and caregiver hours per resident day is shown in Figure 6.4. The facilities that staff across the floor and the non-responder (rest home, Facility 15) are excluded. The correlation coefficients do not indicate that there is a strong relationship between caregiver hours and acute admission rates. Surprisingly, the relationship observed across the data set is contrary to that anticipated, namely that acute

admission rates actually increase with an increase in caregiver hours. However, this phenomenon is explained in Section 6.36.

Figure 6.4: A comparison of caregiver hours per resident day with acute admission rate



The exclusion of acute admissions of non-preventable conditions did not substantially change the correlation coefficient for either rest homes or continuing-care facilities.

6.3.6 Issues relating to the measurement of hours per resident day

The lack of relationship observed between staffing levels and acute admission rates is perplexing, given the extent of the research literature on the subject. The trend for registered nurses and continuing-care acute admissions with Facility One removed is particularly unusual. It is at odds with studies that have linked staffing levels and skill mix to acute admissions (CMS, 2000; Zimmerman et al., 2002; Carter & Porrell, 2003). There are a number of reasons why this result may have been identified. Importantly, there are more significant and complex interactions across the data set between the dependent variable, acute admission rate and the many independent variables. This issue is resolved in Chapter Seven.

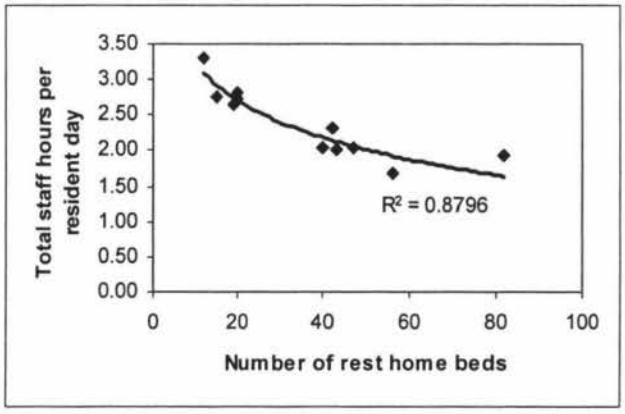
Some facility managers indicated that staff were employed specifically to serve meals, and morning and afternoon tea, make beds and clean (Manager Facility Two,

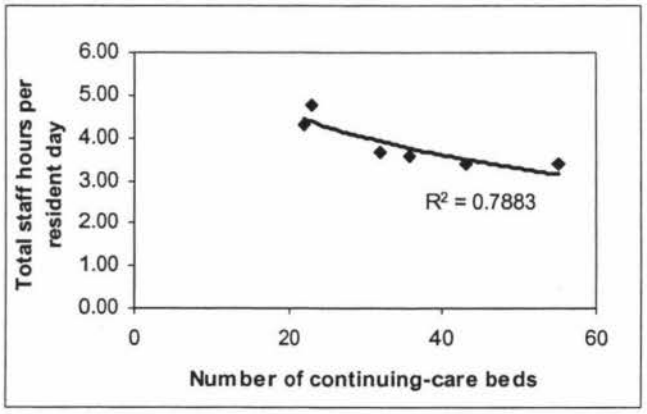
personal communication, June 24, 2004). This information was volunteered part-way through the census. Had the researcher anticipated this at the beginning of the census, staffing questions would have been asked differently. It is possible that measurement of the specific time of registered nurses and caregivers applied to direct resident care only, may alter the relationship between hours of care per resident day and acute admission rate. That is, calculating the direct care time-only would change the hours per resident day for some of the facilities where staff were undertaking a high level of non-direct care activities. This in turn may generate a different correlation.

Larger facilities and facilities that are part of a large organisation have additional resources not accessible to smaller places. Resources include quality managers and quality systems, ongoing education and educators and employment of senior nurses and therefore supervision of junior staff.

One variable which may have impacted significantly on this result, is the size of facility. There appears to be a minimum number of staff below which a facility cannot function irrespective of size, and a level above which providing care becomes increasingly uneconomic. The relationship of rest home bed numbers to staff hours per resident day is shown in Figure 6.5 using a logarithmic correlation. The correlation coefficient suggests a strong relationship between number of beds and staffing hours per resident day.

Figure 6.5: A comparison of number of rest home beds to staff hours per resident day

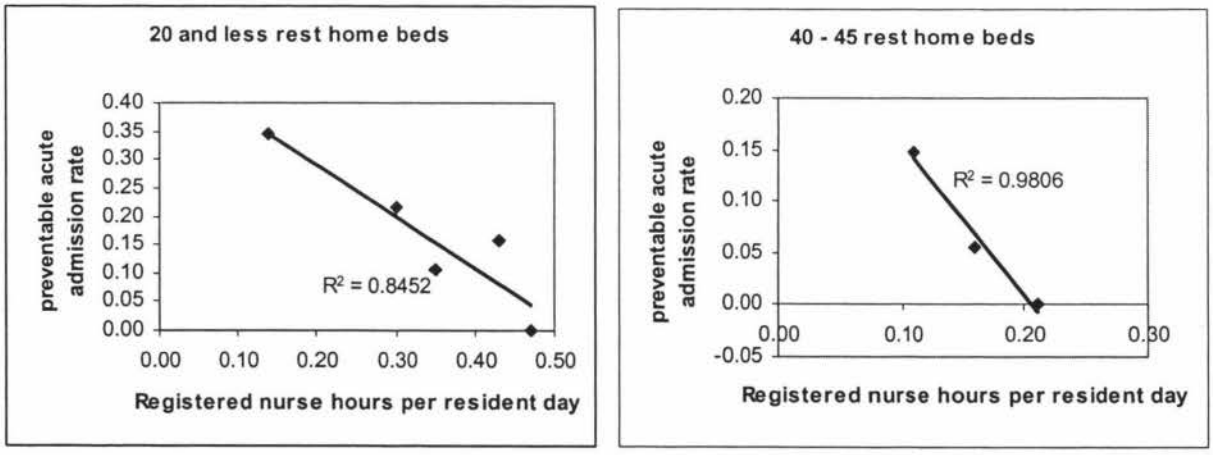




The result illustrated in Figure 6.6 suggests that only facilities of a similar size should be compared when considering the relationship of staff hours to acute admission rates. Further analysis is required to calculate the appropriate range in the number of beds for each grouping of facilities as staff are not employed on a basis of hours per resident day. That is, if one more resident moves into a rest home facility, the manager is not likely to increase registered nursing hours by 30 minutes per day, to say nothing of the impracticality of staffing to such precise units of effective employment.

The small number of facilities in the census makes it difficult to make robust assumptions, but by comparing staffing ratios in facilities with a similar number of beds the resulting correlation illustrates that there may be a relationship as indicated by the literature. Using two sample sizes, Figure 6.6 explores the relationship between preventable admission and registered nurse hours per registered day with rest homes of between 12 and 20 beds and rest homes with 40 to 45 beds.

Figure 6.6: A comparison of registered nurse hours per resident day to preventable acute admission rates of facilities of similar size



Comparing facilities of a similar size gives a correlation that aligns with the studies linking registered nursing levels with acute admissions for preventable conditions (CMS, 2000). Figures 6.5 and 6.6 illustrate that in order to assess the impact of staffing on acute

admission rates in New Zealand, facilities of the same size need to be compared. This requires a larger sample than the one available in the census conducted for this research.

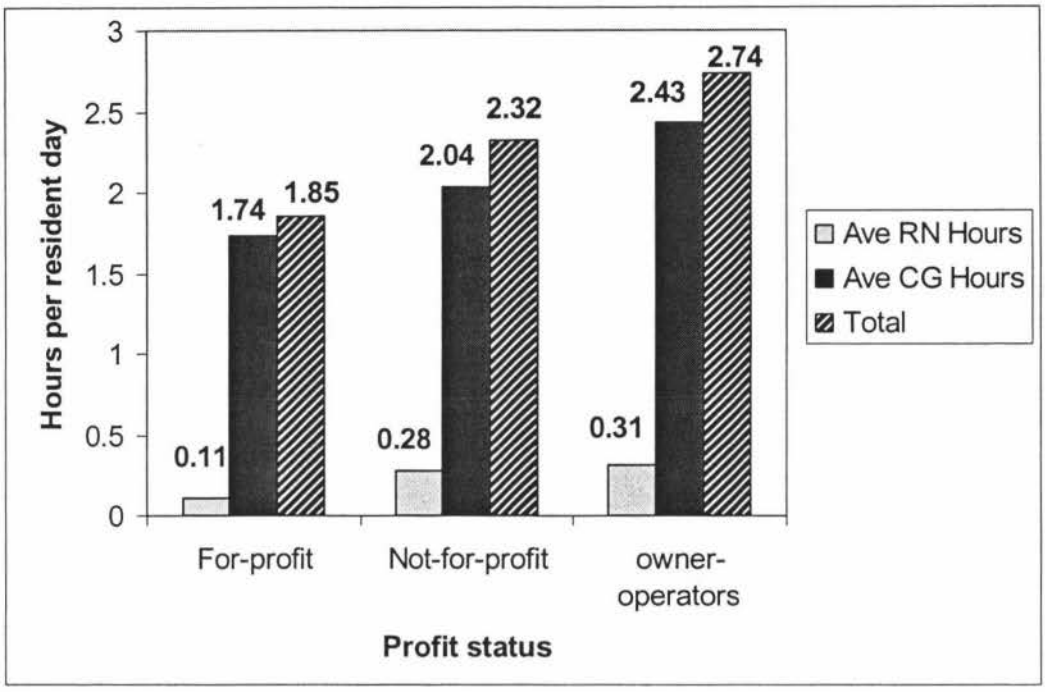
6.3.7 The impact of profit status on staffing ratios and acute admission rates

Harrington & Swan (2003) concluded that staffing levels in for-profit facilities were lower than those in not-for-profit facilities. To identify whether there is any relationship between staffing and profit status in facilities in the Hutt Valley, calculations for the facilities that staff across the floor were removed and facilities were then divided into for-profit, not-for-profit and owner-operated. Information is not available for the non-responder (rest home, Facility 15). The owner-operated category only applies to rest homes. Owner-operated facilities have been separated from the for-profit facilities as they are relatively small and have no external governance structure. The commercial for-profit facilities are all part of a larger organisation with a significant infrastructure.

There are five not-for-profit rest homes, two for-profit and four owner-operated facilities included in the calculations. The for-profit rest home facilities average 0.19 (11.4 minutes) registered nursing hours per resident day. The owner-operated facilities averaged 0.29 (17.4 minutes) hours and the not-for-profit facilities had an average of 0.28 (16.8 minutes) registered nurse hours per resident day. This means that residents in an owner-operated facility received on average 10% more registered nursing time than residents in a not-for-profit facility and 63% more registered nurse time than residents in a for-profit facility.

Rest home owner-operator facilities also have the highest rate of caregiver hours with an average of 2.47 (148.2 minutes) caregiver hours per resident day, not-for-profit facilities an average of 2.04 hours (122.4 minutes) and for-profit facilities an average of 1.92 hours (115.2 minutes). The average caregiver time received by residents in owner-operated facilities is 21% higher than in not-for-profit facilities and 48% higher than in for-profit facilities. The average hours per resident day for registered nurses and caregivers by for-profit, not-for-profit and owner-operated facilities is shown in Figure 6.7.

Figure 6.7: A comparison of profit status to staffing in rest homes



Key: CG – caregiver, RN – registered nurse, total – total hours per resident day

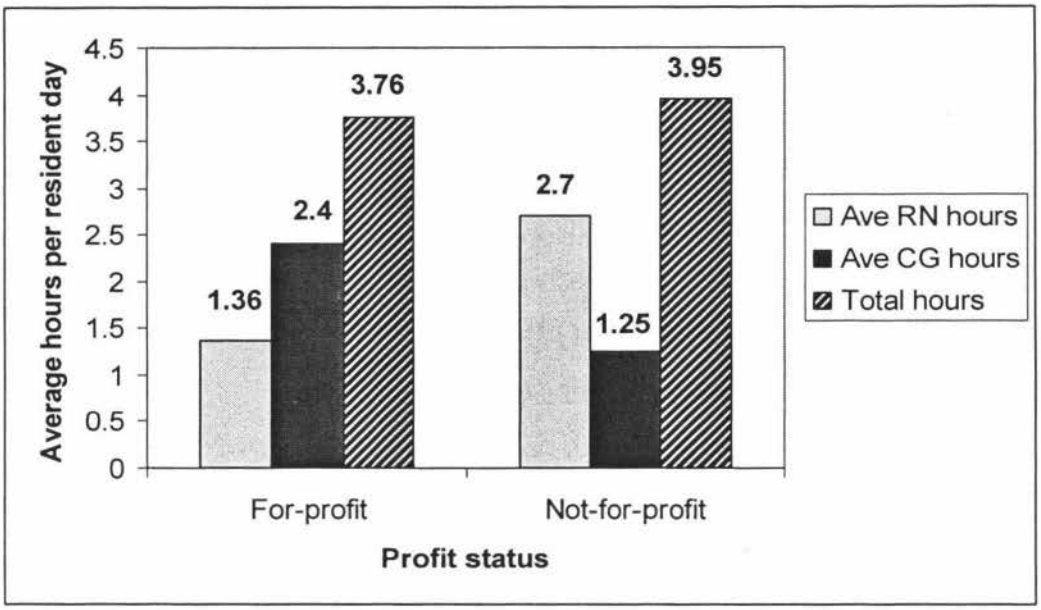
While it appears that for-profit facilities have lower staffing ratios, there were only two facilities in this calculation. In addition the owner-operated facilities all have only 20 beds or fewer and this impacts on the number of staff hours per resident day as discussed in section 6.3.6.

To compare profit status with staffing for continuing-care residents, the facilities that staff across the floor have been removed leaving three for-profit and three not-for-profit facilities. The average for-profit continuing-care registered nurse staffing ratio was 1.36 hours (81.6 minutes) per resident day with the average not-for-profit registered nurse hours per resident day being 1.25 (75 minutes). This means that the for-profit facility residents received 8% more registered nurse time than the not-for-profit facility residents.

For-profit continuing-care facilities had an average of 2.4 caregiver hours (144 minutes) and not-for-profit an average of 2.7 hours (162 minutes). The not-for-profit facility residents received on average 12% more caregiver time than the for-profit residents. It is not possible to estimate whether this difference is significant within the confines of this

study. The average registered nurse and caregiver hours per resident day for for-profit and not-for-profit facilities are shown in Table 6.9.

Figure 6.8: A comparison of profit status to staffing in continuing-care facilities



Key: CG – caregiver, RN – registered nurse, total – total hours per resident day

The small numbers and the inability to compare staffing levels between facilities with a similar number of beds was a limitation of the study. Therefore, conclusions cannot be drawn about profit status and staffing in aged-care facilities in the Hutt Valley and the findings of Harrington & Swan (2003) cannot be tested.

6.3.8 The impact of contractual relationships with general practitioners on acute admission rates

Data from the census showed that all but two facilities had a contract with one or more general practitioners. All contract general practitioners attended facilities for set clinic times, ranging from two to four hours a week depending on the size of the facility. Managers also indicated that general practitioners were expected to abide by certain facility policies (Manager Facility Four, personal communication, June 02, 2004; Manager Facility Nine, personal communication, June 10, 2004).

Financial details of contracts with general practitioners were not covered in the census but some facility managers indicated that general practitioners were paid a retainer with an additional fee-for-service for any visits outside of set clinic times (e.g., Manager Facility Five, personal communication, June 24, 2004). One manager indicated that the retainer paid to the contract general practitioner covered all costs (Manager Facility Two, personal communication, June 24, 2004) and some managers indicated contract general practitioners were paid on a fee-for-service basis-only (e.g., Manager Facility 13, personal communication, June 15, 2004). Some contracts include general practitioner participation in facility activities such as quality or multidisciplinary meetings although this tended to be the exception rather than the norm (Manager Facility Eight, personal communication, June 3, 2004).

General practitioners must ensure continuous medical cover is available to their residents as a condition of the general medical contract with the District Health Board. Some aged-care facility contracts ensured that twenty-four hour medical cover was provided by the contracted general practitioner personally. This is described as twenty-four hour medical cover. General practitioners who did not have a twenty-four hour contract used the After Hours Service outside of normal working hours, as described in Section 4.3.4. This is described as Monday to Friday cover.

6.3.9 The effects of Monday to Friday versus twenty-four hour medical cover on acute admission rates

This section explores whether there is a difference in acute admission rates between facilities where general practitioners are contracted for twenty-four hour medical cover and those contracted to provide Monday to Friday medical cover. Occasionally contract general practitioners were flexible about the amount of out of hours work they would do for the facility even without a twenty-four hour contract. Facility managers from facilities 13 and 11 indicated that the contract general practitioners would attend certain residents out of hours even when not specified in the contracts. This service was usually offered to residents who were particularly ill or dying (Manager Facility 13, personal communication,

June 15, 2004; Manager Facility 11, personal communication, June 18 2004). Twenty-four hour medical cover was more common for continuing-care facilities than for rest homes.

The relationship between general practitioner cover and acute admission rates is shown in Table 6.3. The requirements for provision of medical cover to subsidised residents are the same under the Aged Residential Care Contract, irrespective of care level. Therefore, as well as considering the impact of the general practitioner contract on acute admission rates by care level, the acute admission rate for the facility as a whole has been considered in this calculation. The acute admissions have been divided by care level and then by facility and compared to contractual arrangements. The average acute admission rate for rest home residents with Monday to Friday medical cover is 300% higher than that of residents who have twenty-four hour medical cover. While the rate of acute admissions of continuing-care residents with Monday to Friday cover is only 133% higher than of those with twenty-four hour medical cover, considering the facility totals irrespective of care level confirms that there is a strong relationship between contractual arrangements with general practitioners and acute admission rates.

Table 6.3: A comparison of general practitioner contractual arrangements on acute admission rates

	24-hour medical cover	Monday to Friday cover
Rest Home		
Average acute admission rate	0.10	0.40
Range	0.02 – 0.15	0.17 – 0.62
Continuing-care		
Average acute admission rate	0.12	0.28
Range	0.00 – 0.27	0.11 – 0.63
Facility totals		
Average acute admission rate	0.09	0.38
Range	0.00 – 0.20	0.17 – 0.63

This finding supports the findings of Teresi et al., (1991) that twenty-four hour physician coverage was a variable which could be used in predicting acute admission rates especially when, as shown by Belleli et al., (2001), that access was to a physician familiar with the facility, for instance, a contract general practitioner.

According to facility managers the twenty-four hour medical model appears to be the ideal arrangement. The knowledge of a resident's normal medical condition and the relationship between the general practitioner and facility staff appears to be crucial when making an out-of-hours clinical judgement. General practitioners who work under this arrangement indicated that they did not feel out-of-hours call outs were onerous (Primary/secondary steering group, personal communication, March 16, 2004). In most cases, issues were dealt with early enough in the day that, an after-hours call was usually for advice only and did not necessitate a visit. This opinion was confirmed by one manager who indicated that the contract general practitioner rarely needed to come in out-of-hours but could usually assist by telephone (Manager Facility Five, personal communication, June 24, 2004).

General practitioners with Monday to Friday contracts use an After Hours Service as outlined in section 4.3.4. There are three After Hours Services in the Hutt Valley and each general practice has an arrangement with one or two of the Services to cover medical requirements out-of-hours. Use of an After Hours Service is an advantage to the general practitioner as it reduces the out of hours disruption to personal life. A clinical disadvantage is that the general practitioner on duty usually does not have prior knowledge of the patient using the service and is unable to access patient records. Therefore, the ability to provide optimal treatment for a patient may be compromised.

Individuals attending the After Hours Service are seen in order of severity of condition and then in order of presentation. Residents of aged-care facilities usually require a house visit. Waiting time will be dependent on how busy the After Hours Service is and the prioritisation of home visits. There was a level of pragmatism expressed by the facility managers over the ability of the After Hours Service to respond in a timely fashion, but for some it was a cause of frustration. One manager indicated that the wait was always so

long that calling an ambulance was a better option (Manager Facility 17, personal communication, June 02, 2004). Several Facility managers suggested there were times when the After Hours Service suggested calling an ambulance as they were too busy to attend the facility (Manager Facility Eight, personal communication, June 3, 2004, Manager Facility 12, personal communication, June 17, 2004; Manager Facility Three, personal communication, June 15, 2004).

Managers indicated that it would depend which general practitioner was on duty as to whether they would undertake a house call, suggest calling an ambulance or give telephone advice (for example, Manager Facility 12, personal communication, June 17, 2004). After Hours Service general practitioners will not necessarily know the resident being discussed, nor will they know the staff member who is outlining the problem. Informal discussions with general practitioners (Primary/secondary steering group, personal communication, March 16, 2004) indicated that there are occasions when the nurse calling has all the information, can clearly articulate what is required and therefore the general practitioner will confirm a treatment or arrange to visit. As found by Harrington & Swan (2003) general practitioners indicated it is very difficult to determine the severity of an illness when the normal state of a resident is unknown to the attending registered nurse or caregiver (Primary/secondary steering group, personal communication, March 16, 2004). In these cases, general practitioners indicate they are likely to suggest the duty nurse calls an ambulance.

Some managers indicated that if there was any mention of chest pain, then the After Hours Service would automatically suggest calling an ambulance (Manager Facility 17, personal communication, June 02, 2004; Manager Facility 14, personal communication, June 24, 2004). Mott and Barker (1988) found that the provision of a *future care request* reduced acute admissions by 79%. If the wishes of the resident and the family are not available to the general practitioner on After Hours duty then the safe option is to send the resident to hospital (Primary/secondary steering group, personal communication, March 16, 2004). This statement aligns both with Mott and Barker's findings and with the findings of Fried et al., (1995) who suggested that a *do-not-hospitalise* order would give the consulting physician a higher comfort level about providing telephone advice.

Facility managers expressed mixed feelings about having to use an After Hours Service and this may be related to which After Hours Service the facility had to use. There was a rearranging of the Hutt Valley After Hours Services during the 2003 year which created confusion for at least one facility when out-of-hours cover was refused by all services (Manager Facility 14, personal communication, June 02, 2004). While this situation appears to have been resolved, there remains evidence that it may not always be working to the benefit of the residents and there are times when there is no general practitioner or nurse available at all at the Upper Hutt After Hours Service (Manager Facility 11, personal communication, June 18, 2004).

Most managers indicated that they used the After Hours Service infrequently, however, the impression gained from all facilities was that use of the After Hours Service was far more likely to result in an ambulance call out and subsequent acute admission than contacting the contract general practitioner during the day.

6.3.10 Facility characteristics and relationship to acute admission rate

The third study objective considered various characteristics of the aged-care facilities and the impact on acute admission rates. The literature relating to facility characteristics mainly discussed profit status, staffing skill mix and acuity and funding structures (Carter & Porrell, 2003; Grabowski & Hirth, 2003; Rosenau & Linder, 2003). The facility characteristics considered in this study show other variables also impact on acute admission rates.

Rest homes and continuing-care facilities are structured in a variety of ways. Some rest home and continuing-care facilities are part of a retirement village. Retirement villages offer accommodation in the form of small houses or villas for fully independent living and supported apartments where residents may access meals, cleaning and recreational services. Usually villa and apartment residents have access to the registered nurses on an on-call, fee-for-service basis. Occasionally villages employ a nurse specifically for this purpose but most use the nurses employed for provision of care to the rest home and continuing-care residents.

The geography and physical arrangement of the facilities differed. Rest home and continuing-care wings were linked or within the same building. Others had separate buildings; one had buildings far enough apart that an ambulance was required to transport ill residents from one part of the facility to another.

Three of the facilities offering care to both continuing-care and rest home residents did not distinguish between the differing needs of rest home and continuing-care residents and staffed across the floor rather than by care level. One facility rostered caregivers by care level but expected registered nurses to work across the floor. The other four facilities staffed the care levels separately but the continuing-care registered nurses were available to assist with rest home residents when rest home nurses were off duty. In one facility, registered nurses were expected to complete regular rounds of the rest home part of the facility out of hours as part of their role description (Manager Facility Eight, personal communication, June 03, 2004).

Facilities were different sizes with the smallest being a rest home-only facility that offered 12 beds and the largest offering rest home and continuing-care services with 130 beds. Size of the parent company may also impact on service delivery. Those that were part of a larger national organisation may access both personnel and equipment resources that are unavailable to smaller stand-alone facilities. The profit making status also differed. Eight facilities were not-for-profit organisations with locally run Boards of Directors, six were for-profit facilities and part of large national organisations, and four were smaller owner-operated for-profit facilities.

The facility structure can influence staffing configuration and the ability of staff to react in a timely and appropriate manner to an acute event. These issues will now be discussed in order of structure, configuration of residents, and staff and profit making status.

6.3.11 Facility structure

Of the 18 facilities in the study, ten were standalone facilities and eight offered other forms of accommodation. Of the eight offering other forms of accommodation, two

were large retirement villages offering over 100 villas and apartments, the other six ranged from six to 30 villas and/or apartments. Continuing-care services were offered by six facilities providing aged-residential care only and four facilities that were part of a retirement village. Seven of the 16 facilities offering rest home level care also offered retirement village type services and nine did not.

The average acute admission rates and range by care level when compared to facility configuration is shown in Table 6.4. While the acute admission rate of rest home residents who reside in facilities that include other retirement services is 30% higher than for rest home residents who reside in a care-only facility, the difference is striking for the continuing-care residents who have an average acute admission rate 244% higher than those residents in residential care-only continuing-care facilities. Considering all residents, those residing in facilities providing a range of retirement services have an acute admission rate 64% higher than residents in a residential care-only facility.

Table 6.4: A comparison of facilities offering retirement services to facilities offering residential care-only

	Retirement Services	Residential care only
Rest Home		
Average acute admission rate	0.39	0.30
Range	0.15 – 0.62	0.02 – 0.57
Continuing-care		
Average acute admission rate	0.31	0.09
Range	0.13 – 0.63	0.00 – 0.26
Total facility		
Average acute admission rate	0.36	0.23
Range	0.17 – 0.63	0.00 – 0.57

This pattern indicates that offering a range of retirement services may not be beneficial to the residents in the aged-care facility part of the complex, especially for continuing-care residents.

The irregular nature of demand for registered nurses for villa and apartment residents means designated staffing for this group is uneconomic and difficult to arrange, as requests for service can happen any time of the day or night. Depending on the level of support a villa or apartment resident requires, and the number of accommodation units a facility offers, these can still be time consuming demands. Several facility managers indicated provision of a substantial amount of support to villa or apartment residents (Manager Facility Five, personal communication, June 24, 2004 (acute admission rate, 0.23 continuing-care, 0.15 rest home); Manager Facility 11, personal communication, June 18 2004 (acute admission rate, 0.17 rest home); Manager Facility 16, personal communication, June 21, 2004 (acute admission rate, 0.48 rest home)).

Offering villa and apartment residents the option of an on-call nursing service, may have the impact of drawing nursing time away from the continuing-care and rest home residents. Staff time applied to villa and apartment residents was not requested as part of the census, however this pattern indicates that it may be a variable when considering the acute admission rate of the aged-care facility residents.

6.3.12 Configuration of residents and staff.

There appeared to be little literature discussing the impact of different models of delivering nursing care on acute admission rates, but this appeared to be a variable in the facilities in the Hutt Valley. Configuration of residents and staff within the facility is, in part, dictated by the layout of the facility. Where there is one building, a variety of staffing and resident configuration options may be considered, but where the facility is divided into separate buildings options will be limited. Some facilities separated the continuing-care and rest home residents and staffed these as separate units. Others did not distinguish between the levels of care required by residents. One manager rostered the caregivers separately but expected the registered nurses to manage both care levels.

The relationship between acute admissions of rest home residents and staffing configuration produced an interesting result. The total acute admission rate by care level and staffing configuration is shown in Table 6.5. The non-responder (rest home Facility 15) has been removed. The residents in both care levels of facilities that staff across the

floor had the highest acute admission rates. Rest home residents who lived in a facility that staffed across the floor had an average acute admission rate 100% higher than rest home residents in a facility providing both care levels but staffed separately and 13% higher than rest home-only residents. The lower rate of acute admissions from the rest home facilities providing both care levels and staffing separately is likely to be due to the out-of-hours access to registered nurses that is not available to the rest home only facilities.

Continuing-care residents who live in facilities that staffed across the floor had an average acute admission rate 75% higher than residents who lived in facilities that staffed separately and 800% higher than the average acute admission rate of residents in a continuing-care only facility.

One facility that staffed across the floor achieved a very low acute admission rate. This facility manager stated that she liked to see each resident each day and had acutely-ill residents moved to a room near the nurses' station where they could be observed easily and she could care for them herself (Personal communication, Manager Facility Six, June 3, 2004). This facility also had one of the highest staffing ratios.

Table 6.5: A comparison of staffing configuration by care level with acute admission rates

	One care level only	Staff separately	Staff across the floor
Rest home			
Average acute admission rate	0.39	0.22	0.44
Range	0.17 – 0.57	0.17 – 0.27	0.02 – 0.62
Continuing-care			
Average acute admission rate	0.03	0.16	0.28
Continuing-care	0.00 – 0.06	0.05 – 0.27	0.09 – 0.63

The difference in acute admission rates of rest home residents from facilities that staff across the floor became greater when considering acute admission rates for

preventable conditions especially for rest home residents. Rest home residents of facilities that staff across the floor had an average preventable acute admission rate 500% higher than residents of facilities that staff separately and 60% higher than rest home only residents. Continuing-care residents of facilities that staff across the floor had an average preventable acute admission rate 150% higher than facilities that staffed separately and 900% higher than continuing-care only facilities. The average acute admission rates of preventable conditions of facilities that staff separately compared to facilities that staff across the floor is shown in Table 6.6.

Table 6.6: A comparison of staffing configuration with acute admission rates for preventable conditions

	On care level only	**Staff separately**	**Staff across the floor**
Rest home			
Average acute admission rate	0.15	0.04	0.24
Range	0.00 – 0.34	0.00 – 0.07	0.06 – 0.35
Continuing-care			
Average acute admission rate	0.02	0.08	0.20
Range	0.00 – 0.04	0.02 – 0.18	0.06 – 0.42

This data suggests that staffing across the floor may not provide the best care for residents unless specific attention is paid to acutely ill residents and nursing delivery models ensure that all residents receive an *appropriate* amount of care. Table 6.3 showed how rest home residents benefit from on-site nursing availability. The result shown in Tables 6.5 and 6.6 further refines the observation that while registered nurse out-of-hours availability is important, staff dedicated to each care level appears to have a greater impact.

6.3.13 Profit making status

Facility managers indicated that current bed-day prices (see Appendix A) are not viable and the profit margin is minimal or non-existent (W Dunn, personal communication, October 14, 2004; M Ford, personal communication, October 19, 2004). Zimmer et al., (1988) suggested that facilities would transfer residents to hospital because the funding received is not adequate to manage acutely unwell residents. While no manager suggested that decisions to transfer were made based on funding alone, low profit margins will reduce incentives to undertake clinical procedures if there is a cheaper option such as admitting an acutely unwell resident to hospital. Bed-day prices for continuing-care beds are higher than those for rest homes.

The relationship between profit status and acute admission rates by care level is shown in Table 6.7. Residents of for-profit rest homes have an average acute admission rate 104% higher than residents of not-for-profit facilities and 11% lower than residents of owner-operated facilities. Residents of not-for-profit continuing-care facilities have an average acute admission rate 127% higher than residents of for-profit facilities. The not-for-profit average acute admission rate is skewed by the outlier facility which when removed reduces the average to 0.13 and reduces the difference to 18%. This would suggest that profit status may not impact on continuing-care residents but appears to impact on rest home residents.

The higher acute admission rate for for-profit rest homes confirms Carter & Porrell's (2003) findings that profit status can influence the rate of transfer to an acute hospital; however as Rosenau & Linder (2003) discovered, differences in for-profit and not-for-profit facilities have reduced in the last decade as regulated quality inspections have occurred. The more rigorous legislation and contractual requirements around staffing levels (NZ Govt, 1993, MoH, 2003) and higher bed-day price (see Appendix A) that has been applied to continuing-care facilities may be minimising any differences between for-profit and not-for-profit continuing-care facilities in the Hutt Valley.

Table 6.7: A comparison of acute admission rate to profit status

	For-profit	Not-for-profit	Owner-operated
Rest Home			
Average acute admission rate	0.43	0.21	0.48
Range	0.27 – 0.56	0.02 – 0.62	0.29 – 0.57
Continuing-care			
Average acute admission rate	0.11	0.25	
Range	0.00 – 0.26	0.05 – 0.63	

6.3.14 Other variables

Other variables influencing acute admission rates identified from the literature in Chapter Three were provision of future treatment requests and access to skills and equipment. Future treatment requests were not included as questions in the census. During the 2003 year the Hutt Valley District Health Board contracted the local palliative care provider to work with facility managers and staff to implement protocols and procedures for outlining future treatment requests with residents. It therefore was not included it as a census question.

Lack of access to equipment, especially IV therapy, was cited by Gillick et al,. (1982); Serrell & Gillick, (1982); Kayser-Jones et al., (1989); Ouslander, (1989); Tresch et al., (1985) & Turrell, (2001) as a predictor of acute admission rates. Facility managers in the Hutt Valley District Health Board region have access to IV therapy via the district nursing service so this should not be a variable in this region. Some facilities were not aware of this service, however, and one did indicate that anyone requiring IV antibiotics would require transfer to hospital (Manager Facility 10, personal communication, June 23, 2004). Access to other equipment was mentioned as being helpful to treat residents on site; including oxygen concentrators (Manager Facility 11, personal communication, June 18, 2004), syringe driver (Manager Facility One, personal communication, June 6, 2004), and specialised hoists (Manager Facility Three, personal communication, June 21, 2004).

Access to specialist nurses was discussed as being helpful especially to the smaller facilities (Manager Facility 13, personal communication, June 15, 2004; Manager Facility 11, June 18, 2004). These facilities only had one nurse on duty at a time and had difficulty attending ongoing education sessions offered by Hutt Hospital. Provision of primary care teams would be an advantage to these facilities as outlined in the studies by Burl et al., (1994); Fama & Fox, (1997) and Kane, et al., (2002).

Finally additional resources during times when there were acutely unwell residents was requested by the managers as being a resource that would assist them to manage on-site (Manager Facility Four, personal communication, June 2, 2004; Manager Facility Eight, personal communication, June 3, 2004).

6.4 Summary of variables

In summary, differences were observed in the acute admission rates between facilities, and several variables appears to contribute to this phenomena. It appears that the attitude and management style of the facility manager and the relationship the manager has with the general practitioner may be a key influencing variable. Staffing levels and skill mix could not be directly linked to acute admissions. However, it was shown that size of facility can strongly influence staffing levels, which would suggest that comparisons of staffing levels with acute admission rates need to be made between facilities with a similar number of beds. Twenty-four hour on-site availability of registered nurses was shown to be beneficial to rest home residents. Twenty-four hour medical availability was found to be strongly linked to acute admission rates. Facilities that offered a range of retirement services had higher acute admission rates and facilities that staffed across the floor also had higher acute admission rates.

The variables that have been discussed in Chapter Six and whether or not they appear to impact on acute admission rates are summarised in Table 6.8.

Table 6.8: Summarising the variables impacting on acute admission rates of facilities in the Hutt Valley

Variable	Rest Home	Continuing-care
Manager attitude	May affect acute admission rates	May affect acute admission rates
RN hours per resident day	Result not conclusive. May affect admission rates if able to be compared by facility size	Result not conclusive. May affect admission rates if able to be compared by facility size.
CG hours per resident day	Result not conclusive. May affect admission rates if able to be compared by facility size	Result not conclusive. May affect admission rates if able to be compared by facility size
24-hour on-site access to RN	Appears to affect acute admission rates	Not applicable
24-hour GP cover vs Monday to Friday cover	24-hour cover appears to reduce acute admission rates	24-hour cover appears to reduce acute admission rates
Retirement service options	Appears to increase acute admission rates	Appears to increase acute admission rates
Staffing across the floor	Appears to increase acute admission rates	Appears to increase acute admission rates
Profit status	Not-for-profit facilities had lowest acute admission rates and owner- operators had the highest	Did not appear to impact on acute admission rates

Key: RN – registered nurse, CG – caregiver, GP – general practitioner, 24-hour – twenty-four hour

6.5 Alternative models of provision of acute care

The above discussion illustrates the complexity of issues affecting acute admission rates. Analysis of the data provided by the 12-month audit and the census of aged-care facilities in the Hutt Valley identified a number of variables that impact on acute admission rates to varying degrees.

Using the findings from the data in this study and information from the literature review it is possible to suggest models of care that may reduce the acute admissions to Hutt Hospital from aged-care facilities. The average cost to the funder of each acute admission during the 12-month audit period was $4,102. Calculated savings on reduced acute admissions have been made using this figure.

6.5.1 Model A – twenty-four hour registered nursing for rest homes

Rest home facility managers indicated that increasing registered nurse staffing levels to twenty-four hour cover would increase the ability of the rest homes to care for acutely unwell residents (Manager Facility Eight, personal communication, June 03, 2004; Manager Facility 12, personal communication, June 17, 2004). This view is supported by the studies of Carter & Porrell (2003) and Kayser-Jones et al. (1989) that a higher ratio of skilled staffing reduces acute admission rates. The comments are also supported by the data analysis that indicated that on-site access to registered nursing substantially reduced acute admission rates. To estimate the impact of this model, an assumption is made that twenty-four hour nursing care should at least reduce the average acute admission rate of rest homes without on-site access to registered nurses, 0.48, to the average acute admission rates of facilities with on-site access to registered nurses, 0.28. The facilities with no on-site registered nurse availability had 197.6 average occupied beds. If this figure is multiplied by the acute admission rate of the facilities with twenty-four hour on-site registered nurse availability, 0.28, it could be expected that there would be 55 acute admissions, that is, 197.6 x 0.28 = 55.32. The facilities without twenty-four hour on-site access to registered nurses transferred 85 residents during the 12-month audit period. Therefore, this model could expect to save a minimum of 30 acute admissions and at $4,102 per acute admission would save the funder $123,060, that is, 30 x $4,102 = $123,060.

Most rest homes had registered nurse cover for 40 hours from Monday to Friday. For the purposes of estimating the cost, the assumption is that all rest home facilities will increase registered nurse cover from Monday to Friday, eight hours a day (40 hours of registered nursing a week) to twenty-four hours a day (168 hours of registered nursing a

week). This will mean that each of the 16 rest home facilities would have to increase registered nurse hours by 128 hours per week, that is, 168 – 40 = 128. Facility managers indicate that the average hourly rate paid to the registered nurses is $20 per hour. For the sixteen rest homes, the conservative cost to the sector to increase registered nurse hours would be $2,129,920 per annum, that is, 16 x 128 x 20 x 52 = $2,129,920. This model represents a net cost to the funder of $2,006,860 and while it may reduce acute admissions is not cost effective.

6.5.2 Model B - Primary Care Teams

Primary care teams have been successful in reducing hospitalisations in the United States of America. Primary care teams are complied of a GNP and a physician. A GNP generally shared a caseload of 100 residents with designated physicians (Reuben et al. 1999). The literature indicated that reductions in acute admission rates of between 34% and 72% (Burl et al., 1994; Reuben et al., 1999) could be achieved when primary care teams provided clinical care to residents of aged-care facilities. As this is a large range, for the purposes of this study the average reduction of 49% will be used to calculate the possible impact in the Hutt Valley.

If such an approach was used and each contract general practitioner was paired with a specialist nurse, nine specialist nurses would be required to provide cover for the total resident population of approximately 900. There were a total of 215 acute admissions in the 12-month audit period. A reduction of acute admissions of 49% across both care levels would be 105, that is, 215 x 0.49 = 105 acute admissions. At $4,102 per acute admission, this would represent a saving to the funder of $432,145, that is, $4,102 x 105 = $432,145.

The cost of implementing primary care teams would be expensive. This model requires nine specialist nurses at a cost of $60,000 each per annum[8]. This is a minimum

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[8] This figure is made up of the average salary of a specialist nurse at Hutt Valley District Health Board of $50,000 per annum plus a cost of $10,000 for a car.

cost of $560,000, that is, 9 x $60,000 = $560,000 per annum. This model would represent a net cost to the funder of $127,854, that is, $432,125 – $560,000 = - $127,875 and although it would reduce acute admissions by 105 it is not cost effective.

6.5.3 Model C - Separate staffing for levels of care

Analysis of the data from the census indicates that staffing across the floor may not be best practice for residents and that the acute admission rate is higher for both continuing-care and rest home residents. If the facilities that currently staff across the floor maintained separate staffing rosters, it could be assumed that the acute admission rate would be reduced to the level of the facilities that staff separately, that is, 0.22 for rest homes and 0.16 for continuing-care. There were 80.36 average occupied rest home beds in the facilities that staffed across the floor. If this figure is multiplied by 0.22, the result is 18 expected acute admissions, that is, 80.36 x 0.22 = 17.67. This is 18 fewer than the 36 that were admitted during the 12-month audit period. There were 120.54 average continuing-care occupied beds in the facilities that staffed across the floor. If this figure is multiplied by 0.16, which is the average acute admission rate of the facilities that staff separately, the result is 19 expected admissions, that is, 120.54 x 0.16 = 19.3. This is 24 fewer than during the 12-month audit period. The combined reduction in acute admissions is 42, that is, 24 + 18 = 42. At $4102 per acute admission, this represents a saving to the funder of $172,284, that is, 42 x $4,102 = $172, 284. Therefore application of this model would represent a net gain to the funder of $172,284 and would reduce acute admissions by 42.

6.5.4 Model D – twenty-four hour general practitioner contracts

The census data strongly indicated that provision of a twenty-four hour contract general practitioner was the medical model least likely to result in acute admissions. This result is supported by the studies completed by Teresi et al., (1991) and later Belleli et al., (2001). These researchers found that twenty-four hour medical availability, especially by a general practitioner familiar with the facility, reduces acute admission rates. Ideally, all facilities would have one or two contract general practitioners who provided twenty-four hour cover, booked time of two hours per week for every 20 beds, and were prepared to make house calls at times other than booked clinic times. Residents would, therefore, be compelled to accept the facility's contracted general practitioner.

The impact of this model would be to reduce the average acute admission rate of the facilities with Monday to Friday cover, 0.38, to the same average acute admission rate as the facilities with twenty-four hour medical cover, 0.09. If the 0.09 acute admission rate was applied to the 470 average occupied beds of the facilities with Monday to Friday medical cover, then it could be expected that the total number of 174 acute admissions from those facilities that occurred during the 12-month audit period could be reduced to 42 acute admissions, that is, 470 x 0.09 = 42. A twenty-four hour medical model across all facilities may reduce acute admissions by 76% and save 132 acute admissions, that is, 174 - 42 = 132. At $4,102 per acute admission, this represents a saving to the funder of $541,464, that is, 132 x $4,102 = $541,464.

Identifying exact costs of medical cover was difficult as some facilities were able to give specific actual costs and others could only estimate using a series of invoices. Some managers did not separate their general practitioner costs from pharmaceuticals and other medical consumable costs and could not therefore provide a figure. The costs that were provided in the census by average occupied bed per annum varied considerably. Stated costs ranged from $107 per year through to $680 with an average of $385 per average occupied bed. The average cost of twenty-four hour medical cover was $415.26 per occupied bed per year. The average cost of medical cover for the facilities that had Monday to Friday cover was $354.75 per occupied bed per year. Therefore, the difference

in providing twenty-four hour cover was $60.51 per average occupied bed per annum, that is, 415.26 – 354.75 = $60.51 per occupied bed per year. Applying the additional cost of $60.51 per bed per annum to the 470 average occupied beds in the facilities that had Monday to Friday cover would cost $28,405 per annum, that is, 470 x $60.51 = $28,405 per year.

Application of this model would be a net saving to the funder of $513,059, that is, 541,564 – 28,405 = $513,159. This model could be expected to reduce admissions by 132 and, therefore, be cost effective to implement.

6.6 Summary

The net savings or cost to the funder of the four models (A-D) is summarised in Table 6.9. The costs do not include all employment costs such as ACC levies, uniforms or other associated consumables. The anticipated savings are estimates of the number of acute admissions that might be saved and the anticipated savings to the funder.

Table 6.9: Cost effectiveness of the various models of acute care delivery

Initiative	% Reduction in acute admission rate	Cost of Initiative	Savings	Difference
Model A Increase registered nurse staffing in RH	58%	$2,129,920	$123,060	($2,006,860)
Model B Primary care teams	48%	$560,000	$432,145	($127,875)
Model C Separate staffing for care levels	19%	-	$172,284	$172,284
Model D 24 hr medical cover	76%	$28,405	$541,464	$513,059

Key: RH - rest home, 24 hr – twenty-four hour

All models shown in Table 6.9 will reduce the acute admission rate. Model A, with twenty-four hour registered nursing cover for rest homes confirms the studies of Carter & Porrell (2003) and Kayser-Jones et al., (1989) that a higher ratio of skilled staff reduces acute admission rates. The suggestion in Model B of primary care teams is based on data in the literature (Burl et al., 1994; Fama & Fox, 1997; Kane, Flood, Keckhafer, Bershadsky & Lum, 2002) with suggestions from managers from some facilities that specialist nursing availability would be an advantage (Manager Facility 13, personal communication, June 15, 2004; Manager Facility 11, June 18, 2004). Application of Model C should reduce acute admissions if staff are allocated to residents by care level with a subsequent saving. There appears to be little literature describing the relationship between staffing models and acute admission rates. This may reflect either a dissimilarity between staffing models in the study and those elsewhere, or the nature and composition of the detail at which staffing levels were observed in this study.

Application of Model D, twenty-four hour medical cover, confirms the studies of Teresi et al., (1991) and Belleli et al., (2001) that access to twenty-four hour medical cover by a known physician reduces acute admission rates. Twenty-four hour medical cover is the most cost-effective delivery of acute care to residents of aged-care facilities in the Hutt Valley. This model produces both the greatest reduction in acute admission rates and the most significant savings to the funder.

Chapter 7 Conclusion

7.1 Background

To date no research has been published in New Zealand that explores the delivery of acute care to residents of aged-care facilities. This study sought to begin that process by first, identifying select variables that impact on the need to transfer acutely unwell residents to Hutt Hospital and second, by identifying the most cost effective provision of acute care within the District Health Board.

An audit of 12 months of acute admissions from aged-care facilities in the Hutt Valley into Hutt Hospital was conducted. The data contained the primary diagnosis, the secondary diagnosis, facility of residence, caseweight, length of stay and the cost of the care received by the resident. Comparisons were then made between facilities using the results of the 12-month audit and data gathered on the facilities' resources. These resources included staffing models, skill mix, staffing costs and facility characteristics.

Data obtained from the research identified a number of variables that appear to impact on the rate of acute admissions from aged-care facilities into Hutt Hospital. These included the availability of an on site registered nurse, the profit status of the facility, the staffing configuration, provision of retirement village options and the availability of twenty-four hour medical cover.

The most cost effective delivery of acute care to residents of aged-care facilities in the Hutt Valley appears to be the employment of general practitioners on twenty-four hour contracts. This change could be expected to reduce the acute admission rate from an average of 0.38 to 0.09 resulting in net savings to the funder of approximately $513,000. In addition, this model produces quality benefits, as well as financial ones, with the residents receiving clinical treatment on site without having to be transferred to the acute hospital. Many researchers have found that transferring older people to the acute hospital is detrimental to their wellbeing (e.g., Turrell, 2001; Zimmerman et al., 2002: Finucane et al., 2000). Although contracting with general practitioners who are prepared to be on-call

continuously might appear a difficult task, general practitioners who undertake this work indicate it is not onerous. The success of this model may be a reflection on the skill of the facility manager and the working relationship between the contract general practitioner and manager. But general practitioners indicated that the actual times they are required to make a house call out-of-hours are limited (primary/secondary steering group, personal communication, March 16, 2004). In addition, given the savings to the funder, it may be possible to offer increased financial incentives to general practitioners to undertake this work.

Other recommendations that could impact on acute admission rates, but in a less significant manner include:

- Provision of twenty-four hour registered nursing to rest homes;
- Provision of specialist nursing advice and assistance through primary care teams to be made available to the facilities and,
- Ensuring that rest home residents of facilities that provide both care levels within the same wing receive adequate registered nurse attention.

In addition there were other variables that could be not be quantified with real precision but could also be expected to further reduce acute admission rates. These variables include:

- Ensuring that retirement villages do not provide services to villa residents to the detriment of aged-care facility residents;
- Encouraging all residents to consult only the facility contract doctor;
- Provision of additional staffing at peak times when residents are acutely unwell and,
- Access to specialist equipment.

The above variables are likely to have an additive effect on reducing acute admission rates. For example, if staff are too busy to adequately care for an acutely ill

resident, despite the wishes of the facility manager and general practitioner, the best option will be to send the resident to hospital. In addition, access to specialist equipment such as oxygen concentrators will allow on-site treatment that may have been impractical previously.

7.2 Limitations of the research

There is limited literature about provision of care in aged-care facilities in New Zealand. Most of the published studies have occurred in the United States of America where funding structures differ from those encountered in the study. Many of these studies were completed in the 1980's and 1990's with discussion of the role and ability of aged-care facilities to provide clinical care (Tresch et al., 1985; Teresi et al., 1991; Intrator et al., 1999). Some research studies, such as those occurring in the United Kingdom, appeared to be a reaction to the privatising of aged-residential care and the move from the acute hospital setting to the community (Berringer & Flannagan, 1999; Turell, 2001). Studies concerning staffing numbers began in the 1980's (Kayser-Jones et al., 1989) and continued through the 1990's (Teresi et al., 1991; Barker et al., 1994; Kayer-Jones et al., 1999). These studies may have been influential in facilitating the more recent studies that have considered appropriate minimum staffing levels (CMS, 2000; Harrington & Swan, 2003). The literature search only identified studies concerning non-staffing variables affecting acute admission rates that were published in the 1980s and early 1990s.

The small number of facilities for whom data was collated for the study, limited the ability to make valid comparisons using some of the independent variables. For example, comparing staffing levels with acute admission rates appears to suggest that the higher the staffing ratio, the higher the acute admission rate. However, the results presented in Figure 6.6 suggest that only facilities with a similar number of beds should be sensibly compared. Therefore, the data would benefit from being tested with that from a greater number of facilities. Finding a larger sample brings additional limitations to the research. Introduction of the DHBs, and arguably different policies, would serve to confuse the data, creating a potential research dilemma. Considerable research would therefore be required

to understand the basis of acute admission rates between regions. A large study, whilst publishable in an academic setting, may or may not have applicability in a practical setting.

A further limitation was that staffing arrangements differed between facilities. Some of the larger facilities employed staff specifically for the purpose of associated activities. Therefore, the comparison of direct care staff from these facilities with staff who undertook these activities as part of their role may not be valid. The relationship between direct care hours and acute admission rates may be quite different to the relationship illustrated in this study.

Costings proved to be difficult to obtain in a manner in which they could be used with consistency and confidence. Managers had varying financial responsibilities and budgets were completed using a variety of accounting practices. In order to calculate costs accurately, a prospective study would be required where costs were gathered in a consistent and retrievable fashion.

The distinction between preventable and non-preventable conditions has been used for the purposes of the study to help identify whether staffing levels impact on acute admission rates of these conditions as found in a large study from the United States of America (CMS, 2000). Further analysis would be required to define preventable conditions for this distinction to be useful in the New Zealand context.

7.3 Opportunities for future research

This study illustrates a number of opportunities for future research. Exploring the relationship of direct care hours to acute admission rates would serve to define the relative importance of direct care on the impact of acute admission rates as opposed to the number of staff employed who may provide varying levels of direct care in different facilities. Exploring the relationship between staffing levels and acute admission rates of a larger number of facilities with the same number of beds would show whether the New Zealand situation compares with the United States.

While profit status was briefly considered in this study, further defining profit expectations and the facility's philosophy towards profit may show some interesting trends. The philosophies on care provision of the for-profit facility owners, that is, owner-operators, large national care-only providers and property developers who provide care facilities as part of a retirement village package are expected to differ significantly. Therefore, exploring the effects of profit-making status on staffing ratios and acute admission rates may further refine predictors of acute admission rates.

Differences between the acute admission rates of subsidised and non-subsidised residents were not explored in this study. This may or may not be an additional variable to consider in future research.

One of the issues that kept reappearing during the course of the study was the attitude of the facility manager to the prospect of acute admission and the relationship that the manager had with the general practitioner. General practitioners were not formally interviewed for the study, but it appears that the general practitioner and the facility manager may be highly influential in deciding the level of acute care provided on site and when a resident will be transferred to the acute hospital. The studies from the United States of America using large data sets, are useful for providing some basis on which to set policy decisions, for example setting staffing levels, but these studies have singularly failed to identify the requisite managerial skills used in policy implementation. Therefore, undertaking qualitative research on the impact of the attitudes of managers and general practitioners to acute admission rates could well be useful.

Finally, the complexity of the influencing variables, suggests that a multi-variate analysis is required to consider the overall relationships between the variables on the impact of acute admission rates. In order to gather enough data to ensure statistical validity a multi-centred study would be desirable. The paradox here is that multi-variate analysis, while appealing in terms of statistical accuracy could well fail to capture those managerial processes that appear to be increasingly important.

7.4 Significance of the study on the development of older persons health policy in New Zealand

The different funding arrangements that occurred during the time of the four RHAs (1990s) has led to environmental differences in the aged-residential care sector throughout the country. The availability of funding has enabled NASC agencies to establish different thresholds for allowing access to aged-care facilities. This historical anomaly is slowly being corrected but has to date, resulted in varying thresholds for accessing publicly funded aged-residential care across the country. There appear to be areas in New Zealand with a lower access threshold to aged-care facilities than that available to residents in facilities with contracts with Hutt Valley District Health Board. As mentioned in Section 7.2, different policies can impact on the data as it may be that residents in areas with a low threshold will be less frail and dependent than the residents in this study and therefore the requirement for acute care and subsequent acute admission rates may differ. Despite these research difficulties, the variables outlined in this study should be considered in the context of New Zealand older persons policy as discussed below.

7.5 Recommendations for practitioners

The provision of acute care should be described in more detail in the Aged-Residential Care Contract (MoH, 2003). The current provision for regular general practitioner checks of one to three months would be better changed to reflect the need for continuous monitoring. It would be more appropriate for the minimum of a weekly registered nurse assessment of the physical state of all residents, increasing as required. General practitioner assessment should be on the recommendation by the attending registered nurse but be defined as not less than monthly. Funding for general practitioners should be specified within the contract to ensure this is not an area where cost savings are made.

Consideration should be given to ensuring that staff working in facilities that offer alternative retirement services are dedicated to residents in the residential care part of the facility.

The requirement in the Aged Residential Care Contract (MoH, 2003b) for the registered nurse in the rest home to assess a subsidised resident every six months, needs adapting to reflect the increasing acuity described by Hendrix & Foreman (1991) and Weiner et al., (2000) and confirmed by the managers of facilities 11 and 12 (Manager Facility 11, personal communication, June 18, 2004; Manager Facility 12, personal communication, June 17, 2004). Regular observations and direct resident care are now routinely undertaken in most facilities and this can be enforced universally via the contract. Consideration needs to be applied to consumables, such as expensive dressings and equipment (e.g., IV equipment) that is now used in current clinical management and whether the equipment listed in the contract reflects best practice.

The Aged-Residential Care Contract (MoH, 2003b) only covers subsidised residents and therefore, does not consider the overall impact on cost to the District Health Board. Transferring the non-subsidised resident to Hutt Hospital is costly to the DHB and it should be required that non-subsidised residents receive cost-effective care on site where practicable. While in most facilities it appears that no distinction is made between subsidised and non-subsidised residents in regard to provision of clinical care and it is recommended that this be specified in the Aged Residential Care Contract.

Postscript

Consideration should be given to combining all primary care funding for aged-care residents. The Primary Health Organisations (groups of general practitioners and primary care services) that have emerged throughout 2003 and 2004 are allocated per capita funding for all older patients. This funding is in addition to the provision made for subsidised residents to receive basic primary care through the Aged Residential Care Contract (MoH, 2003b). If this funding was combined, facilities or DHBs may have the ability to develop the contracts with general practitioners to provide a comprehensive acute health care package to residents in aged care facilities.

References

Barker, W. H., Zimmer, J. G., Hall, W. J., Ruff, B. C., Freundlich, C. B., & Eggert, G. M. (1994). Rates, patterns, causes and costs of hospitalization of nursing home residents: A population-based study. *American Journal of Public Health*, 84, 1615-1620.

Bellelli, G., Frisoni, G., Barbisoni, P., Boffelli, S., Rozzini, R., & Trabucchi, M. (2001). The management of adverse clinical events in nursing homes: A 1-year survey study. *Journal of American Geriatrics Society*, 49, 915-925.

Bergman, H., & Clarfeild, A. M. (1991). Appropriateness of patient transfer from a nursing home to an acute-care hospital: A study of emergency room visits and hospital admissions. *Journal American Geriatrics Society*, 39, 1164-1168.

Beringer, T. R. O., & Flanagan, P. (1999). Acute medical bed usage by nursing home residents. *The Ulster Medical Journal*, 68, 27-29.

Bertelsman Foundation, (2003). *Reform-monitor*. Bielfeld:Author. Retrieved on July 24, 2003, from www.reform-monitor.org.

Boult, C., Kane, R. L., & Brown, R. (2000). Managed care of chronically ill older people: the US experience. *British Medical Journal*, 321, 1011-1014.

Bowman, C. E., Elford, J., Dovey, J., Campbell, S., & Barrowclough, H. (2001). Acute hospital admissions from nursing homes: some may be avoidable. *Post Graduate Medical Journal*, 77, 40–42.

Bureau of Labor Statistics, (2002-03). U.S. Department of Labor, *Occupational Outlook Handbook, 2002-03 Edition.* Washington: Author. Retrieved on July 24, 2003, from www.bls.gov/oco/ocos083.htm.

Bureau of Labor Statistics, (2004-05). U.S. Department of Labor, *Occupational Outlook Handbook, 2004-05 Edition.* Washington:Author. Retrieved on November 16, 2004, from www.bls.gov/oco/ocos083.htm.

Burl, J. B., Bonner, A., Maithili, R., & Khan, A. M. (1998). Geriatric nurse practitioners in long-term care: Demonstration of effectiveness in managed care. *Journal of American Society*, 46, 506-510.

Burl, J. B., & Bonner, A., & Rao, M. (1994). Demonstration of the cost–effectiveness of a nurse practitioner/physician team in long-term care facilities. *HMO Practice*, 8, 157-161.

Centres for Medicare & Medicaid Services, (2003), *Nursing Home Overview*. Baltimore: Author. Retrieved on July 24, 2003, from www.medicare.gov/Nursing/Overview.asp.

Centres for Medicare & Medicaid Services, (2000). *Report to Congress: Appropriateness of Minimum Nurse Staffing Ratios In Nursing Homes, Phase I.* Baltimore: Author. Retrieved on October 24, 2003, from www.cms.hhs.gove/medicaid/reports.

Carter, M. W., & Porell, F. W. (2003). Variations in hospitalization rates among nursing home residents: The role of facility and market attributes. *The Gerontologist*, 43, 175-191.

Commonwealth Department of Health and Ageing, (2000). *Aged Care in Australia.* Canberra:Author. Retrieved on July 22, 2003, from www.health.gov.au/acc/about/agedaust/agedaust.htm.

Commonwealth Department of Health and Ageing, (2003). Aged Care: *What does it cost? Quality care for older Australians.* Canberra:Author, Retrieved on July 22, 2003, from www.health.gov.au/acc/rescare/services.htm.

Commonwealth Department of Health and Ageing, (2004). *Medicare Benefits Branch home page.* Canberra: Author. Retrieved on May 6, 2004, from www.health.gov.au/haf/branch/mbb/index.htm.

Creditor, M. C. (1993). Hazards of hospitalization of the elderly. *Annals of Internal Medicine*, 118, 219-223.

Department of Health, (2003) London: Author. Retrieved from www.gov.uk. on May 6, 2004.

Duckett, S. (2002). Aged care symposium: overview. *Australian Health Review*, 25, 130-131.

Fama, T., & Fox, P. (1997). Efforts to improve primary care delivery to nursing home residents. *Journal of American Society of Geriatrics*, 45, 627-632.

Farley, D. O., Zellman, G., Ouslander, J. G., & Reuben, D. B. (1999). Use of primary care teams by HMOs for care of long-stay nursing home residents. *Journal of American Geriatrics Society*, 47, 139-144.

Finucane, P., Wundke, R., Whitehead, C., Williamson, L., & Baggoley, C. (2000). Use of in-patient hospital beds by people living in residential care. *Gerontology*, 46, 133-138.

Fried, T. R., Gillick, M. R., & Lipsitz, L. A. (1995). Whether to transfer? Factors associated with hospitalization and outcome of elderly long-term care patients with pneumonia. *Journal of General Internal Medicine,* 10, 246-250.

Garrard, J., Kane, R. L., Radosevich, D. M., Skay, C. L., Arnold, S., Kepferle, L., McDermott, S., & Buchanan, J. L. (1990). Impact of geriatric nurse practitioners on nursing-home residents functional status, satisfaction and discharge outcomes. *Medical Care*, 28, 271-283.

Gauld, R. (2003). One country, four systems: Comparing changing health policies in New Zealand. *International Political Science Review*, 24, 199-218.

Gilllick, M. R., Serrell, N. A., & Gillick, L. S. (1982). Adverse consequences of hospitalization in the elderly. *Social Science Medicine*, 16, 1033-1038.

Godden S., & Pollock, A. (2001). The use of acute hospital services by elderly residents of nursing and residential care homes. *Health and Social Care in The Community*, 9 367-374.

Grabowski, D., & Hirth, R. (2003). Competitive spillovers across non-profit and for-profit nursing homes. *Journal of Health Economics*, 22, 1-22.

Guide2care, (2003). *Funding guide....* London: Author. Retrieved on July 22, 2003 from www.guide2care.com/funding.htm.

Harrington, C., Kovner, C., Mezey, M., Kasyer-Jones, J., Burger, S., Mohler, M., Burke, R., & Zimmerman, D. (2000). Experts recommend minimum nurse staffing standards for nursing facilities in the United States. *The Gerontologist*, 40, 5-16.

Harrington, C., & Swan, J. H. (2003). Nursing home staffing, turnover, and case mix. *Medical Care Research and Review*, 60, 366-392.

Harrington, C., Zimmerman, D., Karon, S. L., Robinson, J., & Beutel, P. (2000). Nursing home staffing and its relationship to deficiencies. *Journal of Gerontology*, 55B, 278-287.

Health Funding Authority, (2000), *Aged residential care pricing implementation – final report.* Wellington: Author

Health Funding Authority, (1999). *Pricing framework for aged care residential services: terms of reference for consultant.* Wellington: Author

Hendrix, T., & Foreman, S. (2001). Optimal long-term care nurse-staffing levels. *Nurse Economics*, 19, 164-175.

Intrator, O., Castle, N. G., & Mor, V. (1999). Facility characteristics associated with hospitalization of nursing home residents. Results of a national study. *Medical Care*, 37, 228-237.

Johnston, G. & Teasdale, A. (1999). *Population ageing and health spending: 50-year projection, Occasional paper, no 2.* Wellington:Ministry of Health,

Kane, R. L., Flood, S., Keckhafer, G., Bershadsky, B., & Lum, Y. (2002). Nursing home residents covered by Medicare Risk contracts: Early finding from the Evercare evaluation project. *Journal American Geriatrics Society*, 50, 719-727.

Kane, R. L., Garrard, J., Skay, C. L., Radosevich, D. M., Buchanan, J. L., McDermott, S. M., Arnold, S B., & Kepferle, L. (1989). Effects of a geriatric nurse practitioner on process and outcome of nursing home care. *American Journal of Public Health*, 79, 1271-1277.

Kane, R. A., Kane, R. L., Arnold, S., Garrard, J., McDermott, S., & Kepferle, L. (1988). Geriatric nurse practitioners as nursing home employees: Implementing the role. *The Gerontological Society of America*, 28, 469-477.

Kane, R. L., Keckhafer, G., Flood, S., Bershadsky, B., & Siadaty, M. S. (2003). The effect of Evercare on hospital use. *Journal of American Geriatrics Society*, 51, 1427-1434.

Kavanagh, S., & Knapp, M. (1998). The impact on general practitioners of the changing balance of care for elderly people living in institutions. *British Medical Journal*, 317, 322-327.

Kayser-Jones, J., Schell, E. S., Porter, C., Barbaccia, J. C., & Shaw, H. (1999). Factors contributing to dehydration in nursing homes: Inadequate staffing and lack of professional supervision. *Journal of American Geriatrics Society*, 47, 1187-1194.

Kayser-Jones, J. S., Wiener, C. L., & Barbaccia, J. C. (1989). Factors contributing to the hospitalization of nursing home residents. *The Gerontologist*, 28, 502-510.

Knickman, J. R., & Snell, E. K. (2002). The 2030 problem: caring for aging baby boomers. *Health Services Research*, 37, 849-885.

Lubitz, J., Cai, L., Kramarow, E., & Lentzner, H. (2003). Health, life expectancy, and health care spending among the elderly. *The New England Journal of Medicine*, 39, 1048-1055.

McGrail, K., Green, B., Barber, M., Evans, R., Hertzman, C., & Normand, C. (2000). Age, costs of acute and long-term care and proximity to death: evidence for 1987-88 and 1994-95 in British Columbia. *Age and Aging*, 29, 249-253.

Meerding, J.W., Bonneux, L., Polder, J. J., Kroopmanschap, M. A., & van der Maas, P. J. (1998). Demographic and epidemiological determinants of healthcare costs in Netherlands: cost of illness study. *British Medical Journal*, 317, 111-115.

Ministry of Health, (1998). *Health Expenditure Trends in New Zealand 1980 – 1997*. Wellington:Author. Retrieved on July 29, 2004 from www.moh.govt.nz/moh.nsf

Ministry of Health, (2004a). *Progressive removal of asset testing: questions and answers*. Wellington:Author. Retrieved on May 11, 2004, from www.moh.govt.nz.

Ministry of Health, (2004b). *Definition of disability*, Wellington: Author. Retrieved on July 7, 2004, from www.moh.govt.nz.

Ministry of Health, (2003a). *New Zealand health and disability sector overview – Online version*. Wellington: Author. Retrieved on July 7, 2004, from www.moh.govt.nz.

Ministry of Health, (2003b). *Aged Residential Care Contract.* Wellington:Author.

Ministry of Health. (2002). *Health of older people: A statistical reference*. Wellington: Author.

Ministry of Health, (n.d.). *Support Package Assessment Tool*. Wellington:Author.

Ministry of Social Development, (2004). *Residential Care Subsidy.* Wellington: Author. Retrieved on April, 11, 2004, from www.workandincome.govt.nz/manuals-and-procedures/income/extra_help.

Mott, P. D., & Barker, W. H. (1988). Hospital and medical care use by nursing home patients: The effect of patient care plans. *Journal of American Geriatrics Society*, 36, 47-53.

Murtaugh, C. M., Kember, P., Spillman, B. C., & Carlson, B. L. (1997). The amount, distribution and timing of lifetime nursing home use. *Medical Care*, 35, 204-218.

National Center for Classification in Health. (2000). *Volume one of the International Statistical Classification of Diseases and related health problems: Tabular list of diseases, ICD-10-AM.* (10th ed). Lidcombe: Australia.

New Zealand Government, (1957). *Hospitals Act*. Wellington: Author.

New Zealand Government, (1993). *Hospitals Regulations.* Wellington:Author.

New Zealand Government, (1987). *The Old Peoples Home Regulations.* Wellington: Author. Retrieved on February 5, 2004 from www.legislation.govt.nz/libraries/contents/om.

New Zealand Government, (2001). *Health and Disability Services (Safety) Act*. Wellington: Author.

New Zealand Government, (2000). *New Zealand Public Health and Disability Act.* Wellington:Author.

New Zealand Health Information Service, (2004). *WEIS caseweights*, Wellington: Author. Retrieved on February 5, 2004, from www.nzhis.govt.nz\documentation/index.html.

Nursing Council of New Zealand, (2002). 3rd ed, *The Nurse Practitioner: Responding to the health needs in New Zealand*, Wellington: Author. Retrieved on March 11, 2004 from www.nursingcouncil.org.nz.

O'Neill, C., Groom, L., Avery, A. J., Boot, D., & Thornhill, K. (2000). Age and proximity to death as predictors of GP care costs: results from a study of nursing home patients. *Health Economics*, 9, 733-738.

Ouslander, J. (1989). Medical care in the nursing home. *Journal American Medical Association*, 262, 2582-2590.

Pell, J., & Williams, S. (1999). Do nursing home residents make greater demands on GPs? A prospective comparative study. *British Journal of General Practice*, 49, 527-530.

Phillips, V., Paul, W., Becker, E., Osterweil, D.,& Ouslander, J. (2000). Health care utilisation by old-old long-term care facility residents: how do medicaid fee for service and capitation rates compare. *Journal of American Geriatrics Society*, 48, 1330-1336.

Read, S. (1999). Inappropriate admissions to hospital: the views of nursing and residential home. *Nursing Standard*, 13, 32-35.

Reuben, D. B., Schnelle, J. F., Buchanan, J. L., Kington, R. S., Zellman, G. L., Farley, D. O., Hirsch, S. h., & Ouslander, J. G. (1999). Primary Care of long-stay nursing homes residents: Approaches of three health maintenance organisations. *Journal of American Geriatrics Society*, 47, 131-138.

Roos, N. P., Montgomery, P., & Roos, L. L. (1987). Health care utilization in the years prior to death. *The Milbank Quarterly*, 65, 231-254.

Rosenberg, M. & Everitt, J. (2001). Planning for aging populations: inside or outside the walls. *Progress in Planning*, 56, 119-168.

Rosenau, P.V. Linder, S. H. (2003). Two decades of research comparing for-profit and nonprofit health provider performance in the Untied States. *Social Science Quarterly*, 84, 219 – 241.

Rozzini, R., Frisoni, G. B., Ferrucci, L., Barbisoni, P., Sabatini, T., Ranieri, P., Guralnik, J., & Trabucchi, M. (2002). Geriatric index of comorbidity: validation and comparison with other measures of comorbidity. *Age and Ageing*, 31, 277-285.

Rubenstein, L., Ouslander, J., & Wieland, D. (1988). Dynamics and Clinical implications of the nursing home-hospital interface. *Clinics in Geriatric Medicine,* 4, 471-491.

Salazar, J. (1998). Managed care – The health authority perspective. *Health Services Review,* issue 33. Retrieved on July 24, 2003, from www.accaglobal.com/publications/hsr/33/23779.

Schoen, C., & Doty, M. (2004). Inequities in access to medical care in five countries: findings from the 2001 Commonwealth Fund International Health Policy Survey. *Health Policy,* 67, 309-322.

Schneider, E. L., & Guralnik, J. M. (1990). The Aging of America. Impact on health costs. *Journal of American Medical Association*, 263, 2335-2340.

Scitovsky, A. (1994). "The high cost of dying" revisited. *The Millbank Quarterly*, 72, 561-591.

Serup-Hansen, N., Wickstrom, J., & Kristiansen, I. S. (2002). Future Health Costs: Do health care costs during the last year of life matter? *Health Policy*, 62, 161-172.

Seshamani, M., & Gray, A. (2002). The impact of ageing on expenditures in the National Health Service. *Age and Aging*, 31, 287-294.

Spillman, B., & Lubitz, J. (2000). The effect of longevity on spending for acute and long term care. *Massachusetts Medical Society*, 342, 1409-1415.

Spillman, B., & Lubitz, J. (2002). Lifetime nursing home use: Have patterns of use changed? *Medical Care*, 40, 965-975.

Statistics New Zealand, (2001). Census, Wellington:author

Teresi, J. A., Holmes, D., Bloom, H. G., Monaco, C., & Rosen, S. (1991). Factors differentiating hospital transfers from long-term care facilities with high and low transfer rates. *The Gerontologist*, 31, 795-806.

Tresch, D. D., Simpson, W. M., Burton, J. R. (1985). Relationship of long-term and acute-care facilities. The problem of patient transfer and continuity of care. *Journal American Geriatric Society*, 33, 819-826.

Turrell, A. (2001). Nursing homes: a suitable alternative to hospital care for older people in the UK. *Age and Ageing*, 30, 24-32.

Wiener, J., Stevenson, D., & Kasten, J. (2000). *Report for congress: State cost containment for long-term care services for older people*, Congressional Research Service, Washington:The Library of Congress. Retrieved on April 27, 2003, from www.urban.org.

Zimmer, J. G., Eggert, G. M., Treat, A., & Brodows, B. (1988). Nursing homes as acute care providers. A pilot study of incentives to reduce hospitalizations. *Journal of American Geriatric Society*, 36, 124-129.

Zimmerman, S., Gruber-Baldini, A. L., Hebel, R., Sloane, P. D., & Magaziner, J. (2002). Nursing home facility risk factors for infection and hospitalization: Importance of registered nurse turnover, administration, and social factors. *Journal American Geriatric Society*, 50, 1987-1995.

Zweifel, P., Felder, S., & Meiers, M. (1999). Ageing of population and health care expenditure: a red herring? *Health Economics*, 8, 485-496.

Glossary

Accident Compensation Corporation (ACC)	A Crown entity responsible for preventing injury, collecting insurance premiums, paying compensation and funding health and disability support services to treat and rehabilitate injury victims (MoH, 2003a).
Acuity	The level of clinical care required by an individual.
Activities of daily living	Personal activities such as dressing, toileting, eating and bathing.
Acute illness	An illness which has developed within a short time frame and which must be treated immediately.
Acute admission	An unplanned admission to hospital for a condition which requires immediate treatment.
Acute admission rate	The rate by which an aged-care facility transfers residents from the facility to the acute hospital. For this study the calculation used is total acute admissions ÷average occupied beds = acute admission rate
Advanced directives	A document which outlines the level of clinical care and medical treatment an individual desires in the event they are unable to articulate their wishes in the future.
After Hours Service	An organisation of general practitioners set up to provide out-of-hours general practice care.
Aged-care	Care provided to older people – usually defined as those over 65 years of age.

Aged-care managers forum	This is a group of managers of aged-care facilities in the Hutt Valley who meet regularly with the District Health Board representatives to discuss service delivery issues.
Aged Residential Care Contract, 2003	The contract for services between the Ministry of Health and the aged-care facilities for subsidised residents during 2003.
Aged residential facility	A facility that provides 24-hour residential services, including assistance with activities of daily living for older people.
Aging Shocks	A term utilised by Knickman & Snell (2002) to describe the financial impact of ageing on an individual.
Ambulatory Patient	One that can receive medical care while remaining in their own home, that is, does not require acute hospital services.
Area Health Board (AHB)	14 AHBs were created in 1989 to administer health funding to a defined geographic area. AHBs were disbanded in 1993.
Asset testing	Means and Asset testing is undertaken by the Ministry of Social Development to determine eligibility for public funding for aged residential care. Currently residents are able to retain $15,000 before they become eligible for public funding. From July 1 2005, this level will increase to $150,000.
Average occupied beds	The average number of beds utilised during the year by an aged-residential facility. For the purposes of this thesis the calculation used is number of beds x average occupancy = average occupied beds.
Baby Boomers	People who were born in the fifteen years after World War Two.

Bed-day prices	The price paid to aged-residential facilities for each day a resident is utilising a bed. Theses prices are listed in a schedule attached to the Aged Residential Care contract. (see Appendix B).
Care Staff	Registered nurses or care givers
Caregiver	Untrained or low trained staff who provide personal care to people with disabilities. For the purposes of this thesis, caregivers refer to non-registered staff who work in aged-care facilities.
Care level	The level of residential-care received by an individual. In this thesis it refers to rest home or continuing care level.
Casual nurse	A nurse employed on a casual basis to cover illness , leave or vacancy of the incumbent.
Crown Health Enterprises (CHE)	The term given to New Zealand hospitals in the period between 1993 and 1996. CHE's were intended to be competitive, profit making organisations.
Clinical Care:	The care provided by medical, nursing and caregiver staff which ensures medical wellbeing.
Comfort Care	Medical intervention and personal care which keeps a dying person as pain free and comfortable as possible. It usually precludes active treatment.
Co-morbidity	More than one chronic illness.
Community Care	Care provided in a non-institutional setting.
Commonwealth Department of Health and Ageing	The Government body which creates policy and administers commonwealth health funding in

(CDHA)	Australia.
Continuing Care	Higher level of aged-residential care in New Zealand.
Chronic Illness	An illness from which an individual will not recover.
Diagnostic Related Group	Diagnoses which can be grouped for audit or costing purposes.
District Health Board (DHB)	A governance body legislated under the Health and Disability (Safety) Act 2001. Also refers to the operational part of the organisation being the hospital and the planning and funding division. DHB's are the current administrative system for health funding in New Zealand. There are 21 and each is responsible for a geographically defined area. Responsibilities include provision of hospital care, pharmaceuticals, general practice and other community based health services. From October 2003, DHBs also had funding responsibility for aged-care services.
Disability	A physical, psychiatric, intellectual, sensory or age-related disability which is likely to continue for a minimum of six months and results in a reduction of independent function to the extent that ongoing support is required (MoH, 2004b).
Enrolled nurse	An individual who has undertaken a one year enrolled nurse training course in New Zealand. This training is no longer available.
Formal Care	Care for which the carer is paid.
Future Care Requests	A document which outlines the level of clinical care and medical treatment an individual would wish for in the future in the event that they are unable to articulate their wishes at any time. Also known as advanced care directives.

Geriatric Nurse Practitioner	A Nurse Practitioner with a specialty in Geriatrics.
Health Funding Authority (HFA)	The funding body that funded health services in New Zealand between 1996 and 2001.
Hospital and Health Services (HHS)	The term given to New Zealand hospitals in the period from 1996 to 2001. HHS's were provider organisations and had no funding responsibility.
Home Support	Household management or personal care support provided to a disabled person in their own home.
Hospital-at-home	Mobile nursing services providing services normally only delivered in a hospital setting e.g., intravenous therapy.
Hospital Regulations 1993	Regulations pursuant to the Hospitals Act (1957) that provided regulations under which continuing-care facilities were licensed prior to the regulations being repealed by the Health and Disability (Safety) Act (2001).
Hostel	The Australian term for the lower level of aged-residential care.
ICD-10 codes	International Statistical Classification of Disease and Health Related Problems. This coding system combines diagnosis and associated complications and influencing comorbidies to assign a code. These codes can be used for clinical audit and costing purposes.
Informal Care	Care provided to an individual for which the carer is unpaid. Normally a family member or spouse.
Intravenous (IV)-therapy	Provision of medication or fluid by direct insertion into a vein.

Licensed vocational nurse	A qualification from the United States of America which indicates a lower level of nursing similar to the enrolled nurse in New Zealand.
Longevity	The term used to indicate the lifespan of an individual.
Long-term care	Support services required in excess of a designated time frame. In New Zealand this timeframe is 6 weeks.
Managed Care Organisation (MCO)	Organisations from the United States of America, usually insurance company based that provide integrated provision of heath care.
Medicaid	An organisation from the United States of America that purchases health care for people with no or low income, and is funded through both federal and state tax and administered by state governments.
Medicare	An organisation from the United States of America that purchases health care for the disabled and people over 65 years of age. It is funded predominantly by federal taxes.
Ministry of Health (MoH)	The New Zealand Government body that writes health policy. Has limited funding responsibility for under 65 years of age disability and some national services.
Ministry of Social Development (MSD)	The New Zealand Government body that writes welfare policy and funds national benefits and undertakes means and asset testing to determine eligibility for public funding for aged residential care.
NASC	Needs Assessment and Service Co-ordination agencies assess the level of need an older person is entitled to and co-

	ordinates provision of appropriate services. Such services include home support services and aged-residential care. NASCs are funded by DHBs.
National Health Service (NHS)	A Government body in the United Kingdom that administers funding for hospitals; general practice and other health institutions such as Walk-in Centres and the Health Helpline.
Needs Assessment	An assessment undertaken by a NASC agency to determine the level of assistance an individual requires in order to remain in a safe environment.
Non-preventable conditions	In the context of this thesis, non preventable conditions are those for which there is no immediate way of preventing the occurrence such as stroke, heart attack bowel blockage e.t.c. While it could be argued that these are preventable, this is only with early lifestyle change and does not apply to residents of aged-care facilities.
Nursing Home	A term used in Australia and parts of the United States of America for the higher level of aged-residential care. Also sometimes in used in the United States of America for short term skilled nursing facilities providing convalescent or nursing only care.
Old Peoples Homes	A title previously given to rest homes in New Zealand.
Old Peoples Home Regulations 1987	Legislation that licensed old peoples homes or rest homes in New Zealand in the period between 1987 and 2004.
On-call	Part of the terms and conditions of employment that requires the employee to be available to the employer out of normal working hours.

Personal care	Assistance with dressing, bathing, eating and toileting.
Physician	In the United States of America the term physician is used where New Zealanders would use the term doctor. In New Zealand a physician is a doctor with specialist qualifications in medicine.
Physician assistant	Physician assistants are a professional group unique to the United States of America and provide health care services under the supervision of physicians (The United States Department of Labor, 2000)
Physician Extenders	Physicians assistants or Nurse Practitioners.
Ping ponging	In this context means being transferred backwards and forwards between an aged-care facility and the acute hospital.
Preventable conditions	In the context of this study, preventable conditions are urinary tract infection, sepsis, respiratory infection, chronic heart failure, electrolyte imbalance.
Primary Care	Community based clinical and medical care.
Primary/Secondary Steering Group	A group of general practitioners and hospital senior doctors in the Hutt Valley who meet monthly to discuss provision of clinical care between the hospital and community.
Regional Health Authority (RHA)	Four regional funding bodies that funded New Zealand Health Services in the period between 1993 and 1996.
Respite Care	Respite care is temporary care offered to individuals living with a carer. The intent is to offer the carer a break or respite from looking after an older person.

Rest Home	Lower level of residential care in New Zealand.
Service Co-ordination	An activity undertaken by a NASC agency to organise the services an individual requires in order to remain in a safe environment.
Short- term residential care	A option offered by the United States of America for convalescence and post acute care with the intention that a resident will return to their own home. Not universally offered in New Zealand.
SPA tool	The tool used by NASC agencies to determine the funding eligibility once an individual has completed a needs assessment.
Staffing model	The number and skill mix of health professionals employed by a facility.
Staffing across the floor	The term used to describe a staffing model for delivery of care to residents of aged-care facilities where both care levels are provided. Staffing across the floor means that staff are allocated to residents irrespective of care level.
WEIS caseweight	Ad coding system developed in Austrailia and used to fund New Zealand hospitals. This system combines groups of diagnoses and allocates a weighting. Each weighting is attributed a dollar amount. For instance, a patient who is admitted for one day for observation but receives no procedures or treatment will receive a low case weight such as 0.3. A patient who is admitted for major surgery, has a subsequent stroke and has to stay for 30 days will receive a high caseweight such as 3.5.

Appendix A: Bed day prices

The Following pages outline the Aged Residential Care prices per resident per day as of 1 June 2003, part way through the period of the acute admission audit.

TLA refers to Territorial Local Authority or the area covered by each local council. The prices vary in each TLA area dependent on the capital value of land. This means that there is a national base price with a TLA adjuster added. There are two TLAs for the Hutt Valley. These are Lower Hutt City and Upper Hutt City. Upper Hutt City has lower bed day prices as the land value is less than Lower Hutt City.

There are three price lists, one for each of the three care levels of rest home, dementia and hospital (referred to as continuing care throughout this thesis). Dementia level facilities were excluded from this study.

Client contribution refers to the portion of the bed day price paid by the resident. If a resident has not undergone a means and asset test, the resident contribution will be a maximum of $636 per week including national superannuation, for each of the three care levels. The District Health Board funds the balance of the weekly price.

If a means and asset test has been undertaken, and the resident has been deemed eligible for public funding, MSD will determine what proportion of the price can be paid by the resident and the DHB will fund the balance. Tthe subsidy paid by the District Health Board will range from the full bed day price minus the national superannuation contribution to a few dollars per day.

Prices at 1 June 2003

Aged Residential Care TLA Price excl GST incl client contribution	Facility Type		
TLA	Resthome	Dementia	Hospital
Ashburton District	$78.21	$95.22	$117.39
Auckland City	$84.83	$102.13	$124.36
Banks Peninsula District	$79.24	$96.30	$118.50
Buller District	$77.18	$94.14	$116.33
Carterton District	$77.53	$94.50	$116.69
Central Hawke's Bay District	$77.53	$94.50	$116.69
Central Otago District	$77.53	$94.50	$116.69
Christchurch City	$79.93	$97.02	$119.22
Clutha District	$77.18	$94.14	$116.33
Dunedin City	$78.90	$95.94	$118.14
Far North District	$77.53	$94.50	$116.69
Franklin District	$79.34	$96.36	$118.58
Gisborne District	$77.70	$94.68	$116.88
Gore District	$77.18	$94.14	$116.33
Grey District	$77.18	$94.14	$116.33
Hamilton City	$80.27	$97.39	$119.58
Hastings District	$79.24	$96.30	$118.50
Hauraki District	$77.87	$94.86	$117.06
Horowhenua District	$77.53	$94.50	$116.69
Hurunui District	$77.87	$94.86	$117.06
Invercargill City	$77.53	$94.50	$116.69
Kaikoura District	$79.34	$96.36	$118.58
Kaipara District	$77.53	$94.50	$116.69
Kapiti Coast District	$79.58	$96.66	$118.86
Kawerau District	$77.53	$94.50	$116.69
Lower Hutt City	**$80.93**	**$98.06**	**$120.27**
Mackenzie	$77.18	$94.14	$116.33
Manawatu District	$77.53	$94.50	$116.69
Manukau City	$83.80	$101.05	$123.27
Marlborough District	$78.90	$95.94	$118.14
Masterton District	$77.70	$94.68	$116.88
Matamata-Piako District	$77.87	$94.86	$117.06
Napier City	$79.24	$96.30	$118.50
Nelson City	$81.30	$98.47	$120.67
New Plymouth District	$79.24	$96.30	$118.50
North Shore City	$84.49	$101.77	$124.00
Opotiki District	$77.53	$94.50	$116.69
Otorohanga District	$77.18	$94.14	$116.33
Palmerston North City	$78.90	$95.94	$118.14
Papakura District	$81.91	$99.06	$121.29
Porirua City	$79.58	$96.66	$118.86
Queenstown-Lakes District	$80.96	$98.11	$120.31
Rangitikei District	$77.53	$94.50	$116.69
Rodney District	$81.91	$99.06	$121.29
Rotorua District	$79.58	$96.66	$118.86

Ruapehu District (part in Waikato)	$77.53	$94.50	$116.69
Selwyn District	$79.34	$96.36	$118.58
South Taranaki District	$77.87	$94.86	$117.06
South Waikato District	$77.18	$94.14	$116.33
South Wairarapa District	$77.53	$94.50	$116.69
Southland District	$77.18	$94.14	$116.33
Stratford District	$77.53	$94.50	$116.69
Tararua District	$77.53	$94.50	$116.69
Tasman District	$78.90	$95.94	$118.14
Taupo District	$79.58	$96.66	$118.86
Tauranga District	$80.78	$97.93	$120.13
Thames-Coromandel District	$77.87	$94.86	$117.06
Timaru District	$77.87	$94.86	$117.06
Upper Hutt City	**$78.90**	**$95.94**	**$118.14**
Waikato District	$77.87	$94.86	$117.06
Waimakariri District	$79.34	$96.36	$118.58
Waimate District	$77.18	$94.14	$116.33
Waipa District	$77.87	$94.86	$117.06
Wairoa	$77.53	$94.50	$116.69
Waitakere City	$82.43	$99.61	$121.83
Waitaki District	$77.18	$94.14	$116.33
Waitomo District	$77.53	$94.50	$116.69
Wanganui District	$77.87	$94.86	$117.06
Wellington City	$82.47	$99.68	$121.89
Western Bay of Plenty District	$79.34	$96.36	$118.58
Westland District	$77.18	$94.14	$116.33
Whakatane District	$78.90	$95.94	$118.14
Whangarei District	$79.58	$96.66	$118.86

Min excl GST	$	94.14
Min incl GST	$	103.79
Max excl GST	$	102.13
Max incl GST	$	112.60
Avg excl GST	$	95.83
Avg incl GST	$	105.65

Appendix B: Disability Support Advisory Committee, Management report.

HUTT VALLEY DHB	Public Section
	Action Point:
	DSAC Action: For noting

Author	Nicola Turner
Date	13 October 2004
Subject	Management report
File ref:	P:\Governance (GV)\DSAC (DSAC)\2004 papers\October 04\Mgt report Oct.doc

Recommendation:

That DSAC:

Note the contents of this report.

Action Points

Action point 31

Domestic Purposes Benefit

1. The Domestic Purposes Benefit is available to individuals caring for ill and infirm people in their own home provided the person being cared for is not a partner or dependent child. This means a single person caring for an older relative is entitled to a domestic purposes benefit. If the carer has working spouse, family income would be taken into account when considering DPB entitlements

Invalids Benefit

2. If the individual is The Invalids benefit is available to an individual who is unable to work due to being ill or infirm. A doctor's letter will be required as confirmation that full time care is required. WINZ will then consider this in the context of two individuals relying on the benefit. Therefore Pacific people who have an aged related illness that requires full time care by a partner or spouse but is under the age for national superannuation will be entitled to an invalids benefit.

Carer Relief

3. Carer Relief payments are available to assist full time carers by providing additional support or temporary care to allow the full time carer a break. These payments are not available to the full time carer but are still able to accessed by other family members. Eg where a daughter is the main caregiver but the granddaughter provides personal care assistance, the granddaughter may be paid the carer relief fee even when living in the same home. The carer relief subsidies are $75.56 excl GST for non family members and $64.50 for family members.

Workstreams

Services for Maori and Pacific

Kokori Marae are currently hosting Hui to discuss the initiation of kaumatua groups in Upper Hutt, Lower Hutt and Wainuiomata. These groups would provide a focus for older Maori to identify specific issues where they require assistance and would begin to deal with isolation and loneliness.

MOA are currently exploring offering mobile day services for older Pacific people through existing Pacific specific activities. These services would offer clinical and assessment support on a regular basis to activity groups that operate from various churches and community halls.

Central Referral Point – see attached paper

Enhanced Service Co-ordination – see attached paper

Older persons support worker workforce

A survey is to be sent to informal carers registered with Sigma requesting information about support needs. These needs include information on clinical aspects such as skin care, toileting and dealing with difficult behaviour, social aspects such as benefit entitlements and personal aspects such as anger management and isolation.

CC&H have agreed to co-sponsor a conference for older persons support workers. ACC will be approached to contribute and an agency will be asked to organise the conference.

Weltech are currently working with home support and aged-care facility providers to reorganise the certificate for older persons into a modular form that will enable achievement awards to be awarded to support workers. These awards will be worth a number of achievement standards and will contribute to a certificate over time.

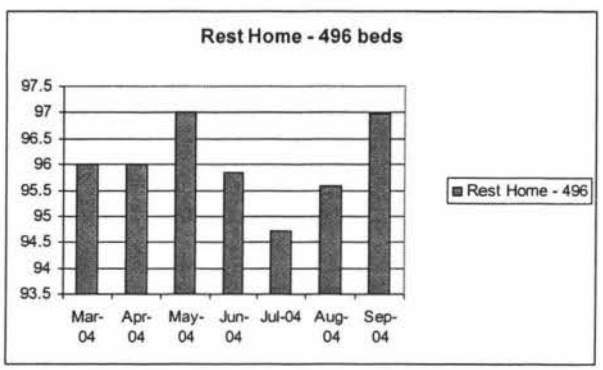
Transport

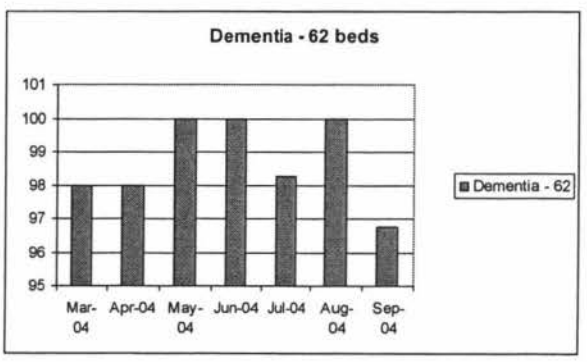
No further information at this time.

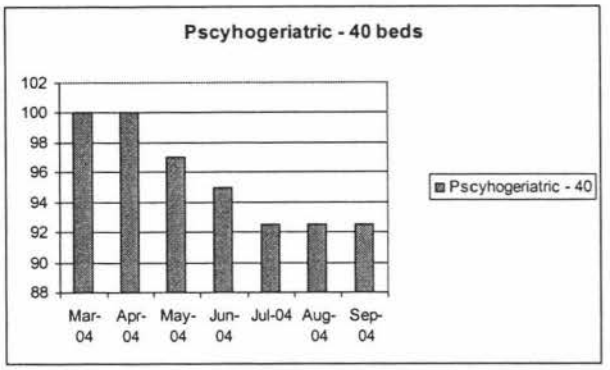
Disability Advisor – appointment to be advised.

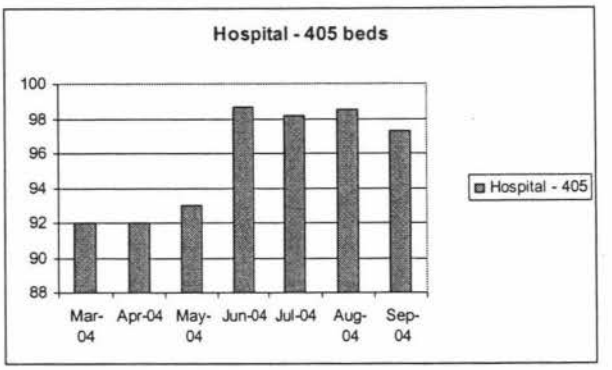
Aged Care Facility Issues

Occupancy Graphs









Current Bed status

Rest home	496
Hospital	405
Dementia	62
Pscyhogeriatric	40

Expected changes

Rest homes reducing to 486 and Dementia increasing to 73 over the next two-three months.

Capital and Coast Health have not reported a spike in continuing care as occurred in the Hutt. This is appearing to slowly reduce but may in part relate to the reduction in rest home beds that began in March and is having the effect of spilling higher need residents over in to continuing care.

ARC – review. Providers have signalled discontent with the offer made by the DHB's. Further information is in the private section.

Revenue

4. The month's revenue is in line with budget.

Expenditure

5. Total expenditure for DSS Aged Care for September is adverse by ($62k). Demand driven Hospital/Continuing care and home support costs have increased over the last few months with Rest Home costs remaining within budget year to date. Also Aging in Place costs have been favourable offsetting the impact of the continuing care and home support costs increases. Note that the Aging in Place budget is as the devolved amount, however, the current contract has been renegotiated and the liability has been reduced to $20k per month.

6. In September adverse variances in Home Support ($137k) and Residential Hospital ($57k) have been offset with positive variances in Aging in Place $48k and Rest Homes $84k. Residential hospitals expenditure has been credited with $39k for residential home caveats from the Ministry of Health.

7. In addition, variances are arising due to the lower budget, which does not have the risk pool cost growth experienced in 03-04 included. The budget is based on the actual aged care funding devolved to the DHB in October 03 plus an increase of 2.47%. We will update the budget once confirmation of the DSS risk pool is finalised.

Aged Care Demand Driven Cash Payments

8. The cash payments table below shows actual DSS Aged Care demand driven cash payments over the last 12 months. The last couple of months' payments have averaged $1835k per month. July was higher due to an extra fortnight's payments for Rest homes and Dementia services Payment in June was also high due to adjustment payments for to Woburn Masonic Rest-homes for the previous nine months.

9. Rest homes and Dementia rest homes are normally paid fortnightly, two to three weeks after the month of service. Residential hospitals are paid on the 15th of the month following service, and carer and home support payments are paid on a weekly basis, but normally paid three to four weeks after service delivery.

Aged Care Demand Driven Monthly Cash Payments ($000s)												
Service description	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04
Carer Support	-	89	66	129	99	99	116	118	140	105	92	133
Home Support	-	198	149	236	180	200	254	210	268	240	185	237
Residential Rest Homes	201	402	557	478	408	408	395	373	595	578	372	372
Dementia (Rest Homes Stage 3)	35	68	70	101	77	60	81	76	68	100	65	66
Residential Hospitals	-	779	776	819	801	791	809	847	940	883	953	884
Psycho geriatric	-	164	157	162	168	154	164	164	169	155	160	155
DSS Aged Care - Demand driven	**236**	**1,700**	**1,775**	**1,925**	**1,733**	**1,712**	**1,819**	**1,788**	**2,180**	**2,061**	**1,827**	**1,847**
Other non demand	404	459	349	404	404	636	450	449	596	380	388	383
Total	**640**	**2,159**	**2,124**	**2,329**	**2,137**	**2,348**	**2,269**	**2,237**	**2,776**	**2,441**	**2,215**	**2,230**

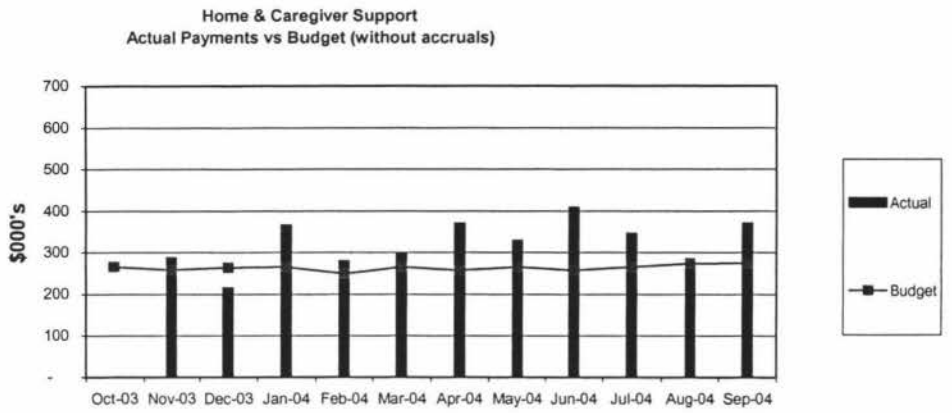
Aged care accruals

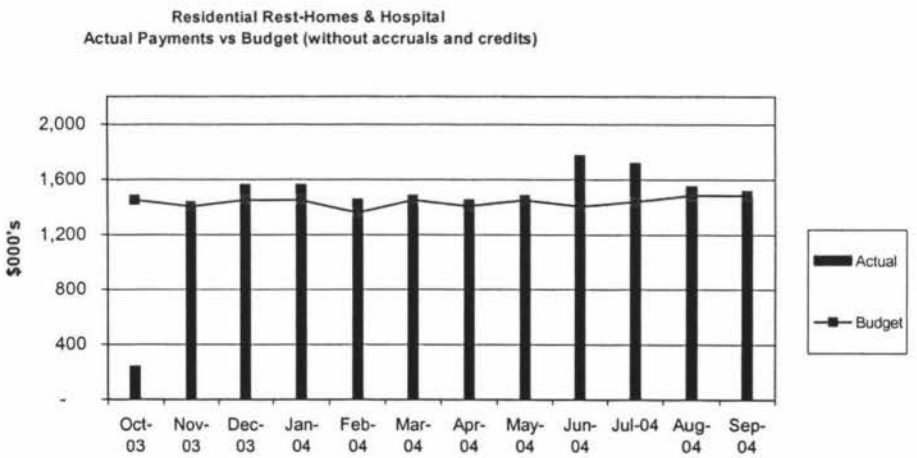
The table below shows the Aged Care cash payments and accruals made in the month of September. Aging in Place accruals are similar to June as we have accrued the outstanding liability to Wellington Masonic of $130k and Mid Central Health DHB portion of their 03-04 funding amount of $271k. The accrual for Carer & Home Support also includes a year-end June04 liability of $165k payable to MoH for back dated home support costs which is still in dispute.

Aged Care Activities ($000's)	Accrual Last Month	Cash Payments	Residential Cavaet Credits	Accrued This Month	Balance
Assess, Treat & Rehab & Other DHB Provider	0	326	-	-	326
Residential Rest Homes & Dementia	(238)	438	-	237	437
Residential Hospitals& Psycho geriatric	(1,037)	1,039	(39)	1,009	972
Carer & Home support	(348)	370	-	379	401
Needs Assessments & Service Coordination & IDF	(51)	51	-	51	51
Aging in Place	(438)	6	-	452	20
Total	(2,112)	2,230	(39)	2,128	2,207

Home Support

Residential rest homes and hospitals





Nicola Turner
Integated Care Manager

Integrated Care Manager

Appendix C: Survey form

Questionnaire plan

Most cost effective delivery of acute care to residents of Aged Care Facilities

These questions will be used to identify nurse and doctor minutes per resident per day and costs associated with the provision of clinical care.

For nurses on site, the template below will be used to calculate the minutes per day of each skilled level of nursing care. CG – untrained care giver, EN – enrolled nurse, RN registered nurse. Registered nurse includes the manager time if the manager holds a nursing practicing certificate. This is in line with overseas studies, which acknowledge that while this may not be face to face contract time, includes on site availability when required. Some facilities will need to complete two or more of these tables if the shifts change from day to day. It is likely that weekend and holiday shift ratio's differ from week days.

						Hospital						Rest home						Dementia Unit						
Bed numbers																								
Average occupancy																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CG																								
EN																								
RN																								

Contractual arrangements with doctors

1. Do you have a house GP?

2. Is your house GP on contract?

3. What does the contract involve in terms of hours per patient or per week

4. How many of your residents have kept their own GP?

5. In total how many different GP's attend patients at the facility

6. How far a field do residents own GP's come from?

7. Do the GP's that attend the facility manage their patients in different ways? How

8. What is the effect of that on the staff and patients

9. In your opinion is this adequate for resident needs? If not, what arrangement would you like to see?

10. What was your 2003 budgeted costs for medical cover (doctor costs)?

Contractual arrangements with Nurses

11. Do you have nurses on call?

12. What does the contract involve in terms of assessing a patient on request

13. Are they paid a retainer or an on call rate and what is it?

14. Are the nurses paid for attending a resident, in addition to an oncall rate or retainer

15. Are they nurses skilled in delivery of acute care to older people?

16. Do they have a formal relationship with the GP?

17. What was your 2003 budgeted costs for RN's, EN's and Caregivers. (please include the costs of the manager in the RN line if they hold an APC and use their nursing skills)

After Hours

18. Who covers after hours?

19. How often would you need to use After Hours services?

20. Do the After Hours doctors ever make a home visit?

21. What would be the best after hours arrangement?

Acutely unwell patients

22. What conditions would happen when staff were not able to manage when a resident became unwell? If staff are unable to manage is this likely to be across all shifts or only on some shifts?

23. What could be done to assist you to manage when residents became unwell?

24. Are there resources that would enable you to better manage a resident in their own bed if they were available to you

Appendix D: Aged residential Care Contract

Agreement
Between

HER MAJESTY THE QUEEN IN RIGHT OF HER GOVERNMENT IN NEW ZEALAND
(acting by and through the Ministry of Health)

650 Great South Road
Private Bag 92-522
Auckland
Ph: 09-580 9000
Fax: 09-580 9001

354 Victoria Street
PO Box 1031
Hamilton
Ph: 07-858 7000
Fax: 07-858 7001

133 Molesworth St
PO Box 5013
Wellington
Ph: 04-496 2000
Fax: 04-496 2340

250 Oxford Terrace
PO Box 3877
Christchurch
Ph: 03-372 1000
Fax: 03-372 1015

229 Moray Place
PO Box 5849
Dunedin
Ph: 03-474 8040
Fax: 03-474 8582

Contact: **«CONTRACTDEPUTY_NAME»**

And

«PROVIDER_NAME»
«CONTRACT_DESCRIPTION»

«PROVIDER_ADDRESS»
«PROVIDER_ADDRESS2»
«PROVIDER_CITY»
Ph: «PROVIDER_PHONE»
Fax: «PROVIDER_FAX»

Contact: **«PRVDRCONTACT_NAME»**

for Health and Disability Services

You, as the Provider, agree to provide the Services on the terms of this Agreement.

Signed for and on behalf of the
HER MAJESTY THE QUEEN
By:

Authorised Signatory

Position .....

Date .....

Signed for and on behalf of
«PROVIDER_NAME»
by:

Authorised Signatory

Position .....

Date .....

CONTENTS

PART 1: HEAD AGREEMENT

SECTION A: GENERAL TERMS AND CONDITIONS

A1. AGREEMENT AND TERM

A1.1 We agree to purchase and you agree to provide, at the Facility, the category or categories of age related residential care services ("Services") specified in clause C1.1, up to the maximum number of Subsidised Residents determined under clause A1.5 in respect of each category of Services, on the terms and conditions set out in this Agreement, which you and we enter into under section 10 of the New Zealand Public Health and Disability Act 2000 ("the Act").

A1.2 This Agreement means Part 1 (the head agreement) together with Part 2 (the specifications). If there is any conflict between Part 1 and Part 2, the terms of Part 2 will prevail.

A1.3 Expressions used in this Agreement are defined in clause A31.7 and A31.8.

A1.4 This Agreement applies only to you, the Facility, and category or categories of Services specified in clause C1.1. For the avoidance of doubt, this Agreement does not apply to any high dependency psychogeriatric continuing hospital care services that you may be providing. Such services are covered by a separate agreement.

A1.5 The maximum number of Subsidised Residents, where applicable for each category of Services, is the lesser of:

a. The maximum number, if any, under the most recent agreement for the purchase by the Ministry of age related residential care services provided from your Facility, which was in force immediately prior to the Commencement Date; or

b. The number specified from time to time in any licence or registration relating to the Facility which is issued or granted under any legislation referred to in clause D1 and, if at any time a number ceases to be so specified, the last such number so specified.

A1.6 If you wish to alter the categories of Services that you provide at your Facility as specified in clause C1.1, or to alter the maximum number of Subsidised Residents determined under clause A1.5, we agree to discuss in good faith with you amending this Agreement by altering the categories of Services or the maximum number of Subsidised Residents (as applicable). Any such amendment must be agreed in writing.

A1.7 This Agreement shall commence on the Commencement Date and, subject to any rights of review, amendment, variation or termination will apply until terminated in accordance with its terms.

A2. SERVICE PROVISION

A2.1 You must provide the Services for which you receive payment under this Agreement:

a. In a prompt, efficient, professional and ethical manner;

b. In accordance with all relevant law; and

c. In accordance with the service specifications set out in Section D and Section E,

from the Commencement Date without material interruption until this Agreement is varied or terminated in accordance the terms of this Agreement.

A2.2 You must use your best endeavours to provide the Services in a manner that is consistent with any relevant health strategy, disability strategy and any strategy for the development and use of nationally consistent standards, quality assurance programmes and performance monitoring determined by the Minister under section 8 or section 9 of the Act, except to the extent that any such strategy is inconsistent with this Agreement.

A3. MAORI HEALTH

A3.1 You will develop policies and procedures ("Maori Health Plan") to guide staff in order to ensure that the specific needs of Maori Residents are met. The Maori Health Plan should include but not be limited to:

a. A description of the consultation process with iwi/Maori and involvement/participation by iwi/hapu/whanau in the Services and current consultative activity;

b. A description of how Maori input into culturally appropriate service delivery is achieved;

c. A description of how the Services are delivered in a culturally appropriate manner and may include an explanation of how the concepts of Tapu and Noa either will be, or are currently respected;

d. A description of how rehabilitation processes will meet the needs of Maori; and

e. A description of links with relevant Maori health providers.

A3.2 You must ensure the cultural needs of all Subsidised Residents will be met. Where Subsidised Residents identify or have specific Iwi or cultural connections, you will acknowledge, and facilitate the maintenance of these cultural links. This may include:

a. Using your best endeavours to ensure the availability of Maori staff to reflect the Subsidised Resident population;

b. Facilitation of the involvement of whanau and others;

c. Integration of Maori values and beliefs, and cultural practices; and

d. Developing your knowledge and use of referral protocols with Maori service providers in your locality.

A4. DEVELOPMENT OF POLICIES ETC

A4.1 Where you are required to develop a written policy, procedure, programme, protocol, guideline, information, system or plan in order to meet any provision under this Agreement, you will:

a. Develop such a document;

b. Demonstrate systems for reviewing and updating all such documents regularly;

c. Demonstrate implementation;

d. Demonstrate that staff are adequately informed of the content and the intent of these documents; and

e. Provide us with a copy of the relevant document on request.

A5. ELIGIBLE PERSONS

A5.1 You may only claim for payment under this Agreement in respect of Services provided to an individual who satisfies the criteria set out in clause A5.2 of this Agreement ("Eligible Person").

A5.2 An individual is an Eligible Person if (a) applies and either (b) or (c) or (d) apply:

a. Eligible for publicly funded health and disability services

The individual is entitled to publicly funded health care in accordance with any eligibility direction issued under section 32 of the Act, or any eligibility direction continued by section 112(1) of the Act,

And is either:

b. A Person to whom section 69F of the Social Security Act 1964 and Social Security (Disability Services – Financial Assessment) Regulations 1994 apply

i. The individual is a Person to whom section 69F of the Social Security Act 1964 applies, which in summary applies if:

1. the individual is:

A. 65 years or more, or

B. is aged 50 years or more but less than 65 years, and has been assessed by or on behalf of a DHB as close in interest to Persons aged 65 years or more and the individual is unmarried and without any dependent children; and

2. a DHB or a DHB authorised Needs Assessment and Service Co-ordination Service has assessed that the individual requires the Services; and

3. those Services are likely to be required to be provided indefinitely;

(provided that, if there is any inconsistency between this summary and section 69F of the Social Security Act 1964, section 69F prevails); and

ii. Price of Services provided to individual exceeds amount individual can pay

The price payable per day under this Agreement for the Services provided or to be provided to the individual exceeds the daily amount the individual can pay or contribute to the cost of the Services, calculated in accordance with section 69F of the Social Security Act 1964 and the Social Security (Disability Services – Financial Assessment) Regulations 1994;

or

c. A Person receiving care under a previous legislative regime

The individual moved into any age related residential care facility between 1 April 1975 and 30 June 1993;

or

d. Elderly Victim of Crime

The individual qualifies as an elderly victim of crime under the Ministry's Guidelines Relating to Residential Care for Elderly Victims of Crime.

A5.3 Despite clause A5.2, the following individuals are not Eligible Persons:

a. Individuals who are admitted to your Facility only because of a short term acute illness;

b. Individuals who are specifically funded for residential care under the Injury Prevention, Rehabilitation, and Compensation Act 2001 (excluding elderly victims of crime referred to in clause A5.1(d));

c. Individuals for whom funding is provided for their primary care needs under another Ministry contract or notice, including arrangements relating to Psychogeriatric Care, Palliative Care, Convalescent Care, Intellectual Disability services, Physical Disability services or Mental Health.

A5.4 An individual who satisfied the criteria in clause A5.2 prior to 31 May 2002 is deemed to be an Eligible Person on 1 June 2002.

A5.5 You must notify us when, in relation to any Eligible Person:

a. You no longer provide services to that Eligible Person; or

b. That Person ceases to be an Eligible Person,

as soon as possible after becoming aware of either of the circumstances in (a) or (b) above.

A6. PAYMENTS

A6.1 We will pay you in accordance with the terms of this Agreement.

A6.2 We will commence payments to you in respect of an Eligible Person from the later of:

a. The date on which that Eligible Person commenced residing at your Facility (that is, became a Subsidised Resident); or

b. The date on which that individual became an Eligible Person in accordance with clause A5.2.

A6.3 Only for the purposes of clause A6.2(b) a Person who is assessed under clause A5.2(b) is deemed to become an Eligible Person on the date which the assessment found that Person required the Services, if that date is prior to the date on which the assessment takes place.

A6.4 For the purposes of clause A6.2(b), a Person who is an Eligible Person under clause A5.2 prior to 31 May 2002 is deemed to become an Eligible Person on 1 June 2002.

A7. PAYMENT DURING TEMPORARY ABSENCE

A7.1 Subject to clause A7.1(b), where a Subsidised Resident leaves your Facility temporarily, as long as the Person's bed is held for that Subsidised Resident during his or her absence, and is not used by another Subsidised Resident, we will continue to make payments for that Subsidised Resident on the following basis:

a. Hospitalisation: Where a Subsidised Resident is admitted to hospital for treatment or to undergo an assessment, we will continue to make payments in full for up to 21 days (or for any longer period that a Needs Assessment and Service Co-ordination Service may recommend) in any one of our financial years;

b. Temporary Absences: Where a Subsidised Resident is away from your Facility with family or friends, we will continue to make payments in full for up to 14 days at any one time, and up to 28 days in total in any one of our financial years.

A8. PAYMENT FOR DAYS OF ADMISSION, DISCHARGE, TRANSFER OR DEATH

A8.1 Where a Subsidised Resident is admitted to, or discharged or transferred from, your Facility at any time on a particular day, we will pay you, in respect of that Subsidised Resident, for the full day on which that admission, discharge or transfer occurred.

A8.2 Upon the death of a Subsidised Resident, we will pay you for the day of that Subsidised Resident's death and for the following day, at the price that would have been paid to you if that Subsidised Resident was living.

A9. OVERPAYMENTS

A9.1 If we overpay you for the Services, as soon as you become aware of such overpayment you must immediately notify us of that overpayment.

A9.2 You must repay the overpayment to us within 10 Working Days of:

a. You notifying us under clause A9.1; or

b. Us notifying you of any overpayment that we become aware of,

by the day before the next payment is due to you under this Agreement after either such notification, whichever is the later.

A9.3 If you do not repay the overpayment in accordance with clause A9.2, then we may deduct the amount of any overpayment from any later payments due to be made to you under this Agreement.

A10. SET OFF

A10.1 Where you owe us any amount under this Agreement, including:

a. In the case of overpayment under clause A9; and

b. Where you are obliged to indemnify us under clause A28,

we may set that amount off against any amount that we owe you, provided that we give you 20 Working Days notice of our intention to do so.

A11. WITHHOLDING OF PAYMENTS

A11.1 Where you:

a. Breach clause A5.5, clause A15.2, or clause A15.6; or

b. Have not completed a compliance requirement contained in a notice of default given under clause A16.3(b) or in a notice given under clause A16.4; or

c. Fail to meet your obligations in terms of clause A22,

we may withhold some or all of the next payment or payments due until you have remedied the breach, or otherwise complied with the relevant obligation, or until any costs incurred by us have been met, whichever is later.

A11.2 Where you have failed to comply with any obligations under this Agreement not referred to in clause A11.1, and that failure is material, we may withhold 5% of the next payment or payments due until you comply with the relevant obligation or until any costs incurred by us have been met, whichever is later.

A11.3 We will give 20 Working Days notice of our intention to withhold payments under clause A11.1 and/or A11.2, during which notice period you may remedy your non-compliance.

A12. INSPECTION OF RECORDS UNDER HEALTH ACT 1956

A12.1 Where we exercise powers under section 22G of the Health Act 1956, or any enactment that replaces that section and, following inspection under that section, we are unable to verify any of the your claims for payment under this Agreement, we may:

a. Require you to report at such intervals and on such financial matters as we may specify;

b. Withhold payments under this Agreement from you until satisfied of the veracity of any of your claims for payment; and

c. Take such further action as we consider necessary in the circumstances.

A13. CHARGES TO SERVICES USERS

A13.1 You may not charge any Subsidised Resident or any other Person for any Services in respect of which you receive payments under this Agreement.

A13.2 Clause A13.1 does not prevent you from providing or charging any Subsidised Resident for any services that are not covered by this Agreement, provided that such services, and the charges that the Subsidised Resident or any other Person must pay, are set out in the Admission Agreement referred to in Clause D13 of this Agreement.

A14. COST SHIFTING

A14.1 You must not knowingly be party to any arrangement that results in you effectively receiving separate payments, whether from us or any other Person, for the supply of the same Services, or any component of them.

A15. QUALITY ASSURANCE – ACCESS AND PROCESS

A15.1 Record keeping

a. You must keep and preserve Records and protect the security of them in accordance with your statutory obligations and make them available to us in accordance with our reasonable instructions and our rights to access such Records.

b. In the event of your ceasing to provide the Services you must:

i. transfer Records relating to Subsidised Residents to the new provider of services to those Subsidised Residents; and

ii. where a new provider is providing services at your Facility, transfer all relevant Records to the new provider of services at your Facility; and

iii. preserve Records not transferred to another provider.

A15.2 Access for Quality Audit

a. You must co-operate with us fully and allow us, or our authorised agents, access to:

i. your premises;

ii. all premises where your Records are kept;

iii. Subsidised Residents and their families and nominated representatives;

iv. staff, sub-contractors or other personnel used by you in providing the Services,

for the purposes of and during the course of carrying out:

v. any Quality Audit of your Services at your Facility; or

vi. any quality audit of another provider who provided services to Subsidised Residents to whom you provide Services, or in respect of whom you hold relevant Records.

b. You must ensure that any sub-contracting or agency agreements you may enter into in relation to the Services include a provision to the effect that the sub-contractor or agent must co-operate fully with us.

c. You must ensure that the people appointed by us to carry out the Quality Audit have the access referred to in this clause A15.2, during the hours they are entitled to audit.

d. For the purposes of clause 15.2(a)(iii), within 3 Working Days after receiving notice of a Quality Audit under clause A15.3(a), or immediately in the case of a Quality Audit under clause A15.3(b), you must provide to us, in writing, the names and addresses of all

Subsidised Residents' families and nominated representatives (where you have obtained such information in accordance with clause D13).

e. We will ensure that the exercise of access under this clause will not unreasonably disrupt the provision of the Services to Subsidised Residents.

A15.3 Notice of Quality Audits

a. Subject to clause A15.3(b), we will give you 10 Working Days prior notice of any Quality Audit unless we agree to greater notice.

b. If we believe that delay will prejudice the interests of any Person, we may carry out a Quality Audit without prior warning. If we exercise our rights under this clause, we will give you notice on our arrival at your premises of the scope of Quality Audit to be carried out.

c. We may also, during the course of a Quality Audit commenced under clause A15.3(b), expand the scope of the Quality Audit to matters not referred to in the notice if desirable, in the opinion of the Quality Auditor carrying out the Quality Audit, to assess whether you comply with your obligations under this Agreement.

A15.4 Times for Quality Audits

a. Subject to clause A15.4(b), a Quality Audit may be carried out between 9 am and 5 pm on any Working Day and at any other time by agreement.

b. We may carry out a Quality Audit under clause A15.3(b) at any time on any day where reasonably necessary having regard to the scope of that Quality Audit.

A15.5 Appointment of Quality Auditors

a. We may appoint our staff or third parties to audit, on our behalf, and at our cost, in relation to any of the matters contained in the Agreement. Each Person so appointed is a Quality Auditor.

b. We will give you prior written notice of the names of the people to be appointed.

c. You may object to such appointments where any or all of those people appointed (whether our staff or third parties) have a demonstrable conflict of interest, by advising us of the claimed conflict of interest and providing the evidence which supports your claim.

d. If we receive advice from you under clause A15.5(c) not less than 5 Working Days before a Quality Audit is to be conducted under clause A15.3(a), we will review the information provided and, if we agree that there is a conflict of interest, the Quality Audit will not proceed until we have appointed a replacement Quality Auditor.

e. If we receive advice from you under clause A15.5(c) either:

   i. less than 5 Working Days before a Quality Audit under clause A15.3(a); or

   ii. in relation to a Quality Audit under clause A15.3(b),

we may conduct the Quality Audit up to and including the preparation of the Draft Findings Report while we review the information provided. If we agree that there is a conflict of interest, we will appoint a replacement Quality Auditor to verify the Draft Findings Report before we prepare the Final Audit Report.

A15.6 Quality Audit process

a. In carrying out any Quality Audit we may:

   i. have access to Health Information about any past or current Subsidised Resident;

   ii. observe the provision or delivery of the Services;

   iii. interview and/or survey Subsidised Residents and/or their families (including, without limitation, either in writing or by way of an interview); and

   iv. interview and/or survey any staff, sub-contractors or other personnel used by you in providing the Services (including, without limitation, either in writing or by way of an interview),

   in accordance with the Privacy Act 1993 and any code of practice issued under that Act covering Health Information held by health providers.

b. Each Quality Auditor may take copies of any parts of the Records for the purposes of the Quality Audit in accordance with the Privacy Act 1993, and any code of practice issued under that Act covering Health Information held by health providers.

c. You must allow each Quality Auditor to use any photocopier at your Facility, but you are not required to supply paper. If there is no photocopier at your Facility, we may remove the relevant Records from your Facility for the purposes of copying such Records, and we will return those Records on the same day or, if that is not practicable, within 24 hours or a timeframe agreed between both of us.

d. For the purposes of clause A15.6(a)(iv), during the course of a Quality Audit you must provide opportunities for the Quality Auditors to interview staff, sub-contractors or other personnel used by you in providing the Services, in private, without you or your Manager being present. At the request of a staff member, sub-contractor or other Person being interviewed, a support person (excluding you or your Manager) may be present at any interview.

e. On the completion of the Site Visit, the Quality Auditor must discuss the preliminary findings of the Quality Audit with you.

A16. QUALITY ASSURANCE – REPORTING AND COMPLETION

A16.1 Draft Findings Report

a. We will submit a Draft Findings Report to you within 5 Working Days of the Site Visit.

b. To the extent that we wish to incorporate in the Draft Findings Report any information provided in interviews conducted under clause A15.6(a)(iii) and (iv) and identify the Person

or Persons who provided that information, we will do so only with the prior consent of the Persons concerned.

c. We will include a fair and reasonable summary of the information provided under clause A15.6(a)(iii) and (iv) as an appendix to the Draft Findings Report.

d. If you disagree with any of the findings in the Draft Findings Report, you may respond to us within 5 Working Days of receipt of the Draft Findings Report, indicating why you do not agree with the findings.

A16.2 Final Audit Report

a. We must prepare a Final Audit Report that takes into account your comments on the Draft Findings Report.

b. The Final Audit Report must include:

i. a summary of your comments, if any, on the Draft Findings Report;

ii. the Final Findings Report, including a statement as to whether or not you are compliant with your obligations under this Agreement;

iii. actions that you must take, if any, to become compliant with your obligations under this Agreement ("compliance requirements");

iv. the timeframe within which you must complete the compliance requirements;

v. the actions required to verify that you have met the compliance requirements. This may include a follow up visit by the Quality Auditor.

c. The Final Audit Report will be sent to you within 20 Working Days of the Site Visit.

A16.3 Provider in default

a. You are in default if you have not completed a compliance requirement specified in the Final Audit Report within the timeframe set in accordance with clause A16.2(b).

b. Where you are in default, we may give you notice of default, and such notice shall state:

i. where the compliance requirement was to be completed within 2 Working Days, that you have a further period of not less than 2 Working Days from the date of notice of the default to comply with the relevant compliance requirement;

ii. where the compliance requirement was to be completed within 2 to 10 Working Days, that you have a further period of not less than 10 Working Days from the date of the notice of default to comply with the relevant compliance requirement; or

iii. in all other cases, that you have a further 20 Working Days from the date of the notice of default to comply with the compliance requirements.

c. If, by the end of any period stated under A16.3(b), you have not completed the compliance requirement(s) in question, we may:

i. vary the compliance requirement;

ii. extend the timeframe to complete the compliance requirement;

iii. withhold payment in accordance with clause A11; or.

iv. terminate this Agreement in accordance with clause A24.

d. When we are satisfied that you have completed all compliance requirements, we will notify you in writing that you are compliant.

A16.4 Material or repeated failure

If in our opinion, based on reasonable grounds:

a. Your non compliance with your obligations under this Agreement, as stated in a Final Audit Report, is material; or

b. On the basis of a Final Audit Report and any previous Final Audit Report relating to any previous Quality Audit of your Facility, you have repeatedly failed to comply with your obligations under this Agreement,

we may give you a single period of not less than 20 Working Days to complete any or all compliance requirements specified under clause A16.2(b)(iii), and if by the end of that period, you have not completed the relevant compliance requirements, clause A16.3 shall not apply and, despite clause A17.4, we may terminate this Agreement under clause A24.

A16.5 Advice to Family Members

We may advise a Subsidised Resident's family or nominated representative about the progress of a Quality Audit at any time during the course of or following the Quality Audit where we have serious concerns (based on reasonable grounds) about the health and safety of that Subsidised Resident.

A16.6 A Quality Audit is completed when we notify you that you are compliant.

A16.7 Publication of Final Audit Report

a. Subject to clause A16.7(b), we may publish the Final Audit Report on our website and in any other medium.

b. A Final Audit Report will not be published while that Final Audit Report is being reviewed under clause A17 or is the subject of dispute resolution under clause A26.

c. Subject to the Privacy Act 1993 and any code of practice issued under that Act, you must make the Final Audit Report available to any Person for reading on request.

d. If a Person requests a copy of the Final Audit Report, you may require that Person to pay reasonable costs for copying.

A16.8 We retain the right to conduct a Quality Audit after this Agreement ends, but only in respect of Services provided prior to termination, or following termination under clause A25.

A17. QUALITY AUDIT REVIEW

A17.1 If you dispute any element of the Final Audit Report, you may apply to us for a review of the Quality Audit.

A17.2 We will review the Quality Audit only if we receive an application for review under clause A17.1 no later than 10 Working Days after the Final Audit Report is sent to you.

A17.3 Quality Audit Review Process

a. We will notify you that the application for review has been received.

b. We will request information in relation to the issues raised by you from the Quality Auditors who carried out the Quality Audit.

c. Our Chief Internal Auditor, or a Person responsible for this function within the Ministry, will review all information relating to the Quality Audit.

d. Following our Chief Internal Auditor's review, we will discuss our response to the issues raised with you.

e. Both of us must use our best endeavours to resolve the issues raised by you.

f. If we agree with any issues raised by you, we will amend the Final Audit Report accordingly.

g. If you and we are unable to resolve any issue raised within 20 Working Days from the date that we receive your application for review, then either of us may require mediation under clause A26.1(b) and clause A26 will apply accordingly.

A17.4 You must comply with all your obligations, including any compliance requirements issued under clause A16.2(b), while the review process is carried out, but we will not terminate the Agreement under clause A16.3(c) until the review is complete.

A17.5 Where you have complied with any compliance requirements in the Final Audit Report issued under clause A16.2(b) ("the original requirements"), which are amended or removed under clause A17.3(f) ("the amended requirements"), we will reimburse you an amount equal to our assessment of the difference between the reasonable costs of complying with the original requirements and the amended requirements.

A18. FINANCIAL MANAGEMENT AND AUDIT

A18.1 You must operate sound financial management systems and procedures.

A18.2 Where we have serious concerns (based on reasonable grounds) that you are not operating sound financial management systems and procedures, without limiting any of our other rights in this Agreement, we may:

a. request that you provide, to an independent auditor appointed by us at our cost, within 30 days of our request:

i. a copy of your most recent accounts;

ii. any previous year's accounts (audited or otherwise, as required by us); and/or

iii. a solvency certificate from an appropriately qualified Person; and

b. .Arrange for that independent auditor to audit:

i. the correctness of the information you give us under clause A18.2(a);

ii. your calculations of the cost of providing the Services; and

iii. your financial position.

A18.3 The independent auditor:

a. Must not disclose details of your costs of providing the Services; but

b. May advise us if he or she considers that your financial position may prejudice, or otherwise affect, your ability to carry out your obligations under the Agreement.

A18.4 If the independent auditor so advises us under clause A18.3(b), we may carry out a Quality Audit.

A19. INFORMATION REPORTING REQUIREMENTS

A19.1 You must comply with the information reporting requirements set out in Part 1, Section B of this Agreement.

A20. UNCONTROLLABLE EVENTS

A20.1 The Person affected by an Uncontrollable Event will not be in default under the terms of the Agreement if the default is caused by that Uncontrollable Event. The Person affected must:

a. Promptly give written notice to the other specifying:

i. the cause and extent of that Person's inability to perform any of the Person's obligations; and

ii. the likely duration of the non-performance;

b. In the meantime take all reasonable steps to remedy or reduce the impact of the Uncontrollable Event.

A20.2 Neither of us is obliged to settle any strike, lock out or other industrial disturbance.

A20.3 Performance of any obligation affected by an Uncontrollable Event must be resumed as soon as is reasonably possible after the Uncontrollable Event ends or its impact is reduced.

A20.4 Without limiting clause A22, if you are unable to provide any Services as the result of an Uncontrollable Event we may make alternative arrangements suitable to us for the supply of those Services during the period that you are unable to supply them after we consult with you.

A21. REVIEW

A21.1 Each year we will carry out a general review of all agreements between the Ministry and providers for the provision of age related residential care services.

A21.2 Review Process

a. We will carry out the review in a manner which enables meaningful participation by you and all relevant parties, including other providers and provider representative groups.

b. We will notify you and all relevant parties in writing of the timeframe and process for the review and the issues we wish to address in the review.

c. We will ensure that you and all relevant parties have the opportunity to comment on issues raised by us and also to raise any other matters relating to the provision of age related residential care services during the course of the review, including, for example the price we pay for the services.

d. You may appoint another Person or a provider representative group, to provide comments and otherwise participate in the review on your behalf.

A21.3 We will consider in good faith all comments received from you and all relevant parties, and prepare a report summarising those comments and our views on the issues.

A22. YOUR FAILURE TO MEET OBLIGATIONS

A22.1 Where:

a. You have, in our opinion (such opinion based on reasonable grounds), committed a breach of your obligations under this Agreement; and

b. Such breach, in our opinion, requires urgent action to protect the health and safety of Subsidised Residents,

we may, unless such breach is due to an Uncontrollable Event:

c. Withhold some or all of our payments to you in accordance with clause A11 until you have remedied the breach or until we are satisfied on reasonable grounds that you have taken appropriate steps to ensure that a breach of that nature will not happen again; and

d. Ourselves take action to remedy the breach, and recover the reasonable costs (including reasonable legal expenses if any) from you, including by deducting such costs and expenses from payments due under this Agreement in accordance with A11.1.

A22.2 Temporary Manager

a. Without limiting our rights under clause A22.1(d) we may appoint as Temporary Manager for your Facility a Person who is appropriately qualified and experienced in terms of clause D17.2(d)(i) and/or clause D17.3(b)(i) (as applicable). Such Temporary Manager will take over management of the provision of Services, in substitution for and on behalf of you and your Manager for the purpose of remedying the breach referred to in clause A22.1(b).

b. Where a Temporary Manager is so appointed, you must:

i. Allow the Temporary Manager access to your Facility;

ii. Ensure that the Temporary Manager is able to carry out his or her duties without disturbance or disruption; and

iii. Comply with any direction or instruction given by the Temporary Manager.

c. Without limiting clause A22.1(d), you will be liable for the reasonable costs of the Temporary Manager managing provision of the Services.

d. Without limiting clause A28, you must indemnify us for all claims, damages, penalties or losses including reasonable costs (but excluding indirect or consequential losses) arising under clause A22 from actions taken by us, including actions taken by the Temporary Manager, except arising from the negligence or fraud of the Temporary Manager or the Ministry or from actions taken by the Temporary Manager for purposes other than the propose of remedying the breach referred to in clause A22.1(b).

A22.3 Removal of Residents

Without limiting our rights under clause 22.1(d), we may enter your Facility for the purpose of facilitating the departure of any Subsidised Resident from your Facility. In this case you must:

a. Allow us to enter your Facility;

b. Assist us to communicate with all Subsidised Residents and their families or nominated representatives;

c. Help us facilitate the departure of Subsidised Residents.

A22.4 For the avoidance of doubt, we may exercise our rights under this clause A22, including our right to appoint a Temporary Manager under clause A22.2, and to enter your premises and remove residents under clause A22.3 at any time during the course of a Quality Audit or Quality Audit Review carried out under this Agreement.

A22.5 You may initiate dispute resolution under clause A26 in respect of any action taken by us under this clause A22, but we are not required to delay or suspend any such action while dispute resolution is proceeding.

A23. VARIATIONS TO THIS AGREEMENT

A23.1 This Agreement may be varied at any time by agreement between both of us and also on the occurrence of any of the following Variation Events:

a. Where either of us consider that changes occurring as a result of:

i. any change in law;

ii. any change in the definition of Eligible Person arising from a change in the law after the date on which this Agreement commences;

iii. significant changes in the health sector environment or costs that are beyond the control of either of us,

will have a material impact on the provision of Services including the costs of providing Services.

b. Where an Uncontrollable Event occurs. In that case clause A20 will apply in addition to provisions of this clause.

A23.2 On the occurrence of a Variation Event, we will both identify and quantify the impact of the Variation Event and will seek expert advice, if necessary, to assist us in doing so.

A23.3 Where we both agree there is a material impact resulting from the Variation Event, both of us will then seek to agree a variation to this Agreement, which may include, without limitation:

a. Reconfiguration of any Services; or

b. Adjustment to costs of or payments in respect of any Services.

A23.4 Where both of us are unable to agree that there is a material impact, or potential material impact resulting from the Variation Event, then the matter may be referred to dispute resolution under clause A26. Where it is determined through the dispute resolution procedure that there is a material impact, or potential material impact, resulting from the Variation Event, the parties shall seek to agree a variation to the Agreement in accordance with clause A23.3.

A23.5 Each of us must negotiate in good faith to reach prompt agreement on any issues, proposed amendments or any alternative proposal.

A23.6 If neither of us can agree on any variation to the Agreement in accordance with clause A23.3 or A23.4 within 2 months of agreement under clause A23.3, or determination under clause A23.4, then either of us may terminate this Agreement by giving 6 months written notice.

A23.7 Despite anything in this Agreement to the contrary, we may vary this Agreement, on written notice, in order to give effect to a change in law or in the definition of Eligible Person arising from a change in the law from the date that change has effect.

A23.8 Any variation to this Agreement must be in writing and, except for a variation made under clause A23.7, signed by both of us.

A24. TERMINATION OF THIS AGREEMENT

A24.1 We may terminate this Agreement by giving you notice in writing if any of the following events occur:

a. Any licence, registration or certification relating to you, or any facility at which you provide Services, is cancelled, revoked, expires, or is subject to a closing or cessation order; or

b. You are convicted of any dishonesty offence relating to any claim for payment from any party (not limited to us or our predecessors) whether claimed pursuant to this Agreement or otherwise; or

c. You have failed to carry out any of your obligations under this Agreement and the failure is material; or

d. You have failed to carry out any of your obligations under this Agreement, other than in relation to the completion of compliance requirements, and you do not remedy the failure within 20 Working Days of receiving notice of default from us; or

e. Clause A16.3(c) applies (which relates to non completion of compliance requirements); or

f. Clause A16.4 applies (which relates to material or repeated failure); or

g. You are placed in liquidation or a receiver is appointed.

A24.2 For the purposes of clause A24.1(c), a material failure includes, but is not limited to, a breach of any of the following clauses:

a. Clause A5.5 (notification of change in Eligible Persons in Provider's facilities);

b. Clause A15.2 (Access for Quality Audit); or

c. Clause A15.6 (Quality Audit Process).

A24.3 Termination under clause A24.1 takes effect on the day that we give you notice under that clause, or any later date specified in that notice.

A24.4 Either of us may terminate this Agreement by giving 12 weeks notice in writing to the other, unless a shorter notice period is agreed by both of us.

A24.5 If we default in any of our obligations and we fail to remedy the default within 20 Working Days of your giving us written notice of the default you may do any one or more of the following:

a. seek specific performance of the Agreement; or

b. seek damages from us; or

c. seek default interest (calculated at the bill rate plus 2 percent per annum. The bill rate means the average rate per annum (expressed as a percentage) as quoted on Reuters page BKBM (or any successor page displaying substantially the same information) under the heading "FRA" for bank accepted bills having a term of three months as fixed at 10.45 am on the date the default interest under this clause A24.5 is first payable).

A24.6 Nothing in clause A24.5 above affects any other rights you may have against us in law or equity.

A25. CONSEQUENCES OF TERMINATION

A25.1 Immediately following termination of the Agreement:

a. We will:

i. continue making further payments to you under this Agreement in relation to services provided under clause A25.1(b)(i), except where you do not comply with your

obligations under clause A25.1(b)(ii) or (iii), but otherwise we will cease making payments to you under this Agreement;

ii. inform the affected Subsidised Residents and, as far as practicable, each affected Subsidised Resident's family of the termination of this Agreement;

iii. where necessary, facilitate the departure of such Subsidised Residents from your Facility as soon as practicable; and

b. You will:

i. continue to provide Services to each affected Subsidised Resident until those Subsidised Residents leave your Facilities;

ii. help us facilitate the departure of such Subsidised Residents;

iii. co-operate with us and our agents accordingly, including allowing us to enter your Facility, communicate with Subsidised Residents and, as far as practicable, supplying us with contact details for such Subsidised Residents' families.

A25.2 Where either of us has given notice in writing under clause A24.4, both of us will use our best endeavours to ensure that, where necessary, both of us have facilitated the departure of any Subsidised Residents in accordance with clause A25.1(a)(iii) prior to the expiry of the 12 week period specified in the notice or as otherwise agreed between both of us.

A25.3 Any termination of this Agreement will not affect:

a. The rights or obligations of either of us that arose before this Agreement was terminated; or

b. The operation of any clauses in this Agreement that are expressed or implied to have effect after this Agreement ends.

A26. DISPUTE RESOLUTION

A26.1 If either of us has any dispute with the other under this Agreement then:

a. Both of us will use our best endeavours and act in good faith to settle the dispute by agreement; and

b. If the dispute is not settled by agreement within 20 Working Days, then, unless both of us agree otherwise, either of us may (by written notice to the other) require that the dispute be submitted for mediation by a single mediator agreed by both of us, or if both of us cannot agree on a mediator, a mediator nominated by LEADR or if LEADR no longer exists or is unable to nominate a mediator, the President for the time being of the New Zealand Law Society. In the event of any such submission to mediation:

i. the mediator will not be deemed to be acting as an expert or an arbitrator;

ii. the mediator will determine the procedure and timetable for the mediation;

iii. the cost of the mediation will be shared equally between both of us (unless otherwise agreed).

c. Subject to clause A26.3 if the dispute is not settled by mediation in accordance with clause A26.1(b), then either of us may initiate proceedings in the District Court.

A26.2 Neither of us will initiate any court proceedings during this dispute resolution process, unless proceedings are necessary for preserving the party's rights.

A26.3 Both of us will continue to comply with all our obligations in the Agreement until the dispute is resolved.

A26.4 Except where expressly provided for, this clause A26 will not apply to any dispute concerning:

a. any variation or review of any part of this Agreement; or

b. whether or not any Person is an Eligible Person.

A27. INSURANCE

A27.1 You must have comprehensive insurance covering your business throughout the term of this Agreement. You must notify us on request of the insurance cover in place.

A28. INDEMNITY

A28.1 You must indemnify us for all claims, damages, penalties or losses including reasonable costs (but excluding indirect or consequential losses) caused by:

a. A failure by you to comply with any obligations under this Agreement; or

b. Any act or omission by you or by any Person for whom you are responsible, where that act or omission occurs in the course of you performing (or failing to perform) an obligation in this Agreement.

A29. WARRANTY

A29.1 Each of us warrant that all material information given to the other is correct, to the best of our respective knowledge and belief.

A30. ASSIGNMENT AND TRANSFER

A30.1 You must not assign this Agreement without our prior written consent, such consent not to be unreasonably withheld. For the avoidance of doubt, we may not withhold consent solely on the basis that we consider there is an oversupply of beds in the Territorial Local Authority Area.

A30.2 Sale or Transfer of Facility

Where you intend to sell, transfer or otherwise dispose of your Facility to which this Agreement relates you must:

a. notify us in writing of such an intention at least 30 days prior to the date of the intended transfer or disposal of your Facility; and

b. advise any proposed purchaser or transferee of the Facility that this Agreement will only apply to that Person if we consent to the assignment of this Agreement in accordance with clause A30.

A30.3 You acknowledge that failure to comply with clause A30.2(a) constitutes good reason to withhold consent for the purposes of clause A30.1.

A30.4 We may assign or transfer this Agreement to any DHB at any time without your prior consent.

A31. MISCELLANEOUS

A31.1 Entire Agreement

The Agreement sets out the entire agreement and understanding between us and supersedes all prior oral or written agreements or arrangements relating to its subject matter.

A31.2 Governing Law

The Agreement is governed by New Zealand law.

A31.3 Contracts (Privity) Act 1982

No non-party may enforce any of the provisions in the Agreement.

A31.4 Waiver

Any waiver by either you or us must be in writing and duly signed. Each waiver may only be relied on for the specific purpose for which it is given. A failure of either you or us to exercise, or a delay in exercising, any right given to it under this Agreement does not of itself mean that the right has been waived.

A31.5 Notices

a. Any notice must be in writing and may be served personally or sent by security or registered mail, or by facsimile transmission.

b. Notices given:

i. personally are served upon delivery;

ii. by fastpost (other than airmail) are served three days after posting;

iii. by airmail are served two days after posting;

iv. by facsimile are served at the time specified in the facsimile confirmation report of the sending facsimile machine that evidences transmission to the facsimile number of the party receiving notice.

c. A notice may be given by an authorised officer, employee or agent of the party giving the notice.

d. The address and facsimile number for each of us shall be as specified in this Agreement or such other address or number as is from time to time notified in writing to the other party.

A31.6 Relationship of Both of Us

Nothing in the Agreement constitutes a partnership or joint venture between both of us or makes you an employee, agent or trustee of ourselves.

A31.7 Construction

In this Agreement, unless the context otherwise requires:

a. "we", "us" and "our" means HER MAJESTY THE QUEEN IN RIGHT OF HER GOVERNMENT IN NEW ZEALAND (acting by and through the Ministry of Health) including its permitted consultants, subcontractors, agents, employees and assignees (as the context permits).

b. "you" and "your" means the provider named in this Agreement, including its permitted subcontractors, agents, employees and assignees (as the context permits).

c. "both of us", "each of us", "either of us" and "neither of us" refers to the parties.

d. Words referring to the singular include the plural and the reverse;

e. Everything expressed or implied in this Agreement that involves more than one Person binds and benefits those people jointly and severally;

f. "including" and similar words do not imply any limitation;

g. Clause headings are for reference purposes only;

h. A reference to a statute includes:

   i. all regulations under that statute; and

   ii. all amendments to that statute; and

   iii. any statute substituting for it that incorporates any of its provisions

i. All periods of time or notice exclude the days on which they are given and include the days on which they expire.

A31.8 Definitions

A31.9 In this Agreement, unless the context otherwise requires, the following expressions shall have the following meanings:

Expression	**Meaning**
Act	The New Zealand Public Health and Disability Services Act 2000.
Agreement	This document, including Part 1 and Part 2.

Expression	Meaning
Care Giver	A Person, other than a Nurse, who is responsible for the day to day care of Residents.
Care Plan	The plan relating to the care of a Subsidised Resident developed in accordance with clause D16
Care Staff	A Nurse or Care Giver.
Commencement Date	The date specified in clause C1.1.
Day	Any day of the week.
DHB	An organisation established under section 19 of the Act.
Eligible Person	An individual who has been assessed as satisfying the criteria set out in clause A5.
Enrolled Nurse	A Person whose name appears on the Roll of Nurses maintained under the Nurses Act 1977, or any Act that supersedes that Act.
Facility	Place specified in clause C1.1 where you provide Services to Eligible Persons in respect of whom you are claiming payment under this Agreement.
General Practitioner	A Person who is registered as a General Practitioner under the Medical Practitioners Act 1995.

Expression	Meaning
Health Information	The following information or classes of information about an identifiable individual: • information about the health of that individual, including his or her medical history; • information about any disabilities that individual has, or has had; • information about any health services or disability services that are being provided, or have been provided, to that individual; • information provided by that individual in connection with the donation, by that individual, of any body part or any bodily substance of that individual or derived from the testing or examination of any body part, or any bodily substance of that individual; or • information about that individual that is collected before or in the course of, and incidental to, the provision of any health service or disability service to that individual.
Hospital	A Facility licensed under the Hospitals Act 1957 and the Hospitals Regulations 1993 or certified or registered under any legislation that supersedes the Hospitals Act 1957 or the Hospitals Regulations 1993.
LEADR	An Australasian, not-for-profit membership organisation formed in 1989 to serve the community by promoting and facilitating the use of consensual dispute resolution processes generally known as Alternative Dispute Resolution or ADR.
Manager	An individual who is appointed as manager of your Facility and who is responsible for the day to day activities of the Facility.
Ministry	The Ministry of Health.

Expression	Meaning
Ministry Approved Standards	A standard issued by Standards New Zealand and approved by us from time to time and notified to you. As at the date of this Agreement the Ministry Approved Standards are: • Health and Disability Sector Standard NZS 8134:2001 • Infection Control Standard NZS 8142:2000 • Restraint Minimisation and Safe Practice Standard NZS 8141:2000.
Needs Assessment and Service Co-ordination Service	An agency contracted by a DHB or us to provide the following services in respect of a Person's care: • Needs assessment; and • Service co-ordination.
Non-subsidised Resident	A Person who is not an Eligible Person but who is a Resident.
Nurse	A Registered Nurse or an Enrolled Nurse.
On-call	A staff member or other Person designated by you who is available to attend to the needs of any Subsidised Resident within 20 minutes after being notified.
On Duty	A staff member who is working in your Facility and is able to attend immediately to the needs of any Subsidised Resident.
Person	Includes a corporation, incorporated society or other body corporate, firm, government authority, partnership, trust, joint venture, association, state or agency of a state, department or Ministry of Government and a body or other organisation, in each case whether or not having a separate legal identity.
Quality Audit	The audit, inspection, evaluation or review of the provision of the Services by you in accordance with clauses A15 to A17 in Part 1.

Expression	Meaning
Records	All written and electronically stored material and all records and information held by you or on your behalf or by your employees, subcontractors, or agents, which are relevant to the provision of the Services, and, for the avoidance of doubt, includes Records transferred to you by other providers relating to services provided: • at your Facility by a previous provider; and • to Subsidised Residents at another facility.
Registered Nurse	A Nurse who is registered under the Nurses Act 1977, or any act that supersedes that Act.
Resident	Any Person who resides in any Facility providing Services.
Rest Home	A Facility licensed under the Old People's Homes Regulations 1987 or a Facility at which a Provider is certified to provide Rest Home Care under any legislation that supersedes those Regulations, and which provides care for Subsidised Residents.
Services	Age related residential care services, including 24-hour provision of hotel services and personal care, provided in accordance with Section D and Section E, of this Agreement in the following categories: • Continuing Care (Hospital) • Specialist Dementia • Rest Home.
Site Visit	Attendance by a Quality Auditor at a Provider's Facility.
Specialist Dementia Services	Services provided in accordance with Part 2, Section E (which relates to specialist care provided to Subsidised Residents suffering from dementia).
Standards New Zealand	The arm of the Standards Council (a Crown entity established under the Standards Act 1988) that develops and sells New Zealand standards.
Subsidised Resident	An Eligible Person who is receiving Services from a Provider.

Expression	Meaning
Tapu/Noa (Sacred/Profane)	The recognition of the cultural means of social control envisaged in tapu and not including its implications for practices in working with Maori Residents.
Temporary Manager	A manager of your Facility appointed by the Ministry in accordance with clause A22.
Uncontrollable Event	An event that is beyond the reasonable control of either of us but does not include: a. Any risk or event that the party claiming to have been affected by such a risk or event could have prevented or overcome by taking reasonable care including having in a place a reasonable risk management process; or b. A lack of funds for any reason, other than where we have failed to make a due payment.
Unit	Area of your Facility dedicated to the provision (in accordance with Section E) of Specialist Dementia Services to Subsidised Residents who have been assessed by a Needs Assessment and Service Co-ordination Service as requiring such services.
Working Day	Any day of the week other than: a. Saturday, Sunday, Good Friday, Easter Monday, Anzac Day, Labour Day, the Sovereign's birthday, the recognised anniversary of the province where the Facility is located, and Waitangi Day; and b. A statutory holiday day in the period beginning on 25 December in any year and ending with 2 January in the following year.

SECTION B: INFORMATION AND REPORTING REQUIRMENTS

B1. REPORTING REQUIREMENTS

B1.1 You must comply with the reporting requirements set out in clauses D22 and E5 of this Agreement.

B2. REPORTING INTERVALS AND TIMELINESS

B2.1 Where a reporting requirement detailed in clauses D22 and E5 is specified as quarterly, you must report to us in accordance with the following timetable:

Quarter	Due date for Report
1 January to 31 March	20 April
1 April to 30 June	20 July
1 July to 30 September	20 October
1 October to 31 December	20 February

B2.2 Where a reporting requirement detailed in clauses D22 and E5 is specified as annual, you must report by 20 February in respect of the immediately preceding calendar year.

B2.3 Where this Agreement:

a. commences; or

b. terminates; or

c. is varied,

part way through a quarter the report will be for that part of the quarter that falls within the duration of this Agreement.

B2.4 You must notify us if you anticipate that the information will be delayed. We may deem such delay to be a material failure for the purposes of clause A11.2.

B2.5 Without limiting clause A11.2, failure to submit reports in accordance with this Section B and clauses D22 and E5 is deemed to be a material failure for the purposes of clause A11.2.

B3. ACCURACY, CONSISTENCY AND COMPLETENESS

B3.1 The information that you provide should, in all cases, be an accurate, consistent and complete representation of the facts. The information will identify any material inaccuracies or inconsistencies you know about.

B4. READABILITY AND AVAILABILITY

B4.1 You must provide all information to us in readable format. With each information requirement for a specific piece of information, we will supply you with a template, which describes the method, medium, format, nature, frequency or level of detail required with which you must comply.

B4.2 If no specific template is supplied by us, you will supply the information on paper as typed text or in an electronic format using file formats supported by the Microsoft Office (Work, Excel, Access) suite of desktop tools.

B4.3 Both of us may mutually agree to alternative formats other than those specified in clause B4.2 during the term of this Agreement. Such an agreement will be confirmed in writing at least one month before the alternative arrangement is implemented.

B5. FORWARDING YOUR COMPLETED REPORT

You will forward all reports as required by us under this Agreement to:

Monitoring Reports

Ministry of Health

Private Bag 1942

Dunedin

B6. AUDITABILITY AND ACCESSABILITY

B6.1 The information supplied under this Agreement may be verified by Quality Audit as specified in Part 1, Section A of this Agreement.

B6.2 You acknowledge that the information that you provide to us must be auditable. All information you provide to us or other agencies under this Agreement, must therefore be produced through a documented process. This documentation shall include:

a. the definition of data needed to provide information;

b. the source of data needed to provide information;

c. each Person responsible for the capture of this data;

d. a description of manual and automated procedures and processes used to transform this data into the information you provide;

e. the procedures that describe how you accurately record client ethnicity;

f. the procedures that describe how you ensure the security of information according to the Privacy Act 1993 and any code of practice issued under that Act covering Health Information held by health providers.

B6.3 You must make available to us the documentation referred to in this clause B6, if so requested by us.

B6.4 You must take all care to ensure that in the event of ceasing to provide the Services, your Records are properly preserved and accessible by us.

B6.5 You must pay the costs associated with the provision of information under this Agreement.

B7. AUTHENTICITY

B7.1 You must provide sufficient identification with the information sent to us, to satisfy us, or any other agency receiving information from you under this Agreements that the information received was sent by you. Unless stated differently in this Agreement, this identification should as a minimum include:

a. the service specification the information relates to (if applicable);

b. the date or period the information relates to;

c. the date the information was provided;

d. the size (number of records or number of pages) of the complete report including headers and title pages.

B8. AD-HOC INFORMATION REQUIREMENTS

B8.1 We may request from you additional information in relation to you in general or the Services specified in this Agreement. In the request, we will detail the reasons for the request and the intended usage of the required information.

B8.2 You must endeavour to provide us with every reasonable assistance in obtaining the required information.

B9. FEEDBACK

B9.1 We will send feedback reports to you annually.

PART 2: SPECIFICATIONS

SECTION C: PROVIDER SPECIFIC PAYMENTS

C1. SERVICE DETAILS

C1.1 This Agreement applies in respect of the following details::

Provider Legal Entity Name	«PROVIDER_NAME»
Provider Legal Entity Number	«PROVIDER_NUMBER»
Facility Name	[*insert Facility name and address*]
Service Category Name	
Service Category ID	
Commencement Date	1 June 2002

C2. PRICE

C2.1 Details of all prices that apply to the Services are as follows:

Service Category ID	Service Category Name	Bed day Price excl. GST	GST Rate (%)	Payment Type
				CCPS
				CCPS
				CCPS

C3. CALCULATION OF CONTRIBUTION BY US

C3.1 The amount payable by us in respect of each Subsidised Resident is calculated using the following formula:

A = (B – C) x D

Where:

A Is the daily amount payable in respect of each Subsidised Resident for the Services provided by you to that Subsidised Resident.

B Is the daily price payable under clause C2 of this Agreement per Subsidised Resident per Day for the Services.

C In the case of a Subsidised Resident who qualifies as an Eligible Person under clause A5.2(b) of Part 1, is the amount the Subsidised Resident can pay or contribute daily to the cost of the Services, which is calculated in accordance with section 69F of the Social Security Act 1964 and the Social Security (Disability Services – Financial Assessment) Regulations 1994, and which in all other cases is nil.

D Is the number of Days that the Services are provided by you to the Subsidised Resident during the period for which payment is made.

C4. CLAIMS PROCESS

C4.1 For the purposes of this clause C4, unless the context indicates otherwise, the following expressions shall have the following meanings:

Expression	Meaning
BCTI	Buyer Created Tax Invoice
Payment Fortnight	In relation to a Rest Home or if you provide Specialist Dementia Services, the fortnight following a Service Fortnight
Payment Month	In relation to a Hospital, the calendar month following a Service Month
PPS	Proposed Payment Schedule
Service Fortnight	If your Facility is a Rest Home or if you provide Specialist Dementia Services, the fortnight during which your have performed Services and in respect of which you are entitled to payment under this Agreement
Service Month	If your Facility is a Hospital, the calendar month during which your have performed Services and in respect of which you are entitled to payment under this Agreement

C4.2 Payment to Hospital Providers

a. We will provide you, by post or facsimile, with a PPS not later than 2 Working Days prior to the end of the Service Month.

b. If you do not receive the PPS by the last Working Day of the Service Month, you must notify us immediately. We will send you a copy of the relevant PPS within one Working Day of receiving such notice from you.

c. The PPS will specify the Subsidised Residents in respect of whom we anticipate we must make payment to you, and the applicable price per Subsidised Resident based on the last months' payment to you.

d. You shall amend the PPS as necessary and comply with all other instructions on the PPS.

e. You must verify that the contents of the PPS are correct and return the verified PPS to us by the 10th Day of the Payment Month.

f. We will send a BCTI to you following receipt of the verified PPS.

g. We will pay you on the 20th Day of the Payment Month in accordance with the BCTI.

h. If we do not receive the verified PPS by the 10th Day of the Payment Month, we will not pay for the Service Month until the month following the Payment Month, provided that we receive the verified PPS for the relevant Service Month by the 10th of the month following the Payment Month.

C4.3 Payments to Rest Home Providers and Providers of Specialist Dementia Services

a. We will provide you, by post or facsimile, with a PPS not later than 2 Working Days prior to the end of the Service Fortnight.

b. If you do not receive the PPS by the last Working Day of the Service Fortnight, you must notify us immediately. We will send you a copy of the relevant PPS within one Working Day of receiving such notice from you.

c. The PPS will specify the Subsidised Residents in respect of whom we anticipate we must make payment to you, and the applicable price per Subsidised Resident based on the previous Service Fortnights' payment to you.

d. You shall amend the PPS as necessary and comply with all other instructions on the PPS.

e. You must verify that the contents of the PPS are correct and return the verified PPS to us within 5 Working Days of receipt of the PPS.

f. We will send a BCTI to you following receipt of the verified PPS.

g. We will pay you in accordance with the BCTI not later than 10 Working Days after we receive the verified PPS.

h. If we do not receive the verified PPS in accordance with clause C4.3(e), we will not pay for the Service Fortnight until the fortnight following the Payment Fortnight, provided that we receive the verified PPS for the relevant Service Fortnight not later than 15 Working Days after the PPS was sent.

SECTION D: SERVICE SPECIFICATIONS – GENERAL

D1. COMPLIANCE WITH LEGISLATION AND STANDARDS

D1.1 You must comply with all relevant legislation, including, but not limited to:

a. New Zealand Public Health and Disability Act 2000;

b. Health and Disability Commissioner Act 1994;

c. Health and Disability Services (Safety) Act 2001;

d. Health and Safety in Employment Act 1992;

e. Health Act 1956;

f. Hospitals Act 1957;

g. Medicines Act 1981;

h. Official Information Act 1982;

i. Privacy Act 1993;

j. Food Hygiene Regulations 1974;

k. Hospitals Regulations 1993; and

l. Old Peoples Homes Regulations 1987.

D1.2 You must comply with any legislation that supersedes, substitutes or amends the legislation listed in clause D1.1 above.

D1.3 You must comply with all Ministry Approved Standards.

D2. INTERPRETATION

D2.1 Where in Section D and Section E the term "access" is used, in relation to the obligations of a Provider, it means to arrange or facilitate a Subsidised Resident obtaining or receiving goods or services, from another Person, which are not part of the Services (including, without limitation, the goods and services referred to in clauses D14 and D20). You may not charge a Subsidised Resident for such arranging or facilitating, but you are not required by this Agreement to meet the costs of that other Person.

D2.2 Where in Section D and Section E of this Part 2 the term "provision" or "provide" is used in relation to your obligations, it means that you must meet the costs of the goods or services provided and may not charge the Subsidised Resident for such goods or services.

D2.3 Where any reference is made in Section D and Section E of this Part 2 to prescription of, or prescribing by, a General Practitioner, a Registered Nurse (such as a nurse practitioner) may exercise such prescribing powers if legally authorised to do so.

D3. SERVICE PHILOSOPHY

D3.1 You shall ensure that the Subsidised Residents have access to a typical range of life experiences and choices. In providing the Services you must:

a. Be Resident centred;

b. Promote the Subsidised Resident's independence;

c. Promote the Subsidised Resident's quality of life;

d. Be comprehensive and multidisciplinary;

e. Centrally involve Subsidised Residents in decisions that affect their lives;

f. Actively encourage Subsidised Residents to maximise their potential for self help and involvement in the wider community;

g. Respect the rights of each Subsidised Resident;

h. Ensure a culturally appropriate service;

i. Acknowledge, value and encourage the involvement of families/whanau in the provision of care;

j. Ensure the needs of each Subsidised Resident are met in a caring, comfortable, safe environment that maximises individuality, privacy and health potential; and

k. Ensure that people who are dying are supported in an environment that provides comfort, privacy and dignity for both the Subsidised Resident and their family/whanau.

D4. SERVICE OBJECTIVES

D4.1 The Services will:

a. Be relevant to the health, support and care needs of each Subsidised Resident, recognising their cultural and/or spiritual values, individual preferences and chosen lifestyles;

b. Provide a homelike and safe environment for each Subsidised Resident;

c. Facilitate and assist the Subsidised Resident's social, spiritual, cultural and recreational needs;

d. Provide the opportunity for each Subsidised Resident wherever possible, or the Subsidised Resident's representative, to be involved in decisions affecting the Subsidised Resident's life; and

e. Acknowledge the significance of each Subsidised Resident's family/whanau and chosen support networks.

D5. PROVIDER POLICIES

D5.1 You must develop and document a philosophy to guide the provision of the Services.

D5.2 Your philosophy must be available to Subsidised Residents and their families, Persons who are prospective Residents and their families, any service that refers Eligible Persons to you, and Persons engaged to deliver the Services.

D5.3 Your philosophy must be in a form that meets the communication needs and capabilities of each of the Persons or groups of Persons listed in clause D5.2.

D5.4 You must develop and document policies, procedures, protocols and guidelines for all elements of the Services that you are engaged to deliver. Such policies shall include, but are not restricted to, policies relating to:

a. Assessing, managing and monitoring each Subsidised Resident's behavioural problems;

b. Clinical procedures relevant to the needs identified in the individual Subsidised Resident's Care Plan;

c. A complaints procedure;

d. Continence management;

e. Health education and disease prevention;

f. Management of challenging behaviour;

g. Medication management;

h. Pain management;

i. Personal grooming;

j. Personal hygiene;

k. Preservation of privacy and dignity;

l. Providing culturally safe care;

m. Recognition of people's rights;

n. Restraint including strategies to minimise the use of restraint;

o. Resuscitative status;

p. Sexuality and intimacy;

q. Spirituality and counselling including availability of chaplaincy;

r. Skin management;

s. Transportation of Subsidised Residents;

t. Wound care.

D6. WRITTEN ACKNOWLEDGEMENT FROM NON-SUBSIDISED RESIDENTS

D6.1 You must advise all Non-Subsidised Residents in writing that:

a. If a Non-Subsidised Resident wishes to become a Subsidised Resident, he or she must satisfy the Eligible Person criteria in clause A5.1, which includes an assessment by a Needs Assessment and Service Co-ordination Service and a financial means assessment under section 69F of the Social Security Act 1964; and

b. Assessments under clause A5.1 may require some time to arrange, and the conclusion of such assessments may be that the Non-Subsidised Resident is not an Eligible Person; and

c. You will not be able to claim payments under this Agreement in respect of that Non-Subsidised Resident until he or she has satisfied the Eligible Person criteria in clause A5.1.

D6.2 You must obtain written acknowledgement from each Non-Subsidised Resident that he or she has been advised in writing of the matters referred to in this clause D6.1.

D6.3 As soon as practicable after you become aware that any Non-Subsidised Resident may be an Eligible Person in terms of clause A5, you must advise:

a. That Non-subsidised Resident; and

b. The relevant Needs Assessment and Service Co-ordination Service,

that the Non-Subsidised Resident in question may satisfy the Eligible Person criteria set out in clause A5.1.

D7. CODE OF RESIDENTS' RIGHTS

D7.1 You must have a Code of Residents' Rights. Such a code must be consistent with the Code of Health and Disability Services Consumers' Rights.

D7.2 The Code of Residents' Rights must include the Subsidised Residents' rights and responsibilities, information about your complaints system, including how to make a complaint, the role of independent advocacy services and the Health and Disability Commissioner.

D8. CLINICAL RECORD SYSTEM

D8.1 You must ensure that every Care Giver or Registered Nurse maintains a written record of progress for each Subsidised Resident under the care of that Care Giver or Registered Nurse. You must ensure that all Care Giver or Nurse entries are legible, dated, and signed by the relevant Care Giver or Nurse, indicating their designation.

D9. ATTENDANCE BY GENERAL PRACTITIONER OR OTHER HEALTH PROFESSIONAL

D9.1 If a General Practitioner or other health professional has cause to visit a Subsidised Resident, you shall ensure that the General Practitioner or other health professional enters findings, and any treatment given to or ordered for the Subsidised Resident, into the relevant clinical records maintained on site at the time of the attendance. You must ensure that all such entries are legible, dated, and signed by the General Practitioner or other health professional.

D10. HANDOVER REPORT

D10.1 You must ensure that at the commencement of a shift, each Nurse or other Care Giver who will be responsible for providing care to a particular Subsidised Resident receives a report on the status of, and care required for, that Subsidised Resident.

D11. DEATH/TANGIHANGA

D11.1 You must develop and implement policies and procedures to follow in the event of the death of a Subsidised Resident, which include but are not limited to policies regarding:

a. Immediate action;

b. Appropriate and culturally sensitive procedures for notification of next of kin or nominated representative;

c. Any necessary certification and documentation;

d. Culturally appropriate arrangements in relation to the care of the deceased, until responsibility is accepted by the family or a duly authorised Person.

D12. SERVICE INFORMATION

D12.1 You must make available to Subsidised Residents and their families, Persons who are prospective Residents and their families, and any service who refers Eligible Persons to providers, information regarding the Services that you must provide under the terms of this Agreement.

D12.2 The information shall include, but is not limited to, the following:

a. The services that you offer;

b. The location of those services;

c. The hours the services are available;

d. How a Resident may have access to those services (for example, whether a referral is necessary);

e. Resident rights and responsibilities, including a copy of the Code of Health and Disability Services Consumers' Rights;

f. Availability of cultural support;

g. After-hours or emergency contacts if necessary or appropriate; and

h. Any other information that is important for Persons who wish to receive your services.

D12.3 The information must be presented in a manner appropriate to the communication needs and capabilities of the Persons or groups referred to in clause D12.1.

D13. ADMISSION AGREEMENT

D13.1 You must ensure that each Subsidised Resident, or their nominated representative, signs an Admission Agreement on the Day that the Subsidised Resident commences receiving Services at your Facility.

D13.2 The Admission Agreement must contain:

a. A list of items that are excluded from the Services as set out in clause D14;

b. Information about charges relating to any services or items, including the items listed in clause D14, that are not covered by payments under this Agreement;

c. The extent of your liability for damage or loss of the Subsidised Resident's personal belongings, including clothing;

d. A provision which informs the Subsidised Resident that the contact details of the Subsidised Resident's family members or nominated representatives provided to you by the Subsidised Resident under clause D13.3, may be provided to us for the purposes of this Agreement, including, without limitation:

i. during the course of or following a Quality Audit; or

ii. if this Agreement is varied or terminated under clauses A16, A23 or A24; or

iii. when we take action under clause A 22,

and otherwise as permitted by the Privacy Act 1993 and any code of practice issued under that Act covering Health Information held by providers;

e. The procedure that a Subsidised Resident must follow if he or she wishes to make a complaint about you or any of the services received by Subsidised Resident;

f. A description of transportation policies, procedures and costs in clause D20.2;

g. Information relating to the Subsidised Resident's rights in respect of the room where that Subsidised Resident will live, including when that Subsidised Resident is temporarily absent from the Facility.

D13.3 You must use your best endeavours to obtain from the Subsidised Resident the names of members of that Subsidised Resident's family, or a nominated representative, whom we can contact for the purposes referred to in clause D13.2(d).

D14. EXCLUSIONS FROM SERVICE

D14.1 The Services do not include:

a. Specialised assessment and rehabilitation services – including specialist assessment for, and advice on, rehabilitation and specialised assessment (by accredited assessors) for individual customised equipment via ACC or Ministry funded Environmental Support Services provider.

b. Customised equipment, accessed through services funded by the relevant DHB or through specialised accredited assessors, such as wheelchairs modified for an individual's use, seating systems for postural support, specialised communication equipment and other customised and personal care and mobility equipment.

c. The provision of equipment, aids, medical supplies or services that relate to conditions covered by DHB funding except where these have been specified in Section D or Section E as forming part of the Services.

d. Services such as those provided by dentists, opticians, audiologists, chaplains, hairdressers, dry cleaners and solicitors.

e. Clothing and personal toiletries, other than ordinary household supplies. However you are responsible for ensuring that these items are purchased by the Subsidised Resident, their family or agent as required and are consistent with the preferences of individual service users.

f. Charges for toll calls made by the Subsidised Residents.

g. Insurance of the Subsidised Resident's personal belongings.

D14.2 You must ensure each Subsidised Resident has access to the items set out in clause D14.1.

D14.3 You may supply the items listed in clause D14.1, if the Subsidised Resident chooses to obtain the items from you and, where you have supplied such items, may charge for items so supplied.

D14.4 The Subsidised Resident is responsible for the safety, security, and insurance cover of his or her personal belongings, but you must exercise due care and comply with relevant laws.

D15. ACCOMMODATION, FACILITIES AND EQUIPMENT

D15.1 The buildings, facilities and equipment shall meet the accommodation needs of older people, and reflect the special needs of the Subsidised Residents.

D15.2 Accommodation

You must provide:

a. Lodging with the use of all furniture, fittings, fixtures, bedding and utensils, except to the extent that Subsidised Residents choose, with your agreement, to use their own furniture and possessions where they can be reasonably accommodated;

b. A food service of adequate and nutritious meals and refreshments and snacks at morning/afternoon tea and supper times, which as much as possible take into account personal likes/dislikes of the Subsidised Resident, address medical/cultural and religious restrictions and are served at times that reflect community norms;

c. Cleaning services and supplies that maintain the Facility in a clean, hygienic and tidy state;

d. Laundry services: You will take all reasonable care to minimise damage to or loss of personal clothing caused by laundering. Your financial liability is restricted to that agreed with the Subsidised Resident in the Admission Agreement between the Subsidised Resident and you;

e. A garden/outside recreational area that incorporates sheltered seating and is easy to get to. You must maintain the building and outdoor environment in a tidy, usable and safe state; and

f. The Services in a clean, warm, safe, well-maintained homelike and comfortable environment that respects the Subsidised Residents' privacy, individuality and promotes their well being.

D15.3 Facilities and Equipment

a. You must provide communal aids and equipment for personal care or the general mobility needs of Subsidised Residents who require them, including (but not limited to) urinals, bedpans, wash bowls, walking frames, wheelchairs, commodes, shower/toilet chairs, raised toilet seats, hospital beds, pressure relief (including mattress, heel protectors and seat cushions), lifting aids and hand rails;

b. You must at all times have available sufficient clinical equipment for general use to meet the needs of the Subsidised Resident including, but not limited to:

   i. scissors and forceps for basic wound care;

   ii. thermometers;

   iii. sphygmomanometer;

   iv. stethoscope;

   v. weighing scales; and

   vi. blood glucose testing equipment;

c. You must at all times have sufficient and safe storage facilities for equipment, aids and supplies including the required storage facilities for all types of medications as required by relevant legislation;

d. You must ensure that radio, television, newspapers, personal mail inwards and outwards and telephones for calls in private are reasonably available to Subsidised Residents; and

e. You must have procedures in place that ensure the security and safety of the Subsidised Residents and enable Subsidised Residents to enter and leave the Facility as appropriate to their care need level.

D16. INDIVIDUAL SUPPORT & CARE SERVICES

D16.1 Welcoming & Orientating New Residents

a. You must welcome new Subsidised Residents and assist new Subsidised Residents to adapt to their new residence.

b. You must ensure that:

i. Subsidised Residents are orientated to the physical lay out of the Facility;

ii. Subsidised Residents and/or their nominated representative are informed and agree prior to, or on, entry to the Facility of the scope of Services and any liability for payment for items not included in the Services. Such liability must be set out in the Admission Agreement referred to in clause D13 of this Agreement.

iii. New Subsidised Residents and/or their nominated representatives receive a copy of the Facility's Code of Residents' Rights.

D16.2 Assessment on Admission

You must ensure that:

a. The assessment on admission covers the physical, psycho-social, spiritual and cultural aspects of that Subsidised Resident;

b. Each Subsidised Resident's health and personal care needs are assessed on admission in order to establish an initial Care Plan to cover a period of up to 3 weeks, and that Registered Nurse input and agreement is sought and provided in developing and evaluating the initial Care Plan in order to ensure continuity of relevant established support, care and treatments;

c. The assessment utilises information gained from the Subsidised Resident, their nominated representative (where applicable), and information provided by the relevant Needs Assessment and Service Co-ordination Service and/or previous provider of health and personal care services along with observations and examinations carried out at the Facility.

D16.3 Care Planning

You must ensure that:

a. Each Subsidised Resident has a Care Plan;

b. Each Care Plan is developed and evaluated by a Registered Nurse;

c. Each Subsidised Resident's Care Plan is amended where necessary to ensure it remains relevant to address the Subsidised Resident's current identified needs;

d. The Registered Nurse who develops the Subsidised Resident's Care Plan considers the experiences and choices of each Subsidised Resident in accordance with clauses D3 and D4;

e. Each Subsidised Resident and his or her family/Whanau have the opportunity to have input into the Subsidised Resident's care planning process.

f. The Care Plan addresses the Subsidised Resident's current abilities, level of independence, identified needs/deficits and takes into account as far as practicable their personal preferences and individual habits, routines, and idiosyncrasies.

g. The Care Plan addresses personal care needs, health care needs, rehabilitation/habitation needs, maintenance of function needs and care of the dying.

h. At the time of admission an initial Care Plan is documented in accordance with clause D16.2(b).

i. A Care Plan is developed and documented within three weeks of the Subsidised Resident's admission.

j. That a Registered Nurse is responsible for ensuring the plan reflects the Subsidised Resident's assessed physical, psychosocial, spiritual and cultural abilities, deficits and needs.

k. Each Care Plan focuses on each Subsidised Resident and states actual or potential problems/deficits, and sets goals for rectifying these and detail required interventions.

l. Short-term needs together with planned interventions are documented either by amending the Care Plan or as a separate Short Term Care Plan attached to the Care Plan.

m. Care Plans are available to all staff and that they use these Care Plans to guide the care delivery provided according to the relevant staff member's level of responsibility.

D16.4 Evaluation

a. You must ensure that each Subsidised Resident's Care Plan is evaluated, reviewed and amended either when clinically indicated by a change in the Subsidised Resident's condition or at least every six months, whichever is the earlier.

b. You shall notify the Subsidised Resident's family members, with the Subsidised Resident's consent, as soon as possible, if the Subsidised Resident's condition changes significantly.

c. The Subsidised Resident must be referred to the relevant Needs Assessment and Service Co-ordination Service for re-assessment if there is a significant change in that Subsidised Resident's level of need and those needs can no longer be met by you.

D16.5 Support & Care Intervention

a. Support and care provided by you must be focused on the Subsidised Resident and delivered in a timely and competent manner. Your routines and practices within the Facility must reflect as much as possible community norms, encourage each Subsidised Resident's autonomy, respect their dignity and privacy and meet their cultural requirements, and be documented in the Care Plan.

b. Your staff must be available at all times to meet the needs of the Subsidised Residents, as identified in the Subsidised Residents' Care Plans and when necessary.

c. You must provide the following support and care intervention services to all Subsidised Residents:

   i. supervision, and/or assistance with activities of daily living and personal care as determined by the individual needs of each Subsidised Resident;

   ii. a designated staff member who is skilled in and accountable for assessment, implementation and evaluation of diversional and motivational recreation programme for each Subsidised Resident;

   iii. for each Subsidised Resident, a written and implemented social and recreational programme of activities planned to meet the identified interests, stated preferences and level of ability/disability of the Subsidised Resident. You must ensure that this activity programme is evaluated and reviewed each time the Care Plan is reviewed; and

d. The programme referred to in clause D16.5(c)(iii) shall include group and individual activities and involvement with the wider community. Information related to the preferred activities and level of involvement will be documented in the Subsidised Resident's records.

e. Primary Medical Treatment

   i. You must ensure that:

      1. each Subsidised Resident is examined by a medical practitioner within 2 Working Days of admission, except where the Subsidised Resident has been examined not more than 2 Days prior to admission, and you have a summary of the medical practitioner's examination notes. After the initial examination, the Subsidised Resident must be examined not less than once a month and as clinically indicated (as assessed by a Registered Nurse) ***except*** where the Subsidised Resident's medical condition is stable as assessed by the General Practitioner, in which case the Subsidised Resident may be examined by a General Practitioner less frequently than monthly, but at least every three months. This exception must be noted and signed in the Subsidised Resident's medical records by the General Practitioner;

      2. the General Practitioner reviews each Subsidised Resident's medication at least every three months. The Subsidised Resident's medication chart must be noted and signed by the General Practitioner at each review; and

      3. On-call emergency medical services are available to all Subsidised Residents at all times. All costs of such emergency medical services must be covered by you;

ii. A Subsidised Resident may choose to be attended by a General Practitioner of their own choice who agrees to visit the Facility and maintain the Facility's medical records as prescribed in this contract. If a Subsidised Resident retains his or her own General Practitioner, that Subsidised Resident is responsible for any cost over and above that which you pay per Subsidised Resident for the General Practitioner contracted by you;

iii. If a Subsidised Resident initiates a visit from a General Practitioner without the prior approval of the Registered Nurse or Manager, you may require the Subsidised Resident to bear the full cost of the visit if such a visit is not in accordance with clause D16.5(e)(i)(1);

iv. You must provide the treatment programme prescribed by a General Practitioner to assist the Subsidised Resident to develop and maintain functional ability. This may include such goal and outcome orientated treatment as physiotherapy, respiratory therapy, occupational therapy, speech therapy, dietetics and podiatry. This treatment programme shall be reviewed at such regular intervals as are specified by a General Practitioner, Registered Nurse, or applicable health professional involved in the treatment;

v. Where a Subsidised Resident requires specialist assessment services (for example, where there has been a marked deterioration in the Subsidised Resident's functionality or health status) and a General Practitioner refers a Subsidised Resident to either:

1. rehabilitation services (for example, assessment, treatment and rehabilitation services); or

2. specialist allied health services available through community health providers,

you are not required to provide such services, but must ensure that the Subsidised Resident has access to such services; and

vi. If you choose to refer the Subsidised Residents to private therapists, the costs of such private therapists must be met by you.

D17. HUMAN RESOURCES

D17.1 You must provide sufficient staff to meet the health and personal care needs of all Subsidised Residents at all times.

D17.2 Rest Homes

a. In every Facility where there are:

i. 10 or fewer Subsidised Residents, there must be a Care Staff member On Duty at all times;

ii. up to 29 Subsidised Residents, there must be one Care Staff member On Duty and one Care Staff member On-call at all times;

iii. more than 30 Subsidised Residents, at least two Care Staff members shall be On Duty at all times;

iv. more than 60 Subsidised Residents, at least three Care Staff members shall be On Duty at all times.

b. Despite clause D17.2(a), where (having regard to the layout of the Facility, the health and personal care needs of Residents and the ease with which the Residents can be supervised) the Registered Nurse or Manager at any time considers that additional staff are required to meet the needs of all Subsidised Residents, you shall ensure that those extra staff are On Duty for the period of time that the Registered Nurse or Manager recommends.

c. Where you provide more than one category of Services at your Facility one of the staff members may, if qualified, provide On-call assistance in respect of another category of Service, provided that you continue to meet your obligations under clause D17.1.

d. Manager

i. Every Rest Home must engage a Manager who holds a current qualification or has experience relevant to both management and the health and personal care of older people, and is able to show evidence of maintaining at least 8 hours annually of professional development activities related to managing a Rest Home; and

ii. The role of the Manager includes, but is not limited to, ensuring the Subsidised Residents of the Home are adequately cared for in respect of their everyday needs, and that services provided to Subsidised Residents are consistent with obligations under legislation and the terms of this Agreement.

e. Registered Nurse

You must employ, contract or otherwise engage at least one Registered Nurse, excluding a registered psychiatric nurse, who will be responsible for working with staff and (where that Registered Nurse is not the Manager) the Manager to:

i. assess Subsidised Residents:

1. on admission;

2. when the Subsidised Resident's health status changes;

3. when the Subsidised Resident's level of dependency changes; and

4. at each 6 month review date in accordance with Clause D16.4(a).

ii. develop and/or review Care Plans in consultation with the Subsidised Resident and family/whanau;

iii. advise on care and administration of medication, possible side effects and reported errors/incidents;

iv. provide and supervise care;

v. act as a resource person and fulfil an education role;

vi. monitor the competence of other nursing and Care Staff to ensure safe practice;

vii. advise management of the staff's training needs;

viii. assist in the development of policies and procedures.

f. Where there is more than one Registered Nurse in your Facility, the duties and responsibilities assigned to the Registered Nurse may be shared between the Registered Nurses On Duty over a 24 hour period.

g. Care Staff for Rest Homes

i. You must maintain records that document the hours worked by Care Staff in the Facility. The hours documented in the records must list only the actual hours worked by Care Staff in providing the Services at the Facility for which payment is claimed under this Agreement. For the avoidance of doubt, staff hours spent working in flats or apartments associated with the Facility do not qualify as hours spent working in the Facility.

D17.3 Hospitals

a. In every Hospital:

i. there shall at all times be On Duty at least one Registered Nurse, excluding a registered psychiatric nurse;

ii. the distribution of Care Staff over a 24 hour period shall be in accordance with the needs of the Subsidised Residents as determined by a Registered Nurse. A minimum of 2 Care Staff are required to be On Duty at all times;

iii. the lay out of the Facility must also be taken into consideration when determining the number and the distribution of Care Staff required to meet the needs of the Subsidised Residents under clause D17.3(a)(ii).

b. Manager

i. You must engage a Manager who is either a General Practitioner or a Registered Nurse (excluding a registered psychiatric nurse) and holds a current practising Certificate. The Manager must hold a current qualification or have experience relevant to both management and the health and personal care of older people, and is able to show evidence of maintaining at least 8 hours annually of professional development activities related to managing a Hospital;

ii. The role of the Manager includes ensuring the Subsidised Residents of the Hospital are adequately cared for in respect of their everyday needs, and that services provided to Subsidised Residents are consistent with obligations under legislation and the terms of this Agreement.

c. Registered Nurse

Registered Nurses must be employed, contracted or otherwise engaged by you and are responsible for:

i. the development of an initial Care Plan within 24 hours of admission;

ii. the co-ordination and documentation of a comprehensive Care Plan within 3 weeks of admission;

iii. ensuring that the Care Plan reflects the assessments and the recommendation of other health professionals where their input is required;

iv. on-going re-assessment and review of Care Plans in accordance with clauses D16.3 and D16.4;

v. implementation/delegation of nursing tasks;

vi. supervision and provision of care according to each Subsidised Resident's Care Plan;

vii. acting as a resource person and fulfilling an education role;

viii. monitoring the competence of nursing and Care Staff to ensure safe practice;

ix. providing advice and assistance to management on the staff's training needs.

D17.4 Manager of a Facility providing Services in more than one category

Where you provide both Rest Home and Hospital care at the same Facility the Manager, if holding a nursing qualification recognised by the Nursing Council of New Zealand that is relevant to care of older people, may act as Manager of both these Services so long as they are being delivered at a single Facility.

D17.5 Orientation and Competency of Newly Engaged Staff

a. You must ensure that all newly engaged staff receive a planned orientation programme that familiarises them with your philosophy and vision, physical layout of the facility, their job description, policies, procedures, protocols and guidelines relevant to their engagement and non-clinical and clinical emergency protocols.

b. You shall ensure all staff who will be in direct contact with the Subsidised Residents have completed education that is related to the care of older people. Those staff who have not completed the training at the time of their appointment must complete appropriate training within six months of appointment. The training must address:

i. the ageing process, including sensory, physical, psycho social, spiritual and cultural aspects;

ii. practical care skills;

iii. awareness of cultural issues;

iv. communication, including sensory and cognitive loss and other barriers to communication, communication aids;

v. observation and reporting;

vi. promotion of independence and recognition of individuality; and

vii. understanding of Subsidised Residents' rights.

c. You may arrange the education referred to in clause D17.5(b) at the Facility or externally. Any staff member carrying out tasks, procedures, or treatment must have demonstrated they are competent at performing the task, procedure and treatment, and follow documented policies, and protocols developed by you to ensure safe practice.

D17.6 Staff Support and Guidance

a. Any Registered Nurse or health professional carrying out a delegated medical task or a specialised procedure or treatment must have demonstrated prior competency in the task, procedure or treatment, and follow documented policies, and protocols developed by the facility to ensure safe practice.

b. Where certification is required to carry out a particular task or specialised procedure (for example, an I.V. Certificate), Care Staff must have such certification.

c. Tasks specified in clause D17.6(a) above shall be carried out in accordance with the relevant accepted ethical and professional standards.

d. Strategies and/or protocols shall be operational to ensure that advice and/or support is available to On Duty Staff at all times, should the need arise.

e. You must implement protocols to guide staff managing clinical and non-clinical emergencies.

f. You must plan and undertake ongoing staff performance appraisals. Such appraisals must be documented at least annually.

D17.7 Ongoing Programme of Staff Development

You must undertake a planned, documented programme of staff development or in-service education, with at least 8 hours of programmes being provided annually, including courses attended other than at the Facility. You must keep a written record of staff attendance at such programmes.

D18. SUPPLIES

D18.1 Emergency Provision of Personal Supplies

You must provide emergency supplies of toothpaste, toothbrush, disposable razors, shampoo, and soap on those occasions when the Subsidised Resident's own supply is not available.

D18.2 Provision of Pharmaceuticals

a. Your liability for payment of prescribed medication is limited to the payment of the Government's prescription charge, any manufacturer's surcharge and any package and delivery charge by the Pharmacist.

b. You are also responsible for:

i. discussing with the Subsidised Resident's General Practitioner the prescribing of medications that are listed in the pharmaceutical schedule maintained and managed by Pharmac under the Act;

ii. encouraging the General Practitioner to prescribe generically to lessen the occasions when a manufacturer's surcharge applies; and

iii. informing the Subsidised Resident in writing that they may be required to pay the cost of any pharmaceutical over and above the charges stated above.

D18.3 Provision of Dressing Supplies

You must provide all dressings and supplies used in treatments. These must be of an appropriate standard, as determined by a Registered Nurse, to meet the need of the Subsidised Resident.

D18.4 Provision of Continence Supplies

a. You must provide continence management products that are of an appropriate standard to meet the assessed needs of each Subsidised Resident, as set out in the Care Plan.

b. For those Subsidised Residents identified as requiring specialist continence advice and support, you must obtain appropriate continence management advice, which may be (but is not required to be) from the continence advisory service of the community support services.

D19. QUALITY FOCUS AND RISK MANAGEMENT

D19.1 Safety Obligations

a. You must maximise the safety of Services delivered to Subsidised Residents through implementing operational management strategies/programmes, which includes culturally appropriate care, to minimise risk of unwanted events and enhance quality.

b. You must protect Subsidised Residents, visitors and staff from exposure to avoidable and/or preventable risk and harm.

D19.2 Safe Practices

You must document and implement policies in relation to:

a. Infection Control;

b. Occupational Health and Safety;

c. Safe food handling;

d. Safe management and administration of medications;

e. Safe storage and use of chemicals/poisons; and

f. Prevention, detection and removal of abuse or neglect of Subsidised Residents, visitors and/or staff.

D19.3 Risk Management

a. You must document and implement policies, processes and procedures for:

   i. identifying key risks to health and safety;

   ii. evaluating and prioritising those risks based on their severity, the effectiveness of any controls you have and the probability of occurrence;

   iii. dealing with those risks and where possible reducing them;

   iv. minimising the adverse impact of the internal emergencies and external or environmental disasters on the Subsidised Resident, visitors and staff;

   v. working with the organisations who have responsibility for co-ordinating internal and external (environmental) disaster services;

   vi. accident and hazard management that safeguard Subsidised Residents, visitors and staff from avoidable incidents, accidents and hazards.

b. Each policy, process, or procedure developed under clause D19.3(a) must include definitions of all incidents and accidents, and must clearly outline the responsibilities of all staff, including:

   i. taking immediate action;

   ii. reporting, monitoring and corrective action to minimise incidents, accidents and hazards, and improve safety; and

   iii. debriefing and staff support as necessary.

c. For the purposes of clause D19.3(a) key risks include, but are not limited to, the following:

   i. theft/burglary;

   ii. fire;

   iii. accidents/incidents;

   iv. chemicals incidents; and

   v. disposal of waste.

d. You must maintain a record of any accidents or incidents, and must notify us immediately of serious accidents or incidents involving or affecting any Subsidised Resident.

D19.4 Quality Improvement Programme

a. You shall develop and implement a Quality Improvement Programme to enable a high standard of service to be provided in accordance with the Ministry Approved Standards and otherwise in accordance with this Agreement, and to ensure the Services are provided so as to achieve the best outcome for Subsidised Residents.

b. You must document a Quality Improvement Plan as part of the Quality Improvement Programme and must ensure that such a Plan is implemented, evaluated for its effectiveness, and that any necessary corrective action is taken.

c. The Quality Improvement Plan must include (but is not limited to):

i. an explicit quality philosophy;

ii. clear quality objectives;

iii. quality improvement risk management systems;

iv. systems for monitoring Quality Audit compliance;

v. designated organisational and staff responsibilities;

vi. Resident input into Services and into development of the Quality Improvement Plan;

vii. how you will address Maori issues including recognition of:

1. the Maori Health Plan set out in clause A3; and

2. how the Maori Health Plan put into effect through the provision of the Services.

d. You are expected to monitor and evaluate the delivery of Services against the Quality Improvement Plan, including standards of service. Such quality monitoring mechanisms must include, but are not limited to, the following:

i. Subsidised Resident feedback surveys;

ii. quality review procedures as a demonstrable part of service delivery; and

iii. external reviews

D20. OTHER SERVICES

D20.1 You must ensure that each Subsidised Resident has access to the services, listed in this clause, as required by the assessed need of each Subsidised Resident:

a. Needs Assessment and Service Co-ordination Services;

b. Assessment, treatment and rehabilitation services contracted by us;

c. Primary care & district nursing services for advice and information sharing;

d. Laboratory services;

e. Radiological services;

f. Dental services;

g. Specialist medical services;

h. Podiatry services (not prescribed by General Practitioner);

i. Maori provider organisations;

j. The Department of Work and Income;

k. Social workers;

l. Advocacy services;

m. Supporting voluntary organisations such as Alzheimers New Zealand and Stroke Foundation; and

n. Socialisation outside your Facility.

D20.2 You must meet the costs of transport, including specialised transport required for clinical reasons, to the services in clause D20.1(a) to (h), but are not required to meet the cost of transport to the services listed in clause D20.1(i) to (n).

D20.3 You must inform each Subsidised Resident about any specialist travel and accommodation funding to which that Subsidised Resident may be entitled, and refer them to us or a DHB for information about this funding as appropriate.

D20.4 Accompanying Subsidised Residents

As part of the Services you will:

a. Use your best endeavours to ensure that Subsidised Residents are accompanied to such appointments by an appropriate relative or friend; or

b. If a relative or friend is not available, provide staff to accompany Subsidised Residents to appointments with the providers referred to in clauses D20.1(a) to D20.1(h), and any other appointments for which the Subsidised Resident reasonably requires an accompanying Person.

D21. DISCHARGE, TRANSFER OR DEATH OF SUBSIDISED RESIDENT

On discharge you must ensure that:

a. Appropriate information is supplied to the healthcare facility or principal care giver responsible for the ongoing management of a Subsidised Resident being discharged prior to or at the time of discharge.

b. Appropriate referrals are made to relevant community services and the Subsidised Resident's chosen General Practitioner in the case of discharge home.

c. Family/Whanau are involved, unless the Subsidised Resident requests otherwise.

D21.2 Where a Subsidised Resident wishes to depart from your Facility, you must:

a. Advise the DHB or a Needs Assessment and Service Co-ordination Service as soon as possible after you become aware that any Subsidised Resident wishes to depart your Facility, including where the Subsidised Resident wishes to transfer to another Provider's Facility; and

b. Facilitate the DHBs or Needs Assessment and Service Co-ordination Service's involvement in that departure.

D21.3 Where you wish to transfer a Subsidised Resident temporarily to the Facilities of another Person, the requirements of this Agreement continue to apply to you in respect of that Subsidised Resident during that Subsidised Resident's temporary residence elsewhere.

D21.4 If a Subsidised Resident wishes to transfer to a new residential care provider of their own volition, you must support the transfer and work with the Needs Assessment and Service Co-ordination Service to effect a smooth transfer of the Subsidised Resident.

D21.5 You must ensure all relevant information relating to the Subsidised Resident is made available to the new provider.

D21.6 You must notify the relevant Needs Assessment and Service Co-ordination Service, the Department of Work and Income, and us of the death of any Subsidised Resident within 24 hours of that Person's death, and comply with your policies and procedures developed under clause D11.

D21.7 Where Subsidised Residents are being removed from your Facility in accordance with clause A25.1, you must ensure that clause D21.5 is complied with.

D22. REPORTING REQUIREMENTS

D22.1 You must comply with the following reporting requirements:

Service Unit	PU Measure	Reporting Requirements	
Aged Residential		*Frequency*	*Information*
DSS 1006 Continuing Care	Bed Days	Quarterly	• Number of bed days occupied by long term Non-subsidised Residents • Number of bed days occupied by long term Subsidised Residents • Total number of available bed days • Percentage of occupancy •
		Annual	• Percentage of staff who are Maori
DSS1033 Rest Home	Bed Days	Quarterly	• Number of bed days occupied by long term Non-subsidised Residents • Number of bed days occupied by long term Subsidised Residents • Total number of available bed days • Percentage of occupancy •
		Annual	• Percentage of staff who are Maori

SECTION E: SERVICE SPECIFICATIONS – SPECIALIST DEMENTIA SERVICES

E1. INTRODUCTION

E1.1 These specifications are additional requirements for those Providers who provide Specialist Dementia Services under this Agreement. Providers of Specialist Dementia Services must also comply with the specifications set out in Section D of this Agreement.

E2. OBJECTIVE

E2.1 To provide for the safe and therapeutic care of Subsidised Residents affected by dementia in an environment that enhances those Subsidised Residents' quality of life and minimises the risks associated with their "confused" states.

E3. ACCOMMODATION, FACILITIES AND EQUIPMENT

E3.1 Your Unit and the equipment used in the provision of the Services shall meet the special accommodation needs of the Subsidised Residents receiving Specialist Dementia Services and be home-like, comfortable and safe.

E3.2 For people requiring a Specialist Dementia Service, you must ensure that:

a. Your Unit accommodates no more than 20 Residents, or any higher number either determined under clause A1.5(a) or agreed between both of us. A Subsidised Resident may share a room with another Person of similar age and interests after careful evaluation of the appropriateness of this arrangement, and with the agreement of the Subsidised Resident's family. A written record of the evaluation and agreement must be kept.

b. The living, bathing, toilet and outdoor areas and dining arrangements of Subsidised Residents receiving Specialist Dementia Services are separate from Subsidised Residents receiving other Services.

c. There are quiet, low-stimulus areas. Additional nutritious snacks must be available over the 24-hour period.

E3.3 Facilities and Equipment

a. You must identify the risks for the Subsidised Resident associated with confusional states and minimise such risks.

b. There must be space inside the Unit to allow maximum freedom of movement while promoting the safety of Subsidised Residents who are likely to wander.

c. There must be a safe and secure outdoor area that is easy to get to for the Subsidised Residents.

d. Space and seating arrangements must be such that both individual and group activities are encouraged.

E4. INDIVIDUAL SUPPORT & CARE SERVICES

E4.1 Welcoming & Orientating New Subsidised Residents

You must ensure that:

a. New Subsidised Residents are welcomed into the Unit and assisted to adapt to their new residence with maximum autonomy and independence.

b. Subsidised Residents and family/whanau are provided with written information on the service philosophy and practices particular to the Unit including but not limited to:

   i. the need for a safe environment for self and others;

   ii. how behaviours different from other Residents are managed;

   iii. specifically designed and flexible programmes, with emphasis on:

      1. minimising restraint;

      2. behaviour management;

      3. complaint policy.

E4.2 Assessments

You must ensure that:

a. The Assessment includes identifying behaviour particular to the Subsidised Resident and utilisation of any specialist assessment available. This information can be gained from previous caregivers and, where applicable, the Subsidised Resident's family or nominated representative.

b. Each Subsidised Resident must have an individual assessment to determine his or her individual diversional, motivational and recreational requirements.

E4.3 Care Planning

You must ensure that:

a. Staff providing support and care follow the Care Plan for each Subsidised Resident;

b. The following are included in each Subsidised Resident's Care Plan:

   i. a description that addresses that Subsidised Resident's current abilities, level of independence, identified needs/deficits, and takes into account the Subsidised Resident's habits, routines, idiosyncrasies, and specific behavioural management strategies;

   ii. strategies for minimising episodes of challenging behaviours based on assessment and prevention;

iii. a description of how the behaviour of the Subsidised Resident is best managed over a 24 hour period;

iv. a description of the activities that meet their needs in relation to individual diversional, motivational and recreational therapy during the twenty four hour period. These activities will reflect their former routines and activities that are still familiar to the Subsidised Resident.

E4.4 Support & Care Intervention

a. You must ensure that support and care is flexible and individualised, focusing on the promotion of quality of life, and must minimise the need for restrictive practices through the management of challenging behaviour;

b. You must provide each Subsidised Resident with appropriate activities which ensure diversion at appropriate times during the Day, in accordance with the needs identified in the Care Plan of each Subsidised Resident;

c. Your staff must build a supportive relationship with the Subsidised Residents. The goals of the supportive relationship are to relieve anxiety and maintain a sense of trust, security and self worth;

d. You must ensure that involvement of family/whanau and support is promoted at all times.

E4.5 Human Resources

a. You must provide sufficient staff to meet the health and personal care needs of all Subsidised Residents, at all times.

b. There must be **at least** one Care Staff member On Duty in the Unit at all times. A second staff member must be available at the Facility (or, where you only provide Specialist Dementia Services, at the Unit) and On-call.

c. Staffing Requirements for Specialist Dementia Services:

You must employ, contract or otherwise engage:

i. a Registered Nurse, who (notwithstanding clause D17.2(e)) may be a registered psychiatric nurse, and who, in addition to the requirements of clause D17.2(e), has had experience and training in the care of older people with dementia and the ageing process; and

ii. a designated Person in respect of each Subsidised Resident, skilled in assessment, implementation and evaluation of diversional and motivational recreation, such as a diversional therapist;

d. You must ensure that:

i. all staff assigned to work in the Unit receive a planned orientation programme specific to their area of service. This shall include a session on how to implement activities and therapies;

ii. all Care Givers directly involved in caring for the Subsidised Resident as at the Commencement Date have, by 1 October 2004 obtained passes in the following unit standards (or any unit standards registered in accordance with the Education Act 1989 on the national qualifications framework in substitution for these listed unit standards):

1. 17029
2. 5012
3. 5019
4. 5020

iii. new Care Givers who are assigned to work in the Unit

1. in respect of unit standards 17029 and 5012, commence study within six months of their appointment and obtain passes in those standards within 12 months; and

2. in respect of standards 5019 and 5020, commence study within twelve months of their appointment and obtain passes within 12 months.

iv. You must maintain records of staff achievement in such standards.

E5. REPORTING REQUIREMENTS

E5.1 You must comply with the following reporting requirements:

Service Unit	**PU Measure**	**Reporting Requirements**	
Aged Residential		*Frequency*	*Information*
DSS 1032 Dementia	Bed Days	Quarterly	• Number of bed days occupied by long term Non-subsidised Residents • Number of bed days occupied by long term Subsidised Residents • Total number of available bed days • Percentage of occupancy
		Annual	• Percentage of staff who are Maori

Appendix E: Support Package Assessment tool

SPA Tool - School Leavers to 65

Client's Name: _____

Scale	Description	Outcome	Support Package Allocations
Very Low	• Disabled person is able to live in their community and attend to daily living activities with existing support	• The disabled person and carers are provided with resources and information to continue to manage their disability needs • Community supports are accessed • Should the situation change they know how to access NASC services	**Discretionary with Na/sc service manager's sign off**
Low	• Although coping the disabled person's ability to participate in opportunities to develop life skills is compromised • The carers capacity to provide support has changed or is insufficient to meet the needs of the disabled person	• Disabled person has the opportunities and support required to maximise abilities and participate in their community Carers receive effective support that enables them to carry out their role • Specialised assessment and treatment services are accessed	**$0 to $50/week**
Medium	• Disabled person's well being and functional status is deteriorating and needs are increasing • Carer is under considerable pressure and their ability to support the disabled person is compromised • Disabled person is significantly compromised and issues of safety is becoming apparent • Disabled person has limited opportunity to participate in age appropriate activity	• The disabled person's support enables them to maximise their abilities and independence • Carer has access to meaningful and practical support, enabling them to maintain their own life roles • Specialised assessment and treatment services are accessed	**$0 to $180/week**
High	• The disabled person's ability to remain in their environment is compromised due to significant safety issues and complex support needs	• The disabled person has access to safe environment and effective support • Carer has access to meaningful and practical support, enabling them to maintain their life roles • Specialised assessment and treatment services are accessed	**$0 to $200/week**[1]
Very High	• Disabled person experiences a significant alteration to their disability. Their ability to remain in their current environment is compromised. • Safety is paramount • Carer is no longer able to provide care for the disabled person (significant change in circumstance)	• Support enables the disabled person the opportunity to remain in the environment of their choice • Carers are valued and supported through a support package that addresses their needs • Disabled person's long-term needs are considered and incorporated into the package • Planning is underway to address the long-term needs of the disabled person and their family/ whanau	**0 to $200/week** **$200 - $350/week requires Team Leader sign off.** **Over $350/week requires Manager sign off.**

[1] Note that price of residential care is dependant on the level of disabled person needs and contracted amount and therefore in some cases may exceed this amount.

SPA Tool - 65 Years Plus

Client's Name: _____

Scale	Description	Outcome	Support Package Allocations
Very Low	• Disabled person is able to live in their community and attend to daily living activities with existing support	• The disabled person and carers are provided with resources and information to continue to manage their disability needs • Community supports are accessed • Should the situation change they know how to access NASC services	**Discretionary with Na/sc service manager's sign off**
Low	• Although coping the disabled person's ability to participate in opportunities to maintain life skills and abilities are compromised • The carers capacity to provide support has changed or is insufficient to meet the needs of the disabled person	• Disabled person receives support that enables them to maintain / enhance their level of independence in the home • Areas requiring specialist attention are addressed i.e. assessed for reversibility and rehabilitation	**$0 to $30/week**
Medium	• Disabled person's wellbeing and functional status is deteriorating and needs are increasing • Carer is under considerable pressure and their ability to support the disabled person is compromised	• The disabled person's support enables them to maximise their abilities and independence • Carer has access to meaningful and practical support, enabling them to maintain their own life roles • The disabled person has the opportunity to remain in their own home • Specialised assessment and treatment services are accessed	**$0 to $180/week**
High	• The disabled person's ability to remain in their environment is compromised due to significant safety issues and complex support needs	• The disabled person has access to safe environment and effective support • Carer has access to meaningful and practical support, enabling them to maintain their life roles • Specialised assessment and treatment services are accessed • The carer is valued and supported	**$0 to $200/week[2]**
Very High	• Due to rapid deterioration the disabled person's support needs have significantly increased • Current support are no longer effective • The safety of the disabled person and carer is at risk	• Disabled person is sustained by a support package • Carer is sustained by a support package • Areas requiring specialist attention are addressed i.e. reversibility and rehabilitation • Longer term planning is underway	**0 to $200/week** **$200 - $350/ week[3] requires Team Leader sign off.** **Over $350/week requires Manager sign off.**

[2] Note that price of residential care is **dependent on the level of disabled person needs** (eg. Dementia, Hospital long term care, etc) and contracted amount with the providers and therefore in some cases **may exceed this amount**.

[3] Note that price of residential care is **dependent on the level of the disabled person's needs** (eg. Dementia, Hospital long term care, etc) and contracted amount with the providers and therefore in some cases **may exceed this amount**.

The following are ICD-10 codes used to identify preventable conditions.

I500	Congestive heart failure
N390	Urinary Tract Infection
A419	Septicaemia
J22	Respiratory infection
J189	Pneumonia
J690	Aspiration pneumonia
J441	Chronic obstructive airways disease
J449	Exacerbation of Chronic Obstructive Airways disease
J40	Bronchitis
J980	Broncholitis
E86	Volume depletion (dehydration)
E870	Sodium excess
E871	Sodium depletion

Appendix F: ICD-10 codes for preventable conditions

The following are ICD-10 codes used to identify preventable conditions.

I500	Congestive heart failure
N390	Urinary Tract Infection
A419	Septicaemia
J22	Respiratory infection
J189	Pneumonia
J690	Aspiration pneumonia
J441	Chronic obstructive airways disease
J449	Exacerbation of Chronic Obstructive Airways disease
J40	Bronchitis
J980	Broncholitis
E86	Volume depletion (dehydration)
E870	Sodium excess
E871	Sodium depletion