

ASPIRE

Assessment of Services Promoting Independence & Recovery in Elders



The University of Auckland

in collaboration with:

Canterbury District Health Board, Hutt Valley District Health Board
and
Waikato District Health Board

Wellington Masonic Villages Trust, Pegasus Health and
Presbyterian Support Northern



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Dedication

This project has involved the lives of many older people, their families and friends. They chose to participate in this project freely and in the full knowledge that there was no personal gain from involvement, but did so in order to improve the lives of countless older people in the generations to follow.

Disclaimers

The views expressed in this report are those of the authors and should not be taken to represent the views or policy of The Ministry of Health or The Government. Although all reasonable steps have been taken to ensure the accuracy of the information, no responsibility is accepted for the reliance by any person on any information contained in this report.

Competing interests

The authors of this work are not aware of any competing interests that may impact on any aspect of work.

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Cover note

This report is presented in two parts, the first deals with the clinical effectiveness of the Ageing-in-Place initiatives and the second focuses on the costs attributed to the initiatives.

This current piece of work focuses on the former.

Executive Summary

Introduction

People are living longer. That is good news but, as baby boomers reach old age, the changes in demographics pose several challenges for society. Already, it is recognised that the majority of older people prefer to remain living at home rather than spend protracted periods of time in a residential facility. Indeed, it is anticipated that this trend will continue and strengthen as proceeding cohorts reach old age. To create the conditions to facilitate this concept in an affordable manner requires careful thought and skilled implementation.

The concept of ageing-in-place is already well integrated into several government strategies and concerns the ability for people to “make choices in later life about where to live, and receive the support to do so” (Positive Ageing Strategy, 2001). Despite this broad categorisation, ageing-in-place invariably refers to the ability of older people to remain dwelling in the community, including within retirement villages. Moreover, residential care in the form of either rest homes or private hospitals is specifically excluded.

Unfortunately, disability in later life is very much a reality for many and the choice around whether to remain at home or not is often down to the availability of appropriate services. Programmes that facilitate older people to age-in-place are in their infancy and this is despite the recent considerable increase in home-based funding. For several years, District Health Boards and The Ministry of Health have been supporting the development of ageing-in-place services and this project, ASPIRE (Assessment of Services Promoting Independence and Recovery in Elders) is an evaluation of three of the more significant programmes: Coordination of Services for Elderly (COSE) in Christchurch; The Promoting Independence Programme (PIP) in Lower Hutt and; Community FIRST (Flexible Integrated Restorative Support Team) in Hamilton.

The ageing-in-place initiatives

COSE was established in 2000 through a collaboration of Canterbury DHB and Pegasus Health and is a community-based needs assessment and service co-ordination initiative. It was established with the aim of avoiding duplication in service provision. A key worker (COSE) is based in primary health care and is assigned to several general practice (GP) teams, though works independently of the practices. The model allows the COSE worker to identify resources and opportunities within communities, both funded and non-funded. This offers older people a greater choice of service support, facilitating their remaining safely in the community as long as they wish to. There is a strong evidence base for COSE, which is an example of case management. Studies that have evaluated community-based case management of older people have been conducted in several countries such as the United States, the United Kingdom and Italy. They have been found to reduce hospital admissions, the length of hospital stay, mortality, emergency department visits and admission to long-term facilities as well as costs of care. The COSE worker undertakes comprehensive assessments of the older person and liaises with the GPs and practice nurses ensuring that there is recognition of and a quick response to any change in an older person's circumstances, thereby allowing the level of care that is required for safe continuous ageing-in-place. As a component of providing an appropriate level of care, the COSE worker co-ordinates the appropriate community services, informal networks and medical care based on assessed need and GP liaison. In essence, COSE is an evolution of the current Needs Assessment Service Coordination (NASC) service that is operating across New Zealand. NASC is invariably hospital based with an extensive outreach component and provides an assessment and service brokerage facility for people requiring access to disability services.

The Promoting Independence Programme (PIP) is for older people who would not be able to maximise their potential for recovery within the average hospital stay. The initiative was developed by The Wellington Masonic Villages Trust in collaboration with Hutt Valley District Health Board and is operates currently both in Woburn, Hutt Valley as well as Horowhenua, Levin. Referrals to the programme are made through Medical Consultants (Private and Public), General Practitioners, Sigma (NASC) or other like referral agencies. A key worker is assigned to each older person and their role is to initiate and co-ordinate that person's pathway through the rehabilitation process. The team includes Rehabilitation

Co-ordinator who has overall responsibility for the team and is the first point of contact for client, their family / whanau and outside agencies. The team consists of Registered Nurses, Occupational Therapists, Physiotherapists, a Speech and language therapist, Social Worker, Podiatrist, Dietitian, Kaiawhina, designated Caregivers, Rehabilitation Assistants and a Rehabilitation Specialist / Geriatrician. Older people are able to receive up to 12 weeks of facility based rehabilitation in the Promoting Independence Programme (not offered through the Masonic facility) if they are assessed as having high needs and are at risk of residential care or long-term hospitalisation. Clients who are assessed as having high or very high needs but are able to receive rehabilitation services in the community, or clients who have been discharged to the community from a residential facility may receive a monitored amount of input up to a maximum of one year from the health event. On completion of the residential home based rehabilitation programme, the team undertakes a comprehensive handover to designated home care providers that allows for an individually tailored education programme to be delivered to the formal and informal caregivers. The Promoting Independence Programme does not replace current NASC as COSE has, more it aims to integrate with current practice and overall case management remains with NASC.

Community FIRST offers a different approach and was established in 2002 in Hamilton through collaboration between Presbyterian Support Northern, Waikato District Health Board and The Ministry of Health. Essentially, Community FIRST was the first example of restorative home support for older people with high and complex needs in New Zealand. Restorative home support invariably involves the integration of physical activity into the day-to-day delivery of services. The model relies on a multi-disciplinary team (primarily registered nurse, physiotherapist and occupational therapist) providing an in-depth support plan, which is delivered by well-trained support workers / therapy aids under the close supervision of the multi-disciplinary team. Contact by support workers is up to four times a day and by registered nurses, a minimum of once every two weeks. The delivery of restorative home based support services can be divided into several levels according to the needs of the older person. Currently, the only provider delivering restorative home based support to older people of all needs level is Presbyterian Support Northern under the Enliven label. Older people accessing the Community FIRST service in Hamilton require a needs assessment and are eligible if they have high and complex needs. The funding

structure has been tailored to the unique needs of this group and a bulk funding arrangement is in place. The funding arrangement allows the older person in collaboration with the team coordinator to negotiate service provision, including frequency of visits, day centres attendance and caregiver residential respite. The service is based on core values such as care management, comprehensive geriatric assessment and functional and repetitive ADL training. All support programmes are orientated around the meaningful and invariably socially integrated goals of the older person, which are translated into support and exercise plans that ensure higher compliance and high quality. Community FIRST offers a replacement for current home care provision as opposed to the Promoting Independence Programme that provides enhanced oversight to traditional home care and residential care.

ASPIRE

Assessment of Services Promoting Independence and Recovery in Elders

ASPIRE is a meta-analysis of randomised controlled trials of the three ageing-in-place initiatives, COSE, PIP and Community FIRST, which means that the information arising from the three separate evaluations are pooled together to provide a greater level of confidence in the results. In essence, across Hamilton and Hutt, older people when assessed by NASC of having high and complex needs (i.e. at risk of entry to residential care) were randomly assigned to either usual care or the new ageing-in-place initiative. In Christchurch, GP practices were randomised to either usual NASC or the new COSE model and therefore when an older person was assessed by NASC as having high and complex needs, they were assigned on the basis of their GP (called cluster randomisation) to either NASC or COSE. A total of 55 GPs were assigned to one of the two groups and all older people within each GP practice received the same intervention. Ethical approval was granted from the lead ethics committee (Auckland) in July 2003 (Reference No: AKX/03/07/177). Interviews with the older person were undertaken before randomisation with a trained health professional research associate at the older person's home. The initial interview involved an informed consent process and assessment of function (i.e. the independence levels of the older person), quality of life, how involved the older person was in the community, their use of health and social care services as well as assessment

around mood. In addition, the caregiver (when present) was interviewed to assess their satisfaction with being a caregiver as well as questions around the impact on caring on their quality of life and employment opportunities. Adverse events such as falls, injuries and hospitalisations were recorded. The interRAI MDS-HC assessment was used as the research tool to collect the above information and where areas were missing, were supplemented by other assessment measures.

Recruitment began in November 2003 and lasted for 12 months in Hutt and Christchurch, but due to the difficulty in recruiting the required number of older people, recruitment lasted 18 months in Hamilton. Interviews were repeated at three months, six months and every six months to an average of 18 months and data collection ended in November 2005.

ASPIRE had several key objectives:

- 1 To assess the effectiveness of ageing-in-place initiative, as compared to usual care in preventing (or delaying) the time before a community-based older person requires permanent residential care
- 2 To assess the effectiveness of ageing-in-place initiative in improving survival in community-based older people compared to conventional care
- 3 To determine the impact of the ageing-in-place initiative on an older person's independence and health-related quality of life compared to similar measures in those receiving conventional care
- 4 To establish the degree of correlation between the expected improvement in the health-related quality of life of informal caregivers attributable to ageing-in-place initiative, in comparison to those receiving conventional care
- 5 To determine the cost effectiveness of ageing-in-place initiative to the client, family, providers and funding agency in relation to the conventional care model
- 6 To assess the sustainability of ageing-in-place initiative to improve outcomes and cost changes over a two-year period
- 7 To identify the key elements of the ageing-in-place initiative healthcare models of community-based service delivery that lead to beneficial outcomes

Findings

In total, 569 older people were randomised in the ASPIRE trial. Of these, 113 older people participated from the Hamilton region of which, 57 participants received usual care, and the remainder received Community FIRST. A total of 53 received usual care and 52 received PIP in Lower Hutt. In Christchurch, 182 received usual care and 169 received COSE. The

level of baseline disability observed in each of the three sites varied considerably with older people in Christchurch being of far lower disability than those assessed using the same NASC criteria in Hutt and to a much greater extent in Hamilton.

The primary analysis revealed a statistically significant difference in the results for COSE compared to usual care in Christchurch for both the combined outcome (mortality and residential care admission) as well as for residential admissions (demonstrated by a 43% reduction in the risk of residential home placement) alone, though not mortality alone. Further, there was a reduction in residential home admission in Hamilton (33% risk reduction) and Hutt (16% risk reduction) and mortality in Hamilton (28% risk reduction) and Hutt (16% risk reduction) in the AIPI, though with the small sample size, the results were not statistically significant. The high impact of Community FIRST on residential home placement in Hamilton is particularly positive given the high baseline disability of older people in that region. The pooled analyses across centres (i.e. the Meta analysis) also showed a statistically significant treatment effect in delaying permanent residential home admission and combined primary outcome for the AIPI, which is around 30% lower than usual care with 95% confidence interval around 8% to 49%.

A trend for improvement in activities of daily living was observed in older people in the Community FIRST service compared to usual care. No trends were observed in either the Masonic PIP service or COSE. There were few differences in quality of life of the older person, though when the data from older people who entered a residential facility was removed, there was a trend for lower rates of depression in the Community FIRST participants. Importantly, the new initiatives did not appear to increase caregiver stress.

Predictive modelling was undertaken in the ASPIRE study using the 30 MDS-HC Home Care Quality Indicators as well as the EuroQoL Visual Analogue Scale and Caregiver Reaction Assessment. Hazard Risk ratios were calculated for these variables using hospitalisation and residential home admission as primary endpoints.

No medication review, negative mood and previous hospitalisation were correlated with increasing the risk of hospitalisation. Where as, inadequate meals, dehydration, ADL/rehab potential with no therapies, failure to improve/incidence of decline in ADL, social isolation, caregiver stress (CRA), negative mood and delirium were all correlated with an increased risk of residential home placement. Interestingly, when there is a failure

to improve or prevent a decline in ADL in an older person, there is an 11 times higher risk of the older person being admitted to a residential home. Such a result is highly pertinent for the increasing interest in restorative home support. These findings are useful in the development of an evidence based service specification for ageing-in-place initiatives.

OPERA (Older People Entering Residential Accommodation), a sub-study of ASPIRE provides the in-depth qualitative analysis around the ASPIRE study. It is very clear that few quality of life indicators are appropriate for older people in New Zealand and therefore qualitative findings and the conclusions drawn from such are highly pertinent for this population. The findings indicate that there are a number of factors that were highly important to the enrolled population of older people such as: coping, support, decisions and place of residence themes. The study also explored the process around decision-making in relation to placement and there appeared to be some disagreement around who made the decision for residential home placement, with the older person feeling that they were the main decision maker, though both family and NASC felt that the family was. Of the 131 older people interviewed (who were also enrolled in the ASPIRE study), of those that had relocated to a residential home nearly half were sad or very sad around the decision to move, whereas 75% of people living in their own home were happy or very happy with their decision to remain living at home.

Conclusions

ASPIRE has provided highly valuable information around the relative successes of the ageing-in-place initiatives, it will allow informed decision-making around the evolution of ageing-in-place services. The results presented here must be viewed in light of the cost-effectiveness of the relative ageing-in-place initiatives, which is available in ASPIRE (Report II). Also of note are the very different approaches each initiative took to facilitate ageing-in-place. Where as there are clear benefits in exploring multiple means to support older people to age-in-place, there is a tendency to compare the ageing-in-place initiatives evaluated here and the relative success each achieved. In actuality, the strength of ASPIRE is to isolate those factors that are effective in facilitating ageing-in-place to allow new and existing services to evolve and develop.

The COSE project without doubt was highly successful in preventing and delaying entry of older people to residential care in Christchurch. As part of the OPERA study, NASC, reported that the main decision-makers in relation to residential care admission for older people were primarily family and indeed their own role was fairly minimal. However, the highly significant role of NASC in supporting older people to remain at home can not be underestimated and if nothing else, ASPIRE has clearly demonstrated this through the evaluation of COSE, which is in essence a modified community based NASC service. For the first time in New Zealand, ASPIRE has enabled a very thorough comparison of 'high' and 'very high' needs across three regions and it appeared that the actual disability level of older people assessed within these supposedly similar funding bands varied greatly across the three regions.

The level of effectiveness observed through COSE was so statistically significant, it is highly likely that implementation in other DHBs would result in either comparable or at the very least, positive changes. COSE was dependent on usual services to deliver packages of care and therefore, it is not surprising that there was no impact on the secondary outcomes, such as function, quality of life or depression. For the COSE service to be integrated and to maximise effectiveness, one would anticipate linking the initiative with a care delivery model such as either Community FIRST in Hamilton or the Promoting Independence Programme in Hutt.

Both Community FIRST and the Promoting Independence Programme provided very different solutions. Both had unique features and although neither service statistically significantly reduced residential home admission alone, both caused a reduction in risk, Community FIRST in the region of 33% and Promoting Independence Programme, 16%. It is not possible to know whether with an optimal sample size these figures would have been statistically significant. However, what was clear was that older people with a level of disability that would have normally required residential home admission were being maintained with no increase in adverse events, such as falls, hospitalisations, GP visits, or indeed an increase in caregiver stress in their own home. Further, in the case of Community FIRST there appeared to be a trend for an improvement in function and a reduction in depression.

Key findings

ASPIRE had several key objectives. The main objectives were to assess the effectiveness of ageing-in-place initiatives, as compared to usual care in:

- ❖ Preventing (or delaying the time before) a community-based older person requires permanent residential care and;
- ❖ In improving survival in community-based older people compared to usual care.

The research also sought to:

- ❖ Determine the impact of the ageing-in-place initiatives on an older person's independence and health-related quality of life compared to similar measures in those receiving conventional care. A wide range of indicators were used for this purpose and;
- ❖ Establish the degree of correlation between the expected improvements in the health-related quality of life of informal caregivers attributable to ageing-in-place initiative, in comparison to those receiving conventional care.

In total, there were 569 participants randomised in the ASPIRE trial. Of these, 113 older people in the Hamilton region participated; 57 received usual care, and the rest received Community FIRST. In Lower Hutt, a total of 105 people participated, of which 53 received usual care and 52 received PIP. In Christchurch, 351 participated, 182 received usual care and 169 received COSE.

The sample sizes in the primarily Hamilton and Hutt were smaller than anticipated, for a number of reasons. This had some impact on the ability to determine statistically significant results. However, clear trends are apparent in all the results both between the services, and in comparison with the usual services. This gives confidence that the results are strongly indicative.

The key findings of ASPIRE are, which are not in any order of priority:

- ❖ Older people with high and complex needs, who would otherwise be admitted to residential care can remain living at home with no apparent increased risk of harm.
- ❖ The current Support Needs Level Assessment and categorisation system used by the NASC services to determine allocation of funding was highly variable across the three District Health Boards under investigation. It appeared that older people in Christchurch were assessed as being able to enter Residential care with a lower level of disability than those living in Hamilton and Lower Hutt. The interRAI MDS-HC

assessment tool used by the research team appeared to provide a more rigorous and standardised method of assessment. This variation is probably a factor in variations between the key outcomes achieved in different services, such as reducing mortality or admission to residential care.

- ❖ All three services appeared to reduce the risk of mortality compared with usual services. This varied from 28% in Community FIRST, 14% in PIP and 10% in COSE in comparison to older people in usual care. Although these figures are not statistically significant they reflect a clear trend in each service and are consistent with other results in the trial.
- ❖ COSE reduced the risk of entry of older people to residential care in comparison with the usual care NASC services by 43% (reduction).
- ❖ Community FIRST (appeared to result) in a reduction of risk of entry to residential care by 33%, in comparison to usual care, though given the lower sample size this was not statistically significant.
- ❖ The Promoting Independence Programme appeared to reduce risk of entry to residential care by 16% in comparison to usual care. Given the lower sample size this was not statistically significant.
- ❖ Caregiver stress levels did not appear to increase in the intervention groups in comparison to usual care, despite the higher number of older people with high and complex needs remaining living at home.
- ❖ An improvement in the independence levels of older people (Activities of Daily Living) within Community FIRST was noted, in comparison to usual care. No change was noted in function in the COSE or PIP initiatives in comparison to usual care.
- ❖ Predictive modelling of the likelihood of older people being hospitalised or entering residential care was carried out using all the older people in the sample. This produced interesting results consistent with much overseas research.
 - If a functional decline occurs in older people and the deterioration is not stopped, the older person is 11 times more likely to enter residential care.
 - An older person is almost twice as likely to enter residential care if they are socially isolated.
 - If an older person reports as having a negative mood, they are over twice as likely to be admitted to residential care.
 - For every one unit increase on the Caregiver Reaction Assessment (which measures caregiver stress), there is a 7% increased risk of residential care entry.
 - When an older person experiences inadequate meals and dehydration, they are over twice and 1.7 times more likely to be admitted to residential care, respectively.
 - Delirium is highly correlated with risk of admission to residential care; those older people with delirium are 3.6 times more likely to be institutionalised.

- A lack of medication review (almost twice as likely), negative mood (1.5 times more likely) and previous hospitalisation (1.8 times more likely) are all correlated with increased risk of hospitalisation.

A related piece of research reported in ASPIRE was the Older People Entering Residential Accommodation (OPERA) study, part of a PHD study using the same population. This research was based on in-depth interviews with a small sample (n=131) and is not part of the ASPIRE dataset. Given the shortage of widely accepted quality of life indicators appropriate for older people in New Zealand this study will contribute towards the development of these measures.

- ❖ The findings show there are a number of factors highly important to the enrolled population of older people such as coping, support, decision making and place of residence.
- ❖ The study also explored the process by which older people entered residential care. Whilst the majority of older people often felt they had made the decision (to enter residential care) in most cases both the family and the NACS services thought that the family had been the main decision-makers.
- ❖ Nearly half of those who had entered residential care were sad or very sad about the decision. By contrast three quarters of those living in their own homes were happy or very happy with their decision to remain living at home.

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Chapter I:

Ageing in place

Chapter I: Ageing-in-place

1.1 Introduction

Currently, older people (65+) make up 12.4% of the population. This is anticipated to rise to 25% by 2050. Of more significance however, is the fourfold increase in 75+ year olds predicted to occur over the next 20 years. Given that 75+ year olds utilise three times the health care resources of other age groups, the impact on health and social resources will be considerable. The predicted demographic changes in the Māori population are even more pressing (Kokiri, 1996). From 1998 to 2010, a fourfold increase in 75+ Māori will be observed and given the incidence of age-related conditions occurring at younger ages, there are concerns around the impact of such an increase on the whanau. Advancing age is associated with declines in physiological reserve and physical functioning and a higher risk of disability and dependency. The looming socio-economic impact of providing services for the increasing number of older people in the population is of major concern to politicians, health care providers and policymakers alike. Merely adding years to life, rather than life to years, should no longer be acceptable and interventions are required to be in place which aim to prevent the emergence of disability or alleviate existing disability in later life. Both the Positive Ageing Strategy and Health of Older People Strategy provide guidance to District Health Boards (DHB) around the development of services for older people. However, without appropriate evidence to inform the direction of services, there is a distinct risk that services that aim to prevent or modify existing disability in old age develop in an ad hoc and disparate manner.

Internationally, the concept of ageing-in-place has been gaining currency in policy for many years and has undergone shifts in its interpretation during this period. The first major advance occurred in 1994 when OECD ministers reached a consensus that people should be able to continue living in their own place of residence in their later years. In the event that this is no longer possible, the alternative would be for older people to live in a 'sheltered and supportive environment which is as close to their community as possible, in both the social and geographical sense' (Organisation for Economic Co-operation and Development, 1994). Within New Zealand, ageing-in-place is defined as the ability of

people to “make choices in later life about where to live, and receive the support to do so” (Dalziel 2001, pg. 10). Despite this broad categorisation, ageing-in-place invariably refers to the ability of older people to remain dwelling in the community, including within retirement villages (MSD, 2006) and moreover, residential care in the form of either rest homes or hospitals is specifically excluded. In this, the wider definition is consistent with the approach taken in the New Zealand report which was part of the International Year of Older Persons activities, *Factors affecting the ability of older people to live independently* (Dwyer, Gray & Renwick, 2000). The focus on remaining in the community has also been promoted repeatedly within the New Zealand policy arena (Richmond et al. 1995; Ministry of Health 2002; 2004; Davey et al. 2004).

Ageing-in-place as a concept and policy direction has clearly developed as a result of the desire of most older people, even those with considerable disability to remain living at home rather than enter residential care (Salvage, Jones et al. 1989). Consequently, community support has acquired increasing relevance and therefore funding (Hing and Bloom 1991; Steel 1991; Coleman 1995; Kane and Kane 1995; Stuck, Aronow et al. 1995). Such a shift is in accordance with the key concept of the New Zealand Health of Older People Strategy (MoH, 2002), that services will be established that allow older people to age-in-place, providing them with the ability to make choices about where to live and to receive the support they require to do so. Certainly, remaining at home allows the older person to maintain social networks and a quality of life, and to continue integration with the community. However, although it is widely recognised that older people wish to age in place, it is often inherently difficult to develop and deliver services that appropriately facilitate this desire. It is clear that most health care costs occur in the last few years of life, arising in the main from the strong association between rising disability and increasing age. There exists a paradox therefore on the one hand of DHBs and other healthcare organisations wishing to promote ageing-in-place but on the other, few viable means to achieve this effectively. This is confounded by several factors. Increasingly, there is a growing awareness that what matters most to older people is not just health in its narrowest interpretation, but moreover older people are concerned about choice, autonomy, independence and community integration amongst many others. Given that current service models are invariably delivered with a traditional bio-medical focus, it is not surprising that these areas which are of high importance to the older person are omitted.

As a consequence of the somewhat limited scope of home based service delivery models currently available through District Health Boards (DHB), a number of organisations have developed new methods of delivering services that promote ageing-in-place in its fullest context.

1.2 Ageing-in-place initiatives

Currently, older people receive support services from a DHB following assessment and service co-ordination by a Needs Assessment and Service Co-ordination agency (NASC). When high and complex needs are identified, the older person is offered either (a) a package of care consisting of a combination of family and community resources and services to facilitate the older person remaining at home or; (b) if a package of care cannot assist them to stay safely at home, then they enter residential care. Guided by the Health of Older People Strategy (MoH, 2002), the DHBs commenced the development and implementation of numerous ageing-in-place initiatives (AIPI) in various parts of the country as alternative models of care to the existing NASC co-ordinated home services and residential care. It was envisaged that these services would be integrated and continuous, based on a case-management model whilst maintaining cost-effectiveness. However, due to the heterogeneity of older people in conjunction with geographical variance in the delivery of health services within New Zealand, there is always a distinct risk that there will be an increase in the regional disparity between service access and delivery. Further, evidence is lacking around whether the AIPI will result in an improvement in quality of life and independence for the older person while maintaining cost-effectiveness for the provider compared to existing services. To be cost-effective, the goal of AIPI is to produce the best clinical and social outcomes at the lowest cost.

1.2.1 Rationale for selecting Ageing-in-place initiatives

Of the AIPI services that were proposed and developed nationally, three were identified as the most significant in terms of guiding future policy direction. These were: The Coordinator of Services for Elderly in Christchurch (Canterbury DHB), The Promoting Independence Programme in Lower Hutt (Wellington Masonic Villages Trust in partnership with Hutt Valley DHB) and Community F.I.R.S.T. (Flexible Integrated Restorative Support

Team) in Hamilton (Presbyterian Support Northern in partnership with Waikato DHB). The rationale for the inclusion of these three services was that they broadly represented a range of services offered to older people in the community. Coordination of Services for Elderly (COSE) are NASC workers who have been relocated from a hospital location to the community and linked to a number of General Practice surgeries. The Promoting Independence Programme is a residential transition service for older people requiring a period of slow stream facility based rehabilitation following discharge from hospital and prior to returning home. Community FIRST is an intensive home based support service with a 'restorative' or promoting independence focus. Individually, each service provides a unique approach to ageing-in-place, though collectively, the three services represent the main aspects of disability support services for older people who are at risk of permanent residential care. It is for these reasons, that COSE, PIP and Community FIRST were selected by The Ministry of Health for in evaluation in the ASPIRE project. It is useful to explore the attributes of each of the services in more detail.

1.2.2 Coordination of Services for Elderly (COSE)

The role of NASC has traditionally been one of case management. However, for one reason or another, it has often been difficult to fully realise the full potential of the model. The evolution of COSE in Canterbury arose out of the desire to improve on the existing NASC model. The following is a brief description and underlying philosophy of COSE.

Components of case management

It is well recognised that coordinating services or care packages in response to the assessed needs of older people and their carers is a core part of delivering integrated, person-centred care. Good, comprehensive assessment and care planning; undertaken in a way that properly engages with the older person and their carer and involves them in decisions about their care plan is crucial in ensuring that the most appropriate services are provided. Co-ordinating these processes and services has the potential to avoid unnecessary duplication and promote good continuity of care. This facilitates older people's independence by preventing deterioration in their health and home situation and by managing crises, as Challis describes "The impact of services upon well-being is much

greater when those services are planned and co-ordinated in an integrated fashion" (Challis *et al*, 2002). Ultimately, the aim of case management and indeed COSE is to tailor services to the individual older person in order to improve the quality of their life, taking into account the wishes and needs of their carer, be they a partner, relative or friend. The challenge for case management is that it takes place at the level of service provision at which needs and resources, scarcity and choice have to be balanced. Care management is no panacea but rather a mechanism which, if effectively implemented can offer one way to manage the tension between social objectives and economic constraints in long-term care services (Challis, 2003).

Traditionally case managers may be nurses, social workers, physiotherapists or other professionals. Bergen (1992; 1994; 2003) suggests that case management is operationally divided into phases of case finding, assessment and need identification, design and implementation of care packages, monitoring, evaluation or reassessment, that lead to the final phase of case closure or repetition of the cycle. However, within this broad framework, there is considerable variation especially with respect to caseload, how services are provided, and provision of specific services (e.g., home visits, education, counselling) (Pacala, Boulton *et al*. 1995).

Case management aims at a controlled balance between quality and cost. Its goals are to:

- (a) improve the quality of patient care through emphasising the importance of health restoration and maintenance and increased continuity of care;
- (b) decrease the cost of care through empowering patients and their family to maximise self-care capabilities and prevent unnecessary or lengthy admissions; and
- (c) improve patient, nurse and physician satisfaction and professional development through promotion of multi-disciplinary collaborative practice and coordinated care (McKenzie, Torkelson *et al*. 1989; Giuliano and Poirier 1991; Bryan, Dickerson *et al*. 1994; Crawley 1994; Gibson, Martin *et al*. 1994).

The evolution from NASC to COSE

Many different models of case management can be seen across New Zealand. One of the more prevalent forms is Needs Assessment Service coordination (NASC). NASC provides an assessment and service brokerage facility for people requiring access to disability services. NASC can be broadly separated into two aspects; the MoH funded under 65 and

the DHB funded over 65. One of the inherent criticisms of such a model is access to services. The development of COSE has come about from this issue and also the need to firmly embed such a service in a distinct primary care location.

COSE was established in 2000 and is a community-based needs assessment and service co-ordination initiative funded by MoH, DHB and ACC. It was established with the aim of avoiding duplication in service provision. A key worker (COSE) is based in primary health care and is assigned to several general practice teams. The model allows the COSE to identify resources and opportunities within communities, both funded and non-funded. This offers older people a greater choice of service support, enabling them to remain safely in the community as long as they wish to. There is a strong evidence base for COSE. Studies that have evaluated community-based case management of older people (or nurse home visitation to older people) have been conducted in several countries such as the United States (Eggert, Zimmer et al. 1991; Rogers, Riordan et al. 1991; Fitzgerald, Smith et al. 1994; Swindle, Weyant et al. 1994; Stuck, Aronow et al. 1995), the United Kingdom (Vetter, Jones et al. 1984; Pathy, Bayer et al. 1992; Dunn, Guy et al. 1995; Runciman, Currie et al. 1996), and Italy (Bernabei, Landi et al. 1998; Landi, Gambassi et al. 1999). They have been found to reduce hospital admissions (Hendriksen, Lund et al. 1984; Rogers, Riordan et al. 1991; Swindle, Weyant et al. 1994; Rantz, Mehr et al. 2000), the length of stay in hospital (Eggert, Zimmer et al. 1991; Rogers, Riordan et al. 1991; Pathy, Bayer et al. 1992; Swindle, Weyant et al. 1994), mortality (Hendriksen, Lund et al. 1984; Vetter, Jones et al. 1984; Pathy, Bayer et al. 1992), emergency department visits (Rogers, Riordan et al. 1991; Pathy, Bayer et al. 1992), admission to long-term facilities (Stuck, Aronow et al. 1995) and costs of care (Hendriksen, Lund et al. 1984; Eggert, Zimmer et al. 1991; Rogers, Riordan et al. 1991; Swindle, Weyant et al. 1994; Bernabei, Landi et al. 1998; Landi, Gambassi et al. 1999).

What is COSE?

COSE workers are drawn from multiple professional groups (typically: Nursing, Occupational Therapy, Physiotherapy and Social Work). A COSE worker is assigned to a cluster of designated practices of General Practitioners (GP), but works independently of the practices. Importantly, the COSE worker is physically located in the community,

invariably in locations central to the cluster of 'attached' GPs. The COSE worker undertakes comprehensive assessments of the older person, assessments that are currently taken by NASC staff, practice nurses and home care providers. The COSE worker is a case manager, liaising with the GPs and practice nurses ensuring that there is recognition of and a quick response to any change in an older person's circumstances thereby allowing the level of care that is required for safe continuous ageing-in-place. As a component of providing an appropriate level of care, the COSE worker co-ordinates the appropriate community services, informal networks and medical care based on assessed need and GP liaison.

COSE has been established in East Canterbury since October 2000 and was extended to North, West and South Canterbury in 2003. It is these latter sites that were evaluated.

1.2.3 Restorative and habilitative focussed community home support

There is growing recognition that physical inactivity and disuse plays a major role in the well-reported age-related conditions, such as diabetes, sarcopenia (muscle loss) and heart disease. Research highlights the linear reduction in muscle mass over time, to a point where a woman in her mid-80s would often have borderline sufficient strength to stand from a chair unaided. Many researchers and clinicians write of the harm associated with 'wrapping older people in cotton wool' and much of this deterioration is linked to deconditioning and disuse (McMurdo, 1999). The recognition that old age is often associated with poor fitness and deconditioning forms the basis of restorative home support. There is a strong belief that older people have considerable ongoing potential to recover fitness and therefore restorative home support invariably involves the integration of physical activity into the day-to-day delivery of services. Recent work by de Vreede et al (2005) indicates that repetitive task based or ADL (activities of daily living) exercises for older people, as seen in restorative home support services are more effective than resistance exercises employed by traditional physiotherapy techniques.

The Quality and Safety project identified many of the issues facing the home support sector. These issues were later corroborated by The University of Auckland undertaking research under contract for the MoH, such as poor morale, high staff turnover, inefficient

service models and funding structures, as well as unresponsive and unwieldy staffing systems, poor training and ultimately poor quality (Parsons et al, 2003; 2004a; 2004b; 2004c). The concept of restorative home support with an associated shift in the funding structure was noted as having the potential to effectively address many if not all of these issues. The National Select Committee on Home Support recommended the Community FIRST type approach (a restorative home support model for older people with high and very high needs) as being a viable method of addressing these issues and moreover maximising the potential for older people to 'age in place'.

The model relies on a multi-disciplinary team (primarily registered nurse, physiotherapist and occupational therapist) providing an in-depth support plan, which is delivered by well-trained support workers / therapy aids under the close supervision of the multi-disciplinary team. Contact by support workers is up to four times a day and by registered nurses, a minimum of once every two weeks. The delivery of restorative home based support services can be divided into several levels according to the needs of the older person. Currently, the only provider delivering restorative home based support to older people of all needs level is Presbyterian Support Northern under the Enliven label.

Community FIRST; an example of high intensive restorative home support

Although restorative home support can be configured to deliver services to older people irrespective of need, the Presbyterian Support home care services in Hamilton, Rotorua, Tauranga, Timaru, Dunedin and shortly Hawkes Bay are funded through DHBs to deliver community based restorative home support for older people assessed as requiring residential placement. Older people accessing the service require a needs assessment and are eligible if they are over 65 years of age and have high and complex needs. The funding structure has been tailored to the unique needs of this group and a suitable funding arrangement is in place.

The service is based on core values such as care management, comprehensive geriatric assessment and functional and repetitive ADL training. All support programmes are orientated around the meaningful and invariably socially integrated goals of the older person, which are translated into support and exercise plans that ensure higher compliance and high quality. The service model itself represents a philosophy that has

arisen from several pieces of research. The Community FIRST model was based on the supported discharge team established in South London and evaluated through a randomised controlled trial design (Martin et al, 1994). The evaluation demonstrated that input from the team resulted in a reduction in readmission to hospital and reduction in admission to residential home over a year period.

A key concept of the service is to base a support programme around the goals and aspirations of the older person. The Health of Older People Strategy states the importance of using a holistic person-centred approach that promotes wellness and active participation in the decisions about service user care. One of the major issues identified in the Assessment Processes for Older People Guidelines relates to examples where there can be an apparent lack of agreement between the health professional and older person regarding the main priorities for health care. The report recommends that respect for the older person's concerns and the creation of equality in the decision-making process encourages concordance. Therefore, the process of goal-setting should be considered as an important mechanism. The goal facilitation process involves TARGET (Towards Achieving Realistic Goals in Elders Tool), the e-based training around which is currently being developed for Counties Manukau DHB and Presbyterian Support National and will be available for dissemination later this year. A key component to the service is the ability of the service coordinators to undertake a comprehensive geriatric assessment (CGA) and put in place an appropriate care package. The meta-analysis by Stuck et al (1993) indicates that when a comprehensive geriatric assessment (CGA) is linked to a strong care package, there is a decrease in admission to residential homes, decrease in mortality, reduction in falls and improvement in ADL function over time.

The Community FIRST model was initially developed by Presbyterian Support Nationally and the regions are working towards managing service developments nationally in order to ensure a cohesive approach to delivery, staff training and development. Therefore, irrespective of region, the service model and criteria are similar though are modified geographically to achieve maximum benefits for the older person, such as relationships with key organisations. The Hamilton site which provides services for older people with high and complex needs was evaluated as part of the ASPIRE study.

1.2.4 Masonic Promoting Independence Programme

The Masonic Promoting Independence Programme (PIP) is for older people who would not be able to maximise their potential for recovery within the average hospital stay. The Masonic Programme which was initially evaluated through the ASPIRE trial was Slow Stream Rehabilitation. However, approximately six months into the trial, there was a renegotiation of service specification between Hutt DHB and the Masonic Trust, the redeveloped service was re-titled the Promoting Independence Programme. Referrals could be generated from Medical Consultants (Private and Public), General Practitioners, Sigma (NASC) or other like referral agencies.

A key worker is assigned to each older person and their role is to initiate and co-ordinate that person's pathway through the rehabilitation process. The team includes a Rehabilitation Co-ordinator who has overall responsibility for the team and is the first point of contact for client, their family / whanau and outside agencies. The team consists of Registered Nurses, Occupational Therapists, Physiotherapists, Speech therapist, Social Worker, Podiatrist, Dietician, Kaiawhina, designated Caregivers, Rehabilitation Assistants and a Rehabilitation Specialist / Geriatrician.

Older people are able to receive up to 12 weeks of facility based rehabilitation in the Promoting Independence Programme (not offered through the Masonic facility) if they are assessed as having high needs and are at risk of residential care or long-term hospitalisation. Clients who are assessed as having high or very high needs but are able to receive rehabilitation services in the community, or clients who have been discharged to the community from a residential facility may receive a monitored amount of input up to a maximum of one year from the health event. Alongside the rehabilitation programme offered by the Masonic, the team undertakes a comprehensive handover to designated home care providers that allows for an individually tailored education programme to be delivered to the formal and informal caregivers.

1.2.5 Summary

Clearly, there are common and unique features across all three initiatives. Table 1-1 below highlights the key areas of similarity.

Table 1-1: Ageing-in-place initiatives (Key features)

	COSE, Canterbury	Masonic PIP, Lower Hutt	Community FIRST, Hamilton
Comprehensive assessment	Yes	Yes	Yes
Led by:	DHB	NGO	NGO
Site of delivery	Person's home	Residential home	Person's home
Case Management	Yes	Yes	Yes
Relationship with NASC	Replaces NASC	NASC controls referrals	NASC controls referrals
Team constitution	One COSE, working alongside a number of GP practices	Rehabilitation coordinator and MDT (SLT, OT, PT and SW)	Coordinator (typically RN) OT, PT and Key Support Workers
Relationship with Home Care	Refers to traditional Home care, does not deliver any disability support services	Refers to traditional home care, but may provide education to the support workers around the client	Fully replaces home care with a restorative home support service
Intensity of input	Initial assessment and ongoing episodic review (for example 12 months and as required)	Residential home placement for up to 12 weeks and following discharge, gradual reduction in input with occasional contact for up to 12 months	Up to four visits a day from key support workers, face-to-face visit by Health professional coordinator every two weeks until discharge (either from service, to residential care or death)
Nature of Rehabilitation	None	Slow stream residential rehabilitation	Restorative (client goals leading a functional rehabilitation approach)
Type of client need	Generally older people, all SNL levels (but only level 4 & 5 in the ASPIRE trial)	Generally older people, SNL 4 & 5	Older people, SNL 4 & 5