Home care: An opportunity for physiotherapy?

John Parsons *PhD, NZRP*
Senior Lecturer, School of Nursing, Faculty of Medical and Health Sciences, University of Auckland
Academic Lead (Rehabilitation), Institute of Healthy Ageing, Waikato District Health Board

Sean Mathieson *BPhty, NZRP*
Research Physiotherapist, School of Nursing, Faculty of Medical and Health Sciences, University of Auckland
Institute of Healthy Ageing, Waikato District Health Board

Matthew Parsons *PhD, NZRN*
Professor in Gerontology, School of Nursing, Faculty of Medical and Health Sciences, University of Auckland
Institute of Healthy Ageing, Waikato District Health Board

ABSTRACT

Remaining physically active in later life is critical to maintaining independence in activities of daily living and is a major contributor to overall health status amongst older people. Traditionally a key focus of physiotherapy has been on maintaining functional capacity and mobility. However, the health and disability sector is a constantly evolving entity. Clinicians from a number of disciplines, including physiotherapy, need to be flexible, responsive and innovative and maximise cost benefit for the service funder. Nicholls et al (2009) highlighted the imperative need for physiotherapists to investigate innovative models that align with current and future policy and health care reforms. Over the past 15 years there has been an increased emphasis on supporting older people to remain living at home. This article describes New Zealand and international evidence relating to the optimisation of the potential role of physiotherapy in providing rehabilitation expertise into the provision of Home Care for older people.

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BACKGROUND

As in other countries, the older (ie 65+) population is increasing. Currently, in New Zealand this age group accounts for 475,000 (12%) of the population and is expected to number approximately 826,000 (19%) in 2025 and 1.2 million (25%) by 2050 (Statistics New Zealand 2006). Furthermore, the over-80-year-olds are the fastest-growing cohort (of any age group) and increasing at a rate of around 5% each year (Ministry of Social Policy 2001). It is evident the changing structure of the population along with the eventual doubling in the percentage of the population aged over-65 years is going to have an unprecedented and significant impact on all aspects of society.

Since health care expenditure increases with rising age, an ageing population will therefore place further pressure on health care demand and cost (Organisation for Economic Co-operation and Development 2006). A comparison of OECD nations examined age profiles of health expenditure and found, on average, per capita health expenditure for the older age group (65+) was three to five times than that for the 15 to 64 age group (Moise and Jacobzone 2003). New Zealand's statistics reveal similar results with a strong exponential relationship between per capita health expenditure and age. For the 65-69 age group, spending was almost double the all-age per capita average, whereas for the 85+ age group it was nearly eight times the all-age average (Ministry of Health 2004).

A SHIFTING OF FOCUS

New Zealand government policy developed in the early 2000s, such as The New Zealand Health Strategy (King 2000), The New Zealand Disability Strategy (Dalziel 2001a), The Positive Ageing Strategy (Dalziel 2001b), The Primary Health Care Strategy (Ministry of Health 2001) and The Health of Older Persons Strategy (Dyson 2002), provided a focus for providers of health services to ensure equitable, timely, affordable and accessible health services for older people. There was a clear theme of the need for significant change in the way these services were provided. Furthermore, there was identification of the requirement for improved co-ordination of health and support services around the needs of older people and a greater emphasis on health promotion and disease prevention to assist with positive ageing with a greater emphasis placed on community-level health care and support services. A final theme was that enhanced services needed to be available to enable older people to 'age-in-place' and remain at home with entry to residential care increasingly being for high-level care, usually towards the end of life.

More recent strategic directives from both central government (New Zealand Guidelines Group 2003, Ryall 2007) and work undertaken by District Health Boards (DHBs) tasked with implementation of the strategies (Auckland District Health Board 2006, Counties Manukau District Health Board 2004, Hutt Valley District Health Board 2010, Northland District Health Board 2008, South Island Alliance 2013), identified service developments necessary to improve the hospital and community interface for older people. Of particular relevance is that home care needed to have a rehabilitation and empowerment focus that supported specialist health services for older people and collaborative relationships needed to be developed between health and disability support services to ensure a co-ordinated approach and continuity of care for older people.

As a result of this ongoing emphasis on delivering services to allow older people to remain living in their own home there is evidence of a shift away from institutionalisation within New Zealand. Boyd et al (2009b) describe the findings of the Older Peoples Activity Level (OPAL) census. The study sought to determine the rate of institutionalisation of older people in the three Auckland DHBs over the preceding 20 years and to compare variations in resident demographics, length of stay and dependency levels over this time. The authors reported that Aged Residential Care (ARC) bed numbers had increased by only 3%, despite a 43% increase in the population over the age of 65 years. In addition, the proportion of the population over the age of 85 years living in ARC had declined from 40% to 27% and that the median age of residents had risen from 83 to 86 years. Further support for decreased use of ARC and increasing rates of older people remaining at home is provided by a survey of 389 facilities across New Zealand that report low rates of growth in ARC bed numbers despite the significant growth in the New Zealand population of those aged over 65 (Grant Thornton NZ 2010).

With the increased emphasis on ageing-in-place as both a national and local strategy and the reduced emphasis on ARC it is important to explore the options for supporting older people to remain in their own homes with increasing levels of disability. There is extensive support for the view that health services delivered in an older person's home are often delivered at a critical juncture in an individual's functional status. Primarily these services include primary care, community based service provision (funded through DHB or ACC contracts) and home care.

THE ROLE OF HOME CARE IN SUPPORTING OLDER PEOPLE

Until recently, there has been an implicit assumption that in-patient rehabilitation for older people is the gold standard for care through maximising the individual's potential for independence and arresting the functional decline that is prevalent in old age. However, as the number of older people increase, viable alternatives to hospitalisation become increasingly important as it is simply not possible to continue to match population growth with hospital beds. Furthermore, recent research highlights that hospital is not always the best location to provide rehabilitation and care for older people. Between 25% and 50% of older people who are hospitalised lose some of their functional abilities during their hospital stay (Inouye et al 1993). Furthermore, three months after a hospitalisation, 66% have not regained their previous level of functioning (Boyd et al 2009a, Sager et al 1996, Sager and Rudberg 1998).

It has long been recognised that functional capacity inside, and more importantly outside the home environment, is essential for independent living (Stanko 2001, Thorngreen et al 1990). Furthermore, mobility outside of the home has been shown to have a strong association with greater emotional support from social networks (Dwyer et al 2000, 1995), including the maintenance of cultural connections (Sheridan et al 2011). Although home care services have the potential to improve this situation, they have often focused in the past on treating disease and 'taking care' of the client rather than on helping clients to regain functioning and independence. Many researchers and clinicians describe the harm associated with 'wrapping older people in cotton wool' and the resultant deterioration linked to deconditioning and disuse (McMurdo 1999). This would appear to be supported by a study undertaken by Hansen et al (2009). Using regression analysis on a set of Danish longitudinal data featuring people aged 67–77 they estimated the effect of home care while controlling for initial health, including initial Activities of Daily Living (ADL) ability and well-being, along with demographic and socioeconomic conditions. They concluded that traditional models of home care either have no effect, or actually have a detrimental effect, on a person's functional ability and long term outcome. Further international support is provided by a cross-sectional observational study comprised 4,007 randomly selected older people receiving home care services in 11 European countries (Bos et al 2007). Quality indicators for home care were explored. The most common quality problems identified were: not adequately realising rehabilitation potential in ADLs; a lack of involvement of occupational therapy and physiotherapy in service delivery and poor control of pain.

The overarching goal of home care is to "provide high quality, appropriate and cost-effective care to individuals that will enable them to maintain their independence and the highest quality of life" (Havens 1999, p 40). Fundamentally, home care is viewed as having three key objectives:

1. To substitute for acute care hospitalisation;
2. To substitute for long-term care institutionalisation; or
3. To prevent the need for institutionalisation and maintain individuals in their own home and community (Havens 1999).

THE EVOLUTION OF HOME CARE

Traditionally, there has been considerable variation within New Zealand in the organisational structure of home care providers contracted by DHBs to deliver services to support older people in the community. A common feature of all is the presence of at least three levels of staff: managers, coordinators and support workers. Arguably, the most significant issue with home care has related to the workforce and specifically this has focused on the support worker and coordinator roles (King et al 2012, Ministry of Health 2006, Parsons 2004a, Parsons 2004b, Parsons 2004c).

Within Home Care, support workers are often untrained staff (Parsons 2004a, Parsons 2004b, Parsons 2004c, Parsons et al 2008). However, following extensive development, there is now a New Zealand Qualifications Authority (NZQA) accredited training programme for support workers to develop the fundamental skills necessary to deliver services to older people in their homes (Ministry of Health 2007) and completion of the programme by support workers is now a requirement for organisations delivering services under DHB contracts. Traditionally, the coordinator role was undertaken by non-health professionals with very large caseloads (Gundersen Reid et al 2008) however, a recognition of the complexity of the role and the need for proactive and responsive services has meant that registered health professionals (Registered Nurses and Allied Health) are now being employed in the role (Bryan et al 1994, Challis et al 2001, Crawley 1994, Gundersen Reid et al 2008, Ministry of Health 2006).

These two crucial developments in the workforce have been components of a model of quality improvement in home care service delivery within New Zealand over the past 15 years (King et al 2012, King et al 2011, Parsons et al 2012, Parsons and Parsons 2012, Parsons et al 2013). The model, called Restorative Home

Support (RHS), focuses on restoration and maintenance of older people's physical function, aiding compensation for impairments, so that the highest level of function is achieved. The model integrates principles from medicine, rehabilitation, goal facilitation and nursing to improve functional outcomes for older people.

The aim of RHS is to change the philosophy from one where delivery of care may create dependency to provision of services which maximise independence, improve self-esteem, self-image, quality of life and reduce the level of care required (Atchinson 1992, King et al 2012, Parsons et al 2014, Parsons et al 2012, Parsons et al 2013, Resnick et al 2007, Resnick et al 2006). Based on the evidence reported above and the developments across a number of DHBs within New Zealand (Gundersen Reid et al 2008, Gunderson-Reid 2006, Parsons et al 2008), Table 1 summarises the key elements of Restorative Home Support. These elements concur with the essential elements of the Re-ablement concept in the UK (Glendinning and Newbronner 2008, Patmore 2005, Pilkington 2008) and the concept of restorative support in the United States (Baker et al 2001, Nadash and Feldman 2003, Tinetti et al 2002).

PHYSIOTHERAPY AND HOME CARE

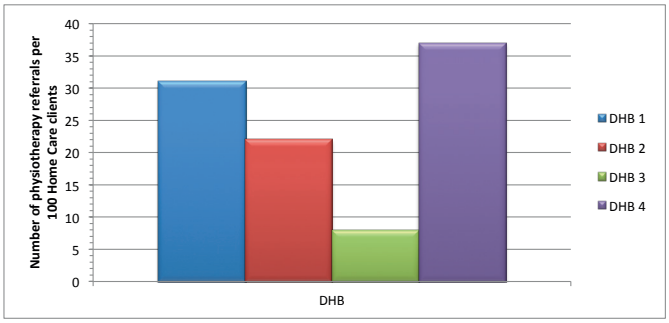
To date, models of RHS have been implemented in a number of District Health Boards in New Zealand. In addition, intensive and time limited supported discharge teams, that are based on the key principles shown in Table 1, have been formed in Waikato DHB (START) (Waikato District Health Board 2013) and in Canterbury DHB (CREST) (Canterbury Clinical Network 2012). There is considerable evidence to indicate the vital role of physiotherapy in the implementation of RHS (Baker et al 2001, Nadash and Feldman 2003, Parsons et al 2013, Tinetti et al 2012a). Allied health (physiotherapy and occupational therapy) can teach and implement plans of treatment in cooperation with coordinators to allow individuals to maintain the maximum amount of independence that their physical condition allows (Baker et al 2001, Nadash and Feldman 2003, Tinetti et al 2002, Tinetti et al 1997, Whitehead et al 2014). In addition, there is a role for physiotherapy within the model in the application of key competencies associated with goal facilitation, task analysis and breakdown, fitness and function, strength, balance / proprioception, motor control and adaptation and in the use of skills related to exercise prescription; maximisation of mobility; falls prevention advice and education for support workers, family, patient and home care coordinators. With the standardisation of training of support workers within home care there is considerable potential for the physiotherapist to identify the older persons functional issues, design a treatment plan to minimise these issues and then, through close communication and collaboration with the home care coordinator, for the treatment programme to be delivered as a key component of the home care episode.

Table 1: Key elements of restorative care

Restorative care element	Explanation	References
Goal facilitation	A key concept of restorative care is to base a support programme around the goals and aspirations of the older person This requires the identification of both a distal goal and the proximal goals required to attain the distal goal.	King et al 2011, Parsons et al 2012, Parsons et al 2014, Parsons and Parsons 2012
Functional and repetitive ADL exercises	Functional exercises involve working on muscle groups used in everyday activities and programmes are undertaken by the older person under the supervision of the support worker.	de Vreede 2004, de Vreede et al 2005, Duncan and Pozehl 2002, Krebs et al 2007, Manini et al 2007
Support worker training and enhanced supervision	Restorative home support relies on support workers to collaborate with older people to maximise their independence, which is a shift from the current home care model which focuses on providing care. In addition, restorative home support adopts enhanced health professional integrated supervision via coordinators.	Francis and Netten 2003, Harris-Kojectin et al 2004, Stone 2001, Stone and Wiener 2001
Health Professional training	The role and competencies of health professionals working in the coordinator role change greatly with the evolution of restorative home support. Roles and duties may include: delegation and supervision of non-regulated staff; comprehensive assessment; care management; goal activity analysis and grading, expertise surrounding community integration for older people.	Baker et al 2001, Nadash and Feldman 2003, Tinetti et al 2002, Parsons et al 2013
Care management	Restorative care utilises care management where the intensity varies according to the level of service input This includes regular reviews to enact required changes to service delivery; and developing management plans with the client.	Bryan et al 1994, Challis et al 2001, Crawley 1994, Doty 1998, Hallberg and Kristensson 2004, Hokenstad 2005, Lillis and Mackin 2001, Quinn 1995

However, the engagement and involvement of physiotherapists in the design and delivery of the model has been highly variable (Gundersen Reid et al 2008, Parsons et al 2013). This is highlighted in a study of four DHBs who implemented a model of RHS. The number of referrals from the home care organisation for physiotherapy input varied from 8 to 37 per 100 home care clients (see Figure 1).

Figure 1: Referral rates for physiotherapy input into restorative home care across four DHBs in New Zealand (Gundersen Reid 2008)



The potential effect of low rates of utilisation of physiotherapy is considerable. As shown in Table 1, one of the core components of restorative support is the optimisation of physical activity and the integration of functionally based exercises into the provision of home care, a key skill of physiotherapists. A study of 205 older people randomised to receive either a restorative model or standard home care showed a significant relationship between physiotherapy referral and improvements in physical function over time (*t* [72] =-2.12, p=0.04) (Parsons et al 2013).

There is compelling evidence to show the potential impact of aligning and integrating physiotherapy clinical input into the provision of home care services aligned to a restorative model. However it is important to consider the barriers that have prevented this integration before consideration of pragmatic solutions within the New Zealand context.

BARRIERS TO THE INTEGRATION OF PHYSIOTHERAPY AND HOME CARE

A review of the available literature suggest two main issues that have prevented maximisation of the potential gains from involvement of physiotherapy in home care. These are: resourcing of physiotherapy services and inter-organisational / inter-professional boundaries.

Resourcing of physiotherapy services

On present estimates, there is only one physiotherapist for every 27 people over the age of 80 and only one physiotherapist with a dedicated interest in gerontology for every 550 of people aged over 80 years (Copeland 2010, Nicholls et al 2009). Furthermore, the Health Workforce Annual Survey reports that only 4% (202 / 4,445) of physiotherapists work in a community setting (Ministry of Health 2011). This immediately indicates a major barrier to the provision of physiotherapy as a key component of a restorative model of home care within the context of a rapidly rising population of older people. It is not surprising then that a review of home care providers reported significant delays in accessing physiotherapy input of between 17 and 55 days (Parsons et al 2008). Closer examination of the reasons for the delay in providing input revealed the impact of prioritisation processes used within the local clinical area. Such pragmatic approaches for systematically triaging clients with the greatest need of physiotherapy input have been common across the world for many years. However these decisions are often made in isolation without consideration of the opportunities to contribute to an integrated model of rehabilitation involving the physiotherapist and home care. There is also evidence to show that a large proportion of those referred for physiotherapy input were already known to the service and so there was a risk of parallel services being implemented without close coordination and collaboration between home care and the physiotherapy service.

Inter-organisational / inter-professional boundaries

In New Zealand, home care occurs within a comprehensive community based primary care environment that includes DHB secondary and specialist services (including community based physiotherapy), primary care, pharmacy and non-governmental organisations. As a result the alignment of physiotherapy with home care service provision is dependent on working across a number of inter-organisational boundaries.

Work across organisational boundaries is often characterised by power relationships that are more contested and dispersed than is the case in traditional bureaucracies (Baker 2005). Trust has been shown to be of particular importance in determining that inter-organisational relationships are effective (Williams 2007) with attitudes of mistrust and suspicion a primary barrier to co-operation between organisations (Webb 1991). For home care coordinators and physiotherapists seeking to align physiotherapy with home care service delivery, there is often continued shifting in their responsibilities and the tasks involved in their roles as the service seeks to maximise outcomes for patients. This requires synergy between physiotherapists and those in less familiar roles such as unregulated support workers and nurses working as home care coordinators to develop a shared understanding of the scope and responsibilities of each of the roles in planning and delivering services to older people (Barber 1983, Burt et al 1996, Connell and Mannion 2006, Davies and Mannion 2000, Dyer et al 2014, Shapiro 1987).

The evidence for working across organisational and professional boundaries also suggests the need for a shared philosophy of care (Baker et al 2001, Barnes and Frock 2003, Nadash and Feldman 2003). This is highlighted in the implementation of a restorative model of home care in the United States where Barnes and Frock (2003) found occupational therapists and physiotherapists at cross-purposes with the support worker. Whereas the support worker provided ADL services for the client, the occupational therapists and physiotherapists were determined to have the client perform these tasks as independently as possible. The tendency has been for nurses and support workers to be nurturing and to 'do for' the client. This conflicts with the rehabilitation focus of maximising the client's independence. This often led to competition rather than cooperation between the disciplines, as well as confusion and frustration for the client and family. This view is supported by Nadesh (2003) and Baker (2001) who report the lack of a consistent belief system among the various members of the home care team. Without careful communication, providers can find themselves giving conflicting advice to older patients. This was identified as a widespread problem while working with clients in 27 home care agencies in a home-based rehabilitation

clinical trial designed to help participants gain independence in ADLs through behavioural or environmental changes (Tinetti et al 1999). For example, a nurse might assign a home support worker to bathe and dress an older woman post stroke at the same time as the rehabilitation therapists are encouraging her to build endurance and regain independence by performing those self-care tasks. It is suggested that experiences such as this lead to a lack of trust that the home care provider can deliver services with a focus on rehabilitation and an increased reluctance for physiotherapists to agree to interventions based on their assessment of the older person being delivered by support workers as part of Home Care.

As illustrated above there is considerable potential for physiotherapy to contribute to the integration of rehabilitation within home care. However there are considerable barriers in place in the current environment in New Zealand. It is not feasible using current models of service delivery for physiotherapists to provide high quality and evidence based interventions to maximise the functional ability and independence of the increasing number of older people without a significant increase in resources and staffing. Internationally, physiotherapy is facing major challenges within evolving health care systems where there is an increasing need for rehabilitation in both primary and inpatient settings and current health professional groupings may not be sustainable in their current form (Doyal and Cameron 2000). In addition, traditional assumptions about professional roles are currently being challenged (Smith et al 2000).

FINDING A WAY FORWARD

Dufour et al (2013) explored the place of physiotherapists within community based health teams in Canada and outlined five key roles: (1) manager; (2) evaluator; (3) collaborator; (4) educator; and (5) advocate. Such a model shows considerable synergy with the anticipated requirements for alignment of physiotherapy and home care. However it also necessitates the exploration of the role and required competency for physiotherapists providing rehabilitation expertise within this context. Such a model has a focus on a potential consultative role for physiotherapy where there is involvement in assessment and subsequent input into interdisciplinary service planning with the integration of defined interventions to maximise mobility, function and independence. Inherent in this approach is the need to provide education to home care team members to develop robust and responsive communication strategies to enable monitoring and adaptation of treatment plans based on client progress (Francis and Netten 2003, Harris-Kojectin et al 2004, Stone 2001, Stone and Wiener 2001). It is recognised that this has often occurred at a local level in an informal manner. However to formalise this process it is necessary to further clarify the role of physiotherapy within the delivery of RHS.

Sibbald et al (2004) describe three pertinent processes for developing role clarity and function amongst health professionals: (i) enhancement; (ii) substitution; (iii) delegation. Enhancement occurs when the role of a worker is extended by increasing the depth of the role in terms of increased skill in relation to specific tasks. In contrast, substitution is characterised by expanding the breadth of role; workers may operate across more than one group or undertake the work of another, therefore acting as a substitute. Delegation is defined as delegation as 'moving a task up or down a traditional uni-disciplinary ladder'. These processes in effect alter the boundaries between different health professional groups.

Within the context of RHS in New Zealand, Sibbald et al's model is important to consider when exploring the synergy between physiotherapists, home care coordinators and support workers. It is proposed that enhancement of the physiotherapy role is not feasible given the constraints on funding and the extremely limited resource of physiotherapists. However, there is increasing evidence of the process of substitution of traditional physiotherapy tasks and roles by the home care coordinator. An example of this is the provision of simple exercise programmes and mobility advice (de Vreede 2004, de Vreede et al 2005, Denton et al 2014, Duncan and Pozehl 2002, Krebs et al 2007, Manini et al 2007, Stevens and Vecchio 2009, Tinetti et al 2012b). This is a pragmatic solution to address the need for rehabilitation advice and expertise. However, such an expansion of the role of coordinators, who are mostly registered nurses, requires clarity and robust discussion at a local and national level to minimise confusion and ensure that the functional status and safety of the older person is maximised.

There is also considerable international evidence of delegation of physiotherapy and associated roles in models of restorative home care. Primarily this has focused on the rehabilitation interventions delivered by support workers following assessment and programme design by the physiotherapist (Denton et al 2014, Stevens and Vecchio 2009, Tinetti et al 2012a). Such delegation is dependent on having suitably trained support worker staff and a level of trust by the physiotherapist in the ability of the support worker to deliver the programme and respond effectively to changes in the client over time. Within the New Zealand context this is only possible as a component of a system wide quality improvement initiative that comprises robust communication between the support worker, coordinator and physiotherapist (King et al 2012, King et al 2011) to enable responsive communication of progress and the required adjustments to the intervention.

CONCLUSION

Within the context of the ageing population and the increased focus on services to support older people to remain at home there is an imperative need to develop integrated services to maximise function of older people. There has been considerable research, service development and quality improvement undertaken in New Zealand and internationally to emphasise the capacity of home care to contribute to significantly improving function and independence. The key skills of physiotherapists in assessment, design and delivery of rehabilitation interventions offer considerable potential opportunity to further enhance models of restorative home care. However there are identifiable barriers to the full realisation of this alignment. Physiotherapists need to engage in the development of the role of physiotherapy in these models to ensure that there is role clarity and that the scarce physiotherapy resource is maximised. The opportunities for delivering truly inter-disciplinary rehabilitation across organisational boundaries are considerable and there are a growing number of exemplars within New Zealand where this synergy is being realised.

KEY POINTS

- There has been a strong emphasis at an international, national and local level to enhance the quality of home care services for older people to support them to remain living at home.
- There needs to be development of the potential synergies between physiotherapy and home care to maximise the opportunities for rehabilitation for older people.
- This article presents some of the potential barriers and proposes solutions for the imperative need for more effective utilisation of physiotherapy in home care service delivery.

ADDRESS FOR CORRESPONDENCE

John Parsons, School of Nursing, Faculty of Medical and Health Sciences, University of Auckland, Level 2, Building 505, 85 Park Road, Grafton, Auckland 1142. Phone: 09 923 3935. Fax: 09 367 7158Email: j.parsons@auckland.ac.nz

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