Goal setting as a feature of homecare services for older people: does it make a difference?

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Abstract

Introduction: health services delivered in an older person’s home are often implemented at a critical juncture in an individual’s functional status. Although homecare has potential to improve this situation, it often focuses on treating disease and ‘taking care’ of the patient rather than promoting independence. The aim of restorative homecare is to change the philosophy from one where delivery of care may create dependency to provision of care which maximises independence, self-esteem, self-image and quality of life, and reduces the care required.

Aims: to assess impact of a designated goal facilitation tool on health-related quality of life (HRQoL), social support and physical function among community-dwelling older people referred for homecare.

Methods: a total of 205 participants [mean age 79.1 years, 71.3% female (intervention group) and 76.9 years with 60.8% female (control group)] were cluster randomised to an intervention or control assessor. The intervention arm involved participants completing a goal facilitation tool with assessors. This established rehabilitation aims. Control participants received a standard needs assessment. Clients from both groups were then referred to a homecare organisation for service delivery.

Results: there was greater change over time in HRQoL [measured by Short Form 36 Survey (SF-36)] in the intervention group (P = 0.0001). There was a marked variation across homecare providers in types of services provided (P < 0.001). Identification of a goal did not predict completion of a formalised review of participants’ needs by the homecare organisation.

Conclusions: use of a goal facilitation tool in assessment of an older person’s needs on referral for homecare leads to significant improvements in HRQoL. This may be through a higher proportion of individualised activities tailored to a successful identification of the person’s goals. The findings contribute to greater understanding of factors necessary to implement improvements in homecare services for older people.

Keywords: health services for the aged, goals, quality of life, elderly

Introduction

Health services to enable older people to remain living at home commonly involve promotion of health-related quality of life (HRQoL), autonomy, independence and social connectedness. However, services are often delivered at a critical juncture in an individual’s functional status [1, 2]. Up to 50% of hospitalised older people lose some functional ability during their stay [3, 4] and 66% have not regained their previous functioning 3 months later [5, 6]. Although homecare has potential to improve this situation, it often focuses on treating disease and ‘taking care’ of the patient rather than facilitating return to independence. Models of homecare concentrating on optimising function and independence are variously called the ‘Active Service Model’ (Australia), ‘Reablement’ (UK) and ‘Restorative Home Support’ (New Zealand and USA).

Many studies on restorative care in institutional settings report positive outcomes, including maintaining/improving functional outcomes, psychological gains, improved HRQoL (QoL) and independence [7–9]. Fewer studies have examined the home-based setting [10, 11]. The primary aim of restorative homecare is to change the philosophy from one where delivery of care may create dependency, to provision of care which maximises independence, self-esteem and HRQoL, and reduces care required. Key elements are: goal facilitation; functional and
repetitive exercises; support worker training and enhanced supervision; health professional training and care management [11–17].

**Aims**

We determined whether provision of restorative home support to older people would result in improvement in HRQoL and in ability to undertake activities of daily living when compared with a group receiving standard homecare. A further component of restorative care that was explored related to care management and reviews of the older person. This included regular reviews to enact required changes to service delivery; and to develop management plans with the client.

**Methods**

We explored the effect of a designated goal facilitation tool (TARGET—Towards Achieving Realistic Goal in Elders Tool) [18] (see Supplementary data available in Age and Ageing online, appendix) on HRQoL among a sample of community-dwelling older people referred for homecare in Auckland, New Zealand. In the current study, the assessment portion of the tool incorporated cognition, nutrition, functional ability, vision and hearing, continence and informal care. The tool facilitates development of a client-generated goal and the steps necessary for attainment.

Potential mechanisms for the effect of TARGET on HRQoL were explored: how use of the tool (i) facilitated implementation of core components of a 'restorative model'; (ii) affected the content of homecare services and (iii) whether there was a difference between the groups in the regular and coordinated client reviews undertaken.

**Participants**

Community-dwelling people 65 years and over were candidates for inclusion if they were new referrals for homecare. The study received ethical approval (NTY/06/12/132) and was registered with the Australian New Zealand Clinical Trials Registry (ACTRN12608000027314). The work was supported by a New Zealand Health Research Council grant (06/627).

Exclusions comprised:

- Cognitive impairment compromising adherence to interventions (Abbreviated Mental Test score [19] <7/10).
- Referred for assessment for residential care admission, carer support only or short-term services.

**Intervention**

This was a prospective cluster-randomised controlled trial. Participants were clustered by the general practitioner (GP) to whom they were registered. Table 1 shows the demographic and functional ability of participants in both groups. In the active arm, the TARGET was completed during the initial assessment process, to identify a goal for the homecare episode and thus establish rehabilitation aims. These aims were passed from the assessment agency (located within the local health board) to the homecare organisation (private companies contracted by the health board to provide services) where a support plan was developed. This provided concrete instructions to the support worker including detailed descriptions of tasks to be undertaken. Assessment staff utilising TARGET and all homecare coordinators attended a standardised two and half day training programme before the start of the trial. The programme developed a shared understanding concerning implementation of restorative home-based care and support. Following completion of training there were monthly peer-review sessions, comprising presentation of completed TARGETs and discussion around implementation of the service delivery plan.

In the control arm, participants received a standard needs assessment based on the professional opinion of the assessor. Participants were then referred to a homecare organisation. Services implemented by homecare organisations for active group participants were based on the TARGET findings, whereas for control group participants, services were based on the standard assessment. Assessment staff in the control group did not receive the standardised training.

**Outcomes**

HRQoL was determined by the Short Form-36 questionnaire (SF-36) (Quality Metric, Inc., Lincoln, USA) at study entry (baseline) and 6 months (follow-up). Assessments were undertaken by experienced researchers blinded to group allocation. Support plans were analysed to determine tasks implemented by support workers.

The number of client reviews undertaken by homecare coordinators was ascertained. The results of the review were provided to the assessment agency with recommendation for either discharge, increase in hours or maintenance of current service levels. If services were to continue, additional goals were agreed with the client. There was no identified process for reviewing the services required by the participant in the control group due to the service specifications for traditional homecare models.

### Table 1. Demographics and physical functional characteristics of participants at baseline

<table>
<thead>
<tr>
<th></th>
<th>Control (n = 97)</th>
<th>Intervention (n = 108)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age [mean years (SD)]</td>
<td>76.90 (7.61)</td>
<td>79.08 (6.93)</td>
</tr>
<tr>
<td>Female, n (%)</td>
<td>59 (60.8)</td>
<td>77 (71.3)</td>
</tr>
<tr>
<td>Caucasian, n (%)</td>
<td>71 (73.2)</td>
<td>88 (81.5)</td>
</tr>
<tr>
<td>Living alone, n (%)</td>
<td>60 (61.9)</td>
<td>69 (63.9)</td>
</tr>
<tr>
<td>SPPB total score (/12)</td>
<td>6.36 (3.18)</td>
<td>5.71–7.00</td>
</tr>
<tr>
<td></td>
<td>6.11 (3.17)</td>
<td>5.51–6.72</td>
</tr>
</tbody>
</table>

SPPB, short physical performance battery.
Statistical analysis
The primary outcome was change in HRQoL of subjects, measured by change in SF-36 scores. A generalised linear mixed model for repeated measures and clustered data was used to allow estimation of treatment effect on HRQoL. To investigate whether changes over time differed for active and control groups, the interaction between treatment and time was also assessed in the model. T-tests were undertaken to determine the significance of difference in the proportion of defined activities in the support plans developed for participants. Further T-tests explored the level of improvements in SF-36 for those discharged from homecare after 3 months.

All statistical tests were two-tailed and a 5% significance level was maintained. Evaluations were undertaken on the ‘Intention to Treat’ principle. No adjustments for multiplicity were used for secondary endpoints, adverse events or other endpoints.

Results
Recruitment occurred from September 2007 to May 2008 (Figure 1). Only 23 of the 1,290 people screened were excluded solely due to cognitive impairment; however, it is expected likely that some of those excluded for other reasons would have also had impaired cognition. Cluster C randomisation of individual participants occurred following allocation of individual assessors to either group through the use of a randomly generated numeric list. Participants had their randomisation status pre-assigned according to whether or not they were registered with a GP allocated to either the assessors utilising the TARGET tool (active) or assessors using usual assessment processes (control). There were differences between the two groups in terms of client characteristics, physical function, HRQoL and physical function at baseline. The effect of these differences was controlled for in stepwise development of the generalised linear mixed model where only variables showing a significant effect were included as fixed effects in the final model.

Health-related quality of life
The intervention group had a lower mean starting SF-36 score and then a large mean increase over time, whereas the control group showed a slight decrease in SF-36 over time. We thus investigated the possibility of regression to the mean (RTM) [20]. Residual diagnostic tests were undertaken to determine the effect of outliers across the sample, and the resultant changes in results when these outliers were manipulated. Residuals were examined and sensitivity analyses without outliers were undertaken. There was no indication that outliers had a modifying effect on change in SF-36 across the two groups.

Formal client review
Thirty-one (28.7%) of the intervention group participants received formal review. In contrast, only one participant in the control group was reviewed by homecare providers 6 months after service provision commenced. Intervention group participants discharged from homecare showed a significantly greater improvement in HRQoL over time $[t(100) = 2.13, P = 0.04]$ compared with those who continued with homecare. Conversely, in the control group, no significant difference was observed in change in SF-36 over time between those discharged and those who continued to receive services $[t(86) = 0.97, P = 0.34]$.

Goal setting
In the intervention group, 92 subjects (85%) identified goals in collaboration with assessors. Analysis of relationships between successful goal identification and formal review during the course of the study showed no significant relationship among participants in the intervention group $\chi^2 (1, n = 105) = 0.62, P = 0.43$, suggesting that successful identification of a goal using TARGET was not associated with this component of a restorative model.

Homecare support plans
Details of categories of services delivered to participants in both groups: domestic tasks (e.g. vacuuming), personal care (e.g. showering assistance), shopping (with and/or without the client) and individualised activities (activities identified specifically for the individual client) were collected and analysed. Individualised activities predominantly focused on assisting participants to access the community, i.e. were concerned with increasing function outside the home. There was no difference between groups in percentage of services relating to domestic tasks, personal care or shopping. The main difference in services related to the proportion of individualised activities in the participants support plans across the two groups $[t(205) = 3.34, P < 0.001]$. These were individualised walking or exercise programmes or other activities aimed at improving functional ability. In the intervention group, 61.7% ($n = 66$) of the support plans described such individualised activities as opposed to 15% ($n = 14$) in controls.
Discussion

We showed HRQoL as measured by the SF-36, significantly improved over time for the intervention group in comparison with the standard homecare ($P < 0.001$). Similar patterns were seen in both MCS and PCS. A further difference between the two groups related to the content of activities undertaken by the support worker to assist the older person in the home. In the intervention group, there was a significantly higher rate of activities structured around tasks aligned to the clients’ needs, rather than generic tasks such as vacuuming or housework.

There was a high degree of individually tailored support plans generated by homecare coordinators in the intervention group in response to the goals identified by TARGET. However, the number of reviews undertaken in the intervention group (28% of clients in this group) was lower than expected, since this is a core component of effectively monitoring services and supporting the client in the restorative model.

It is important to acknowledge the effect of the training provided as part of the intervention. The implementation of the new model required a considerable paradigm shift from standard homecare service delivery. Consequently, the shared understanding of the core principles of the model developed as a result of training among intervention assessors and the homecare coordinators is seen as key to the improved outcomes observed [1, 18, 21–23].

The current study clearly showed the importance of facilitating older people to set goals that are then used in developing support plans to structure services. Further
development of this concept would involve more in-depth investigation of the impact of the factors shown to affect the successful identification of goals. Such factors may include experience and beliefs of the clinician working with the older person, the professional background of the clinician and the emphasis the assessor and provider organisation(s) places on the process in addition to the individual client factors such as level of engagement and motivation, cultural considerations and ethnicity.

This study in attempting to determine the effect of a goal facilitation tool as a driver for quality improvement in homecare was experimental in nature and thus had limitations arising inherently from this approach. Only 6.2% (263/4234) of those screened for inclusion into the study were eligible to participate. However, 25% of those excluded did not receive homecare (1,027/3,971). This may mean that the findings of the study are only able to be generalised to those older people referred for homecare who meet the inclusion and exclusion criteria. This is of particular relevance as the current study excluded those with moderate or severe cognitive impairment. Previous use of TARGET in planning community-based services for those with impaired cognition [18] showed the tool to be less effective in determining goals for people with moderate to severe cognitive impairment. Identification of the goal using TARGET through discussion with a proxy (carer or family member) is suggested as a practical method as supported by a number of studies exploring a person-centred approach to delivering healthcare to people with cognitive impairment [24, 25]. However, the current study did not focus on this and additional training would be required to implement this strategy.

In the current study, the use of standardised and well validated tools for measuring HRQoL reduced the risk of measurement bias. Precautions were taken by further analyses to detect any bias such as RTM and the potential for people with low initial measures requiring greater change to show a clinically difference in outcome. No evidence of these was found in the analyses.

In conclusion, there have been numerous attempts reported in the literature to develop services that focus more on optimising function rather than fostering dependency among older people supported to remain in their home. Our study utilised the concepts previously described, together with a philosophy of person-centred care. Our primary purpose was to assess the impact of TARGET on HRQoL among community-dwelling older people referred for homecare, and the results clearly show the success of TARGET in facilitating identification of a goal by older people—84% of participants in the intervention group developed a goal during assessment. An important result was the significant effect that use of the tool had on HRQoL among the intervention group. Two potential mechanisms for this change were explored (regular formalised review and an increase in individually tailored support activities). However, the absence of implementation of regular reviews across all participants in the intervention group suggests that this is not the primary mechanism for maximising HRQoL. In contrast, the significantly higher number of individualised support plans generated following use of TARGET appears to have been instrumental in delivering services that contributed to increases in HRQoL. The study findings contribute to greater understanding of factors necessary to implement improvements in the services for older people in the home.

Key points

- A goal setting tool in planning the homecare for older people produced significant changes in health related quality of life.
- The improvements were driven by an increase in the individually tailored activities delivered during the homecare episode.
- Use of the tool did not lead to increased formal reviews of the older person.

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Conflicts of interest

None declared.

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Supplementary data

Supplementary data mentioned in the text is available to subscribers in Age and Ageing online.

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Diurnal variation in mortality in older nocturnal fallers

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Abstract

Background: the prevalence of older trauma patients is rising in Westernised populations. Age has an independent adverse affect on survival from injury. Factors contributing to this increased mortality are incompletely understood.

Objective: to examine the independent effects of age, time and mechanism of injury on survival from trauma at 30 days.