

## Preventive home care of frail older people: a review of recent case management studies

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Submitted for publication: 24 August 2004

Accepted for publication: 30 August 2004

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HALLBERG I.R. & KRISTENSSON J. (2004) *International Journal of Older People Nursing* in association with *Journal of Clinical Nursing* 13, 6b, 112–120

### **Preventive home care of frail older people: a review of recent case management studies**

Preventive actions targeting community-dwelling frail older people will be increasingly important with the growing number of very old and thereby also frail older people. This study aimed to explore and summarize the empirical literature on recent studies of case/care management interventions for community-dwelling frail older people and especially with regard to the content of the interventions and the nurse's role and outcome of it. Very few of the interventions took either a preventive or a rehabilitative approach using psycho-educative interventions focusing, for instance, on self-care activities, risk prevention, health complaints management or how to preserve or strengthen social activities, community involvement and functional ability. Moreover, it was striking that very few included a family-oriented approach also including support and education for informal caregivers. Thus it seems that the content of case/care management needs to be expanded and more influenced by a salutogenic health care perspective. Targeting frail older people seemed to benefit from a standardized two-stage strategy for inclusion and for planning the interventions. A comprehensive geriatric assessment seemed useful as a base. Nurses, preferably trained in gerontological practice, have a key role in case/care management for frail older people. This approach calls for developing the content of case/care management so that it involves a more salutogenic, rehabilitative and family-oriented approach. To this end it may be useful for nurses to strengthen their psychosocial skills or develop close collaboration with social workers. The outcome measures examined in this study represented one of three perspectives: the consumer's perspective, the perspective of health care consumption or the recipient's health and functional ability. Perhaps effects would be expected in all three areas and thus these should be included in evaluative studies in addition to measures for family and/or informal caregiver's strain and satisfaction.

**Key words:** case management, case management outcome, case manager's role, frail older people, home care, preventive nursing care

## Introduction

Irrespective of the health care system, public or private, there is a strong movement towards home health care for older people. This may also mean a transition towards increased informal care-giving in countries which traditionally have a large public health care sector (Hellström & Hallberg, 2004) increasing the need for collaboration with informal caregivers. The bulk of 'baby boomers' in various countries will put heavy demands on the public health care sector as well as on families, especially when these large groups reach the age where functional impairments develop and help is required from others to handle daily living and the health problems that have occurred. This calls for preventive actions directed at healthy older people to postpone functional impairments and health problems as well as preventive actions (secondary and tertiary) to those who are frail and with functional impairments, to improve their abilities to remain at home and to support their informal caregivers. Nurses are particularly well suited to provide such preventive and promotive care at home. Knowledge about successful ways of doing this is required. This paper explores the empirical literature for studies of case/care management (CM) interventions for community-dwelling frail older people and especially with regard to the content of the interventions, the nurse's role and outcome of it.

### The heterogeneous concept of home care

Home care is a heterogeneous concept with various objectives, contents and expected outcomes (Thomé *et al.*, 2003). A review of the empirical literature aimed at finding descriptions of home care as a phenomenon, its recipients, actions and outcome showed the objectives to be: to improve or maintain quality of life and, to optimize functional health status and independence (Thomé *et al.*, 2003). The contents could be understood in terms of three different actions: preventive actions and assessments, care provided related to individual needs stretching from physical to psychosocial, social and cognitive, and actions and assessments after discharge including assessments, planning, implementation and follow-up. The expected outcomes had to do with significant improvements in functional health status, physical as well as psychosocial, and also improving and maintaining quality of life. Thus, the ultimate goal was not only to contribute to quality of life but also to replace and prevent hospital care, and this ranged from preventive actions (primary, secondary and tertiary) to end-of-life care (Thomé *et al.*, 2003). Thus, home care is a broad concept that includes preventive home visits, follow-up care, health

promotion and actual hands-on care at home. Perhaps preventive and promotive home care for older people would benefit from being more clearly defined in terms of organization, content and outcome and in relation to target groups: older people in general, frail older people or those actually receiving care at home.

### Preventive home visits to 'healthy' older people

Preventive home visits to older people living in the community targeting mainly populations of older people at a certain age or above have been reviewed for their effect. A Danish 3-year randomized controlled trial showed significantly fewer emergency medical calls as well as a significant reduction in admissions to hospital (Hendriksen *et al.*, 1984). This in turn led to legislation on preventive home visits to people 75 years or older, twice a year (Vass *et al.*, 2002). Such legislations exist in other countries too, for instance the UK and Australia. In Denmark the evaluation of this legislation, the contents, organization and effects, is ongoing (Vass *et al.*, 2002; Hendriksen & Vass, 2003). A recent 3-year follow-up study showed women to benefit from this intervention but not men, perhaps suggesting that men should be approached in another way (Vass *et al.*, 2004). At least three reviews of preventive home visits have been published (van Haastregt *et al.*, 2000; Elkan *et al.*, 2001; Stuck *et al.*, 2002). The review by van Haastregt *et al.* (2000) included 15 trials and the main outcome variables were physical function, falls, admissions to institutions and mortality. The studies were mainly from the UK, the USA and one each from Denmark and the Netherlands. The profession of those carrying out the intervention ranged from volunteers to physician's assistants or nurses, nurses, health visitors, social workers and nurse practitioners, and thus the basic education in gerontology and geriatric care differed. The outcome measures also varied to an extent, and no clear evidence of positive effects was obtained. The review by Elkan *et al.* (2001) included 15 trials with older people, including frail subjects, with outcome variables being mortality, admission to hospital or institutional care, functional status and health status. The studies were performed in the same countries as the study by van Haastregt *et al.*, except that studies using volunteers were excluded. The authors concluded that there was an effect on mortality as well as on admission to long-term institutional care. The studies were analysed depending on the target group, the generally older population and the frail older people at risk of adverse outcome. The results were, however, not dependent on the age or the frailty of those included in the studies. The diverse results from these two reviews mainly including the same studies was commented on (Egger, 2001)

and suggested as explicable mainly by the methods applied by the review. The author concluded that preventive home visits can work and that the results of these reviews may be useful in developing new trials that could examine effects across prespecified interventions and subgroups of older people in order to understand who would benefit the most from such interventions.

The review by Stuck *et al.* (2002) included 18 trials and they used three outcome variables: admission to institutional care, mortality and functional status. They also wanted to test the hypothesis that preventive home visits were beneficial if they were based on a multidimensional geriatric assessment and frequent follow-up visits, including those at low risk of functional decline at baseline. The studies included came from the same countries as those described above and in addition to Switzerland, Canada and Australia. The personnel doing the home visits included lay persons, volunteers, nurses, health visitors and geriatricians, whilst those studies where multidimensional geriatric assessments and follow-ups were included mainly had nurses (at various levels), or nurses in combination with geriatricians or physical therapists. They concluded that the interventions seem to be effective but that is so if they are based on a multidimensional geriatric assessment and are made up of multiple follow-up visits as well as targeting those at lower risk of death. Thus, these reviews indicate the importance of a systematic geriatric assessment and standardization of the content of the home visits. The benefit may be especially with regard to functional ability, mortality and health care or nursing care consumption. The reviews and the studies from the Danish research group mainly address older people from a population perspective. It may well be that such interventions are even more efficient if frail older people who are already regular clients in the health care system are addressed. In fact, in a report from a workshop (Hendriksen & Vass, 2003) it was suggested that visits should focus on frail older people, persons at risk and risk situations and characteristics.

### **Preventive care for community-dwelling frail older people**

Another approach to preventive and promotive care for older people would be to focus solely on those who are frail. The challenges in the care of frail older people in the community have to do with coordination and continuity of care as they are likely to need acute hospital care at times, continuous long-term care support at home, and a variety of interventions to be able to remain at home with as high quality of life as possible (Dant & Gearing, 1990). Thus their health care and social needs are to be met by different agencies and also to a high extent involve close family members who may be

the primary caregivers. The risk of fragmentation of care has led to the development of a multitude of programmes in various countries (Dant & Gearing, 1990; Fine, 1999; Hébert *et al.*, 2003) and the terminology differs between agencies and countries. Reuben (2002) reviewed the literature for organizational interventions and to identify barriers to dissemination of successful models. The interventions could be classified in two groups: component models, i.e. models superimposed on top of the system already ongoing, and the system change models, i.e. those meant to change the basic structure of primary care (Reuben, 2002). The component models applied in the community or as outpatient-based programmes were self-management programmes that aim to teach the person to cope with diseases; disease management programmes, i.e. team management of a single disease, and case or care management programmes. The outcomes of these models related mainly to reduced hospital costs or reduced readmissions or, with regard to CM, mixed outcomes depending on the model.

Bearing in mind the fact that very old people seldom suffer from one disease, management programmes addressing one disease seem not to be a generally efficient way of providing care. Adding another system to overcome fragmentation in the already existing system can also be questioned (Dant & Gearing, 1990). As stated by Young (2003, p. 8):

Frail older people are at the intersection of divergent systems, including acute care system, long term care services and family caregiving. With acute and chronic complex health conditions affecting multiple body systems, a specialty approach to health care and a fragmented system fail to address the interdependency of physical, psychosocial and functional health.

A holistic approach and preserved continuity of care are required to help the older person to maintain quality of life and remain at home without too many interruptions from acute hospital care. Interventions like self-management strategies and disease management as well as education and support to family caregivers or caregivers with limited training in the care of older people could well be integrated in a community-based care/case management system. According to Young (2003), the approaches to CM in older people range from being only a matter of cost control to a comprehensive approach to addressing acute as well as long-term needs throughout their health trajectory and across settings.

According to Davies (1992) the characteristics of the CM approach are that the case manager should match the available resources to the needs of the older person as efficiently as possible. This is a narrow task and does not ensure that the person gets the care s/he needs, limited by resources, and hence the matching of resources and needs is

the main task. The term has been questioned mainly because it conveys a top-down and objectifying attitude towards the older person. In addition, there has been some controversy about the terminology; case or care management with emphasis on the individual vs. the care provided (Mick & Ackerman, 2002). Terms like care management, care coordinator, key worker and service broker have been used as well. However, this does not solve the problem of the case manager's responsibility if it is narrowed down to coordinating, accessing and organizing the care and service according to the needs of the frail older person and the financial brokerage of services. CM interventions may include a comprehensive assessment, care planning as well as information and referral, direct nursing care services and coordination and monitoring of services (Moneyham & Scott, 1997). It should perhaps also include self-care management, general and specific health and care education and health care strategies involving the older person as well as the informal caregiver and formal caregivers if they have limited training in geriatric care. According to Watt (2001), community-based case management that promotes the health and well-being of community-dwelling frail older people may be effective to meet the demands put on society because of the demographic change towards more very old people. This, however, demands well-designed studies and especially well-described intervention. The meaning of CM is far from coherent and it is likely to be dependent on content and the professional skills of the case manager.

## Search and selection of the literature

The literature search for this paper was made in the MEDLINE and CINAHL databases using a wide selection of terms. The first search was made in MEDLINE as a combination of the terms case management, community care services, home care services, preventive health services, house calls, health services for the aged, rehabilitation and preventive home visits. The search was limited to studies published in English, including an abstract and including people 65 years or older. A total of 416 abstracts was reviewed in the first step and 88 of them were initially judged to agree with the aim of this paper and read in full text. In all, 19 of these were included for this paper.

A second search was then made in the CINAHL system and with the same procedure as in the MEDLINE search except that the term 'aged' was added in the search. This was because of different possibilities of presetting search limits in the two bases. Only studies in English and those presenting an abstract were included. When those already obtained through the MEDLINE search were excluded, 266 abstracts

were reviewed and 20 more papers were read in full text and seven were selected for analysis. Thus 108 papers were read in full text and of these 26 were judged to relate to the aim of this paper. All searches covered the time from 1980 to spring 2004, whilst a selection of papers emphasized recent publications.

Studies focusing on a particular group of diseases, for instance chronic obstructive pulmonary diseases (Poole *et al.*, 2001; Endicott *et al.*, 2003), stroke and stroke rehabilitation (Widén Holmqvist *et al.*, 1998; von Koch *et al.*, 2001), dementia diseases (Challis *et al.*, 2002) or heart diseases (Pugh *et al.*, 2001; Harrison *et al.*, 2002) have been excluded. The justification for this is that the focus of this paper is the needs of frail older people with complex needs and thus, focusing on a single group of diseases would not match this focus. Organizational matters, financial issues or the like will not be addressed in this paper. In addition, studies closely tied to the health care system, financial system or insurance system of that specific country have been excluded. This especially applies to studies conducted in the USA. Publications mainly presenting theoretical aspects, discussions or the like were excluded to focus on how it worked in practice. The analysis of the selected papers was carried out with regard to the content of the interventions, the case/care manager's profession and if it was a nurse the specific role of that person and the outcome of the intervention.

## Results

### Case management, other terms, recruitment of care recipients

The terminology used in the selected studies varied extensively, in some cases implying meanings different from CM. It included care advocacy, care coordinators, nurse CM, hospital-based CM, channelled care, integrated community nursing services, community CM, integrated home care services. The CM was applied either within the regular system and/or relocating available resources or by implementing the system in addition to the already existing system, with consequent additional costs. Some programmes were strongly based in hospitals although aiming at coordinated care programs for older people in the community. For instance Warrick *et al.* (1990) described an extensive hospital-based coordinated care programme for CM of long-term care services in the community. Six hospitals were included and had designed the intervention slightly differently with regard to how they worked as well as the professional level of the CM. Most of them were located within the hospital whilst

two were not. In most cases, referrals could be from only one agency or come from several agencies as well as from families. For instance, a hospital-based CM system could accept referrals from the community, from general practitioners, families, district nurses or the like.

The recipients of CM were recruited mainly from referrals or through registers of various kinds (e.g. hospital register, insurance, Medicare, Medicaid) or through hospital admission or discharge, most commonly from emergency departments (EDs). Those recruited from registers were mainly identified through a screening system. For instance, a two-stage screening process with comprehensive assessment was applied to identify at-risk older people admitted to an ED. In the first stage a screening instrument was developed to be used by nursing staff in the triage setting including yes or no questions, about cognitive impairment, living alone, mobility problems, five or more medications, previous visits to ED or hospitalization and the nurse's evaluation of the need for follow-up (Mion *et al.*, 2001). In the second stage the patients were assessed by a clinical nurse specialist for older people, either when still at the ED or by telephone, using a geriatric assessment tool including medical, psychosocial, cognitive, physical and mental components and details of current service.

The criterion for inclusion of older people in the programmes was either having a chronic disease combined with receiving care from at least two professionals or non-professional caregivers and living independently in the community (van Achterberg *et al.*, 1996) or being assumed to be frail (Gagnon *et al.*, 1999; Marshall *et al.*, 1999). Frailty is not a well-defined concept. It may be regarded as a state of physiological vulnerability because of low reserve capacity and thus a reduced capacity of the organism to handle stress of various types. It has been defined as requiring assistance with at least one activity of daily living (ADL) or two instrumental activities of daily living (IADL), a probability of more than 40% of hospital admission (including self-rated health, previous admission to hospital, previous physician or clinical visits, history of cardiac disease and availability of a caregiver; Gagnon *et al.*, 1999) or two or more ADL impairments; three IADL impairments or two IADL impairments and one ADL impairment; confined to home or to bed (Marshall *et al.*, 1999). Other inclusion criteria were risk factors for hospital admission (Mion *et al.*, 2001) or risk criteria in general (Berdes, 1996; Burns *et al.*, 1996; Lim *et al.*, 2003) defined in various ways including decreased physical function, presence of dementia or confusion, certain chronic diseases, living arrangements, prior hospitalization, poly-pharmacy, poor self-rated health or prior hospital admissions or ED visits, inadequate family and community support or inadequate knowledge and skills for managing

self-care needs, impaired cognitive functioning or using community services before hospitalization.

### The content of the interventions

Although the content of the interventions applied and thus also the meaning of the CM were not described in detail in all of the included studies, a range of interventions were identified. The less extensive interventions were those which could be regarded as strictly applying the traditional tasks of a case manager: case finding, assessing, planning, implementation, coordination and monitoring and evaluation of options and services to prevent fragmentation and optimize the care given to the person (Berdes, 1996; Mick & Ackerman, 2002), in some cases using only telephone contact (Alkema *et al.*, 2003). A comprehensive CM system is supposed to contain outreach, client assessment, case planning, referral to service providers, advocacy for client, direct casework, developing natural support systems, reassessment, advocacy for resource development, monitoring quality, public education and crisis intervention, whilst a minimal model is supposed to consist of outreach, client assessment, case planning, referral to service providers only (Ross, 1980). CM in some instances also included cost effectiveness and systematization of cost-effective care, and thus was more in the interest of the payer, and thereby a conflict of interest may arise between the individual's need and the interest of the health care organizations in cost containment. This was demonstrated in a study comparing two models, the basic CM model including the traditional tasks as described above, and the financial control model where the CM had in addition a funds pool to finance additional services (Rabiner *et al.*, 1994). Although not described in traditional CM terminology, in the study by van Achterberg *et al.* (1996) the intervention included making a care inventory, developing a care plan including goals and contribution of all caregivers, execution and monitoring of the care plan and a common log book for all caregivers and evaluation of the care plan. In addition, several other studies had a similar content to the intervention; coordinating the work of all health care providers, developing a care plan, being available for crisis situations, mainly by telephone, and doing home visits to evaluate the situation once or several times depending on the situation and having a team as backup in complicated cases (Bernabei *et al.*, 1998; Allen, 1999; Gagnon *et al.*, 1999; Marshall *et al.*, 1999; Schifalacqua *et al.*, 2000) and some with a budget of their own to purchase community services (Lim *et al.*, 2003). The CM model was also tested in a study of cost of care in the last month of life (Long & Marshall, 1999).

The core components of traditional CM have been expanded by comprehensive geriatric assessment to identify

risk factors, information and recommendations to the individual or caregivers of selected community services, and direct linkage to collaborating community agencies and primary care providers (Mion *et al.*, 2001) or by integrating CM and brief treatment strategies. This means that a task-centred approach to CM forms the core of the intervention, with parallel functions added (e.g. resource indexing, inter-agency coordination, class advocacy) or alternative interventions (special needs such as bereavement counselling) depending on the individual's situation (Naleppa & Reid, 2000). In addition, the organization may differ. For instance Warrick *et al.* (1990) described a so-called neighbourhood team model including assessment, care planning, reassessment, direct case work (hands-on nursing care, family counselling), crisis intervention, and public education (mainly agencies or community groups), developing informal support system and monitoring care quality. The CM served a particular geographical area and had a smaller case load than the traditional centralized individual model.

More extensive programmes were found for instance in a community-based nurse CM model also including medication and symptom management, liaison for the patient, caregiver and family as well as supportive counselling. The CM also had a budget to use for special needs (Boyd *et al.*, 1996) or extensive geriatric assessment, applying for instance the Minimum Data Set for Home Care, which includes some 300 variables (Landi *et al.*, 1999, 2001; Ritchie *et al.*, 2002) or other means to perform a comprehensive assessment (Wolf *et al.*, 1986). The more extensive programmes could also include integrating continuing care, meaning that if different agencies provided care, a combined service worker carried out all the service (Wolf *et al.*, 1986). Although not described in detail, only some studies included a psycho-educative approach, i.e. attending preventive care and self-care education in addition to the role as CM (Shelton *et al.*, 1994; Burns *et al.*, 1996; Boulton *et al.*, 1998; Fick *et al.*, 2000; Ritchie *et al.*, 2002). The study by Ritchie *et al.* was directed at people in rural areas and included a comprehensive geriatric assessment and a screening procedure. The model presented by Burns *et al.* (1996) included education, support for making lifestyle changes and identifying factors that have contributed to hospital admissions. In this model early symptom identification and interventions, medication management and adjustment to chronic diseases were emphasized along with collaboration between the case manager and the home health nurse.

### The case/care managers

Clearly the choice of CM with regard to their professional background is closely connected to the policy and education

of health care staff in the country. Nurses at various professional levels play a key role in CM, minimal or extensive, for frail older people at home. The description of the CM's role was sparse and therefore the description here will be restricted to describing the professional background of the CM. In most of the studies it was nurses at various level of training operating as CM (Rabiner *et al.*, 1994; Boyd *et al.*, 1996; Burns *et al.*, 1996; Allen, 1999; Gagnon *et al.*, 1999; Fick *et al.*, 2000; Mion *et al.*, 2001; Mick & Ackerman, 2002). They could be advanced practice nurses (Mick & Ackerman, 2002), clinical nurse specialists for older people (Fick *et al.*, 2000; Mion *et al.*, 2001), nurses with master's degrees or other type of preparation. The choice of nurses was in some cases justified by their knowledge and experience of working along the systematic care process as well as their knowledge of medical problems prevalent among older people and their ability to provide hands-on nursing care. In addition, nurses as CM and with a geriatric team to fall back on and solve difficult problems were represented (Landi *et al.*, 2001). Shelton *et al.* (1994) described a physician-based model emphasizing physicians teaming up with nurses. The other most prevalent professional category was social workers, either on their own in collaboration with a geriatric team (Naleppa & Reid, 2000; Alkema *et al.*, 2003) or along with nurses, each with their own case load (Warrick *et al.*, 1990; Eggert *et al.*, 1991; Berdes, 1996; Marshall *et al.*, 1999; Schifalacqua *et al.*, 2000) or nurses together with non-specified allied health professions (Lim *et al.*, 2003). The justification for this combination was in some cases stated to be the emphasis on psychosocial issues vs. health care and medical issues in their respective training and recognizing the fact that the needs of this group of older people involve physical as well as psychosocial issues. A team approach was prevalent in some of the studies where team members were assigned to become CM (nurses, social workers, physiotherapists and physicians). A geriatric team was available in the studies presented, whilst the role of the team was more in the center in these latter studies (Wolf *et al.*, 1986; Bernabei *et al.*, 1998; Boulton *et al.*, 1998; Landi *et al.*, 1999; Ritchie *et al.*, 2002). In other studies the professional background of the CM was not specified (Long & Marshall, 1999) or included non-professionals as well as professionals (van Achterberg *et al.*, 1996).

### Outcome measures and effects of interventions

Three areas of outcome were targeted, although not at the same time. These were health care consumption, in some studies transformed into costs; quality of care; and patient's health and ability. Care consumption was assessed with

similar measures, but the number of variables differed between the studies. Some studies focused on hospital admissions and length of stay (Landi *et al.*, 1999; Schifalacqua *et al.*, 2000; Landi *et al.*, 2001) together with ED visits (Gagnon *et al.*, 1999; Lim *et al.*, 2003) or nursing home admissions (Allen, 1999; Marshall *et al.*, 1999; Tappen *et al.*, 2001). Other studies included hospital admission and length of stay with ED visits and outpatient visits or visits at/ from a general practitioner's office (Boyd *et al.*, 1996; Burns *et al.*, 1996; Long & Marshall, 1999; Marshall *et al.*, 1999) and nursing home admissions (Bernabei *et al.*, 1998; Fick *et al.*, 2000). Quality of care was assessed with patient satisfaction (van Achterberg *et al.*, 1996; Gagnon *et al.*, 1999; Marshall *et al.*, 1999), caregiver strain (Lim *et al.*, 2003) or continuity of care (van Achterberg *et al.*, 1996). Tappen *et al.* (2001) measured quality of care by investigating how the patient's psychosocial, physical and social needs were met at home. Outcome was assessed in terms of patient health targeted functional ability, i.e. ADL, IADL (Bernabei *et al.*, 1998; Gagnon *et al.*, 1999; Marshall *et al.*, 1999; Fick *et al.*, 2000), overall function (Tappen *et al.*, 2001), mortality (Lim *et al.*, 2003), perceived health status (Marshall *et al.*, 1999; Fick *et al.*, 2000), cognitive status (Fick *et al.*, 2000) including depression (Bernabei *et al.*, 1998) and quality of life (Gagnon *et al.*, 1999; Lim *et al.*, 2003).

The effect of the interventions differed between the studies. In some studies no effect on hospital admission, length of stay, number of hospital days (Gagnon *et al.*, 1999; Marshall *et al.*, 1999), outpatient visits (Marshall *et al.*, 1999) or ED visits (Lim *et al.*, 2003) were found. In other studies the intervention group was reported to have less hospital admissions and/or shorter lengths of stay (Bernabei *et al.*, 1998; Allen, 1999; Landi *et al.*, 1999, 2001; Schifalacqua *et al.*, 2000). Two studies reported no effect on hospital readmissions (Tappen *et al.*, 2001; Lim *et al.*, 2003). Allen (1999) found fewer admissions to nursing homes while less outpatient contacts in the study group were reported (Bernabei *et al.*, 1998; Fick *et al.*, 2000), the latter reporting fewer nursing home admissions as well. More ED visits in the study group was reported (Gagnon *et al.*, 1999; Marshall *et al.*, 1999) as well as fewer ED visits in the study group (Boyd *et al.*, 1996; Bernabei *et al.*, 1998). No effect on patient satisfaction was reported (van Achterberg *et al.*, 1996; Gagnon *et al.*, 1999) as well as that the study group was more satisfied than the controls (Fick *et al.*, 2000; Tappen *et al.*, 2001) or a more satisfied control group (Marshall *et al.*, 1999). Fick *et al.* (2000) reported no effect on functional ability and Gagnon *et al.* (1999) found no effect on ADL, IADL or quality of life. Lim *et al.* (2003) found no effect on caregiver strain or patient

mortality but a higher quality of life in the study group. Bernabei *et al.* (1998) found less consistent changes in cognitive status, depression, ADL and PADL in the study group than in the control group. Tappen *et al.* (2001) reported the study group to have higher ability to manage overall function and IADL. Marshall *et al.* (1999) found that the study group had less impairment in ADL and IADL functions than the control group after 2 years. However no effects on perceived health status were noticed.

## Reflections and conclusions

The concept of CM with frail older people is far from coherent, and that is perhaps not possible because of the need for country-specific adaptation. However, it may be useful to standardize the content and the target groups more than was the case in the studies included. It was striking that very few of the interventions took a deliberate preventive (secondary and tertiary) and/or rehabilitative approach using psycho-educative interventions focusing on self-care activities, risk prevention (falls, nutrition, etc.), disease management, health complaints management (e.g. pain, incontinence), medication management and how to preserve or strengthen social activities, community involvement and functional ability. In addition, it was striking that very few included a family-oriented approach involving support and education for informal caregivers. Thus it seems that the content of CM needs to be expanded and influenced more by a salutogenic health care perspective.

Targeting frail older people seemed to benefit from a standardized two-stage strategy for inclusion and for planning the interventions. Measures for this procedure were presented and may be useful to implement in a broader perspective. In addition, a comprehensive geriatric assessment stood out as essential for outlining interventions, and there is by now a rather coherent view of the areas that should be included in such an assessment (Fillit *et al.*, 1998). Moreover, methods for assessing special risk factors may be needed (Diwan *et al.*, 2001). In addition, the team approach seems to be essential in working with frail older people. It goes without saying that nurses, preferably trained in gerontological nursing, have a key role in CM for frail older people in most countries. This also calls for taking on the responsibility for development of the content of CM, including a more salutogenic, rehabilitative and family-oriented approach. It is also a challenge to develop and test the assessment tools at various stages of the CM process.

The outcome variables would perhaps benefit from a broader perspective. In the included studies, they represented on one of three perspectives: the consumer's perspective

(satisfaction); the perspective of health care consumption (costs, nursing home admittance, hospital care); or the recipient's health and functional ability. Perhaps effects would be expected in all three areas and thus these should be included in evaluative studies and also perhaps the outcome from a family and/or informal caregiver's perspective. The ongoing ageing and disease processes may distort the possibility of positive results, making, for instance, mortality a dubious outcome measure.

## Acknowledgements

The Medical Faculty, Lund University, supported this study. We are grateful to Jan Jensen, librarian, for efficient support delivering the papers, to Anna Blomgren, secretary, and to Alan Crozier for revising the language.

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