

Title page

Full Title

“A longitudinal room of possibilities” – Perspectives on the benefits of long-term preventive home visits: A qualitative study of nurses’ experiences

List of authors

Corresponding Author:

Mette Tøien, Department of Nursing and Health Sciences, University South-Eastern Norway, PB 7053, 3007 Drammen, Norway.

Email: mette.toien@usn.no

Ida Torunn Bjørk, PhD, RN, Professor

Department of Nursing Science, University of Oslo, Norway.

Email: i.t.bjork@medisin.uio.no

Lisbeth Fagerström, PhD, RN, Professor

Faculty of Health Sciences, University South-Eastern Norway, Norway, and

Faculty of Education and Welfare Studies, Åbo Akademi in Vasa, Finland.

Email: Lisbeth.Fagerstrom@usn.no Lisbeth.Fagerstrom@abo.fi

Funding

The authors received financial support for the research of this article from the c the municipality of Drammen, Norway.

Acknowledgements

We thank all of the study participants for their time and involvement, and Bjørg Landmark in the Research and Development Unit in the municipality of Drammen for facilitating the study. We also thank the University South-Eastern Norway and the municipality of Drammen, Norway, for funding.

Introduction

The majority of older persons want to age in their own homes¹. To support their ability to remain independent is a socio-economic goal in western countries, impelled by the upcoming demographic changes and limited healthcare resources². Thus, proactive initiatives that aim to sustain older persons' functional ability are encouraged^{2,3}. One initiative is preventive home visits (PHVs), that is home visits to independently living older persons conducted by professionals, starting before disease and age-related changes set in. In general, PHVs aim to promote home-dwelling older persons' health and independence and prevent functional decline⁴. Nurses are the most frequently used professionals in PHVs internationally and in Norway^{5,6}.

There exist a multitude of PHV interventions and regular PHV services internationally that differ in terms of target groups, aims, content, visitors' competence, frequency of visits and length of follow up. While early PHV interventions had a predominant focus on disease prevention^{7,8}, later PHV reviews display a more varied and broader focus^{6,9}. Recent studies demonstrate that Scandinavian PHVs often include disease prevention as well as support for various aspects of subjective health and coping, and thus reflect a comprehensive understanding of health and health promotion¹⁰⁻¹². In Scandinavia, a common approach is to offer annual PHVs to a general population of older people after a model from Denmark, in which annual PHVs from the age of 75 were legislated from 1996^{4,5}.

It is difficult to measure effects of comprehensive PHV services because these interventions are complex and unstandardized, and benefits from health-promotive and disease-preventive initiatives often appear first after several years. Most PHV research has consisted of randomised controlled trials (RCTs) that tested interventions of relatively short duration and follow-up, and assessed outcomes merely related to a biomedical understanding of health^{6,13,14}. Even if the results of these RCTs varied, they demonstrated the possibility to modify several health-related factors. However, heterogeneity and insufficient data rendered it difficult to produce consistent evidence about effectiveness^{6,9}. Knowledge about long-term benefits from PHV services are therefore limited.

Several researchers have questioned the one-sided focus on biomedical outcomes in PHV studies and have recommended studies that explore and assess other outcomes from PHVs ¹⁴⁻¹⁶. Others have questioned the use of RCTs to evaluate PHVs because these interventions are multi-focused and complex, and involve social processes, indeterminate problems, and uncontrollable variables ^{4,17}. To be able to produce recommendations for how to create efficient PHVs, there is a need for qualitative research that provides more in-depth knowledge about the inherent processes and what contributes to the benefits for older people. In particular, the experiences and opinions of those involved with PHVs are sought ^{8,14,17,18}.

Some results exist from qualitative PHV studies. Studies exploring older peoples' experiences reported that PHVs could support their feeling of safety/security and sense of control ^{10,19-21}, improve coping and preserve independence ^{10,21}, strengthen their sense of worth ^{10,19,20}, and support a good life ¹⁰. Preconditions for positive outcomes were: understanding the service's aims, a trusting relationship with the visitor ^{10,15}, the visitors' communication competence and ability to respond to individuals' needs and preferences ^{10,15,19,21}. Even if nurses are the most frequently used professionals in PHVs, their views have been poorly described. The nurses in a Swedish study reported that the quality of the dialogue in a first visit depended on the older persons' trust level, cooperation, and understanding of the aims of PHV, and the nurses' communication skills and attitudes ¹². We found two studies based on nurses' documentation of PHV interventions with monthly or more visits, during 22 and 8 months respectively: one to disabled persons in USA ²², and one to non-frail older people in Japan ²³. Both found that positive outcomes depended on the nurses' ability to build and maintain trustful, collaborative relationships with their clients. Facilitators to positive outcomes were multiple visits, communication skills, professionalism, shared decision-making, a caring approach and ability to give adequate response to individual needs or problems ^{22,23}. Barriers consisted of an older person's disability worsening, lack of interest, or low motivation for change ²².

In sum, the knowledge about long-term, annual PHVs is limited. To amend this gap in the literature we therefore studied nurses' experiences from a well-established comprehensive PHV service offering long-term annual follow-up. In this study, we hold a comprehensive understanding of health, which is a dynamic, complementary relationship between pathogenic and salutogenic perspectives, as well as objective and subjective aspects²⁴. The knowledge generated might guide healthcare authorities in planning PHV services, and support new professional visitors.

Aim

The aim of this study was to describe nurses' perspectives on the benefits from long-term follow-up with annual PHVs to a general population of older people within a Norwegian context.

Methods

Study design

This study is part of a comprehensive case-study evaluation of a PHV service in a Norwegian municipality. We applied a qualitative exploratory approach due to limited knowledge of professionals' experiences in conducting long-term PHVs²⁵.

Setting

The setting for this study is the Norwegian welfare state model, which offers universal healthcare services, mainly free of charge, based on professional judgment of need. All municipalities have the responsibility to offer essential healthcare services to their inhabitants, including preventive and health promoting healthcare, but the municipality can decide how to solve their responsibilities. The PHV service under study took place in an urban municipality in the south-eastern part of Norway with 60, 000 inhabitants. The municipality was one of the first to introduce PHVs in Norway; from 1999 as a pilot project in one part of the city, and from 2005 to all home-dwelling citizens who did not receive ordinary home healthcare from the age of 75.

Given the heterogeneity of PHVs, a short description of the service in the municipality follows. The stated aims of the PHV service includes the promotion of older citizens' health, well-being, and safety, supporting their ability to live at home for as long as possible, and the reduction or delay of the need for more comprehensive healthcare services ²⁶. Ten nurses carried out the service to approximately 2000 home-dwelling seniors aged 75 to 97, and each offered PHVs to older persons in one healthcare district in the municipality. The nurses had developed a theme guide for conversation during the visits, covering life history, physical and mental health status, functional ability, nutrition, activities, the home, family, and social network. The nurses offered support related to individual needs and preferences within these areas, and could refer the user to other municipal services if needed. The PHV service offered annual visits, but the service users were encouraged to call their PHV nurse if they needed any help or advice between ordinary visits, and the nurses could offer additional visits if it was deemed necessary. The service continued as long as the older person wanted it, or until they needed more comprehensive healthcare services, or the person died.

Participants

We applied strategic and convenient sampling ²⁵. We aimed to study PHV nurses with rich experiences from long-time follow-up of PHV users, and authorities in a local municipality wanted an evaluation of the PHV service initiated eleven years earlier. The ten nurses who performed the service wanted to join the study. We excluded one nurse because she had only worked 15 months in the service. The nine nurses covered 8.2 full-time equivalents, and had from 7 to 11 (mean 8.3) years of experience with PHVs. Each nurse had responsibility for 160-280 PHV users. All nurses were female, had strong experience from geriatric nursing before starting with the PHV service, and seven had postgraduate education in geriatric nursing, dementia care, or mental health care. All met the criteria of being considered information-rich about the research topic ²⁷.

Data collection

The first author collected the data through semi-structured interviews, which had an open, conversational format, but a clear purpose, and were well-suited to gain understanding of the nurses' experiences with conducting PHVs²⁸. We developed an interview guide to ensure that the conversation would cover the research questions²⁸. As a function of wanting rich descriptions about the nurses' work experiences, we started the interviews with an open question: "Please tell me about your work as a PHV nurse." The following themes were included in the interview guide: descriptions of their long-term health promotive and preventive work, the experiences of the users' problems and their benefits from long-term follow-up, what they perceived as important for positive outcomes with the service, and challenges in their work. The interviews lasted from 75 to 120 minutes and took place in an office in a healthcare district, or at the university. The interviewer made reflexive notes directly after each interview. A secretary transcribed all the interviews verbatim, covering 353 pages.

Ethical considerations

The Norwegian regional committee for medical and health research ethics granted approval for the study (ref. 2011/122b), and the municipality's director of healthcare and social services granted formal permission to conduct the study. Following the Declaration of Helsinki²⁹, we gave the participants written information about the study and all granted their informed consent prior to being interviewed.

Data analysis

We performed qualitative content analyses inspired by Ritchie and Spencer's framework method³⁰,³¹; its use allowed for systematising the content of condensed meanings related to a research question, while keeping the content of each interview intact. The framework method also allowed for transparency and validation of the coding process³¹.

Initially, the first author was familiarized with the content of each interview, and the body of data³¹. All passages of the text related to the research aim were marked, and then condensed without altering the original meaning content. Analytic memos about reflexive thoughts and interpretive ideas were written during the analysis process^{30,31}.

Two interviews were randomly selected for inductive, open coding: each of the distilled text passages were interpreted and given descriptive codes, based on the meaning of the passage in the interview context. The codes from these two interviews were compared, adjusted, and sorted to form tentative categories in an initial analytic framework for deductive coding of the remaining interviews³¹.

Using an Excel document for the framework matrix, the categories were placed horizontally. Each interview constituted one row in the matrix in which the distilled summaries were charted and positioned under relevant categories. When all interviews were included in the matrix, we performed a secondary inductive thematic analysis based on an interpretation of the entire content of the tentative categories related to our aim across the nine interviews³¹. This resulted in further sorting and gradual refinement and abstraction until all authors agreed on the categories, subcategories, and the themes describing the manifest content, which was the nurses' experiences of benefits from the service, presented in Table 1.

During the analytic process, we identified underlying meaningful content related to how the nurses worked and the longitudinal processes involved in the creation of the benefits. A comprehensive analysis and interpretation resulted in two metaphors illustrating these processes. We presented the metaphors to the informants, who approved the interpretation. The metaphors with descriptive examples representing the nurses' views on the creation of benefits from long-term PHV are presented in the last part of the findings section.

Findings

The PHV nurses' experiences of benefits from long-term follow-up

The analysis revealed benefits within three main themes: sustained ability to live independently in one's own home despite age-related changes, easing transition to other healthcare services, and improved healthcare service planning. The themes, categories, and subcategories are presented in Table 1.

Table 1. The PHV nurses' experiences of benefits from long-term follow-up.

Themes	Main categories	Subcategories
Sustained ability to live independently and thrive despite age-related changes	Sustained physical health and functioning	Strong body, less disease, and bodily complaints
		Fewer falls and accidents
	Feeling of safety, sustained thriving, and mental health	Accepts and use assistive devices for mobility and sustained physical functioning
		Trust and positive relations with the nurse and municipal healthcare services
Sustained coping ability	Increased ability to care for relatives	Enabled to participate in joyful/meaningful activities and fulfilling social needs
		Eased mental burdens, emotional, social, and relational problems
		Strengthened autonomy, self-esteem, and self-efficacy beliefs
Eased transition to other healthcare services	Preparedness for transition to other healthcare services	Knowledge and skills necessary for coping and independence
		Function-friendly and safe homes
	Improved continuity and quality of care during transition	Caregivers have sufficient knowledge about healthcare issues
Improved health-care service planning	Realistic and fair overview of the older population	Psychosocial support and respite care uphold caregivers' health and well-being
		Users/relatives have knowledge and realistic expectations about the new services
		Flexible transition to increase trust and security
		Transmission of adequate information about users from PHV
		PHV nurse assists with problematic situations between user/relatives and the new services' staff
		Continuous information to leaders about the older population and their upcoming needs for healthcare services

Sustained ability to live independently and thrive despite age-related changes.

Sustained physical health and functioning was perceived as a precondition for the users' ability to live independently. Many responded to the nurses' encouragement and recommendations related to physical activity, a healthy diet, and other aspects that contributed to sustaining a strong body. If there was a need for continuing support, the nurses could recommend pertinent local activities/services; for instance, physical training groups run by municipal physiotherapists. The nurses offered professional advice for common bodily problems and complaints: for instance, related to sleeping, digestion, or incontinence. They did not systematically assess disease/risk of disease, but used their professional nursing abilities and were receptive to medication problems and symptoms regarding new or existing diseases, as this nurse clarified: *"She had lost ten kilos since last year, so then we have to find out why, you know"* (Informant 1). When they suspected disease-related problems, they advised the users to contact their GPs (General Practitioners). The nurses also believed that their focus on safe homes had prevented falls and accidents. If functional problems did occur, the nurses, in cooperation with physiotherapists and occupational therapists, could help the users find and accept relevant assistive devices that could extend their ability with self-care.

Feelings of safety, sustained thriving and mental health covered other critical benefits. The nurses became each user's personal contact person, which sustained a trustful, positive relation and possibility of calling if they needed help or support. Information from the nurses about the users' legal rights and the municipality's healthcare system added to trust and safety issues for future health problems. The nurses also helped older individuals overcome various barriers for participating in meaningful and joyful activities and fulfilling social needs. One of the nurses illustrated this:

I helped a man with walking problems who had not been outdoors for four years, to get a mini-crosser. That gave him entirely new possibilities; that is really health-promotive work.

He can go shopping, he has contact with his neighbors, he drives to the next village to visit his daughter every week. He suddenly got a life (Informant 2).

The possibilities of sharing their life history and talking about their concerns with a professional who listened and cared could ease mental burdens and relieve emotional, social, or relational problems. The nurses prioritized psychosocial support to users with anxiety or depression, because older people had limited access to regular mental health services. The nurses could also detect early signs of dementia and contributed to early diagnosis and treatment that could ostensibly delay development of the disease. Users without relatives got extra follow-up and help from the nurses during the diagnostic process and the early stages of the disease.

Sustained coping ability covered mental as well as practical issues. Supporting the users' autonomy was linked to the service's aims, as this nurse explained: *It is vital that they understand that our job is not to manage their lives, but to support them in taking responsibility for their own life* (Informant 6). If appropriate, the nurses increased the users' awareness about topics they knew were essential for independent living, offered relevant knowledge and advice, as well as psychosocial support to improve self-esteem and self-efficacy. Function-friendly and safe homes are important for coping abilities. The nurses offered to assess the home and inform them about available aids, and possibilities for economical and practical help to carry out home-modifications. They also offered information about alternative housing arrangements.

The nurses increased older persons' ability to care for relatives with serious diseases, such as dementia. They provided insight about relevant healthcare issues, offered psychosocial support, and encouraged acceptance of respite care, as this nurse stated: *"We cooperate with them to find acceptable respite care, to help them manage and hold out as long as possible"* (Informant 3). This help could relieve the emotional, mental, and physical strain related to being a caretaker, which could sustain their own health and well-being and extend their capacity to care for relatives at home.

Eased transition to other healthcare services

When users developed need for more comprehensive care, the nurses contributed to the users' preparedness for transition to other healthcare services, most often home health care (HHC). Specific information gave users and relatives knowledge and realistic expectations, that could improve

cooperation with the new service providers, as this nurse explained: *“You must answer honestly: yes, many people will come and go, but you will get better contact with some of them, so contact them if needed”* (Informant 8). The PHV nurses transferred adequate electronic information about the users from PHV to the new service, which saved time and facilitated continuity and quality of care. If users with dementia or mental illness needed flexible transitions to increase feelings of trust and security, the PHV nurses could extend the transition period and gradually introduce and transfer responsibility to the new staff. This preparatory work with users and relatives also eased the situation for the professionals in the subsequent service. The PHV nurses could assist if problematic situations between the user/relatives and the new services’ staff occurred after transition, as this example shows: *“If there became problems related to the relatives, they say: We need to arrange a meeting, you know these relatives, can you join us?”* (informant 9). This contributed to sustaining relations between the user and HHC staff.

Improved health-care service planning

The nurses’ weekly reports gave the municipal healthcare leaders an overview of the older population and continuous information about upcoming needs for healthcare services. They also shared information to improve the services to older citizens. The longitudinal approach of the PHV service enabled municipality authorities to fulfil their lawful obligations to maintain a continuous overview of the older population to offer necessary healthcare and plan for future needs.

The nurses’ views on the creation of benefits from long-term PHV follow up

The analysis of the content related to the nurses’ work revealed that the creation of benefits of the PHV service rested on complex, longitudinal relational and professional processes that can be described with two metaphors: *“The processes of establishing, sustaining, and widening a longitudinal room of possibilities,”* and: *“The Individualized health promoting processes - the ongoing gardening work.”*

Metaphor 1: The process of establishing, sustaining, and widening a longitudinal room of possibilities

As a non-compulsory service in the older person's home, the nurses' support was dependent on older individuals' acceptance of the service. During the first visit, the nurses paved the way for a continuing constructive collaboration, i.e., 'the longitudinal room of possibilities', in which the nurses' personal and professional competence met the users' expectations, preferences, and changing needs and problems during the aging process. The establishment of constructive collaboration ensured shared understanding of aims, roles, and responsibilities. The nurses' role was to raise consciousness about important topics, and offer knowledge and support that might enable the users to sustain their health, well-being and independence as they aged, not to tell people what to do and/or do things for them. The users' role was to provide necessary information and utilize the service constructively, including contacting the nurse if they needed help, information, or advice between annual visits.

This initial work also included the intertwined processes of getting to know each other and developing trust. The nurses therefore prioritized relational aspects during the first visit, and sought to support the users' feelings of value, self-esteem and safety. The users' level of trust defined what information they shared, and a strengthening of trust would improve collaboration, and thus widening the room of possibilities. The second visit was perceived as particularly important for the widening process, but some needed several visits before they would talk about sensitive topics or make a call and come forward with upcoming needs or problems. The longitudinal approach facilitated the establishment of a trustful relation before severe problems arose. Violating the established trust could lead to a narrowing or a closure of the room of possibilities, and continuous relational work was therefore an integral part of the nurses' work during the entire follow-up period.

Metaphor 2: The individualized health-promoting processes: the ongoing gardening work

The majority of users were relatively fit and healthy when entering the service at age 75. During the years of follow-up, various age-related changes, onset of disease, deterioration and losses often changed their situation. The nurses' way of working shared the characteristics of ongoing support for

long-term processes, which demonstrated an equation, given the work of a good gardener. We will therefore use this as a metaphor in the following.

The ongoing gardening work had two dimensions, the first was: *To decide what to grow and to sow a seed*. The longitudinal room of possibilities gave the users opportunity to bring in their problems, needs and wishes, and the nurses to assess each user's health, life situation and home environment regularly, and identify potentials for health promotion/prevention based on the totality of information. The nurses underscored the need to explore the users' awareness, opinions and status related to these potential areas. Respect for the users' right to decide their own life was a basic value in the nurses' stories, and the focus for further health promotive work, what to grow, depended therefore on shared decisions based on the users' priorities and needs. However, the awareness-rising could often be a seed that started a process of considering, which might slowly grow into readiness for constructive actions.

The second dimension of the ongoing gardening work was: *Watering, fertilizing, and supporting*. Several of the benefits related to physical functioning, thriving and coping ability required that the older person made decisions, carried out practical actions, or changed their way of living. The users' capacity to adapt constructively to aging varied. For some users, a rise in awareness about potential areas for health promotion/prevention/adaptation, or relevant information and encouragement might be sufficient. However, the nurses experienced that for many older people such actions relied on complex processes, where physical or psychological barriers led to ambivalence or difficulties for instance to decide about their future residence, to accept the usefulness of helping aids or to carry out life-style changes. The nurses therefore repeatedly watered and fertilized these long-term processes, offered relevant information, supported the users' motivation and considerations, and acknowledged small improvements and autonomous decisions. They had good experience with "sluicing" users who wanted life-style changes into activities or services that could offer them continuous support for the desired changes, such as exercise groups for seniors or social activities in the local senior center. To be able to suggest acceptable and suitable

activities, they emphasized the importance of in-depth knowledge about the users, and about local activities and services for seniors. These efforts led to considerable positive changes for many users, but not always and not for all. For some, the sum of watering and fertilizing of several small plants over time could make a difference, and the nurses advised to be patient and have realistic, modest expectations to life-style changes for all older people.

The nurses also helped the users to cope with or compensate for the losses and gradual deterioration that often accompanied the aging process. The longitudinal room of possibilities facilitated ongoing practical, psychosocial and emotional support, and the ability to discuss and seek advice for various health-related matters related to the benefits described in Table 1. The nurses' ability to support the users rested mainly on their professional competence, but also on their opportunity to cooperate with, and refer users to other municipal professionals with specialized competence, such as physiotherapists and occupational therapists. The lack of formalised cooperation with GPs made collaboration about disease prevention dependent on each GP's goodwill.

The nurses experienced that transportation problems, waiting lists or lack of suitable activities could hinder the users' participation and hamper the creation of benefits. They also experienced gaps in the healthcare services for older persons with mental disease, and those with beginning cognitive problems living alone. When the nurses detected needs for help in these groups, they felt ethically responsible to offer the necessary help, which could take up a substantial part of their working time and reduce their capacity to fulfil the services' aims.

Discussion

The nurses described a variety of benefits related to subjective and objective health issues that supported older users' ability to live independently and thrive in their own home despite age-related challenges. The benefits included sustained physical health and functioning, feelings of safety, sustained thriving and mental health, sustained coping ability, increased ability to care for relatives, and preparedness for transitions to other healthcare services. Several researchers have questioned

the dominance of biomedical outcomes in PHV studies^{8, 15, 32}, and many of the described benefits are seldom or never used in quantitative PHV studies. Several of the described benefits are similar to those identified in previous qualitative studies of users' experiences with PHV^{10, 19}, which support the belief that the benefits identified here might be relevant for PHV users in other contexts. The benefits also correspond to older peoples' definitions of aging well as a multidimensional concept, comprising sustained health, ability to adapt, autonomy and independence, social relationships and life satisfaction^{33, 34}. Therefore, we suggest that evaluations of comprehensive, long-term PHV services should include outcomes reflecting a comprehensive understanding of health.

We could not find benefits related to support for informal caregivers, or transitions to other healthcare services in previous PHV literature. The evidence for caregiver support to reduce the need for professional help and sustain the caregivers' health is well-documented³⁵. The interest in problems related to transitions between different healthcare services is increasing³⁶. We consider these new findings interesting as they extend the knowledge about potential benefits of PHV and open up interesting possibilities for the use of longitudinal PHV services.

The service had a limited focus on disease prevention. Prevention and early detection of preventable disease is a prioritised strategy, internationally². Even if the majority of older persons see their GP regularly, many have undiagnosed medical conditions, which if treated properly could reduce the risk of severe complications or comorbidities³⁷. A risk-based PHV intervention where nurses followed-up with simple disease-preventive measures showed promising long-term effects^{13, 38}. The necessity for close cooperation with GPs are underscored in several PHV studies^{11, 22}. In Norway, structural barriers limit cooperation between PHV services and GPs, leading to missed opportunities for longitudinal PHV services with competent nurses to add the benefits of preventive measures for their users.

The benefits were created through individualized, complex and longitudinal relational and professional processes. The possibility to use time – in each visit and during the long-term follow-up was a main characteristic of the nurses' work. Several reviews of PHV interventions recommend

long-time follow-up^{16, 39} but do not explain why. The present study showed that a lasting, collaborative, trusting relationship, the room of possibilities, was a precondition for the creation of benefits. The establishment of such rooms included to develop shared understanding of the service's aims and roles. Earlier PHV studies have found that poor understanding of the aims and roles of PHVs could reduce acceptance and utilization of their services^{15, 40}. Trust and constructive collaboration was identified as essential in qualitative PHV studies^{12, 15, 22}, as well as other interventions to older people^{41, 42}. The time for users to judge the nurses' personal and professional trustworthiness varied, and some users needed several visits before they engaged in constructive collaborations. The need to use time to develop high-quality relations and personal trust, and the importance of high-quality relations for openness, quality of care, and patients' involvement were confirmed in other studies^{33, 42}.

The longitudinal approach facilitated ongoing gardening work that allowed nurses to attend to the users' current needs in each meeting, but also to follow-up and support the users' long-time changes, decisions, and adaptation processes. The collaboration with the users identified relevant areas for health promotion based on users' needs and preferences, and strived to provide tailored support and adequate responses to the needs, wishes and problems brought in the room. These ways of working coincide with recommendations for support of life-style changes⁴³, and principles of person-centered care, shared decision-making, and motivational interviewing^{22, 44-46} which are related to patient satisfaction and positive outcomes in health care settings.

We found that contextual and structural factors outside the longitudinal room of possibilities influenced the creation of benefits for users. The nurses had access to many resources that might be utilised to support users' needs, including other healthcare services and local activities for older people. Established routines for inter-professional collaboration with physiotherapists and occupational therapists supported gardening work and improved service quality, while the lack of formalised cooperation with GPs limited disease preventive aspects of the service. Capacity problems in certain services, mobility problems, and lack of transportation hindered participation for those

with limitations. Similar barriers were found in a recent UK study, which emphasized the importance of facilitating social participation in health-promotive services⁴⁷. A consistent municipal health promotive policy and coherent healthcare services are therefore necessary for maximizing PHV's potential to improve older persons' health and independence.

Strengths and limitations.

The informants' extensive, long-term experience is a strength of the study, and this sample covers almost the full body of experience of over ten years of conducting the PHV service in the municipality. There are always several possible interpretations of qualitative data. The informants' approval of the metaphors support our interpretation. The use of the framework method provides transparency of categorization and validation of findings, but using the Norwegian language in analyses limits transparency. PHV services are dissimilar, which limit the transferability of results to services with a similar approach/scope and context.

Conclusions

Constructive adaptation to aging may require challenging acceptance-decision-and changing processes. Long-term follow-up with annual preventive home visits provided by well-qualified nurses have excellent potential to give tailored long-term support for older people's changing needs during the aging process, which sustains health and independence. Personal and professional competence and contextual and structural factors influence the nurses' ability to create benefits for the users. The study may provide important insights for those who plan to introduce or develop PHVs. More studies will be required to explore the relevance of the benefits seen in this study.

Conflict of interest

The authors have declared no conflicts of interest.

References

1. Sixsmith J, Sixsmith A, Fänge AM, et al. Healthy ageing and home: The perspectives of very old people in five European countries. *Soc Sci Med* 2014; 106: 1-9.
2. European Commission. European Innovation Partnership on Active and Healthy Ageing, http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing (2013, accessed 2016-01-28).
3. Helse og Omsorgsdepartementet. *Meld. St. 19 (2014-2015) Folkehelsemeldingen: Mestring og muligheter*. Oslo: Helse og Omsorgsdepartementet, 2015
4. Vass M, Avlund K, Hendriksen C, et al. *Older people and preventive home visits*. Svendborg, Denmark: Age Forum 2006.
5. Førland O, Skumsnes R, Teigen S, et al. Forebyggende hjemmebesøk til eldre. Utbredelse, diffusjons-prosesser og spredning - Preventive home visits to older people in Norwegian municipalities. Prevalence, diffusion and dissemination. *Tidsskrift for omsorgsforskning* 2015; 1: 119-130.
6. Mayo-Wilson E, Grant S, Burton J, et al. Preventive Home Visits for Mortality, Morbidity, and Institutionalization in Older Adults: A Systematic Review and Meta-Analysis. *PLoS One* 2014; 9: e89257. DOI: 10.1371/journal.pone.0089257.
7. Stuck AE, Egger M, Hammer A, et al. Home visits to prevent nursing home admission and functional decline in elderly people: systematic review and meta-regression analysis. *JAMA* 2002; 287: 1022-1028. DOI: 10.1001/jama.287.8.1022.
8. Beswick AD, Rees K, Dieppe P, et al. Complex interventions to improve physical function and maintain independent living in elderly people: a systematic review and meta-analysis. *Lancet* 2008; 371: 725-735.
9. Tourigny A, Bédard A, Laurin D, et al. Preventive Home Visits for Older People: A Systematic Review. *Can J Aging* 2015; 34: 506-523. DOI: 10.1017/S0714980815000446.
10. Tøien M, Bjørk IT and Fagerström L. Older Users' Perspectives on the Benefits of Preventive Home Visits. *Qual Health Res* 2015; 25: 700-712. DOI: 10.1177/1049732314553595.
11. Vass M. *Prevention of functional decline in older people*. Doctoral Thesis, Københavns Universitet, København, 2010.
12. Lagerin A, Törnkvist L and Hylander I. District nurses' experiences of preventive home visits to 75-year-olds in Stockholm: a qualitative study. *Prim Health Care Res Dev* 2016; 17: 464-478. DOI: 10.1017/S1463423615000560.
13. Stuck AE, Moser A, Morf U, et al. Effect of Health Risk Assessment and Counselling on Health Behaviour and Survival in Older People: A Pragmatic Randomised Trial. *PLoS Med* 2015; 12: e1001889. DOI: 10.1371/journal.pmed.1001889.
14. Skumsnes R, Larun L and Langeland E. Effekten av forebyggende hjemmebesøk til eldre. (Systematic review on the effect of preventive home visits to the elderly on self-rated health and quality of life). *Sykepleien Forskning* 2013; 8: 310-321. DOI: 10.4220/sykepleienf.2013.0130.
15. van Kempen JAL, Robben SHM, Zuidema SU, et al. Home visits for frail older people: a qualitative study on the needs and preferences of frail older people and their informal caregivers. *The British Journal Of General Practice: The Journal Of The Royal College Of General Practitioners* 2012; 62: e554-e560. DOI: 10.3399/bjgp12X653606.
16. Frost H, Haw S and Frank J. Interventions in community settings that prevent or delay disablement in later life: an overview of the evidence. *Qual Ageing Older Adults* 2012; 13: 212-230. DOI: 10.1108/14717791211264241.
17. Clark J. Preventive home visits to elderly people. Their effectiveness cannot be judged by randomised controlled trials. *Br Med J (Clin Res Ed)* 2001; 323: 708. DOI: <http://dx.doi.org/10.1136/bmj.323.7315.708>.
18. Wyller TB and Pettersen AM. *Forebyggende hjemmebesøk til eldre: Norge - med blick mot Sverige og Danmark: En kartleggingsundersøkelse. (Preventive home visits to older people: Norway - looking to Sweden and Denmark, a descriptive survey study)* Sem: Aldring og helse, 2005.

19. Behm L, Dahlin Ivanoff S and Zidén L. Preventive home visits and health - experiences among very old people. *BMC Public Health* 2013; 13: 1-10. DOI: 10.1186/1471-2458-13-378.
20. Sjøbø BA, Teigen S, Alvsvåg H, et al. Hvilken betydning har forebyggende hjemmebesøk?-En kvalitativ studie av eldre menneskers erfaringer. *Tidsskrift for omsorgsforskning* 2016; 2: 47-58.
21. Sahlén K-G. *An ounce of prevention is worth a pound of cure: Preventive home visits among healthy seniors*. Doctoral Thesis, Epidemiology and Public Health Sciences, Department of Public health and clinical Medicine, Umeå University, Sweden, Umeå, 2009.
22. Liebel DV, Powers BA, Friedman B, et al. Barriers and facilitators to optimize function and prevent disability worsening: a content analysis of a nurse home visit intervention. *J Adv Nurs* 2012; 68: 80-93. 2011/06/08. DOI: 10.1111/j.1365-2648.2011.05717.x.
23. Yamada Y, Vass M, Hvas L, et al. Collaborative relationship in preventive home visits to older people. *Int J Older People Nurs* 2011; 6: 33-40. DOI: 10.1111/j.1748-3743.2010.00213.x.
24. Green J, Tones K, Cross R, et al. *Health promotion: planning and strategies*. 3rd. ed. Los Angeles: Sage, 2015.
25. Polit DF and Beck CT. *Nursing research: generating and assessing evidence for nursing practice*. Philadelphia, Pa.: Wolters Kluwer Health, 2012.
26. Drammen kommune. Forebyggende helseteam for eldre. (Preventive healthcare team for older people in the municipality of Drammen, Norway), <http://www.drammen.kommune.no/no/Tjenester/Omsorg-trygd-og-sosiale-tjenester/Hjemmetjenester/Forebyggende-helseteam-for-eldre1/> (2009, accessed 2014-03-28).
27. Morse JM, Barrett M, Mayan M, et al. Verification Strategies for Establishing Reliability and Validity in Qualitative Research. *Int J Qual Methods* 2008; 1: 13-22.
28. Kvale S and Brinkmann S. *Interviews: Learning the craft of qualitative research interviewing*. Los Angeles, Calif.: Sage, 2009.
29. World Medical Association. WMA Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects., <http://www.wma.net/en/30publications/10policies/b3/> (1983, accessed 2016-01-28).
30. Gale NK, Heath G, Cameron E, et al. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol* 2013; 13: 117.
31. Ritchie J and Spencer L. Qualitative data analysis for applied policy research. In: Huberman AM and Miles MB (eds) *The Qualitative Research Companion*. Thousand Oakes: Sage, 2002, pp.305-329.
32. Fagerström L, Wikblad A and Nilsson J. An integrative research review of preventive home visits among older people - is an individual health resource perspective a vision or a reality? *Scand J Caring Sci* 2009; 23: 558-568. DOI: 10.1111/j.1471-6712.2008.00637.x.
33. Marcus-Varwijk AE, Koopmans M, Visscher TL, et al. Optimizing tailored health promotion for older adults: understanding their perspectives on healthy living. *J Gerontology Geriatric Medicine* 2016; 2: 2333721415625293.
34. Bülow MH and Söderqvist T. Successful ageing: A historical overview and critical analysis of a successful concept. *J Aging Stud* 2014; 31: 139-149.
35. Wilson S, Toye C, Aoun S, et al. Effectiveness of psychosocial interventions in reducing grief experienced by family carers of people with dementia: a systematic review. *JB I database of systematic reviews implementation reports* 2017; 15: 809-839.
36. Tanner D, Glasby J and Mclver S. Understanding and Improving Older People's Experiences of Service Transitions: Implications for Social Work. *The British Journal of Social Work* 2014; 45: 2056-2071.
37. Norwegian Institute of Public Health. *Folkehelse rapporten [The Status of Public Health in Norway - Report] (Public Health Report 2014: 4)*. 2014.
38. Neumann L, Dapp U, von Renteln-Kruse W, et al. Health promotion and preventive care intervention for older community-dwelling people: Long-term effects of a randomised controlled trial (RCT) within the LUCAS cohort. *J Nutr Health Aging* 2017; 21: 1016-1023.

39. Daniels R, Metzeltin S, van Rossum E, et al. Interventions to prevent disability in frail community-dwelling older persons: an overview. *Eur J Ageing* 2010; 7: 37-55.
40. Tøien M, Heggelund M and Fagerström L. How Do Older Persons Understand the Purpose and Relevance of Preventive Home Visits? A Study of Experiences after a First Visit. *Nurs Res Pract* 2014; Article ID 640583. DOI: 10.1155/2014/640583.
41. Sandberg M, Jakobsson U, Midlöv P, et al. Case management for frail older people - A qualitative study of receivers' and providers' experiences of a complex intervention. *BMC Health Serv Res* 2014; 14.
42. Gantert TW, McWilliam CL, Ward-Griffin C, et al. The Key to Me: Seniors' Perceptions of Relationship-Building with In-Home Service Providers. *Can J Aging* 2008; 27: 23-34. DOI: 10.3138/cja.27.1.23.
43. National Institute for Health and Care Excellence. Behavior Change: individual approaches. Public health guideline PH 49., <https://www.nice.org.uk/guidance/ph49> (2014, accessed 01.07.2018).
44. Kitson A, Marshall A, Bassett K, et al. What are the core elements of patient-centred care? A narrative review and synthesis of the literature from health policy, medicine and nursing. *J Adv Nurs* 2013; 69: 4-15. DOI: 10.1111/j.1365-2648.2012.06064.x.
45. Entwistle VA and Watt IS. Treating Patients as Persons: A Capabilities Approach to Support Delivery of Person-Centered Care. *The American Journal of Bioethics* 2013; 13: 29-39. DOI: 10.1080/15265161.2013.802060.
46. Cummings SM, Cooper RL and Cassie KM. Motivational Interviewing to Affect Behavioral Change in Older Adults. *Research on Social Work Practice* 2009; 19: 195-204. DOI: 10.1177/1049731508320216.
47. Frost R, Kharicha K, Jovicic A, et al. Identifying acceptable components for home-based health promotion services for older people with mild frailty: A qualitative study. 2018; 26: 393-403.