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A model for implementing guidelines for person-centered care in a nursing home setting

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ABSTRACT

Background: Systematic evaluations of knowledge translation interventions in nursing homes to improve practice are scarce. There is also a lack of studies focusing on creating sustainable evidence-based practice in the setting of residential dementia care.

Methods: The aim of this paper is to describe a model for implementing national evidence-based guidelines for care of persons with dementia in nursing homes. The secondary aim is to outline the nursing home staff experiences during the first year of the implementation process. The intervention had a participatory action research approach. This included educational activities such as: (i) thematic seminars introducing national guidelines for dementia care, (ii) regular unit-based seminars; and (iii) later dissemination of information in reflective seminars and several days of poster-exhibitions. Areas of practice development were selected on each of the 24 units, based on unit-specific needs, and a quality improvement strategy was applied and evaluated. Each unit met ten times during a period of eight months. Data for this study were extracted from the reflective seminars and poster presentations, analyzed using a qualitative content analysis.

Results: Findings showed that implementation of guidelines were perceived by staff as beneficial for both staff and the residents. However, barriers to identification of relevant sources of evidence and barriers to sustainable implementation were experienced.

Conclusions: One of our assumptions was that dementia nursing homes can benefit from becoming knowledge driven, with care practices founded in evidence-based sources. Our findings show that to be partly true, even though most staff units found their efforts to pursue and utilize knowledge adversely impacted by time-logistics and practical workload challenges.

Key words: nursing home, national guidelines, dementia, participatory action research

Introduction

The National Board of Health and Welfare in Sweden published new national guidelines for care of people with a dementia disease in 2010. The guidelines provide evidence-based recommendations for interventions in different areas based on the latest evidence. The guidelines are hierarchical, from high priority interventions (priority 1) to interventions recommended to avoid (priority 10). Recommendations included address both aspects on the medical diagnosis and medical treatment as well as aspects on nursing and care. Areas for recommendations in the Swedish national guidelines are presented in Box 1.

The guidelines stipulate that all care for people with dementia should be person-centered and multi-professional team-based. Person-centered care rests on the idea of acknowledging the individual, and advocates moving beyond the stereotyping that is implicit in diagnostic labeling (Edvardsson *et al.*, 2008). Person-centered care involves using biographical knowledge of the person and his/her subjective experiences of illness and

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Box 1. Areas of first priority recommendations in the Dementia guidelines.

National guidelines for care of persons with dementia

- Person-centered care
- Small-scale environments
- Physical environments
- Caring climate
- Person continuity
- Activity and rest
- Education
- Support to informal carers

everyday life, together with family participation, to enable shared decision-making, and a continuation of self and normality in spite of illness, institutionalization or dependence on care (McCormack and McCance, 2006; Edvardsson *et al.*, 2008).

The development of guidelines rests on the assumption that a gap between scientific evidence and clinical practice can be significantly reduced by implementing evidence-based clinical guidelines (Grol and Grimshaw, 2003). Sciarra (2012) argues that use of clinical guidelines results in better patient outcomes and cost-effective care. The World Health Organization (2006) has also placed knowledge translation and bridging the gap between "what is known" and "what is done" high on the agenda of important future priorities (www.who.int). However, to have evidence-based guidelines can be regarded as the first important step in quality improvement, while there is still a need of models of how to implement the new knowledge into practice. Boström *et al.* (2011) identified a gap related to this process of knowledge translation in the field of elder care. This gap has also been addressed by Baltaden *et al.* (2011) with respect to issues of quality improvement and safety, and by the founders of the longitudinal and multicentered Canadian study "Translating Research in Elder Care" (Estabrooks *et al.*, 2009) when implementing a province-wide, hands-on evidence-based concept in long-term care. There have been strong recommendations to implement guidelines for the care of persons with dementia, as they can be used as a tool for quality improvement that supports evidence-based practice.

An increasing trend within implementation research is to use methods that empower the participants, e.g. using a participatory action research approach (PAR). PAR could be defined as "a research methodology that attempts to address power imbalances and oppressive social structures" (Grant *et al.* in Reason and Bradbury (eds.), 2008), where the main aim is to produce knowledge as well as action and consciousness-raising among participants. An often described strength is that the method acknowledges individuals as experiential experts and as key players in the process of constructing and using knowledge. Some commonly agreed upon traits for PAR are: empowerment, participatory democracy, and a focus on social problems (Koch *et al.*, 2002; Reason and Bradbury, 2008). The cyclical process of research, learning, and action is commonly endorsed (Grant *et al.*, 2008), although the different steps suggested in the cycles might differ (Day *et al.*, 2009). However, few studies describe the process of a PAR approach in implementation and its outcome, and there is still a lack of coherent evidence about optimal dissemination and implementation strategies (Grimshaw *et al.*, 2006).

Although guidelines are growing in popularity, several aspects of implementation remain unexplored. One of these issues that has been highlighted in systematic reviews concerns management support and organizational issues (Thompson *et al.*, 2007). Other aspects that are recommended to take into consideration in guideline implementation are that the guidelines are known, and are perceived as important (Perry *et al.*, 2011), and that they promote reflection (Koch *et al.*, 2002). It is also suggested to ensure that participants share ownership and choose areas that speak to them as individuals (Grimshaw *et al.*, 2006). Here, outcomes from a study using a participatory action implementation model focused on research, learning, and action in a large dementia nursing home will be presented.

The idea behind the initiation of the project was that both staff and the residents, the person with dementia would benefit from implementation of the national guidelines. A previous study has reported how staff benefited significantly from the project (Edvardssson *et al.*, 2014) in terms of reduced stress of conscience and a higher perceived person-centeredness in relation to hospitality.

The primary aim of this paper is to describe a model for implementing national, evidence-based guidelines for care of people with dementia. The secondary aim is to outline the nursing home staff experiences during the first year of the implementation process.

Methods

Participants and context of the study

The project was conducted in a nursing home located in the outskirts of Stockholm in Sweden, with 200 residents living in 24 small-scale units (8–9 persons per unit). Each person resided in personally decorated, private single room, while

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sharing the dining room and living room. This specific nursing home was chosen for the project since it was recommended by local authorities, as a nursing home interested in developments and innovations. In addition, the nursing home showed low rates of turnover and a management who was very supportive of the project from start. The design of the environment aligns with recommendation regarding nursing homes to provide secure units for persons with dementia, to be of small scale with a permanent set of staff. Another, fundamental recommendation in the guidelines stressed that the environment should be homelike and enriched (The National Board for Health and Welfare, 2010). For that purpose, staff, residents, and their family were encouraged to decorate the private rooms/apartments with personal belongings for everyday use, as well as memorabilia from their past. The staff ($n = 200$) consisted of 170 nurse aides, 25 health professionals (registered nurses, physical, and occupational therapists), and five managers. All staff participated in the implementation program, except for temporary employees or those who worked exclusively night shifts. Staff who only worked nights had part of their work-duties related to maintenance (e.g. taking care of laundry) and were not prioritized by the management to be involved in the project.

The implementation program

The project rested on ideas from PAR first described by Freire (1993), where great emphasis was placed on making sure that the process would be *known*, *initiated*, *accomplished*, and *reflected upon* (see in italics below) by the participants (i.e. staff) in the setting via a process of dialogue. Furthermore, empowerment and participatory democracy using a bottom-up approach, i.e. a collaborative partnership in all phases of research (Israel *et al.*, 2008, p. 50) was the basis for design of this study. Emphasis was also put on the liberating process (Koch *et al.*, 2002), whereby participants construct meaning through unit discussion.

A multi-professional team ($n = 7$) from Karolinska Institutet and Umeå University (three nurses, one physio- and three occupational therapists) served as facilitators in the implementation process, as well as knowledge translators and researchers. The team included all academic levels from masters' students to full professors. Three of the team members (POS, LB, and DE) participated in developing the national guidelines for care of persons with dementia (The National Board of Health and Welfare, 2010).

The implementation took place in 24 units within the same nursing home and all units had a facilitator/scholar. The groups' choices of area for development were different, although the procedures of the implementation applied the same steps and structures. The methodology for implementation was used to increase the likely hood of a sustainable implementation, and continued development as described by Rahman *et al.* (2012). Pre- and post-data were collected to be able to study the primary and secondary outcomes based on collection of traditional demographical data, e.g. on the residents stage of dementia, level of anxiety, and medication as well as ADL dependency have been monitored. Furthermore, residents' sense of thriving as well as staff data on stress of conscience and research utilization were collected, as were data from the closest significant other of residents. The initial outcomes from the project have been presented by Edvardsson *et al.* (2014).

The implementation process

The implementation process included several types of educational- and action-oriented approaches. Initially, all 24 units were offered a paperback copy of the guidelines, as well as information of the web link in which to find the digital, printable version. Thereafter, all staff participated at two introductory thematic seminars. The first was a lecture introducing the content of the guidelines. This primary initiative was made to ensure the guidelines, as the key-pillars in the forthcoming work would be known by all staff. The second seminar was set up as a workshop where each unit conducted a "SWOT" analysis, describing their Strengths, Weaknesses, Opportunities, and Threats (Humphrey, 2005) in their current care, in relation to the guidelines. Supported by the faculty facilitator designated for that specific unit, a number of topics for further discussion and options for change were identified. During this first brainstorming, areas chosen were related to, e.g. meaningful activities, nutrition and/or meal environments, oral hygiene, and agitated behaviors in residents. Hence, the units could themselves take part in *initiating* relevant developmental areas to address in their specific units.

In a third step, all the nursing staff were invited to participate in regularly unit-based seminars to develop ideas for and *accomplish* a change in practice according to the developmental areas identified from the SWOT analysis. Again, a process where the unit-specific needs were identified and the facilitators supported staff to compare the guidelines to the present provision of care. Typically, a discussion on knowledge in relation to identified areas in need for change was held, followed by initiatives to search for evidence for further application into practice.

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Box 2. The PAR model as suggested by Taylor *et al.* (2004).

Steps	Description
Step 1	Delineation of challenges/problems
Step 2	Choosing areas for improvement
Step 3	Design and assessment
Step 4	Engaging in action
Step 5	Gathering data
Step 6	Re-choosing areas for implementation

The unique setup of the implementation work facilitated all day-staff from each unit to meet in a time-synchronized fashion. Meetings were carefully planned so that staff from neighboring units, as well as temporary staff, could substitute for those participating in meetings.

Each unit met for 2 h, on ten occasions during a period of eight months. In the role of facilitators, five of the faculty members from the research group guided the staff in the 6-step PAR model chosen (Taylor *et al.*, 2004) (Box 2). The task was also to facilitate knowledge translation through evidence-based reasoning and practice. To enable all staff to participate in the implementation, all facilitators used an audited feedback strategy introduced by Grimshaw *et al.* (2006) to ensure that staff was provided with written summaries of the unit-based seminars. The facilitators met regularly in supervisory seminars with the project leaders in which challenges and procedures were discussed. After five months, all staff members were invited to seminars in which they could verbally *reflect on* their experiences of the implementation and share knowledge between units. Eight months after the introduction of the project, a poster exhibition with adjacent poster seminars was arranged.

Each unit presented their implementation process from delineation of problems to implementation of actions aiming to solve identified problems. To supplement their posters photos, displayed written pamphlets and a video film were used. The poster session also included four reflective poster seminars focusing on discussing and disseminating the developmental work and poster products of the various units (four separate sessions ensured that all participating staff from the 24 units had the opportunity to contribute).

Collection and analysis of data

The process data on steps relating to the implementation program and its development were mainly collected from the 24 units' oral presentations and associated written and pictorial material from posters that were documented at the time. During the poster seminars, the facilitators prepared questions to the authors of the posters both to clarify the written data before analysis, and also for pedagogic purposes for the staff, who then had to articulate and share their achievements with other seminar participants. Hence, two datasets constituted the basis for analysis: detailed notes with experiential data relating to participant experiences from the four reflective seminar discussions, and the written content and illustrations from the posters. The content from both sources was transcribed verbatim. The resulting text was coded line by line according to its content and extracted into meaning units (a word or a sentence), which were condensed, abstracted, and sorted in relation to content into larger subcategories. These coding procedures were conducted and discussed in the research team.

Both process and experiential data were analyzed using a qualitative content analysis approach described by Elo and Kyngäs (2008). They provided a methodological approach for conducting both inductive and deductive analysis, which was supportive for the development of the analysis (Elo and Kyngäs, 2008).

In the initial phase of the analysis, the transcribed texts from seminars were read through repeatedly to gain a sense of the details of data, as well as the whole. In this step, the deductive analysis was facilitated by Taylor's *et al.* (2004) and described six categorical steps in the participatory action research process.

The experiential data identified were then also inductively analyzed in order to fulfill the secondary aim to outline the experiences of nursing home staff during the first year of the implementation process. This was analytically sorted into six themes that conceptualized how the participants experienced the implementation process.

In the analysis, the focus was on the overall findings from all of the units who provided data that enabled summarized description. Guided by the purpose of the study, the analysis focused on comparing the experiences of the staff without striving for an explanation of differences in the experiences.

Ethical considerations

The Regional Board of Research Ethics, Stockholm approved the study. To ensure confidentiality in the transcription and analysis process, individuals' names were not transcribed.

Findings

The presentation of findings is structured according to the aim. First, the implementation model with

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its six categories will be described; second, the participants' experiences will be presented.

A model for guideline implementation in nursing home contexts

The model comprises six steps related to the categories outlined below builds on Taylor *et al.* (2004).

Delineation of challenges and problems

Based on the SWOT analysis, the most common challenges and problems were delineated and categorized in relation to organization of care, residents, family carers, and the nursing home staff themselves. Some of the 24 units delineated a specific problem related to the guidelines, e.g. provision of nutritional meals or supporting relatives, while others started their delineation of challenges and problems from an organizational or staff viewpoint, with less apparent heed to the person-centered care advocated by the guidelines. Consequently, a few units did not initially prioritize the needs of the residents, and instead chose their own work conditions, such as high stress levels or challenges with supervising part-time staff, as first-rank challenges. However, since work conditions in the various settings were considered to be closely related to residents' living conditions and psychosocial environment, the facilitators were able to provide a connection to, and additional focus on residents' needs, thus aligning the delineation exercise more closely to the guidelines.

Choosing areas for improvement

This step might be perceived as an easy one, but at least two of the units needed quite a lot of time to reflect on this, since there were differences of opinion on whether these units had any areas for improvement, and if so, which should be chosen. Several units identified that their unit had difficulty providing continuity in care, since they were divided into relatively isolated care teams. Some units acknowledge the benefits of the opportunity to all meet at the same time and discuss unit-specific needs: "It's important to meet and get started, as well as to identify an area to collaborate with them [the other staff] and the teacher [facilitator]." The same group described how input from the facilitators was important when identifying developmental areas that were relevant and accepted by the group, but yet of reasonable size to manage within the project. Others put great trust in the accumulated knowledge found within the group: "Our group tends to have a lot of good ideas when meeting."

The most frequently chosen areas for improvement were: provision of engaging activities, support or information to family carers, and adjustments to the physical environment. Staff at one unit described this process as: "We have started to discuss preferred living conditions at 90 years of age [. . .] whether choices of music and TV-shows fit the residents." The staff sometimes discussed increasing their provision of person-centered care in a broad sense, targeting multiple residents simultaneously, while at other times they focused on individuals (e.g. how to handle a particular person's agitated behavior).

Design and assessment

The next step in the process included searching for and identifying best available knowledge in order to design an action plan and also decide how to assess effects of an implemented action. The national guidelines for people with dementia were the primary source of knowledge introduced to all units. An encouraging finding was that at the eight-month follow-up, most units had learned to use a combination of sources for obtaining knowledge. As many as 11 of the 24 units mentioned using the guidelines as the main information source, which indicate that they were known and accepted as a source of knowledge. An equal number of units turned directly to evidence-based publications on the web in their search for knowledge. Other knowledge-gathering strategies included: consulting a specialist, reading books, appraising local directives at the nursing home, or paying a clinical visit to another care facility for inspiration. On the other hand, a few units put an uncritical trust in their own practical experience of providing care. These units settled for searching for answers among themselves without consulting evidenced-based knowledge available in the literature. In all fairness, the computer access showed some-what limitations; access to search engines in library databases almost non-existing and internet access possible only when computers were not occupied by staff filling in medical records or alike. Also, practical computer knowledge set hinder to several participants.

A number of different designs for evaluating implemented actions were applied. Most units chose simple qualitative data approaches such as unstructured observations and informal interviews. Other units applied a quantitative approach, e.g.: "We used a pre- and post-assessment design, using three scales to capture psychosocial aspects during mealtime. Loudness, anxiety amongst residents, and the overall atmosphere were rated as perceived by staff."

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Engaging in action

The most frequent actions chosen were in the areas of provision of information to family carers and altering the unit environment. When addressing those aspects, both psychosocial and physical aspects were addressed, e.g. changes related to mealtimes. Actions on the units included, for example, optimizing the use of space, as well as trying to create a homelike and enriched environment, as recommended in the guidelines. This was achieved by adjustments of routines, redecoration of rooms and furniture, as well as improvements to the mealtime environment, e.g. "We have chosen to join the residents at the dinner tables." When staff discovered that their planned actions sometimes led to an immediate improvement, they felt empowered to continue making suggestions for new areas for improvement.

Another area for improvement focused on residents' safety, revising care unit routines for verbal and written reporting, so that communication among the staff was improved, which was of particular benefit to new employees. Similarly, units that focused their attention on how to involve family carers more on a daily basis, started to put routines and information into writing and to make this available for the family members, to make them better informed about what was going on at the unit.

Gathering data

Outcomes of the unit-specific interventions were evaluated by gathering quantitative data (e.g. grading scales) as well as qualitative data (informal interviews and/or observations). The qualitative approach included descriptions of how nursing home staff, family carers, and/or residents described their experience of various interventions. In relation to the choice, staff made to join residents at the dining table (see the citation above) and the staff concluded: "The consequence is a calmer and nicer atmosphere [. . .] a sense of mutuality." The quantitative data included measure from VAS scales or occurrences of behaviors monitored on score charts. In one unit, focusing on nutrition, the weight of residents was one of the measures: "All have gained weight, which was especially important for two of our residents."

One of the many units that chose to work on activities described their data-gathering process in these words: "We have reached quite far. We performed a pre- and post-evaluation. Now we have group activities twice a day on a weekly schedule. The staff agreed on a routine of taking turns. One week we performed 13 out of the 14 activities."

Other units monitored outcomes less comprehensively, for various reasons. One example was: "We haven't had the time. . . We have just calculated the pre-measures and have not gotten around to following the intervention up, but we are aiming there."

The staff described gaining inspiration, motivation, and joy when implementing interventions, which were evaluated to show a positive outcome (often reflected in perceptions of positive reactions by residents).

Re-choosing areas for implementation

Having performed and reflected upon their initial chosen interventions, 14 out of 24 units averred an intention to continue improving the quality of their care using the empirical model they had been shown, i.e. by defining a new problem area, searching for knowledge, deciding on an intervention, assessing effects, and finally reflecting in theoretical and practical terms on the chosen intervention. Knowledge gained from the first area of intervention was used as a springboard for development of knowledge and actions in other areas. For example, initial interventions based on unit activities seemed to awaken a need to focus on more individualized activities based on each person's interests and preferences.

In addition, suggestions were made for gaining deeper knowledge, by consulting specialists and supervisors and to find more literature on apparently important issues for development. At the four-month reflection, a few units felt it was unlikely that they would use the published guidelines or similar sources for further knowledge and inspiration. Two units had not even managed to progress through all steps in the empirical guideline implementation process due to internal disagreements. On the other hand, eight months into the implementation process, some staff reflected on knowledge in the following manner: "Knowledge is actually something that needs constant updating."

Participants' experiences of guideline implementation – balancing the national and general with the local and individual

Staff members stated that focusing on one area for improvement at a time was a good strategy for the unit.

Viewing one's work from a different perspective

The analysis indicated that staff gained an increased sense of participation in policies and procedures in their own unit from this work. Some units also

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identified the benefits of publishing their routines for the benefit of residents, visitors, and part-time staff: "We now have a more personal introduction to our unit, including how activities are set up and hours for mealtimes are posted."

One staff member described how hearing about what others did (at the dissemination seminar) had inspired her and her colleagues to pursue those actions for their own residents: "In our group, we discussed how others behave towards visitors and relatives – offer coffee, welcome them to special activities and such. We will continue with that theme."

Experiencing everyday outcomes from interventions

Staff members related that interventions demanded additional effort, but were often experienced positively, enriching everyday life for all involved (staff members, residents, and family carers). For example, staff found that spending time with residents was encouraged, resulting in enriched social interaction. Staff members rated family carers as being slightly more satisfied, and felt that interventions aiming to enhance provision of information to family careers improved the communication between staff and family carers. One staff member concluded: "Our focus was on our stress . . . that probably reflects in our body language towards visitors. [. . .] How one presents oneself is of great importance."

Feeling better prepared as a professional

The staff described a better understanding of the importance of planning care, and felt better prepared to take on challenging issues in care giving when these arose. The following two quotes illustrate some recurring themes: "We're now more person-centered and focused on their (the residents'] well-being"; "We not only discuss medical care, but also plan what activities every day should entail." At the same time, stress from engaging in interventional actions was commonly described, mostly in relation to time pressures (i.e. fitting all necessary chores into the daily work-plan). One staff member stated: "We feel a bit pressured [to engage in the implementation project], but we actually might need it to be pressuring."

Balancing enthusiasm with a high workload

Staff at the units felt they already went to great lengths to fulfill planned, as well as, unforeseen events. They described a tension between their wish to pursue the planned interventions and a lack of means to do so: "We focused on patient security and on how to manage to have daytime staff always report to evening staff, but have now changed again, since the first hour was also too busy." Apart from lack of time, low staffing levels, lack of continuity of care, and difficulties in finding relevant literature were also described.

Negotiating discrepancy between national guidelines and existing local policies/directives

One problem that staff experienced was that the guidelines were not always perceived to concur with local directives and management agendas. For example, the guidelines advocated person-centered and flexible care in relation to the wishes and conditions of individual residents. In contrast, nursing home directives specified activities, which were pre-scheduled in detail for weeks ahead. "We find it frustrating that activities must be pre-scheduled. Acts of spontaneity disappear. The nursing home management needs to initiate a discussion, since the two opposing principles collide."

Also, architectural limitations in the physical environment were experienced as an obstacle to improving the environment and interaction with residents or family carers. There was difficulty meeting residents' need, when necessary, to be in a suitable space of peace and solitude. One unit chose to place a man in the living room to have his meals as he got frustrated by the talk and kitchen noise. This was at first seen as being a controversial move, and the staff attitudes toward this were divided. However they concluded the following in the dissemination seminar: "When we changed, it got quieter, and the residents calmer. The sense of thriving increased."

Integrating interventions into everyday practice

Several participating staff members described difficulties in fully integrating the developmental areas into their everyday practice. One claimed: "Yes, we have come quite far. But the [low staffed] weekends provide a continued challenge." Also, staff mentioned having to remind themselves and others of the agreed changes, since some of them were perceived as requiring extra effort. Similarly, it was noted that some actions were not carried out equally by all staff. Rather, implementation was shown to be dependent on certain individuals. One unit described how they deliberately let the personal skills and preferences of individual staff members guide their involvement in activities, since they found that their plans for all staff to take turns created discomfort in some staff members, who, for example were less fluent in Swedish. More

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flexible and pragmatic solutions were found. One participant described a colleague's personal skills put into practical use within their unit: "One of us is keen on doing magic. Otherwise the residents tend to get stuck in front of the television. Even I like to watch."

Alluding to the findings above, the project foundation on ideas from PAR (Freire, 1993), i.e. to put great emphasis on securing that the process would be *known*, *initiated, accomplished*, and *reflected upon* through the above findings is suggested to have been achieved.

Discussion

In conducting this study, a multi-directional dialog, not top-down communication, provided good results in the attempts to implement new knowledge. It is of great importance to put emphasis on providing a process of bringing new knowledge into the practice. It is known, initiated, accomplished, and reflected upon by the staff with direct expertise in the setting and through the process of dialogue. Another factor suggested to be successful and effective in guideline implementation is making the development of unique, unit-relevant interventions possible. Such a flexible approach is suggested to be effective, although earlier researchers claim there might be a risk of higher costs (Grimshaw *et al.*, 2006). However, in this study, the costs have been equal to what a less flexible (i.e. standardized) intervention would incur. This relate to the project ambition to align with already existing procedures and routines, making the hours spent equal to those spent in the pre-intervention work practice.

The study also demonstrated that the frontline care providers are capable of identifying and reflecting upon care practice problems of relevance for knowledge improvement. As empowerment and participatory democracy using a bottom-up approach, i.e. a collaborative partnership in all phases of implementation was the basis, the agenda for implementation was set by staff and not researchers/managers. A study by Perry *et al.* (2011) shows how new knowledge (in guidelines) not only has to be known but also needs to be perceived as important and credible, in order for it to be accepted, and then to become a springboard for staff to initiate and accomplish change. It needs to speak to the individual. This includes providing the staff with a possibility to learn on their own terms, from where they are in their development of knowledge. To give staff the ownership over the process for making a change can be a prerequisite for change to actually happen. A possible deduction from this research is that any external guideline, before it can be applied, should be integrated with individual expertise in deciding whether and how it matches the residents' clinical state and preferences (Sackett *et al.*, 2000). This corresponds with the definition of evidence-informed practice (Rycroft-Malone, 2008) that suggests inclusion of the organization's capacity and cultural factors to gain insights about the barriers and facilitating factors to evidence use.

There were differences between the groups included in the study. For example, different challenges were addressed, and multiple differences existed within each group regarding learning styles, abilities, and comfort or confidence with formal education materials. The analysis showed how searching for knowledge constituted the biggest challenge.

Initially, ownership and power were shared among all staff members on equal terms (as suggested by Grants *et al.*, 2008 and Lapaige, 2010) with the intention that faculty would enable the staff to generate, synthesize, accumulate, and translate knowledge (Gerrish *et al.*, 2011).

Based on the findings, we suggest an implementation process to include several types of user-friendly educational and action-oriented approaches, for example team workshops, reflective seminars, traditional lectures, poster exhibitions, in large groups and in small groups that facilitate learning from each other and sharing knowledge. Indeed, the creation of a community for learning, beyond teaching techniques and strategies, seemed to be an important basis for sustaining a shared culture in diverse groups of staff.

The second part of the study aim was to describe the experiences of staff members taking part in the process. As previously mentioned, staff members tended to search for evidence to a rather limited extent. Also, they leaned toward easily accessed material or peer-knowledge rather than sources which required more effort to access, either due to form or language. For example, information from books or sharing experienced-based knowledge triumphed scientifical publications and the national guidelines. These findings are consistent with other empirical data showing that learners who need support are prone to use already processed information sources (Gerrish *et al.*, 2011) or use opinion-based sources rather than evidence-based ones (Sciarra, 2012).

Methodological consideration

One strategy used by all faculty facilitators involved in the unit-based seminars was to adhere to Grimshaw *et al.*'s (2006) idea of procuring written,

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audited feedback. This enabled all staff units to have equal opportunity to participate in the implementation. As a result, most units were able to pursue the stepwise journey of the PAR model and to take active charge over their situation, thus avoiding falling into a linear, passive mode of implementation that Garam *et al.* (2009) claim does not work. Exceptions to this were the two units whose staff had divergent opinions, and thus repeatedly opposed the agreed improvement areas, resulting in only progressing half way through the process. In these cases, a parallel could be drawn with Rogers *et al.* (1995). These authors found that individuals in units undergoing change differ in the amount of time and persuasion, they need to adopt the new concept, ranging from participants they call "early-adopters" to so-called laggards. They suggest addressing this diversity through creating a positive atmosphere, building relationships with staff (see Gerrish *et al.*, 2011) and enhancing credibility on all levels (see also Perry *et al.*, 2011).

A key challenge identified in this study was perceived lack of time. Both Forsner *et al.* (2010) and more recently Eriksson *et al.* (2011) identify lack of time as a crucial potential barrier to clinical implementation. In recognition of this issue, (perhaps) Fawcett (2005) suggests a reasonable length of time for implementation to be 27–36 months. In the present study, it is possible that a longer duration of the project may have produced enhanced implementation of change. However, ongoing data analyses within this project enable the opportunity for more nuanced understanding of longitudinal findings.

Clinical implications

In our findings, as well as in Boström *et al.* (2006), nurses, and the rest of the staff were not used to applying an evidence-based approach in everyday practice. Rather, the diversity in uptake of the change process, with some staff groups eagerly learning from experts and others opting to put more trust in each other's common sense, points to the importance of hands-on training on, for example literature searching and evaluating different strengths of evidence. Such learning is suggested to be facilitated, if a model that demonstrates how new knowledge can be applied to inform planning for change and improvement is used. A strength in this study, to be recommended for future use, was that strategies suitable for each specific unit were fostered through empowering, "bottom-up" methodology such as PAR, which according to Grimshaw *et al.* (2006) increases the likelihood of sustainability of any improvements made.

In line with studies from Garam *et al.* (2009) and Day *et al.* (2009), participants in this study described how they perceived themselves to be involved in the development of care, and some even indicated that they were producers of research. We suggest that the participants in this study are moving toward a culture of knowledge searching and reflection, which positively informs the everyday thoughts and actions of all carers. We believe our care organizations are becoming more "knowledge driven" (Buckman, 2004) – with care practices founded in evidence-based sources – although staff found their efforts to pursue and utilize knowledge adversely impacted by time-logistics and practical workload challenges.

Conclusion

Our findings indicate the importance of encouraging organizational management to integrate the guidelines into their business plan, and to take account of local directives regarding caregiving practices. This would enhance staff engagement and make the whole implementation process more cohesive. Finally, our study underscores the need for investing considerable effort at the outset in including and grounding staff in the implementation process to come.

Conflict of interest

None.

Descriptions of authors' roles

S. Vikström and E. Stenwall analyzed and interpreted data and prepared a manuscript draft. P.-O. Sandman, L. Borell, and D. Edvardsson were responsible for the study design and setup and contributed in finalizing the manuscript, with S. Vikström. All remaining authors contributed in the intervention procedure and data collection as well as with comments and approved the final version.

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