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Prevention of falls, malnutrition and pressure ulcers among older persons – nursing staff's experiences of a structured preventive care process

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What is known about this topic

- Prevention of falls, malnutrition and pressure ulcers is important among frail older persons.
- Assessment scales are suggested to be useful tools when screening for risks.
- A systematic way to perform preventive work can improve quality of care.

What this paper adds

- The assessment scales do not fully reflect the reality of residents in nursing homes.
- There is no structure for learning from the results of the assessments and the performed interventions.
- Older persons who receive home help could benefit from a more comprehensive and structured preventive work.

Abstract

A structured and systematic care process for preventive work, aimed to reduce falls, pressure ulcers and malnutrition among older people, has been developed in Sweden. The process involves risk assessment, team-based interventions and evaluation of results. Since development, this structured work process has become web-based and has been implemented in a national quality registry called 'Senior Alert' and used countrywide. The aim of this study was to describe nursing staff's experience of preventive work by using the structured preventive care process as outlined by Senior Alert. Eight focus group interviews were conducted during 2015 including staff from nursing homes and home-based nursing care in three municipalities. The interview material was subjected to qualitative content analysis. In this study, both positive and negative opinions were expressed about the process. The systematic and structured work flow seemed to only partly facilitate care providers to improve care quality by making better clinical assessments, performing team-based planned interventions and learning from results. Participants described lack of reliability in the assessments and varying opinions about the structure. Furthermore, organisational structures limited the preventive work.

Keywords: falls prevention, home care, nursing care of older people, nursing homes, nutrition, risk assessment

Introduction

Older people in municipal care

In developed countries, the 80-year-old and older population is growing rapidly, and is expected to have reached 10% of the population by 2050 (Rechel *et al.* 2013). This group is at the same time the most vulnerable, with increased risks of diseases and need for long-term care. The Swedish elder care system provides two main forms of public care: home help services and institutional care such as nursing homes. The home help services support activities of daily living (ADL), like household tasks and personal care, and are offered by home help service staff for a charge. Where medical care is needed, home-based nursing can be provided as a complement. This kind of care is planned within the home nursing groups and is mostly free of charge. Home help services and home-based nursing are run in parallel but under different management, which means that neither organisation works for the other. Around 23% of the age group 80

and over receive home help services, while 14% live in nursing homes (National Board of Health and Welfare, 2013). Although the number of older people is rising, the number of beds in nursing homes has since 2008 decreased by 16% (National Board of Health and Welfare, 2015), mainly owing to a stay-at-home policy, where home help care services and home-care nursing are offered as long as possible. This implies that individuals moving into nursing homes today are frailer and in greater need of care than previously. As a consequence, the remaining time spent in the nursing homes has become shorter (Schön *et al.* 2015).

The preventive care process as outlined by Senior Alert

Frailty is often associated with malnutrition, pressure ulcers and occurrence of falls and often these conditions exist at the same time (Ernsth Bravell *et al.* 2011). The prevalence of risk for malnutrition in nursing homes is reported to be 63%, whereof 30% are malnourished (Törmä *et al.* 2013). Prevalence of pressure ulcers in nursing homes has been reported to be 14% and has elsewhere been estimated to be between 26% and 30% (Gunningberg *et al.* 2013), which is similar to reported prevalence in other European studies (Meesterberends *et al.* 2013). The prevalence of falls among institutionalised older people is reported to be 53%–62% of the residents (Rosendahl *et al.* 2003, Meyer *et al.* 2009). In a bid to reduce falls, pressure ulcers and malnutrition among older people, a web-based national quality register was developed in Sweden, named 'Senior Alert' (SA), and launched in 2008. The method was to concurrently assess the risk for falls, malnutrition and pressure ulcers, perform team-based interventions and follow-up results.

With support from central funding, approximately 100 Swedish national quality registries have been developed in the last decade as a strategy to improve quality of care (Emilsson *et al.* 2015). Most of the registries are disease-specific, containing data on diagnoses, treatments, interventions and outcomes, and have been frequently used for research. By contrast, SA is a process registry, which demands users to be more active, as the documentation of the process includes several actions. By the end of 2014, SA was being used in 287 out of 290 municipalities in Sweden, with over 1,000,000 registrations (Edvinsson *et al.* 2015). The preventive care process, according to SA, starts with a care contact at hospital, in primary care or in municipal care. The process can then be described in four steps, as shown in Figure 1.

Step 1 involves risk assessment using the following assessment scales: the short form of the Mini Nutritional Assessment scale (MNA-SF), used to assess risk of malnutrition (Guigoz & Garry 1994), the Modified Norton Scale (MNS) to assess risk for developing pressure ulcers (Ek 1987) and the Downton fall risk index (DFRI) for assessing fall risk (Downton 1993). The items included in these assessment scales are given in Table 1. Risk assessment is mostly performed by nurses and assistant nurses. By contrast, steps 2, 3 and 4 of the preventive care process are intended to be team-based, where different professionals co-operate in regularly held team meetings. The composition of the team depends on the context (Edvinsson *et al.* 2015); apart from nurses and assistant nurses, physiotherapists and occupational therapists usually form part of the teams. Step 4 of the process comprise follow-up on performed interventions for each individual, e.g. weight when at risk of malnutrition. It is also an intention that learning should be achieved as an outcome of the process. The preventive care process is repeated regularly, generally after 3–6 months.

It is important to investigate whether a systematic and structured work flow can facilitate care providers

Figure 1 Four steps in the preventive care process. In order to measure the effects of intervention, added information on fall events, weight changes and presence or changes of pressure ulcers is needed. Such information should be documented continuously. (The figure was inspired by the homepage of Senior Alert; http://plus.rjl.se/senioralert). [Colour figure can be viewed at wileyonlinelibrary.com]

Table 1 Items included in the different assessment scales

	Downton Fall Risk Index (DFRI)	Mini Nutritional Assessment-short form (MNA-SF)	Modified Norton Scale (MNS)
Cognition	x	x	x
Mobility	x	x	x
Activity	x		x
Falls, last 6 months	x		
Tranquillizers/ sedatives	x		
Diuretics	x		
Antihypertensives	x		
Antidepressants	x		
Anti-parkinsonian drugs	x		
Visual and hearing impairment	x		
Limb abnormalities (hemiparesis)	x		
Decreased food intake		x	
Estimated weight loss		x	
Acute diseases or psychological stress		x	
Body mass index		x	
Food intake			x
Fluid intake			x
Incontinence			x
General health			x

to improve care quality by making better clinical assessments, performing team-based planned interventions and learning from results. Others have described the implementation process of SA at hospital level (Rosengren *et al.* 2012), but to our knowledge, no previous study describes nursing staff's experiences of the continuous work with the process and registry at municipal level. Notably, many SA users work in municipal care, and therefore the rationale for this study was to investigate these professionals' experiences of SA.

Aim

This study aims to describe nursing staff's experiences of preventive work by using the structured preventive care process outlined by Senior Alert.

Method

Design

The study used an inductive qualitative design with a content analysis approach. Data were collected by focus group interviews that included staff in both nursing homes and home healthcare. Focus groups were considered suitable as they reflect the different forms of communication people use in daily interaction. Therefore, focus groups often reveal levels of understanding that can remain untapped when using other methods (Doody *et al.* 2013).

Participants and sampling

The participants came from three municipalities, one large and two smaller, in two counties in southern Sweden. In the large municipality, 2 of 10 geographic areas were randomly selected. A total of eight focus groups were conducted, constituted as shown in Table 2. The participants had worked in elderly care for a mean of 10 (range 1–29) years. Inclusion criteria were experience of regular assessment using the three scales, and that SA was used in the municipality.

The managers at the nursing homes or home-care division were informed of the study. Once they had agreed for their home or division to participate in the study, they suggested suitable days and time points for the interviews. These points of time largely depended on staffing. As a consequence, those who worked on the suggested days were possible participants. For some groups, the time agreed on depended on when key persons using SA would be able to attend. The interviews were carried out between May and December 2015. The managers distributed written study information to the staff before the interviews took place and also arranged a meeting room at the nursing homes or at the home-care offices. The interviews were semi-structured using an interview guide focusing on the staff's experience of working with assessment scales and the structured preventive care process according to the quality registry, SA. First, participants were asked to describe how they distributed the work around the assessments and registrations. There were also questions about their experience of using the scales and how they understood different included items. Further issues were aspects of improvement and how they used the quality registry for feedback and learning. The interviews lasted approximately 60–90 minutes, were audiotaped and transcribed verbatim. The first author (CL) was moderator in all interviews while the co-authors (MEB, LJ) alternated as assistants. The moderator initially clarified the aim of the session and then guided and encouraged the discussion. The assistants were responsible for recording and taking notes. At the end of the interviews, the assistant presented a conclusion, which made it possible for the participants to clarify and add information (Polit & Beck 2008).

Table 2 Location of participants. The group members represented nine nursing homes and two groups of home-care nursing

Focus group	Nurses at nursing homes	Nurses in Home-care nursing	Assistant nurses at nursing homes	Occupational therapist	No. of participants
1			6		6
2	7				7
3			6		6
4	6				6
5	1		4		5
6		6			6
7	3	2			5
8	1		1	1	3
Total	18	8	17	1	44

Ethical considerations

According to the Swedish Act concerning the ethical review of research involving humans, no permission is required when staffs are interviewed about their work (SFS 2003:460). The ethical processes followed in this study are, however, in accordance with the World Medical Association (2003) and the Ethical Guidelines for Nursing Research in the Nordic Countries (2003). Permission to conduct the study was obtained at top level in each municipality. The informed consent letter given to the participants gave a short rationale for the study and outlined the voluntary nature of participation.

Analysis

The transcribed interviews were subjected to qualitative content analysis using an inductive approach. This means that data move from the specific to the general by open coding, creating categories and abstraction (Elo & Kyngäs 2008). The interviews were read repeatedly to gain a deeper understanding and a sense of the whole. While reading, notes were written in the margins. These notes were then entered into a code scheme and thereafter grouped and labelled with descriptive codes. At this level, the co-authors read first all the interviews and thereafter the first author's initial analysis. The coding was then discussed until agreement was reached about the code labelling. Examples of the analysis process are given in Table 3. The condensation process was then subjected to further critical discussion within the research group, resulting in abstraction to seven subcategories and three categories.

Findings

The results are presented based on three categories and seven subcategories. These are visualised in Figure 2.

Lack of reliability in the assessments

The scales do not reflect the reality

Participants were familiar with a variety of assessment scales for different care situations. They had nothing against assessment scales in general, but when it came to the preventive care process, they stressed that the scales included did not reflect the reality of the residents. This view was especially emphasised by the nursing home staff, and in particular regarding the MNA-SF and DFRI. The staff's experiences were that almost every resident was assessed as being at risk according to these scales, but the staff's clinical estimation was different. A certain degree of resignation concerning the DFRI was expressed and participants had come to accept the high-risk frequency. Their reflection was that falls occurred very quick and suddenly, despite performed actions, which made falls very difficult to prevent. Participants also mentioned that use of alcohol, as well as anticholinergic drugs, and also sleeping habits and environmental factors, should be assessed as they affect the risk of falls. These items are not included in the DFRI. The opinion about the MNS was almost the opposite; pressure sores could develop even if a resident was assessed as not at risk by the scale. The staff listed items that, in their opinion, should be included in the scale, such as assessment of tissue status, use of steroids, dry heels and swollen legs or oedema. In their opinion, these are severe risk factors among older frail persons, but they are not included in MNS.

Participants stressed that the combination of suffering from dementia and being wheelchair-bound indicated risk of malnutrition according to MNA-SF, even if the older person was eating well and was not at risk based on the clinical assessment. As these conditions applied many residents, this caused stress among the staff:

Table 3 Examples from the analysis phase of qualitative content analysis

Meaning unit	Code	Subcategory	Category
I noticed that today when we assessed this person who we didn't know so well. So it was hard to answer the questions. Medication, length and weight are easy, but how confused is he, how fall risk-prone? It's just estimations. (fg7)	Different routines for when and how to assess	Differences in use and interpretation of the scales	Lack of reliability in assessments
Wards can differ about what a normal portion is and about the size of portions being served. (fg1)			
She has a fragile skin, is treated with cortisone, and is not fully mobilized. There I see a risk for developing pressure ulcers, but she did not have any risk. (fg7)	MNS underestimates risks	The scales do not reflect the reality	
It is easier for us in nursing homes . . . as we see them all the time. We control weight and have control over how much they eat. We report to the nurses if there is any problem. (fg3)	Having attention in everyday care	Everyday care is based on experience, control and supervision	The value of structure
Maybe they have half a year left when they come to us . . . not more . . . it is not realistic to do this. It is wellbeing that should be in focus. (fg4)	Cannot see any possibilities for improvement		
This comes afterwards . . . my clinical judgment comes first. I sometimes do this later when I get time. (fg4)	Assessments come second		
It can reflect the workload; perhaps eight out of ten are falling and five with risk for pressure ulcer, then you can see that this ward has a lot to do . . . but we do not use it. (fg4)	Reflection over results	No explicit routine for learning	
Something goes wrong and data disappear . . . and the patient is still here even though he was moved to another ward . . . and how do I proceed. . .. (fg2)	Difficulties to administer the system	Increased work and duplicated documentation are time-consuming	Organizational factors limits the preventive care
Anyway, I think this is a waste of time for the assistant nurses. So many tasks are imposed on us. (fg1)	Too many tasks for the assistant nurses		
Meals-on-wheels have changed to be more like cat food. Terrible . . . and no vegetables anymore. We can already see complications among those with diabetes with unstable blood sugar. (fg7)	Powerlessness about decisions made beyond their control	Caring without a comprehensive view	

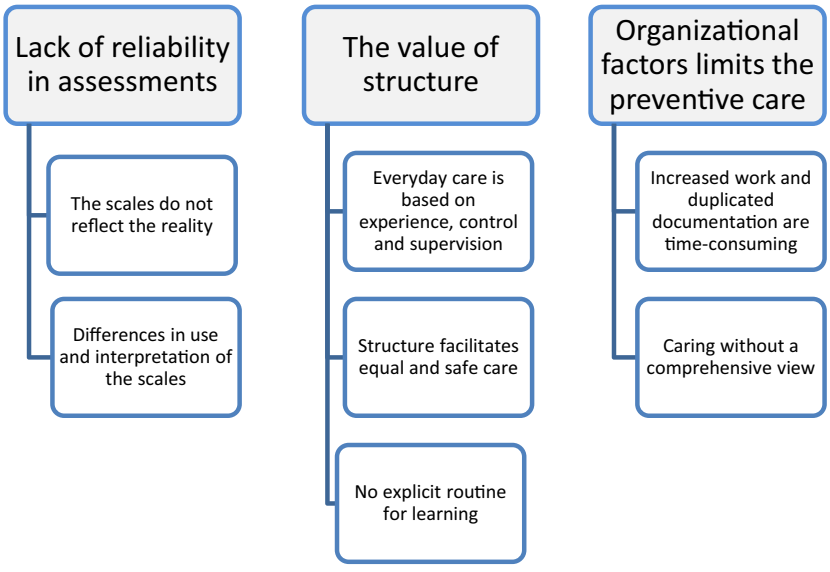

Figure 2 Categories and subcategories in the present analysis. [Colour figure can be viewed at wileyonlinelibrary.com]

We think they eat well ... as well as what one may expect ... so therefore it is not really fair ... because you often get a result that borders on malnutrition. But you couldn't ask them to eat more. (fg3)

In situations such as described above, the nurses had to defend their care plan and motivate why no intervention was planned.

The participants expressed some surprise over the fact that MNA and DFRI had not been further developed, since their release in the early 1990s. Several participants asked for a more appropriate way to perform the assessments:

I observe these risks better with my eyes and my presence than what I see on this paper. I can't go by the paper – it does not show the reality. (fg4)

Differences in use and interpretation of the scales

Differences regarding how to use the scales included the issue of when to perform the first assessment after admittance. Some participants said that their routine was to do this within 2 days of admittance to the nursing home, while others waited until the person felt at home. Participants explained that before a person moves into a nursing home, illness, loneliness and anxiety may have caused eating disorders. Some of the older persons may even have forgotten to eat. However, when admitted into a nursing home, the older person will encounter organised and controlled food situations and those needing help to eat receive that. Timing of the assessment could affect the outcome:

We are doing the assessments around 2 weeks after admittance, so they are feeling at home and are eating properly. (fg5)

Participants agreed that working together was the best way to make assessments as this procedure increased the knowledge about the older person. However, co-operation was not always possible. Sometimes the nurses started completing parts of the assessment, leaving the rest to the assistant nurses, and vice versa.

It was unclear whether nurses and assistant nurses really made assessments on the same basis, because the participating nurses mentioned that they sometimes corrected the assistant nurse's assessments, especially regarding the question of the older person's 'general condition' in the MNS, where assistant nurses tended to consider the person's 'general weakness' while the nurses took into consideration the person's circulation stability and absence of fever. Other examples of disparities in assessment were divergent interpretations of cognition and of 'going out', a mobility item in MNA-SF. What 'going out' means for an older person living in a nursing home was not entirely clear:

Taking initiative to move, that's what I think.... (fg4)

I think that if you can manage to move unassisted or not ... I don't think about the word 'out' actually. (fg2)

In one municipality, training had been carried out to ensure that staff performed assessments in a similar way, based on the written instructions provided in the SA guidelines.

The value of structure

Everyday care is based on experience, control and supervision

The majority of participants were of the opinion that formal structure was not really needed in everyday care. The assistant nurses at nursing homes, who provide most direct personal care, are always present. They are close to the residents and continuously observe any change in behaviour, loss of appetite or deterioration of the resident's general condition. This is discussed in the staff group, who agrees on a suitable strategy to improve the situation:

They're really taken care of in nursing homes ... they get backing and they get food three times a day ... and a snack ... and as soon as someone can't raise their hand to their mouth they get help. It's impossible to live in a nursing home today without being constantly supervised. (fg4)

Participants expressed their awareness of, and ability to detect, early signs that could lead to serious events. Staff was observant of how the patients were positioned in their wheelchair or in bed. They recognised any early sign of pressure ulcers and made the necessary adjustments, for example with a pillow. This was part of the everyday care that went on, in a way, independent of the structured preventive care process. Assessments and follow-up of interventions, according to the preventive care process, were done and documented twice yearly, while the daily care, which involves many small improvements, was continuous. Participants highlighted that many nursing home residents are frail, with little time left in life when they move in. This means that the focus must be on their well-being, to ensure good quality at end of life, including a customised food order and comfortable rests. Participant's motivation for structure was poor as the primary focus for these individuals were well-being:

They shall get a fine last time in life. No one moves back home when they've come here ... they're really sick when they come. (fg4)

Structure facilitates equal and safe care

One positive aspect of applying a structured work process, according to the participants, was that it facilitates equal care as every person is assessed in a similar way. Some nurses expressed that the assessments functioned as a checklist and they could feel safe that nothing was missed. Senior Alert was also described as a tool for documentation and collaboration.

It's definitely a tool – like a guideline. It would certainly be done some way, but not quite the same way. (fg5)

I think the underlying causes are great. Once you have the risks we can find the causes ... and then talk in the group to decide an action. (fg4)

Team meetings were described as more structured when SA was used: the meetings were carried out using a 'common language'. Different roles for different professions were described. For example, nurses and assistant nurses responded for interventions regarding malnutrition, while physiotherapists mostly concerned themselves with fall prevention and occupational therapists with pressure ulcer prevention, for example obtaining special mattresses and other protection aids. Shared responsibility and interesting and fruitful team discussions were described as stimulating. Teamwork in combination with structure and the possibility to compare results was experienced as a tool for working towards a common goal:

We want to be best; they shall feel fine. We won't have any falls, pressure ulcers or malnutrition here. (fg8)

No explicit routine for learning

The issue of learning did not arise within the groups. One arena for evaluation is team meetings and as SA is web-based, computerised reports can be used to follow-up and compare results. When this issue was discussed, none of the participants were familiar with or interested in the possibility of receiving reports. Managers had occasionally shown the team some statistics, but this was not done regularly. However, opinions about the importance of feedback varied in the groups. Both the importance of visualisation to keep the motivation, and a lack of interest were described. Those who expressed lack of interest in feedback from SA had a greater interest to follow changes clinically:

I decided to give her nutrition drink and she felt better – the wound is healing, she's gaining weight – that's a positive result. That's how it is. (fg2)

Apprehension was raised about whether analysed data from SA could ever really show improvements in quality of care, as most of the patients are at end of life and regardless of any preventive action, they are ill and in palliative care.

Organisational factors limits the preventive care

Increased work and duplicated documentation are time-consuming

The nurses described SA as a parallel system, as it is not linked to any electronic care record system. They stressed that duplication of documentation demands time:

We don't want an additional documentation burden. I think we should have secretarial support ... we can't be stuck in front of the computer all day. (fg7)

The ordinary documentation system was prioritised as this was the staff's 'working system'. Therefore, it could take a while before data were entered into SA. Different routines for entering data were described. At some places, the assistant nurses were responsible for data entry; in other places, nurses were the only profession with access to SA. Perceived technical problems such as system hang-ups and required restarts were also time-consuming. Another technical issue raised was the problem of concluding a record in SA.

You have to do a follow-up before conclusion. It feels very strange to do a follow-up on a deceased person. Impossible, so to speak. So ... you have to enter something and that is probably the person's last weight. (fg2)

Participants also emphasised lack of time during team meetings, and the scheduled time for meetings also differed largely between care units.

Caring without a comprehensive view

The home-care nurses had limited possibilities to get support for the preventive work from the home help service staff. They discussed these circumstances as aggravating as they felt that they thereby did not own the care process. They wanted to have more control and the possibility to get help to check up on a patient, for example to establish how well the patient ate and drank at home:

Many do not eat because they are alone. We have had much discussion on the demented, that they just get food to the door. Home service does not even come in to dish up and chat for a while. No one knows how much of the food they eat. If the patients want them to come in, they have to pay extra. Whatever home service does have a charge. (fg7)

The home-care nurses emphasised that it was difficult to get a comprehensive view when meeting a patient just for a special care task, and not very often.

They wanted to work more preventively, but were confined by the given time limits, both their own and the home service staff's:

> Without sounding too negative, it can be difficult to work preventively at all in healthcare today, depending on the cost efficiency. It is about 'here and now' with no perspective for the long run. We are expected to have a holistic view, but those who make decisions don't have that view. That is difficult for us … we need more time. (fg6)

In spite of poor conditions, the home-care nurses tried their best and stressed the importance of preventive work in home care due to the possibility to stop a downward health trend in time. In care situations at home, the home-care nurses tried to perform planned interventions like calling attention to the importance of improvement in the home environment with better lighting and removal of carpets and with patients wearing firm shoes. Some nurses also described how they tried to check up on how much of the distributed food was left in the refrigerator or in the dustbin. But as guest in another person's home, they could only give advices and persuade. They also described a feeling of powerlessness regarding decisions made outside their control. One such decision was that meal distribution changed from warm to cold food, which affected food intake to the worse.

Discussion

This study reports both positive and negative opinions about the value of assessments and structure as outlined by SA. The interviews tended to focus on the assessments and actions. To implement and work with such structured, web-based preventive care process takes time and requires a 'driving force'. Rosengren *et al.* (2012) described 'committed leadership' as one important factor in the implementation process. Even though it was not explicitly expressed in the groups, the impression was that continuous, committed leadership and coaching are needed. Maybe a more committed leadership also would imply that the follow-up was performed more seriously. Paying more attention to outcomes from interventions may be stimulating and have a pedagogical effect.

The default scales in SA have been selected by an expert group and are supposed to be the best possible choice according to usefulness and based on evidence. Yet the nursing home staff especially stated that the scales did not reflect the reality. Maybe one explanation for this criticism is that the elderly populations in nursing homes have changed (Schön *et al.* 2015), as previously mentioned, and are not really comparable with the population the scales were once developed to assess. Furthermore, instrument development aimed to improve scales demands scientific work, which is costly and not always possible. In this study, DFRI was discussed with a certain resignation and the prevention of falls was experienced as complex and challenging. Fall risk assessment tools have shown poor predictive validity in nursing homes (Barker *et al.* 2009, Meyer *et al.* 2009) and other trials have also reported no improvement in fall rates/incidences following well-planned interventions (Kerse *et al.* 2004, Cameron *et al.* 2010) which shows the complexity of preventing work in this frail population. However, in order to make the assessments more comprehensible in SA, the underlying causes can be analysed (step 2 of the process). These are concrete, evidence-based risk factors. For malnutrition, for example, they include poor oral health, difficulties to swallow, lost motivation and lack of appetite. Determining underlying causes provide the users with additional and important information, not covered by the assessment scales, which are valuable in the planning of actions. Unfortunately, this step is not mandatory in SA and is followed in only 20% of assessments, even if performing this step revealed better outcomes (Johansson *et al.* 2016).

Senior Alert was designed to give DFRI, MNA-SF and MNS as first-hand alternatives for assessment, but other scales are available. For example, an alternative tool for assessing pressure ulcer risk is the Risk Assessment Pressure Sore (RAPS) scale (Lindgren *et al.* 2002), which includes at least one tissue variable, but most users seem to use the proposed scales. The scale that engaged participants the most was MNA-SF. This was mainly due to the discrepancy between assessed risk scores and how the staff judged food intake and status of nutrition. However, earlier research has shown that recognising malnutrition by clinical judgement is difficult and that underestimation is common (Suominen *et al.* 2009). Furthermore, several earlier studies regarding nutrition among older people resulted in recommendations to use nutrition assessment tools (Persenius *et al.* 2008, Merrell *et al.* 2012, Volkert 2013, Borgström Bolmsjo *et al.* 2015). However, assessment without action is futile, as further actions often are needed. Although SA includes all important parts to support successful prevention, several nursing home participants felt that their perceived clinical supervision was more important. At the same time, the nurses from home healthcare described a lack of supervision based on time constraints and organisational structures. This was frustrating to them, as they felt that this patient group, who were still living

at home, could perhaps benefit most from preventive care. If inadequate diet and malnutrition could be avoided, it might be possible to prevent health decline and also reduce hospital admission rates (Ahmed & Haboubi 2010). Furthermore, it has been shown that those with risk for malnutrition benefit more from intervention than those rated as malnourished (Lee *et al.* 2009), indicating that timeous actions in the community may help to reduce the high rate of undernutrition in nursing homes (Naseer *et al.* 2015). The home-care nurses tried to find solutions in co-operation with occupational therapists and physiotherapists regarding the home environment, but they wanted to develop this collaboration further and also include home help service staff. Common management and fewer time constraints would make it possible for home-care nurses to have a holistic view, which could improve the preventive care.

Concerning decisions such as who should make the assessments and who should enter data into SA are up to each unit to decide. Furthermore, to set the timeframes for team meetings and deciding the details of how follow-up and evaluation should be performed are also local decisions. Allowing broad local adaptation, with local protocols, can be an advantage for individual organisations but can result in incomparable data at a higher level. One important purpose of quality registries and one reason they get national funding is that they are useful for research (Emilsson *et al.* 2015). However, with different routines, both data quality and the possibility to interpret data for research can be questioned. Unit-based education aimed to achieve concordance in the assessments, as arranged in one municipality, might be a first step to increase data quality. Another issue is the uncertainty of follow-up data, which are mandatory to enter when an older person has died or moved away. As the system requires a value, entering the person's last weight is a 'solution'; however, in many cases this will be the same as the initial assessment weight, which may not be the 'true' weight at time of data entry.

An important outcome of the preventive care process is to learn from results. According to participants in this study, there seemed only to be little learning taking place as comparing of results at ward and municipal level was performed only occasionally. However, it is fundamental to evaluate outcomes; otherwise the question of improvement cannot be addressed (Nordin *et al.* 2014). As an example, according to open data from SA, 60% of the older persons in care at municipal level were assessed to have risk for malnutrition (Senior Alert, 2015), while according to the staff's preconceptions, almost every resident was at risk of malnutrition. This illustrates that more needs to be done to incorporate evaluation and learning into the process.

The selection of participants can be described both as a purposive selection and a convenience sampling. It was a purposive selection in that participants were identified as having specific knowledge and also as being willing and able to contribute. It was a convenience sampling in that the managers took a leading part in the recruitment. During this process, the managers were very obliging and their help was essential. The participants varied in age as well as years of experience. They contributed to rich discussions and seemed comfortable and open to share their thoughts. To achieve trustworthiness (Elo *et al.* 2014), we have described the study accurately, both regarding sampling and regarding the analysis process.

Conclusion

The described preventive care process is aimed to improve quality of preventive care and thereby contribute to reducing falls, malnutrition and pressure ulcers among older people. In this study, which is based on focus group interviews with staff, both positive and negative opinions were expressed about this method. However, the systematic and structured work flow seemed to only partly facilitate care providers to improve care quality by making better clinical assessments, performing team-based planned interventions and learning from results. The assessment scales were not considered to reflect the reality, but the team meetings were deemed improved. Furthermore, only little learning was achieved. With the increased workload, further studies on outcomes from SA are desirable so that the issue of improvement can be seriously discussed.

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