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Systematic Observation of Frail Older Patients in Homecare – Implementing a Competence Improvement Program

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Abstract
Background: The early recognition of deterioration in frail older patients is a vital competence of homecare professionals, yet there is a gap between competence demands and actual competence. The aim of this study is therefore to describe and analyse the implementation of a competence improvement program for the systematic observation of frail older patients, developed and implemented in two homecare settings in Norway.
Methodology: The study applied a descriptive qualitative design consisting of observation, focus group interviews, and individual interviews.
Results: Homecare professionals described the competence improvement program differently both within and across the two homecare districts. They gave diverse explanations for the purpose of the program, most of them involving positive expectations towards improving the current observational practice. The content of the competence improvement program was complex and consisted of multiple components, which the participating homecare professionals experienced as demanding. The process of implementing the competence improvement program was influenced by the difficult flow of information, limited available time, and challenges related to simulation.
Conclusion: The implementation of a complex competence improvement program for the systematic observation of frail older patients in homecare requires careful planning with regard to content, process, and context.

Keywords
Homecare, competence, improvement, clinical observation

What do we already know about the topic?

- Increased demands for competence in caring for frail older patients in homecare have resulted in a disparity between the demands and the actual worker competence.
- Educational programs to improve healthcare professionals' competence in recognising and responding to patients' clinical deterioration have mostly been established in hospital settings.

What does this study contribute?

- Description of a tailored, multi-component competence program in two Norwegian homecare districts, which aims to improve the homecare professionals' observational competence.
- Analysis of the competence improvement program according to a theoretical framework for change that consists of the dimensions of content, process, and context.

Introduction

This paper explores the implementation of a competence improvement program (CIP) in two homecare districts in Norway. Throughout Europe, there is a shift occurring in healthcare services, from specialised healthcare to primary healthcare. As a consequence, there is a rising number of frail older patients with complex needs in homecare (Genet, Boerma, Kroneman, Hutchinson & Saltman, 2012)

Homecare professionals (HCP) comprise a mix of nurses, skilled health workers, and assistants (Genet et al., 2012). Competence demands in caring for frail older patients in homecare is placed on these frontline staff (Gray, Currey, & Considine, 2018a; Padilla & Mayo, 2018), and greater expectations in homecare have resulted in a disparity between demands for competence and actual worker competence (Bing-Jonsson, Foss, & Bjørk, 2016; Genet et al., 2011; Maybin, Charles, & Honeyman, 2016). As homecare is a complex practice, there is a need to integrate perspectives that involve the competence of the professional, the context, and the professional interactions (Cowan, Norman, & Coopamah, 2005; Cowan, Wilson-Barnett, Norman, & Murrells, 2008).

Frail patients have a higher risk of deterioration and increased mortality (Gobbens, Luijkx, Wijnen-Sponselee, & Schols, 2010). Delayed escalation of care upon clinical deterioration of patients is associated with increased deaths in hospitals (Barwise et al., 2016; Sankey, McAvay, Siner, Barsky, & Chaudhry, 2016). A study has estimated that one third of preventable deaths in hospitals in England is associated with delayed clinical monitoring (Hogan et al., 2012). The increasing focus on patient safety in the context of hospital care continues to lack structured approaches and consensus in homecare (Masotti, McColl, & Green, 2010; Vincent & Amalberti, 2016). Patients receiving homecare may thus be more prone to adverse events due to limited available standards and fragmented approaches by HCP (Harrison et al., 2013; Jones, 2016; Vincent & Amalberti, 2016). Strømme, Aase, and Tjoflåt (2020) found that measuring the patient's vital signs and the awareness of deterioration among HCP was varying and, in many situations, absent.

It is emphasised that early recognition and response to clinical deterioration improves patient outcomes (Padilla & Mayo, 2018). Attention towards the observation, early recognition of deterioration, and managing of frail older patients is therefore important and creates a need for competence development and new approaches for managing this patient population in homecare (Gray, Currey, & Considine, 2018a, 2018b). Knowledge and experience are

identified as important factors affecting HCPs' abilities to recognise and respond to patients' clinical deterioration, and educational programs for this purpose have, overall, been implemented in hospital settings (Liaw, Scherpbier, Klainin-Yobas, & Rethans, 2011). As part of the national patient safety program, the Norwegian Health Directorate has issued a recommendation related to early recognition and response to deteriorating patients both in the hospital and primary care setting (Helsedirektoratet, 2020). Ree and Wiig (2019) in their study of patient safety in Norwegian homecare and nursing homes concluded that training and skills development should be the target of improvement efforts. The aim of this study is therefore to describe and analyse the implementation of a competence improvement program for the systematic observation of frail older patients in two homecare settings in Norway.

The description and analysis of the competence program is based on a theoretical framework for change (Pettigrew & Whipp, 1992), chosen based on the need for changes in HCPs' competence on systematic observation of deteriorating patients. The framework consists of three dimensions: (1) WHY of strategic change in terms of context, meaning the motivational drivers behind change; (2) WHAT of strategic change in terms of content, meaning organizational elements or components utilised to support the change; and (3) HOW of strategic change in terms of process, meaning methods, strategies and implementation interventions used (Pettigrew, Ferlie, & McKee, 1992; Stetler, Ritchie, Rycroft-Malone, Schultz, & Charns, 2007).

The Competence Improvement Program

The competence improvement program (CIP) was designed and initiated by the Centre for Development of Institutional and Home Care Services (USHT) in the county to improve skills and competence in recognising and responding to deteriorating frail older patients in two different homecare settings in two municipalities in Western Norway. Managers in the homecare districts were asked to participate in implementing the program in their respective homecare organisations. A project manager at the USHT organised and led the improvement program.

The multi-component CIP consisted of a written compendium, with basic knowledge related to the observation of the frail older patient, a digital learning tool, a teaching day, and simulation-based training. Further, an equipment bag/backpack and the ISBAR form were included in the program (see Table 1).

Methodology

Design

The study of the implementation of the CIP for systematic observation in homecare applied a descriptive qualitative design (Bradshaw, Atkinson, & Doody, 2017) involving observations, focus group interviews, and individual interviews.

Setting

The study was carried out in two municipalities in the western part of Norway. One homecare district (A and B) in each of the municipalities participated in the study. Homecare A is located in a city and involves two densely populated geographic areas organised into three different groups, with one responsible department manager. The municipality in homecare B has a combination of urban and rural areas. The HCPs are organised into two groups, and each group has a responsible department manager.

Table 1: The tailored, multi-component educational program

Learning resources	Purpose	When	Participants	Contents
Compendium	Theoretical knowledge about systematic observation and communication. The compendium is to be used for learning new subjects and repetition of familiar knowledge.	Available at any time	All HCPs	- Normal physiology – Disease symptoms from a geriatric perspective – The ABCDE algorithm for patient assessment (airway, breathing, circulation, disability, exposure) – Actual symptoms – Scoring tools – Structured communication tool: ISBAR (identify, situation, background, assessment, recommendation)
A digital learning tool	Provide opportunities for the HCPs to work with the material at any time.	Available at any time	All HCPs	An external learning tool for systematic clinical observation: – Different patient cases – The ABCDE algorithm – An early warning score – ISBAR – Questions related to patient cases
A teaching seminar	Description of the implementation program. Dissemination of theoretical knowledge on early recognition of deteriorating patients in municipal health. Aiming to improve HCPs' competence	Organised on two occasions: 1) 20 September 2017 2) 27 September 2017	1) 62 HCPs 2) 66 HCPs Both days: – Nurses – Skilled health care workers – Managers	- Normal physiology – Disease symptoms from a geriatric perspective – Systematic examination of an acutely ill geriatric patient according to the ABCDE algorithm (airway, breathing, circulation, disability, exposure) – Structured communication tool using ISBAR (identify, situation, background, assessment, recommendation)
Skills training	To master vital measurements	Carried out at different times in each homecare district	Nurses Skilled health care workers	Skills training in measuring respiration rate, pulse rate, and blood pressure
Simulation-based training	Learning objectives: 1) Structured observation using the ABCDE algorithm 2) Structured communication (ISBAR)	At scheduled times in each homecare district	Nurses Skilled health care workers After a while – also assistants	- Introduction – Brief – Simulation – Debrief
ISBAR form	To structure observation of patients' clinical conditions, contribute to decision-making, and structure communication	In situations where patients need systematic observation When need to call GP/emergency room or the AMK	Nurses, skilled health care workers. Assistants	The content of the form: ABCDE algorithm ISBAR communication tool q-SOFA (quick Sepsis-related Organ Failure Assessment) FAST (Stroke symptoms) NEWS (National Early Warning Score) VAS (Visual Analogue pain Scale)
Equipment bag and backpack	To have available equipment for measuring vital signs	When visiting all patients	Nurses on call carry the bags; other HCPs use backpacks	The bag: The ISBAR form Blood pressure device Stethoscope Thermometer Oxygen saturation meter Blood glucose meter Urinary test Laerdal pocket mask Rescue foil Flashlight The backpack: The ISBAR form Blood pressure device Thermometer Urinary test Laerdal pocket mask Flashlight

The HCPs in the two districts are comprised of nurses with a bachelor's degree, skilled health workers with healthcare education at the upper secondary school level, and assistants without any formal healthcare education. The assistants are mostly temporary employees. In both homecare districts, professional development nurses are responsible for the training of new employees, employees' professional development, the follow-up of students in practise, the annual teaching plan, and collaboration with managers and associates outside homecare.

Data Collection

Participant observation was used to observe the implementation of the tailored multi-component educational program. Focus group interviews and semi-structured interviews were conducted to describe the HCPs' experiences with the implementation of the CIP in the two homecare districts (see Table 2).

Table 2: Data collection

Data collection	Numbers	Participants
Observation:		
- Teaching seminar	2	70
- Simulation-based training	14	70 HCPs
- Different meetings	8	3–20 development nurses and resource nurses
Focus group interviews	6	30 participants, HCPs
Semi-structured individual interviews	6	Managers
	3	Professional development nurses

Participant observation

Participant observation was conducted (DeWalt & DeWalt, 2011) at the teaching seminars, at the simulation-based training, and at different meetings.

All three authors attended and observed the two teaching seminars. An observation guide was used to focus on the teaching, which included items related to the content, as well as the interactions, responses, and activities of the participants, and notes were taken.

The simulation-based trainings were observed mostly by the first author, who was present at all the simulations. The other authors attended only a few simulations. Both moderate and active observation (DeWalt & DeWalt, 2011) was used, as the observers mostly stayed in the background, and, in a few instances, the observer was involved in the debriefing phase (DeWalt & DeWalt, 2011). An observational guide was used, focusing on the content of the simulation trainings, the participants' involvement, and their experiences. During the simulations, notes were taken.

Moderate observation (DeWalt & DeWalt, 2011) was also completed at several meetings in the two homecare districts during the implementation period of the CIP. The first author attended the meetings and took notes.

Focus group interviews

Six focus group interviews, three in each homecare district, were conducted with the HCPs, who had different levels of competence (registered nurses, skilled health workers, and assistants) (Morgan, 1997). Most of the groups comprised five to seven HCPs, with one group

only containing two assistants due to practical issues with recruitment in one of the homecare settings. A semi-structured interview guide was developed, focusing on the HCPs' perceived knowledge of the CIP, how they were informed about it, and the CIP content. The first author led the interviews and guided the discussions while the second and third author alternated in the role of moderator. The interviews lasted for about one hour each and were tape-recorded.

Semi-structured individual interviews

Semi-structured individual interviews (Polit & Beck, 2018) were conducted with managers and professional development nurses in the two homecare districts. The interviews lasted for about an hour and were conducted at the respective homecare office. An interview guide covered the motivation of the homecare districts' representatives to attend the CIP, the implementation of the CIP, and the factors that enabled and hindered its implementation in the homecare districts.

Ethics

The study was approved by the Norwegian Centre for Research Data (NSD, no. 54855). The participants were informed, both during the observations and interviews, of their protected confidentiality and their right to withdraw at any time. A written consent form was provided. Transcripts were made anonymous through the deletion of identifying information. The participants were assured that the data tapes and transcripts were stored in line with ethical guidelines and would be deleted after the study was completed. One of the participants in a focus group interview chose to withdraw, and the associated data in the form of interview quotes were not used.

Analysis

A qualitative content analysis was used to analyse the data material (Elo & Kyngäs, 2008; Kyngäs, Mikkonen, & Kääriäinen, 2020). The material was read several times and was first sorted and structured according to Pettigrew and Whipp's (1992) three essential dimensions: *why – in this study, describing the purpose of the CIP in the homecare context, what – the contents of the CIP, and how – the process of implementing the CIP.* The *why* dimension was mainly informed by the focus group interviews and the individual interviews. The w*hat* and *how* dimensions were informed by both the observations and interviews. Second, open coding was identified in the sorted material, and headings, phrases or words were written in the margin while reading. The headings had a clear connection between the open coding and the raw data. Third, common codes were grouped together. The lists of identified open codes and the content of the groupings were checked by returning to the raw data to confirm the context of meaning. The fourth and final step was the process of identifying sub-categories, categories, and main categories. Kyngäs et al. (2020) describe this as a process of abstraction, which can proceed further as long as the concepts can be grouped together. The sub-categories, categories, and main categories in each of the three framework dimensions (Pettigrew & Whipp, 1992) related to the CIP (why, what, how) are outlined in Tables 3, 4, and 5.

Results

The results of the analysis are presented according to the three dimensions: *why* – the HCPs' perceptions of the CIP, *what* – the content of the CIP, and *how* – the implementation process of the CIP (Pettigrew & Whipp, 1992; Stetler, Ritchie, Rycroft-Malone, Schultz & Charns, 2007).

Improved Observational Practice (Why)

The analysis demonstrates that the HCPs described the rationale behind implementing the CIP in various ways (see Table 3).

Table 3: HCPs' perceptions of the CIP purpose (why)

Sub-categories	Categories	Main category
Improve communication with general practitioner (GP)/emergency room (ER)/the emergency medical communication centre (AMK)	A shared language	Improved observational practice
Skilled health worker can call GP/emergency room/AMK		
Improved communication among HCPs		
Ensure early patient treatment	Systematic patient assessment	
Assess deterioration		
Assess the patient's normal situation		
Unsystematic assessment of vital signs before the implementation of the CIP		
Assessment of the patients		
A systematic tool		
A feeling of confidence for the HCP	Promote confidence	
Safety for the patients		
Improve competence	Competence development	
Empower the HCP		
Improve awareness		

Consistently, all the participants talked about the CIP contributing to *promote confidence* among the HCPs. They described that the program will make them feel 'safer' at work, be more confident in measuring the vital signs, and more certain in situations with ill and deteriorating patients, as one HCP expressed:

> Yes, in situations where we need to measure vital signs or something needs to be done, I think we will become more confident and more aware. Then, we will measure the vital signs, as expected (HBT2, skilled health worker).

The HCPs perceived that the CIP is concerned with an increased level of *systematic patient assessments*. The participants described that, previously, the HCPs rarely measured vital signs. This task was dependent on the individual HCP, and there were no common expectations or guidelines around it. Several people talked about the "gut feeling" of the patients' clinical situations.

The HCPs found the ISBAR form very useful. The vital signs give objective answers on the patient's condition, and the assessment is easy to complete. The HCPs also believed they can assess the patient's need for extensive help.

> It is supposed to be a working tool – a structure, informing how to measure the vital signs, which is based on the situation. I do not know; I did not attend the teaching seminar. I do not know, but this is how I have understood it (HBT2, nurse).

As part of the CIP, the patient's normal situation is supposed to be registered, and the HCPs found that very useful:

> Now, it is better that we know the patient's normal condition. Then we can detect early deterioration. Because some patients maybe only initially need help preparing food. By measuring the patients' normal vital signs, we know when they are healthy and can then notice and confirm their changed conditions. I find it very, very good (HBT1, nurse).

Further, the participants thought that the CIP would lead to a *common language* in terms of using vital signs and improving the communication among the HCPs in the homecare districts, as well as the communication between the HCPs and the general physicians (GP), the emergency room (ER), and the emergency medical communication centre (AMK).

Normally, it has been the nurses who have contacted the GP in the situation of deteriorating patients. The nurses describe that, generally, the communication with the GP has been vague, such as "the patient is not good."

The skilled healthcare workers have not previously called the GP directly. In situations of patients in poor clinical condition, the skilled health workers have instead contacted the nurses. It is now expected that the skilled health workers will call the GP directly. All the participants discussed this issue, and, in general, agreed that it is a positive change.

However, some skilled health workers discussed the need to consult with other HCPs, especially nurses, around deteriorating and ill patients, as they were not used to taking the vital signs and calling the GP. Other skilled health workers found the changed expectations in the program both challenging and exciting. A skilled health worker put it this way:

> I think that in situations with deteriorating patients, the patient needs faster help. We can manage that, by using those forms and having everything ready, when, for example, we call the GP. Then everything they have to do is ready and clear (HBT2, skilled health worker).

Further, several HCPs expressed that the CIP is very important for the patients. They thought that when the HCPs can detect changing conditions and initiate proper treatments, the patients will experience a sense of being safe and well taken care of. One skilled health worker expressed it like this:

> First and foremost, it helps the patient. When we have the opportunity to measure the vital signs, the patient will feel 'safer' and know that we have control of the clinical situation (HBT1, skilled health worker).

The HCPs also mentioned that the program is about *competence development* and thought that improved knowledge contributes to better judgement. Several talked about the lack of knowledge pertaining to awareness of the patients' clinical condition. In this regard, there is a distinction between the nurses and the skilled health workers, in that the latter have not measured vital signs, while the nurses have, although not systematically. The managers expressed that performing this task will improve the HCPs' knowledge in detecting deteriorating patients and described it as *a boost of knowledge.*

A Complex Multi-Component Educational Program (What)

The CIP includes multiple components, and the HCPs saw the content as complex in several ways (presented in Table 4). During a debriefing in the simulation training, a nurse commented: "This is complex, here there are many new expressions and many new things to take care of – this isn't easy" (HBT1, nurse).

Table 4: Aspects related to the CIP content (what)

Sub-categories	Categories	Main category
Have got the necessary equipment for measuring vital signs	Available equipment for measuring vital signs	A complex multi-component program
Has had a need for equipment for measuring vital signs		
The equipment promotes the CIP		
Introduction of ABCDE and ISBAR		
NEWS has to wait		
Need for educational activity	Application of the learning resources	
Everyone did not sign up for the teaching seminar		
Who was allowed to attend the seminar		
Teaching and information as part of the simulation brief		
Little use of the digital learning tool		
Debrief		
Assistants did not attend the course	Unclear role of the assistants	
The assistants' obligations are unclear		
Assistants joined the simulation		

Consistently, the HCPs found it encouraging and important that the homecare districts are now receiving *available equipment.* Initially, the equipment became a topic of conversation, an eye catcher and a reminder of the CIP. A nurse commented: "Yes, and those backpacks are a reminder" (professional development nurse at a meeting).

Previously, when measuring vital signs, the HCPs had to leave the patients and collect the required equipment at the homecare office, which was experienced as demanding and led to delay in measuring the patients' situation. A nurse explained the situation this way:

> In situations with deteriorating patients, we now need to pick up the actual equipment at the office. Maybe we also need to take a blood sample, and then we need to drive to the nursing home, borrow the equipment, drive back to the patient, take the test, and then drive back to the nursing home and measure the result. After all this, maybe we need to call the emergency room (HBT2, nurse).
>
> Yes, now the equipment is available. We do not have to drive to the office and pick up the equipment anymore (HBT2, nurse).

The equipment is stored in red bags and backpacks, and the HCPs are expected to bring the backpacks when visiting the patients. Homecare A decided that the backpacks should stay in the cars, and homecare B opted to keep them available on a shelf in the facility.

The ISBAR form was supposed to be a part of the equipment in the bag/backpacks, and it informed the HCPs about the structure in their observation, which involved the ABCDE principles, the ISBAR, q-SOFA, FAST, VAS, and NEWS. Several HCPs mentioned during the simulation-based training that it is difficult to cover so many different expressions. The professional development nurses and the USHT experienced the same thing, and there was a need to take a step back. The focus on ABCDE and ISBAR was highlighted, and the attention to the NEWS score had to wait.

The *application of the learning resources* was different in the two home care districts, both in relation to who participated and the use of the resources.

The two homecare districts had different strategies in recruiting HCPs to the one-day teaching seminar. In homecare A, a list was posted on the wall, and the nurses and skilled health workers were allowed to register. In homecare B, the managers and the development nurses chose the participants for the teaching day because they felt it was necessary to maintain normal working routines, and also for financial reasons. Several HCPs disliked that so few had participated in the teaching day. They believed that the value of the program is dependent on everyone (all HCPs) having the same knowledge, as one HCP expressed:

> I think this program will be really good, as long as those who did not attend the one-day teaching day receive the same information and competence – so that we do not act blindly and do not know what to do (HBT2, nurse).

Further, the two homecare districts had different strategies for how the HCPs received the content of the CIP. However, the HCPs, especially those who did not attend the course, thought that the information and knowledge dissemination was unclear. Simulation-based training was prioritised, the compendium was available but not systematically handed out to the HCPs before attending the simulation-based training.

The digital learning tool was used to a very limited extent, in both homecare districts:

> No, we have not used the digital learning tool very much. But we have prioritised involving everyone in the simulation-based training, so that all HCPs have the opportunity to practise. And, we have chosen not to start using the bags and backpacks before we know for sure that all are dependent on the equipment (HBT1, professional development nurse).

The brief of the simulation-based training was used to inform the HCPs about the program, the equipment for measuring vital signs, and knowledge about the ISBAR form. Further, the participants were informed about the patient case, and the HCPs acted in the actual situation. Lastly, the debrief phase in the simulation was completed. In homecare A, the professional development nurse and the resource nurses were in charge of the simulation-based training and acted as facilitators. In homecare B, the professional development nurses had that responsibility. The simulation-based training was unknown to the professional development nurses and most of the HCPs in the homecare districts, and it was performed after the report in the middle-of-the-day shift. The professional development nurses registered the HCPs for participation in the simulation-based training.

The *role of the assistants was unclear* in the CIP. Initially, the USHT decided that the assistants would not be involved. The assistants were told that they were not included and that they were not expected to measure any vital signs. Some assistants described this as strange because, on their working lists, they were sometimes supposed to measure the vital signs. As one assistant commented: "And then we need to ask someone else to do that" (HBT1, assistants). Further, it was decided at first that the assistants would not attend the simulation-based training. However, this was reconsidered, and the assistants were involved in the simulation. One professional development nurse explained the reason for the change: "The assistants are visiting the patients, and they must detect changes in the patients' situations." However, the expectations concerning the role of the assistants in the program were unclear. In a simulation training, one assistant expressed that it was nice to be included and she found it informative, but she did not know exactly what she was expected to do.

A Demanding Implementation Process (How)

The HCPs experienced the implementation of the CIP as challenging (outlined in Table 5).

Table 5: HCPs' experiences of the implementation process (how)

Sub-categories	Categories	Main category
Knowledge of the CIP	Difficult flow of information	Demanding implementation process
Little information		
Challenging to reach everyone with information		
Resource demands	Limited time available	
Not enough time for professional development		
Time-consuming program		
Large and demanding program		
Nervousness related to simulation	Simulation considered as challenging	
Positive development of simulation over time		
Reveals knowledge needs		
Demanding to be a facilitator in the simulation-based training		
Professional development nurses in charge of the CIP	Support for CIP facilitators	
The professional development nurses need support		
The professional development nurses have excessive responsibilities		

Throughout the interviews and the different meetings, the HCPs talked about the difficult flow of information. One nurse expressed: "but the information before the one day teaching seminar was diffuse - what the CIP is really about" (HBT1, nurse)?

The professional development nurses and managers felt that the information provided about the program had been complete. However, in general, they experienced that it was challenging to reach all the HCPs in the homecare districts due to the HCPs' working schedules, many not reading e-mails, and some staff only working part-time.

Many described their *limited available time in the homecare* due to busy work schedules, as well as not having enough time for competence development. As a professional development nurse explained, implementing new improvement programs is challenging:

> It is challenging to find the time and resources to implement the program (HBT1, professional development nurse).

The HCPs experienced the program as excessive and demanding, and they were not aware of its extent. A professional development nurse expressed it this way:

> We may not have known the scope of the CIP either. So, when we actually started, we realised that this was a little bigger than we thought (HBT2, professional development nurse).

Moreover, conducting simulation-based training *was perceived as challenging*.

Initially, the HCPs were very sceptical about the simulation-based training. Very few HCPs had previously been involved in a simulation process, and it was described as scary, unnatural, and embarrassing. A professional development nurse expressed:

> It is challenging. The staff oppose simulation. It is challenging to talk about it positively, true, that's what we're trying to do, and then it's hard when people go away because they don't want to be involved in the simulation, right. For example, they take on extra tasks to avoid it. And then it is hard to make them realise that this is really nice (HBT1, professional development nurse).

Gradually, however, some HCPs found the simulation useful, educational, and pleasant.

The professional development nurses were in charge of the program, and they found the implementation challenging. They expressed a *need for support* to fulfil the program. The cooperation with USHT was seen as positive, but they expressed a desire for targeted feedback in the simulation sessions.

They experienced that there was not enough time to prepare for the training during a busy working day.

> The resource nurses found that the simulation-based training days could be very difficult. They described busy patient lists and the need to go/move directly to the simulation-based training and facilitate it. There was a need to move in and out of different tasks. They wished that the simulation was included in their work lists (HBT1, Observation meeting).

The debriefing of the simulation was also perceived as challenging. It was described as difficult to pose good questions and to include everyone in the group, and they were afraid that the HCPs felt that their knowledge was being tested. In fact, the simulation-based training did inform them about the HCPs' current knowledge in the observation of frail older patients in homecare.

The managers in the homecare districts emphasised the importance of the program and acknowledged that their responsibility was to support the implementation process. They sincerely wanted to make it work in their homecare districts.

Discussion

In the following, we will highlight three of the distinctive findings from our study that need careful consideration when planning and implementing a CIP in homecare: HCPs confidence (why), the multiple components of the CIP (what), and the HCPs experiences with simulation-based training (how). In addition, we will reflect on some issues when assessing the CIP and its implications for improved homecare for the frail older patient.

HCPs confidence (why)

HCPs highlighted that they expected the CIP to make them feel 'safer' at work. They wanted to be more confident in measuring the patient's vital signs, and to appear certain in situations with deteriorating patients. This finding might reflect that many of the HCPs perceived a feeling of uncertainty in situations with deteriorating patients and an imbalance between actual and expected competence. In the nursing literature competence has different meanings (Cowan, et al., 2005), and refers to the capability of the professionals, the performance of tasks and obligations expected of the professionals (Boyatzis, 1982; Eraut, 1994). The fact

that HCPs related the CIP to a feeling of certainty may reflect that the program meets several of the competence components; their own capability in handling deteriorating patients, knowing how to perform the tasks of measuring vital signs and understand them, ultimately leading to confidence in meeting the obligations expected of them by patients, carers, managers, and professional communities.

Multiple CIP components (what)

The CIP has been described as complex and with multiple components (see also Table 1) and the implementation process varied in the two homecare districts. The USHT (Centre for Development of Institutional and Home Care Services) initiated the program and managers of the homecare districts were informed and confirmed the participation of their respective homecare districts at an early stage. The HCPs themselves were informed at a later stage with no systematic involvement throughout the decision-making process. In addition, not all HCPs were involved in the teaching seminar, the digital learning tool was rarely used and the timing of when the HCPs received the compendium varied. As such, the HCPs' competence needs related to systematic observation of deterioration were not systematically mapped and therefore not integrated explicitly throughout the CIP. Grol (2013) describes the importance of involving the representatives of the target group (in this case the HCPs) in implementation processes. Homecare is described as a heterogeneous practice, with complex decision-making (Genet, 2012), and it is necessary to tailor the CIP according to the HCPs' needs, encountered challenges, the work setting and the actual individual. Involvement contributes to ownership of the CIP among the HCPs and encountered responsibility for the contents and implementation of the program (Grol, 2013).

HCPs experiences with simulation-based training (how)

Simulation as a learning method was unfamiliar to the HCPs in the current homecare districts and was described as frightening, unnatural and embarrassing. The HCPs expressed opposition towards the simulation, and several refused to participate. Participants might be more ready to engage in simulation if their roles are made clear, if they have a basic trust in the facilitator and if the simulation offers a safe educational environment (Dieckmann, Gaba & Rall, 2007). These issues also involve a social side of simulation, and the briefing part of simulation-based training is highlighted as important to accommodate role clarity, trust, and psychological safety (Dieckmann et al., 2007; Rudolph, Raemer & Simon, 2014). Since the HCPs were dissatisfied with the general information of the CIP the facilitators of the simulation-based training had to use the briefing session to inform the participants about the CIP components and teach them some of the basic skills related to, for example, measuring vital signs. Therefore, little time was set aside to create a safe environment for simulation, and HCPs continued their scepticism towards simulation.

Interrelations and implications

Looking across the three dimensions of why, what and how of the CIP implementation gives a complex and nuanced picture of the challenges of improving systematic observation among HCP in the current Norwegian homecare settings. The dimensions are interrelated meaning that, e.g. less experience with simulation as a CIP component (how) may influence HCPs confidence in their work tasks related to systematic observation (why). At the same time, the multiple components of the CIP (what) can have implications for the implementation success (how). These interrelations are characteristic of the fact that how to consistently improve care and patient safety across a variety of settings, has few explicit answers (Kaplan

et al., 2010; Vincent & Amalberti, 2016). Still, as the interrelation between competence in systematic observation and patient deterioration is established for hospital care we should assume that this is also true for the homecare setting. At this point, to confirm whether the CIP has resulted in improved systematic monitoring and consequently better and safer care for the frail older patient requires further research. This will be done in a forthcoming longitudinal process evaluation on the effects of the CIP.

Strengths and limitations

Few studies exist regarding competence improvement of systematic observations in the homecare setting. This study contributes to the field by its qualitative descriptive approach of a CIP aiming to understand the implementation process in depth based on direct information from HCP with various backgrounds and responsibilities experiencing the program. There may be limitations to the generalisability of the results as the study was conducted in only two homecare districts in Norway. The study applies a mix of qualitative methods with observations, focus group interviews and individual interviews, adding descriptive power to the results. One of the focus groups consisted of only two homecare assistants, which might have led to less information and reflections represented from that particular homecare district. Nevertheless, in moderating the focus group we experienced that the two assistants spoke freely and shared multiple experiences with the CIP.

Conclusions

In this study, we analysed the implementation of a competence improvement program (CIP) for the systematic observation of frail older patients in two homecare settings in Norway.

The homecare professionals described the CIP differently both within and across the two homecare districts. They perceived the purpose of the program in diverse ways, most of them reflecting positive expectations around improving the current observational practice. The content of the CIP was complex and consisted of multiple components, which the participating homecare professionals experienced as demanding. The process of implementing the CIP was influenced by a difficult flow of information, limited time available, and challenges related to simulation-based training.

It is concluded that the implementation of a complex CIP for the systematic observation of frail older patients in homecare requires careful planning with regards to the HCPs' confidence (why), the multiple components of the CIP (what), and in specific the simulation-based training component (how). Further research is warranted to establish the implications of the CIP on the quality and safety of patient care in the homecare setting.

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