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Learning to learn differently

Abstract

Purpose – This paper investigates whether community health-care nurses' formal and informal learning patterns changed in the wake of a reform that altered their work by introducing new patient groups, and explores whether conditions in the new workplaces facilitated or impeded shifts in learning patterns.

Design/methodology/approach – Data were collected through interviews with experienced nurses in community health care to learn whether and how they changed their learning patterns and the challenges they experienced in establishing new work practices.

Findings – In established learning patterns among nurses the most experienced nurse passes on knowledge to the novices. These knowledge boundaries were challenged and created new contexts and tasks calling for more cross-disciplinary cooperation. The informants acknowledged the need for formal and informal learning activities to change their learning pattern in addressing new knowledge challenges. Structural and cultural factors in community health care impeded changes in individual and collective learning patterns.

Research limitations/implications – The study reports a single case study. How changes in structural and contextual conditions challenge established formal and informal learning patterns, is in need of further study.

Practical implications – Managers' facilitation in developing new routines, structures and cultures to support individual initiative, and support how established practice needs to change to implement a new reform, is crucial.

Originality/value – The study's contribution to the literature is primarily on how changes in structural conditions challenge formal and informal learning patterns and the structural and cultural conditions for these learning patterns.

Key words: learning patterns, change, learning initiatives, community of practice

Article classification: Research paper

Introduction

Political reforms affect the organization of health-care services internationally. For example, the Norwegian Coordination Reform redistributed the responsibilities of primary health care in the communities and the specialist health care in the hospitals (Norwegian Ministry of Health and Care Services, 2009). For nurses in community health care this changed the patient groups for which they are responsible. Patients who earlier got their treatment in hospitals are now treated in their homes or in municipal health-care institutions.

Previous studies of nurses' learning opportunities at work highlight the nurse collegium as the most important learning arena (Berings *et al.*, 2007; Berings *et al.*, 2008; Benner *et al.*, 2009) providing opportunities for cooperation and feedback (Kyndt *et al.*, 2016). Here, the novice nurse learns from, but also adapts to, established learning patterns within the community (Baert and Govaerts, 2012). Also, the expert nurse are known to pass on and shares her knowledge with the less experienced nurse as knowledge residing inside the community is available for all its members (Berings *et al.*, 2008; Benner *et al.*, 2009; Bjørk *et al.*, 2013). Since learning is situated in social practices at work and embedded in social, cultural and organizational structures at work (Lave and Wenger, 1991; Baert and Govaerts, 2012), one would expect that the nurses' ways of learning through practice are resilient to change in implementing the reform. When the expert nurse and the novice nurses are both inexperienced vis-à-vis a new patient group, established practice comes under pressure and all nurses need to construct new ways of learning through practice. In Lave and Wenger (1991) "legitimate peripheral participation" the novice nurses learn in participatory trajectories that lead to full participation in socio-cultural practices of a community. They are, however, not accounting for all participants being novices. This calls for studies that explore how structural changes in the workplace affects all nurses learning patterns as they change established practice.

We approach learning as socially constructed and situated in social and cultural contexts, which has been argued for by a substantial number of scholars for decades (Lave and Wenger, 1991; Davies & Easterby-Smith; McCall, 1998; Kempster, 2009; Segal, 2011). The roots from Lave and Wenger (1991) legitimate peripheral participation in social practices are closely related to highlighting the learning potential of movement between multiple communities of practice (Hodge, 2014). Revisiting how we learn, as argued by Hodge (2010), highlight learners participation and identity formation in situated work practices. A number of scholars therefore draw on the community of practice, for instance community of practice to

frame tertiary teachers informal workplace learning (Hodge, 2010). In communities of practice (CoP), knowing and practice is mutual know-how negotiated among its participants (Brown and Duguid, 1991; Wenger and Snyder, 2000; Newell *et al.*, 2009) and where they find it easier to share knowledge with others engaged in the same CoP (Newell *et al.*, 2009). The nurse collegium described in previous research can be recognized as a CoP with its informal characteristics in practical work. What then when the relevance of this important learning arena is lost as a consequence of a reform? Instead of learning from internal expert nurses within the original CoP, all nurses need to develop the knowledge required to handle the needs of their new patients outside their community of practice, across organizational boundaries and even outside the nursing profession. The new knowledge that the individual nurse needs to develop will continuously be negotiated collectively among all participants in the CoP, challenging how they learn and how to implement new knowing in practice.(Gherardi, 2006). So even though some studies have identified various learning patterns (Govaerts and Baert, 2011; Baert and Govaerts, 2012), most learning studies do not describe the need for shifts in learning patterns and how organizational factors may facilitate or impede such shifts in learning patterns and the creation of new learning arenas. Our study aims at contributing to previous research on learning by exploring both formal and informal learning within social practices at work, where the CoP framework mainly focus on informal collective learning. We therefore ask: How does new organizational structures affect the change of learning patterns in CoPs?

First, the literature on learning within and across CoPs is reviewed with a specific focus on how changes in organizational structures are accounted for when facilitating or impeding learning across CoPs. Second, the research contexts and methods are described. Third, the results are presented and discussed. Finally, conclusions, practical implications and suggestions for further research are offered.

Literature review

Learning patterns are embedded in organizational structures, work routines and organizational cultures and represent the preferred way of formal and informal learning in a collegium (Govaerts and Baert, 2011; Baert and Govaerts, 2012). In CoPs, learning and knowing as negotiated and shared among its participants (Brown and Duguid, 1991; Wenger and Snyder, 2000; Thompson, 2005; Newell *et al.*, 2009), creating learning patterns and routines for how to participate and share knowledge. The evidence for such informal groups being critical for knowledge flow in change processes, as CoPs instead create knowledge boundaries between

other CoPs and formalized social practices, is fairly well established in the literature (Brown and Duguid, 2001; Tallman and Chacar, 2011). Since people find it easier to share knowledge with others engaged in the same CoP (Newell *et al.*, 2009), CoPs can pose problems by limiting or hindering knowledge-flows across communities (Blackler, 1995; Brown and Duguid, 2001; Swan *et al.*, 2002). Instead, CoPs can represent learning routines that may be resistant to change (Govaerts and Baert, 2011; Baert and Govaerts, 2012). The role of formal structures and their interrelations with CoPs to ensure successful implementation of change is even so often overlooked (Brown and Duguid, 2000, 2001; Thompson, 2005). Our contribution is however not how formal structures influence learning or bridging the gap between formal groups and CoP to ensure knowledge flow in change processes. Our contribution is to gain new knowledge on how established learning patterns are both challenged and need to change because the formal structures that previously provided these learning arenas are lost. Accordingly, the reform implicates changes in formal training procedures and changes in how the employees capitalize on the informal learning opportunities in the organization.

The most frequently described learning pattern among nurses are those that require close relationships between the nurses, for example, noticing changes in a patient's condition and acting on these cues in an appropriate manner (Weick *et al.*, 2005). Similarly, the knowledge transfer literature suggests that strong ties between learners are effective for the transfer of highly complex knowledge, but may also inhibit the learners from searching for new knowledge (Hansen, 1999). Thus, in a change situation that requires nurses to develop new knowledge, the most frequently described learning pattern may not be the most appropriate. When the most experienced nurse does not have the required knowledge, the question is how the nurse collegium gains access to new knowledge and how they disseminate it among the members. This is a well-known phenomenon with CoPs. CoPs are not necessarily positive, but have been treated as something solely positive and even "rose-tinted" (Newell *et al.*, 2009; Hodge, 2014). We still find the concept of CoPs relevant as to how people learn, which is our main concern in this paper. What they learn, i.e., as to what knowledge and knowing the CoPs represent and possible knowledge boundaries between the CoPs are not accounted for in our study

Learning within CoPs has its strength when knowledge resides in the community, while learning across CoPs opens up access to new knowledge (Oborn and Dawson, 2010). Accordingly, Wenger (2000) claims that crossing the boundaries of CoPs is a vital component

for learning to take place. Research has identified several barriers to learning across CoPs (Carlile, 2002; Ferlie *et al.*, 2005; Tagliaventi and Mattarelli, 2006). Despite these barriers, learning does take place across CoPs in multidisciplinary contexts, but needs to be facilitated through organizing discussions (coordination), acknowledging other perspectives (transparency), and challenging basic assumptions (negotiability) (Oborn and Dawson, 2010). Wenger (2000) suggests that concrete practices supporting this could be brokering (people introducing a practice from one CoP to another), boundary objects (artefacts), boundary interactions (take the new knowledge back home) and cross-disciplinary projects. Carlile (2004) argues that managing knowledge across boundaries involves processes of transfer, translating and transformation of knowledge, and identifies three forms of boundaries: syntactic/information-processing (for common lexicon and sharing of explicit knowledge), semantic/interpretative (shared and common meaning) and pragmatic/political (transforming by negotiating an existing practice and overcoming conflicts of interest leading to new knowledge). The literature establishes that managing knowledge boundaries seem to depend on structural and cultural factors in the workplace without necessarily investigating when these structural and cultural conditions are changed with consequences for an established learning pattern.

Learning from experience involves knowing that is embedded and situated in social practices with no clear form, whereas tacit and explicit knowledge is integrated as total knowing on how to perform (Polanyi, 1966; Tsoukas, 2011). Hence, the nurses' learning patterns need to be complemented with learning arenas, including both explicit and tacit knowledge in order to comply with new skill requirements. In a similar vein, Clarke (2005) distinguishes between opportunities to engage in learning activities on the one hand, and the actual learning outcomes on the other hand. He suggests that procedural knowledge is a central learning outcome: 'Procedural knowledge is defined as the "how to" knowledge necessary for decision-making, and is seen as necessary for the acquisition of skills and expertise' (Clarke, 2005, p. 189). For nurses, procedural knowledge may include knowing how to nurse patient groups with which the nurses have little or no experience nursing, e.g., patients discharged from the hospital but still dependent on advanced medical technology or palliative care. Therefore, there is a need to focus on 'those aspects of the workplace environment that impact on the acquisition and utilization of procedural knowledge' (Clarke, 2005, p. 189) as well as understanding how these factors are influenced by changes in learning patterns.

Research has, among other things, focused on conditions in the workplace environment that foster or inhibit learning in the workplace (Nordhaug, 1994; Clarke, 2005; Crouse *et al.*, 2011; Jeon and Kim, 2012), and addressed frameworks for assessing informal learning (Skule, 2004). Research has contributed to the understanding of learning opportunities and learning activities in nurses' workplaces (Berings *et al.*, 2008; Lundgren, 2011), possible knowledge boundaries, and how to overcome these boundaries (Wenger, 2000; Carlile, 2004; Oborn and Dawson, 2010), learning within and across COPs, assessing informal learning and engaging in learning (Clarke, 2005), and factors in the workplace that facilitate and inhibit learning processes (Nordhaug, 1994; Crouse *et al.*, 2011; Jeon and Kim, 2012). The previous literature, however, falls short of explaining whether and how employees utilize these learning opportunities and how organizational and structural conditions totally change their way of practising their work as nurses, and therefore challenge existing learning patterns and create possible new ones.

Research context and methodology

The Norwegian health-care system is publicly owned and operated. It consists of the primary health-care services in the municipalities and the specialist health-care services offered by hospitals owned by regional health trusts. The main objectives for the CR (The Coordination Reform), implemented in January 2012, were to prevent hospitalization and to transfer tasks from the hospitals to the municipalities by releasing patients from hospitals earlier and continuing treatment and care in community health care, either in the patient's home or in a nursing home. This is an interesting setting to study changes in learning patterns. With new patient groups, the experienced nurse in community health care is likely to find herself in situations where she does not have the skills to operate advanced medical technology or the knowledge about complex diagnoses and their treatment. The novice nurses may have less face-to-face access to experienced colleagues, but they may also be experts if they recently had their practice in a hospital.

The study was carried out in a strategically selected medium-sized Norwegian municipality, which hosts a local hospital and which at the time of the study had prepared for the implementation of the reform by establishing specialized functions at nursing homes to be able to finalize the treatment of patients. The selection of informants was guided by two criteria; namely that, (1) they have a minimum of five years' working experience as nurses, and (2) all three aspects of the municipal health-care services should be represented (home care, nursing

homes, and nursing homes with specialized functions). The selection process started with email communication with an advisor in the municipality's health and care services in which access was granted and the selection criteria were explained. All community health-care managers were asked to suggest informants that fit the selection criteria. They suggested nine informants, all of whom agreed to be interviewed. The informants suggested a time and place for the interview that suited their schedule. The interviewees were all female, between 30 and 50 years of age, had more than 5 years of nursing experience in primary health care, and represented all three branches of community health care, see Table 1.

Insert Table 1 here

The project was reported to and approved by the Norwegian privacy protection commission for research. The informants were told about the objectives of the study, that participation in the study was voluntary, that they could withdraw their participation at any time, and that the information they provided would be treated confidentially and used in a way that was not traceable to their person or place of work. The interviews took place 5 months after the implementation of the CR and progressed as a dialogue with the second author, based on a semi-structured interview guide. The interviews lasted about 60 minutes, were tape recorded and transcribed verbatim. The interview guide had two main themes in line with the overall objectives of the study. The informants were asked to describe (1) their working day and the knowledge challenges tied to the changes in the patient groups and (2) how they addressed the accompanying learning challenges. The informants provided information covering the main themes. In addition, the semi-structured interview guide allowed the researchers to pose follow-up questions and ask for clarifications.

Data analysis started by reading the interview transcripts thoroughly and identifying common themes. Open and axial forms of coding were used to identify categories (Strauss and Corbin, 2008). The first categories were wide ('descriptions of a regular working day' and 'the learning opportunities at work') and based on the interview guide. These initial categories were revised and three main categories emerged from the data: the new skill requirements, learning pattern and characteristics of the workplace that challenge a change in learning patterns (structures and cultures for knowledge development and knowledge sharing). The category "new skill requirements" includes technical and procedural knowledge and illustrates how informants describe of the reform's effect on their work and the required knowledge. The category "learning methods used" illustrates the learning pattern that informants followed when

attending to the new skill requirements. Informants' accounts of their traditional learning pattern and their accounts of how they searched for new knowledge outside their community of practice are included in this category. "Workplace characteristics" focused on issues that informants explained inhibited a change in learning patterns. Following a pattern-matching logic (Yin, 2003), it was explored whether the categories could explain possible differences in their changing of learning patterns and how these new patterns influenced the implementation of the reform. The quotes from the interviews provided in the next section are illustrative for the data if we do not comment otherwise.

Results

New skill requirements trigger learning

The patient groups for which the interviewees are responsible has changed in line with the objectives of the CR. The following quotes describe the nurses' experience of the patients they care for today compared to earlier:

The patients who are taken care of in their homes are sicker than before... For example, they have nutrition pumps and CVCs [central venous catheters] at home. (HB1)

The patients live at home much longer... and they come home from the hospital earlier than before. (HB2)

The patients are sicker when they are released from the hospital. They come here directly from the intensive care unit. Well, not literally, but almost.... (SNH1)

The new patient groups forced the nurses to brush up on knowledge, to develop new knowledge related to the patients' treatment procedures, to acquire knowledge and skills on advanced medical technology and to observe the medical development of patients with complex diagnoses. Several of the informants explained that they had done many of the new procedures before, but that it was a long time ago, and that the new patients now required them to brush up on techniques and procedures:

I did that [give infusions] when I had my practice period at the hospital during nursing school. But of course, we need to brush up on these skills. We have also been to courses and learned how to set PVCs [peripheral venous catheters]. But we lack the skills we develop by doing it. (NH1)

Often you go to a course, which is good, but then it may be two years until you come in a situation where you need it... So, it is not often that you work with the same things long enough that you get the technique under your skin. (HB1)

The required knowledge is related to specific diagnoses and the use of specific medical technology such as peripheral venous catheters, central venous catheters, analgesia pumps, infusions, respirators and cough assists. Trained nurses are expected to have the necessary skills

to handle this, but as the informants explain, they may have the technical knowledge but not enough practice, which challenges them in how to use their technical knowledge. As the informants describe, in order to learn some nursing skills, you need to practise and develop a feeling for the procedures through experiences. Some of these procedures have been rare in community health care but have become more common now as patients are discharged earlier from the hospital. The following quote illustrates this:

Even though I am the nurse with the longest experience here, it does not mean that I have the best experience in everything. Several of my colleagues have much better skills than me on analgesia pumps for example, because they have worked with them and I have not. I may know the basic principles, but I have to get a supportive hand when I have to do it. (SNH4)

Existing learning patterns challenged

The informants describe that they engage in learning in different arenas to develop the required skills. Resources in their workplace and their nurse colleagues represent traditional, but still important, parts of their learning patterns. However, some informants go beyond their immediate workplace and seek knowledge at the local hospital.

The informants learn individually by searching for information and knowledge in available resources at work. This includes databases, research articles and handbooks of procedures.

I read some literature at home if there are patients coming in with diseases that I know little about. Now there is easy access on the computers where I can do searches. Moreover, we do talk about it in the department. And we have the doctor here, so we can ask her if we are uncertain. (SNH2)

I go to the handbook of procedures. We have it on our computers. I have also used notes from nursing school. (NH1)

We check the handbook of procedures. It explains step by step what you do and how you do it. (SNH4)

Some informants explain that they participate in training sessions at the local hospital. This happens either as planned sessions once a week, or when new patients are to be discharged from the hospital and transferred to community care.

When we know that patients with serious diagnoses who need special medical treatment and care are being discharged from the hospital and are coming home, we go to the hospital to go through things. (HB1)

One time we heard that we would get a patient with a CVC and that was the first patient with a CVC we'd had in a long time. I was to go on duty on Saturday and the patient came here on Friday. I went to the hospital in my free time to refresh my skills around CVCs so that I could feel more secure when I came on duty. (SNH4)

When I see that I need new skills I have enlisted for courses at the local hospital just to refresh my skills... I have also started to go on duty at the hospital to refresh my skills. (NH1)

When the technical skills are in place, informants discuss the practice of these skills with colleagues. This helps them develop their knowledge about the technology and procedures. However, the informants call for more structure, time and opportunities to reflect and discuss with their colleagues in order to share and develop new knowledge.

The idea [of training at the workplace] is very good. However, it is almost as if it is discontinued because of all the other tasks in the department that demand attention on a daily basis. I wish we had more time for it. (SNH2)

We could have utilized each other's skills in a better way... better knowledge sharing. (SNH2)

We could have gone through [a procedure] together so that it would be easier to understand it and so that everybody understands what we do and why... Then you get to discuss things instead of just reading it on a piece of paper. (SNH2)

They explain that, in some ways, they try to share knowledge by writing down issues in a 'black book', by discussing, by working together and by telling others about what they have learnt at courses. In that sense, it looks as if they are creating new learning patterns across organizational boundaries. The person they share with is a person in whom they trust. This can typically be identified as informal relations, because they choose themselves with whom to share knowledge.

It could be that we have become better at contacting them [at the emergency room at the hospital]. You get to know each other over time...and the threshold for asking about things is reduced. (HB1)

When you don't know something, you have to search... We had heard about a nurse in home care [in another geographic area] who was very good at wounds. Then we had a Christmas party with them, talked to them and agreed that we shouldn't be afraid to ask each other. (NH1)

It is easier to cooperate when we know whom we can ask and when we have a face and a person to contact. (SNH1)

Conditions influencing a shift in learning patterns

Budget constraints, and structural and cultural conditions may inhibit a shift in learning patterns. Informants describe that they take individual initiatives to learn technical knowledge, but that they need to reflect on this knowledge. Thus, time and space for reflection and knowledge sharing with other nurses is required. However, with tight budgets and reorganizations with the aim of cutting costs, there is not time for this in their daily practice. Rather, the informants explain that previous possibilities for reflecting and knowledge sharing among colleagues are even more limited than earlier because of budget restraints. Despite this, the informants describe informal knowledge-sharing activities with their colleague nurses within their own organizational unit, across municipal organizational units and at the hospital.

Several informants point to the fact that there are no formal arenas for sharing knowledge and that the knowledge sharing takes place informally.

We have no formal arenas for sharing knowledge. However, we always share because we know that she has been to a course and ask her to show us or tell us about it... But we share the knowledge informally. (SNH4)

I experience the conditions for sharing knowledge in a formal way as very poor. We miss being able to meet officially with a clear agenda. (HB3)

The lack of official policy in this area is accompanied by a varying degree of taking the matter into one's own hands. Several informants explain that the initiative for individual knowledge and skill acquisition and collective reflections lies in the hands of the nurses themselves, and that there are few sanctions for not bothering to take the initiative.

Our manager is responsible for the professional development and she sometimes pushes us, but it is up to us to apply for resources and courses. It is up to you whether you want to participate, to keep updated. If you couldn't be bothered to keep updated, well.... (HB2)

We might have managed to make it work but someone needs to take the initiative to share knowledge, and as long as nobody does that, well... (SNH1)

At some workplaces it seems as if the culture is permeated with a norm of not bragging about your knowledge and skills to co-workers:

It's not like you poke your nose into everything. That doesn't work... We are not that good at using each other's knowledge. Even though you may have loads of diplomas in your file in the HR department, your colleagues may not know what you know. ... I am not that good at sharing knowledge and we do not have any rules saying that you have to tell others about what you have learnt at a course. (SNH1)

This varies with the place of work, because another informant explains that they share knowledge as needed, and often in specific situations:

I feel that we are quite good at explaining things to others if there is a situation that they have not been in before... This is often done in situations with a patient, for example, that we show how to administer antibiotics by intravenous injections. (SNH2)

Discussion

The study confirms that the CR affects the requirements for knowledge and skills for nurses in community health care. The nurses acknowledge these new knowledge requirements and they apply individual and collective learning methods to develop their knowledge. Their learning pattern is one that resembles the traditional learning pattern for nurse collegia. Even though the nurses take the initiative and ask experts at the local hospital, there seems to be a relatively low level of awareness and reflection on how to meet the new learning challenges successfully. It seems as if their learning awareness is highest when patients with specific needs are transferred

from the hospital. Instead of being proactive in their own learning processes, informants are rather reactive in changing their previous way of learning in accordance to changes in practice.

Two necessary and intertwined learning processes have been identified: (1) the individual acquisition of technical knowledge, meaning more explicit knowledge on medical issues, and (2) new skills for getting the new procedures ‘under their skin’, which refers to tacit knowledge (Polanyi, 1966; Tsoukas, 2011). Tacit and explicit knowledge is integrated in practical work, and being able to get the new procedures ‘under your skin’ requires experience over time. Learning explicit knowledge is mostly about acquiring individual cognitive knowledge, while learning tacit knowledge refers to learning as situated in social and cultural contexts and practices at work (Brown and Duguid, 1991; Lave and Wenger, 1991). Nevertheless, learning through practice also involves reflection, which is claimed as the third way of learning in organizations and a way to integrate the two main perspectives (Elkjaer, 2004). Consequently, for the nurses to develop new knowledge (explicit) and knowing (tacit know-how), the reactive way of learning is problematic, as new knowledge requires proactivity and possibilities for reflections on these experiences (Boud *et al.*, 2006).

In line with Govaerts and Baert’s (2011) definition of learning patterns, the informants call for more formal learning activities, and also ways to informally learn through knowledge sharing and getting access to colleagues as important knowledge sources. However, structural and cultural conditions in their working environments may challenge such a shift in the nurses’ learning patterns. The informants describe a working environment with a lack of time, formal structures and the economic resources for knowledge sharing, thus resulting in structural challenges to one’s own knowledge and skill development. Developing procedural knowledge (Clarke, 2005) takes time. This not only requires individual knowledge acquisition and learning through experiences in practice, but also collective reflection about this knowledge and how this knowledge works when transferred to practice (Clarke, 2005; Berings *et al.*, 2008). To support such learning, the structural characteristics described by the informants seem inappropriate. Instead, transparency and possibilities to negotiate basic assumptions are very limited, and as to bridging multidisciplinary contexts (Wenger 2000; Oborn and Dawson, 2010), the findings only show examples of coordination. However, these structural conditions are not impossible to change. For instance, low budgets may lead to strict prioritizing and the establishment of formalized learning arenas for knowledge sharing to encourage and improve initiatives for informal learning opportunities. It seems that a greater level of managerial

involvement is critical in order to improve learning opportunities. The power to change these structural factors lies in the hands of the managers at all levels in community health care. Managers are responsible for knowledge sharing across knowledge boundaries, and must facilitate what Carlile (2004) argues to be the management of transferring, translating and transformation of knowledge.

The managerial role has not been explicitly discussed in studies of nurses' learning opportunities and skill development (see for example Lundgren, 2011). One explanation can be traced back to the professionals' responsibility for their own skill development and professional standards. The changes induced by the CR, however, call for managerial involvement in this process in order to facilitate such learning processes. Even though there is evidence of managerial support and facilitation of knowledge sharing and development in the study, the informants call for more formalized procedures.

There is a high percentage of absences due to illness among community health-care personnel (Norwegian Ministry of Health and Social Services, 2010). As a result, first-line managers experience a high burden of hiring temps and filling up the shifts. This instability may reduce the benefit of information routines and formal knowledge-sharing structures. However, a clearer structure may be beneficial in situations of instability because of the reduced dependency on the presence of certain nurses.

A cultural condition in community health care that may challenge new learning patterns is nurses' strong need for knowing and trusting the persons with whom they collaborate and share knowledge. This is linked to established learning patterns, where trust is dependent on the nurses' experience and whether they are known as expert nurses. Knowledge sharing beyond these strong culturally established expert and novice nurse relationships represents new ways of learning with less culture and routines. Trust is crucial for knowledge sharing. Trust in the person's competence and benevolence is most important, and has probably been the case in most expert and novice nurse relationships (Benner *et al.*, 2009). These forms of interpersonal trust have to do with the involved parties' ability to be vulnerable (Abrams *et al.*, 2003). Informal groups create these forms of trust through negotiation (Filstad, 2014a). Strong ties may not facilitate the search for new knowledge (Hansen, 1999) and even though the structural barriers are reduced by information routines and regular formal knowledge sharing, for example, through short courses at the hospital, the cultural norms for knowledge sharing may remain and undermine the benefits of these structural efforts.

Conclusion

The findings show that established learning patterns common among nurses are insufficient in handling new practices, and point to structural and cultural conditions in the nurses' working environment that may inhibit or at least slow down a change in learning patterns. The lack of formal structures for knowledge sharing both within community health care and across organizational knowledge boundaries is evident, leaving the nurses either to figure out these challenges by themselves or informally with other colleagues. The strong cultural relationship between the expert nurse and novice nurse is challenged, and reflection on how to create new strong ties in their new working environment seem underdeveloped. The question remains as to whether the nurses are able to solve these structural and cultural challenges to ensure necessary knowledge sharing across knowledge boundaries. Stronger managerial involvement is needed in order to build and facilitate the necessary knowledge for developing ties and trust across organizational boundaries to support collaboration and ensure new knowledge. However, to ensure that new knowledge is developed through knowledge sharing across professional and organizational boundaries, established practice needs to be reflected upon and discussed to ensure necessary sensemaking for successful implementation of the reform (Filstad, 2014b).

The theoretical contribution is primarily related to how changes in structural conditions challenge both formal and informal learning patterns and the structural and cultural conditions for these learning patterns. This is important as previous literature on CoPs and knowledge sharing across knowledge boundaries, has not specifically (to the authors' knowledge) focused on changing learning patterns as a result of pre-existing learning arenas being removed when establishing new social practices at work. Still, more research is needed, including research in different work contexts and professions to identify conditions that may challenge the effectiveness of existing learning patterns and the factors facilitating or inhibiting changes in learning patterns. The study also suggests that managers in primary health care may underestimate the effect of their involvement in building structures around learning processes; this consequently calls for more research on managerial involvement in changing learning patterns and forms of involvement and facilitation at various management levels.

A practical implication of the study is that managers in community health care have an important role in initiating and facilitating new learning arenas involving formal and informal learning practices within and across existing knowledge boundaries. The close cooperation

between community health care and hospitals, which the CR assumes, could be developed over time, focusing on the awareness of informal relationships, the establishment of trust and the facilitation of new learning patterns that acknowledge and ensure knowledge sharing for the patient's best interest.

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