

Facilitating the Implementation of Standardized Care Plans in Municipal Healthcare

Elisabeth Østensen, MSc, Nicholas Richard Hardiker, PhD, Ragnhild Hellesø, PhD

Standardized care plans have the potential to enhance the quality of nursing records in terms of content and completeness, thereby better supporting workflow, easing the documentation process, facilitating continuity of care, and permitting systematic data gathering to build evidence from practice. Despite these potential benefits, there may be challenges associated with the successful adoption and use of standardized care plans in municipal healthcare information practices. Using a participatory approach, two workshops were conducted with nurses and nursing leaders ($n = 11$) in two Norwegian municipalities, with the objective of identifying success criteria for the adoption and integration of standardized care plans into practice. Three themes were found to describe the identified success criteria: (1) “facilitating system level support for nurses’ workflow”; (2) “engaged individuals creating a culture for using standardized care plans”; and (3) “developing system level safety nets.” The findings suggest success criteria that could be useful to address to facilitate the integration of standardized care plans in municipal healthcare information practice and provide useful knowledge for those working with implementation and further development of standardized care plans.

KEY WORDS: Care planning system, EHR, Patient care planning, Standardized nursing terminology

Patient safety and continuity of care are dependent upon access to accurate and timely patient information. Although nurses derive information from several sources,¹ the EHR is the primary and legally regulated information source.² Unstructured EHR content, in combination with poor interoperability between different EHR systems, results in fragmented information, which represents a threat

to patient safety and continuity of care.^{3,4} In several European countries, the complexity of tasks and responsibilities for nurses in municipal healthcare has increased,⁵ which further increases the need for complete patient records in information systems supporting nurses’ workflow.⁶ Structuring the EHR using an integrated standardized nursing terminology can potentially facilitate continuity of care, improve quality of EHR content, support workflow, facilitate data re-use for building evidence from practice, and create linkages between nursing care and patient outcomes.^{4,7,8} However, identified challenges represent barriers to integration of standardized structures in nurses’ information practice.

Across Europe, most countries have implemented some forms of EHR system,⁹ which facilitate implementation and use of nursing terminologies.^{10,11} Despite these facilitating conditions and well-documented possible benefits, adoption of standardized nursing terminologies internationally has been rather sporadic.^{12–15} Research has shown that there exist several challenges at individual, organizational, and professional levels representing barriers to standardized documentation structures becoming embedded into everyday practice. Individual challenges include a general preference for narrative records,^{16,17} resistance to change,¹⁸ and low perceived usefulness.^{19,20} On the professional level, challenges include unfamiliarity with standardized terminology,²⁰ struggles regarding standard nursing statements not covering diverse patient conditions,²¹ and a lack of consensus on how standardized structures should be used.¹⁹ Organizational challenges include lack of training,²² lack of managerial support,^{4,23} multiple information systems in use,¹ and information systems not supporting nurses’ workflow.^{4,13} Although they may describe the benefits and challenges associated with the implementation of structuring nursing records, few studies provide possible practical solutions to allow the structures to become an integrated part of nurses’ information practice.

Implementing standardized care plans (SCPs) is a way to standardize the documentation structure and thereby increase quality of the record content.^{4,24} In this study, the term SCP refers to structured nursing care plans using terms and concepts from a nursing terminology in formulation of nursing diagnoses and their associated goals, resources, characteristics, interventions, and outcomes. The SCPs are evidence based, meaning that interventions associated with a

Author Affiliations: Faculty of Medicine, Department of Nursing Science, Institute of Health and Society, University of Oslo (Ms Østensen and Dr Hellesø), Oslo, Norway; Lovisenberg Diaconal University College (Ms Østensen), Oslo, Norway; and School of Human and Health Sciences, University of Huddersfield (Dr Hardiker), Huddersfield, United Kingdom.

The study was funded by the Norwegian Nurses Organization.

The authors have disclosed that they have no significant relationships with, or financial interest in, any commercial companies pertaining to this article.

Corresponding author: Elisabeth Østensen, MSc, Lovisenberg Diaconal University College, Lovisenberggt 15b, 0456 Oslo, Norway (elisabeth.ostensen@dh.no).

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

Copyright © 2021 The Authors. Published by Wolters Kluwer Health, Inc.

DOI: 10.1097/CIN.0000000000000798

nursing diagnosis are based on empirical evidence and expert knowledge, and thereby they provide a means to disseminate research evidence into practice.²⁵ Furthermore, SCPs facilitate use of uniform and unambiguous language, which can reduce risk of misinterpretation, and may be coded to facilitate information exchange and data aggregation for research and evaluation purposes.^{10,25} The SCPs to which this study refer were constructed by using the International Classification for Nursing Practice to formulate all elements of the nursing process, except for patient outcome. The International Classification for Nursing Practice is a standardized nursing terminology developed by the International Council of Nurses to support nurses in describing and reporting their practice.²⁶

Studies on patient records in municipal healthcare have largely been concerned with aspects of quality, completeness, and comprehensiveness, and despite some interventions showing positive results, the overall quality of the records remains variable.^{27–30} As a means to enhance quality of the records, SCPs were implemented in Norwegian municipal healthcare, but there have been issues with integrating them into clinical practice.¹⁹

Integration of technologies into healthcare practice is viewed as a sociotechnical issue, where the investment of both individuals and groups of people is as important to success as the technology in itself, and where interaction between people and technology is crucial.³¹ Several theoretical frameworks have been developed to increase understanding of successful technology implementation, for example, the Unified Theory of Acceptance and Use of Technology.³² Such theories focus largely on implementation process, technological attributes, and other factors increasing or decreasing probability of acceptance and use. Other theories also address problems with technology implementations related to difficulty of reaching normalization, meaning that technology becomes an embedded part of the practice,³³ and difficulties of reaching widespread use and sustainability over time.³¹ Together, these theories describe technology implementation as a complex process requiring a substantial amount of work and engagement from designers, developers, policy makers, managers, and end users.

This study engaged end users, nurses, and nursing leaders in municipalities with over 3 years of access to SCPs, with the aim of identifying success criteria for the adoption and integration of SCPs into practice.

METHODS

Design

This exploratory, qualitative study took a participatory approach to data collection. The participatory approach is collaborative in nature and directly involves participants with the opportunity to engage in changes to their own practice.^{34,35}

This approach was taken to enhance the acceptability and transferability of any identified solutions. Workshops were underpinned with a generative research design, in which potential end users engage in creative thinking and the generation of ideas that influence the development of a product.³⁶

Setting and Participants

Norway is divided in 356 municipalities with great variations in both size and inhabitants. The municipalities are responsible for the delivery of nursing home care and home care services. During the last decade, municipalities have assumed an increased responsibility for patients with chronic conditions requiring complex care,³⁷ but the proportion of RNs among healthcare workers in this sector has remained low. In 2019, the workforce in municipal healthcare consisted of approximately 29% RNs, 44% auxiliary nurses, and 27% nursing assistants (excluding other professions such as occupational therapists and social workers).³⁸ This study was conducted in two large Norwegian municipalities. Both municipalities had SCPs implemented in their EHR system and had previously engaged in identifying challenges regarding use of SCPs.¹⁹ In both municipalities, all healthcare workers providing nursing care, for example, RNs, auxiliary nurses, and nursing assistants, were expected to read and record progress notes in the care plan. Constructing the care plans was however a task that in some settings was restricted to RNs, whereas in other settings, it was a task for auxiliary nurses as well.

Participants in this study were recruited through purposeful sampling of nurses and nursing leaders, to ensure a diversity of opinions and perspectives. Three nurses and three nursing leaders were recruited for each workshop (six has been identified as an “ideal” number of participants in a workshop³⁶). Due to acute illness, one workshop was limited to four participants. An additional facilitator also participated in one workshop. The workshops comprised a total of nine women and two men. All participants were RNs, and five of these held a leadership position.

Data Collection

The workshops took place in May and June 2019, and lasted 2 hours each due to the careful consideration of available resources and eligible persons' motivation to participate. The topics for discussion were based on findings from two previous studies (Table 1).^{1,19} Each workshop consisted of three phases: (1) introduction, (2) group work, and (3) discussion.³⁶ In the introduction phase, the agenda was set, and the participants received a presentation of previous findings,^{1,19} followed by a roundtable discussion of these. In the group-work phase, participants were divided into two smaller groups mixing nurses and nursing leaders. The groups were given 20 to 30 minutes to discuss the predetermined topics regarding SCPs

Table 1. Topics for Discussion in Workshops*

1. Discuss your thoughts, opinions, and experiences with standardized care plans (an “ice-breaker” for the group work).
2. Discuss additional functionality that should be included in SCPs that you lack today to get accurate and sufficient information to guide your care.
3. Nurses in the municipalities use many information sources in addition to the SCP in the EHR system. Discuss what and how this information could be integrated into the EHR system in general and SCP in particular.
4. Suggestions for the SCPs to become the preferred way to handle information.

*Translated from Norwegian.

and were asked to write down their groups' answers on sticky notes. To avoid undue influence, the researchers were not present in this phase. In the discussion phase, the two groups presented their answers to each other for general discussion. The researchers were present for the discussions and asked questions to stimulate further elaboration and to clarify understanding. All discussions both in groups and plenary were audiotaped and transcribed verbatim, which together with the sticky notes made up the data generated from the workshops. Participants respectfully declined the opportunity for further discussion due to other obligations and a general agreement that they had little more to contribute.

Ethical Considerations

The study was approved by the Norwegian Centre for Research Data, project number 46503. Participation was voluntary, and participants gave their written informed consent to participate in the study. The participants were anonymized in the transcripts and in the presentation of the findings.

Analysis

Data were analyzed using a qualitative content analysis.^{39,40} Transcripts were read several times, coded using the software NVivo 12, and categorized in an inductive manner. Data from the smaller group discussions were used to get more background information on issues discussed in larger groups. The analysis was an iterative process where the researchers constantly went back to original transcribed text to make sure that themes were representative for the data collected.⁴¹ The first part of the analysis was conducted by the Norwegian speaking authors, as all transcripts were in Norwegian. Quotes, codes, and categories that were considered relevant to the aim of the study were then translated to English by the Norwegian-speaking authors. The final themes were developed through a continuous discussion between all the authors. Table 2 provides an example of transcribed text, codes, and themes from the analysis.

RESULTS

Despite the focus of the workshops being on identifying success criteria, the participants were still very much concerned about challenges. Challenges discussed in the smaller groups were brought up in the large groups where participants were encouraged to reflect beyond these challenges and identify what it takes to overcome them. The analysis resulted in three themes describing different success criteria for the adoption and integration of SCPs in municipal healthcare information practices. These themes are expounded below with selected supporting examples drawn from the data.

Theme 1: Facilitating System Level Support for Nurses' Workflow

The first success criteria identified were to have an EHR system supporting nurses' workflow in terms of accessibility when nurses need to record or read information, and usability of the way information is presented in the system. Although there were some isolated positive findings, like one department being in the middle of installing new computers, these were in minority and were not useful in formulating success criteria—the focus of this study.

Some participants reported limited technological facilitation impairing their possibilities for optimal use of the EHR system and, consequently, SCPs. The participants reported not having access to the EHR system when they needed information or wanted to record an event. Reasons included no bedside computers, few computers at the nursing station, and low system capacity for multiple users simultaneously:

We do not even have a nurses' station. We have two laptops, and they are a bit slow. So to make everyone log in [to the EHR] and read – it is not that easy. (Leader No. 3)

If you are dumb enough to try around two thirty – three o'clock it just crashes. The computer just hangs and it takes forever. (Nurse No. 3)

As the quotes illustrate, problems with limited access to EHR made it difficult for some leaders to require employees to use EHR for information gathering, and low system capacity impaired the nurses' possibilities for accessing the EHR system when they needed to. Whereas some nurses waited until they had access to do their reading and writing, for others, limited access resulted in substitutional use of immediate available tools such as information on paper and oral communication. Participants therefore suggested ensuring adequate availability of and accessibility to technological equipment to enable leaders to require an active use of the EHR system and to enable nurses to fit reading and recording in the EHR into their work schedule.

System level facilitation also included ensuring that the construction and user interface of the EHR system and SCPs supported nurses' workflow. Nurses reported experiencing

Table 2. Example of Transcribed Text, Codes, and Themes From the Analysis

Quote From the Transcribed Text	Code	Theme
“I know that there is a lot of oral communication in my department, but it is because the ICT works the way it works. Or does not work.” (Leader No. 5)	Problems with EHR lead to oral communication	Facilitating system level support for nurses' workflow
“Previously we used to have a paper with the names of the patients, and some short information about them. Small, simple messages that gave you a quick overview. Instead, you now have to use time to log on to the EHR every time you are going to a new patient.” (Leader No. 3)	Complicated to get overview in the EHR	
“Due to time pressure, there are several healthcare workers who would prefer to have a paper list with short information about the patients instead of having to go to the care plan.” (Nurse No. 2)	Using the care plan is time-consuming	
“We have a standard text on the “work plan” saying that “as responsible for this patient you also have to document and read the care plan”. The text was written to force auxiliary nurses and nursing assistants to read the care plan.” (Nurse No. 5)	Putting effort into making the staff use SCPs	Engaged individuals creating a culture for using SCPs
“When we started using the ‘work plan’ we just removed all message books, reminding notes and lists. (...) They are unnecessary and shall not be used.” (Leader No. 4)	A leadership strategy to remove the element of choice	
“If I do not talk to the others, I do not get any input either (...). If the department had SCPs as a topic for discussion in different fora, we could perhaps achieve a common understanding.” (Leader No. 2)	Arranging for discussions of SCP use	
“We do not have anybody that is in control of this [the SCPs] anymore (...) We have not received any new plans in a long time. (...) Nobody knows when they come or where they come from.” (Nurse No. 5)	Lost key individual for SCPs	Developing system level safety nets
“We have no one that we can give feed-back to [regarding the SCPs].” (Leader No. 6)	Have no one to contact	
“I think that they should teach ICNP in nursing schools. Because if there is no choice, you get good at using it. But if there are too many choices, or it is accepted that you start formulating interventions yourself, then you do not get anywhere.” (Leader No. 5)	Teaching ICNP in nursing education increases familiarity and use	

Abbreviation: ICNP, International Classification for Nursing Practice.

time constraints and therefore looked for a quick way to orientate themselves to the patients' situation. SCPs were in their current form hard to use for this purpose, as they were detailed and comprehensive, and required several steps to find exact information. Intervention headings in the SCPs were wide and general, as opposed to more specific headings of interventions in traditional care plans (see Table 3 for an example).

Because nurses had to click on each specific intervention to look for an individualized description, using SCPs required an extra step to find information:

Isn't it better to have a more specific intervention? (...) That you save some time by seeing the intervention right away. (Nurse No. 4)

Participants suggested several ways to enhance overview in SCPs, such as alerts when interventions were individualized, reducing the amount of visible text, and removing “resources” and “characteristics” from SCPs. As long as SCPs remained unchanged, some used other information sources to achieve an overview:

We have the IPLOS evaluation that we have to do, and all the areas of how the patient is functioning are described there. If nothing is written about an area, you know that there is nothing special there. The IPLOS gives a good overview of the patient, so if I had a new patient, I would look at that first. (Leader No. 6)*

As this quote shows, short and concise information connecting smaller elements of information into a more complete picture of the patient can provide the overview nurses need. Participants also suggested to make the wording in SCPs easier, to facilitate understanding and use:

It should be a tool that I can use, and if I do not understand it [the wording in the SCPs], it becomes difficult. Not that I do not understand it, but we have many staff members without an education in healthcare. They are also trained in SCPs and are expected to use them. (Nurse No. 5)

*IPLOS is an abbreviation for individual-based statistics of care services (NO: Individbasert Pleie- og OmsorgsStatistikk). Municipalities are required to report monthly evaluations of all patients according to these scores; the scores are saved in the EPR system.

Table 3. An Example of the Difference Between Traditional Care Plans and Structured Nursing Care Plans

Traditional Care Plan	Structured Nursing Care Plan
Nursing diagnosis: Reduced appetite	Nursing diagnosis: Risk of malnutrition
Goal: Maintain current weight	Goal: Weight within normal limits
	Resources:
	- Able to feed self
	- Able to swallow
	- Effective sense of taste
	- Effective memory
Interventions:	Interventions:
- Weight control ×1/wk	- Weighing patient
- Enrich food with butter/cream/oil/sugar	- Assessing dietary need
- Add 2 spoons of maltodextrin carbohydrate powder (= 40 kcal) to drinking fluids	- Administering nutritional supplement
- Administer intravenous fluids as ordained	- Assessing fluid intake

A comparison of a traditional care plan versus a structured nursing care plan illustrates the difference in specificity of interventions between the two.

By addressing such usability issues, like overview and wording in the SCPs, the participants believed one could facilitate increased use of SCPs as a preferred information source, also when nurses experience time constraints. By ensuring accessibility and usability of SCPs, the system can support nurses' workflow, which in turn can ease nurses' use of SCPs in daily practice.

Theme 2: Engaged Individuals Creating a Culture for Using Standardized Care Plans

The participants expressed different attitudes towards SCPs and reported large variations in use. Engaged individuals characterized settings where SCPs were reported to be routinely used. These individuals could be either nurses or leaders, or preferably both. The leadership strategy applied seemed important for the recording practice in the department. One approach was to take a proactive stance expecting staff to use SCPs whenever possible, and making it unacceptable to choose the old care planning system instead:

The way we have worked to get it into our department is to get rid of the old. To be a little tough about it. If we have too many systems, we easily fall back to the old and familiar. This way you force it through. It is a little bit like “the hard way,” but I believe in it. (Leader No. 2)

An alternative approach was to not really interfere with the recording practice of the staff. The leaders themselves did not have very much knowledge of the SCPs, despite having SCPs available in their EHR system. One leader explained why some of the staff had limited knowledge of SCPs and therefore were unsure about using them:

We did have a nurse who was like our guru in SCPs, but she has retired. Now we have got some new nurses who need training. And I would like some training myself. So, we have talked about maybe booking a meeting. (Leader No. 1)

The leader in this quote referred to a former employee who had extensive knowledge of SCPs and was engaged in training others in the department. Some of the nurses participating in the workshops also reported to having taken a similar responsibility for motivating and helping their peers in using SCPs:

It is difficult to get everybody on board when something new has come. Even small, easy things become difficult if you have never used them before. So, I try to make them see that it is an aid instead of an obstacle. To make everybody see that it is possible. (Nurse No. 4)

This kind of engagement seemed to affect the others in the department positively. Such engagement could lead to a change in the recording culture in the department:

Some people seem like they are very competent in using these plans [the SCPs], and they manage to bring an attitude [to the department], that it becomes a culture for using the SCPs. (Nurse No. 3)

Both proactive leaders and engaged nurses affected the recording culture in the department. However, to fully change the culture in a department, the participants believed collaboration to be a key to success. Collaboration between co-workers was believed to be a means for improving staff confidence in the use of SCPs and facilitate for a greater shared understanding of how to use them:

We discussed that it could be helpful, to start with, to be a team and discuss. To be more people, even if it is with the doctor or a colleague. That you are not sitting alone with it [making care plans]. (Leader No. 2)

Participants believed confidence and understanding to be important issues that could affect the possibilities for SCPs to become embedded in information practice. To facilitate collaboration, participants explained that new arenas needed to be created for this purpose, like teams making care plans together or meetings where selected care plans were discussed. They considered the arrangement of such collaborative

arenas to be a leadership responsibility. Hence, the participants believed success criteria for increased SCP use to be as follows: (1) having engaged leaders with clear expectations of SCP use in their department who arranged for collaborative arenas for SCP use and (2) having nurses who were engaged and knowledgeable of SCPs to support and motivate their peers. Together, engaged individuals have the possibility to affect the recording culture in the workplace and thereby to facilitate the adoption and integration of SCPs.

Theme 3: Developing System Level Safety Nets

Some participants noted that they lost internal support (engaged individuals) and/or external support after the initial implementation period was over, which resulted in reduced use of SCPs. As changes in staffing occur naturally in all healthcare settings, the participants pointed towards vulnerability in the implementation of the system. They explained that changes in staffing, both internally and externally, led to a lack of individuals to drive the implementation and training further:

It used to be a colleague of ours in charge of this (the SCPs), but she is not with us anymore. (...) It would have been nice to have someone on the house to contact. (Leader No. 4)

The consequence of losing key individuals was that both nurses and leaders who were hired after the implementation of SCPs risked receiving limited or no training in using them. These nurses and leaders expressed insecurity of how to use SCPs:

I do not know well enough how to use the SCPs. It was shown to me for like seven and a half minutes and then...go ahead. It was too much to deal with, so I have made care plans the old way instead. (Nurse No. 3)

Even those who were comfortable in using SCPs expressed insecurity regarding who to contact for SCP-related issues. They did not know who developed the SCPs, or how new and updated SCPs became a part of their own EHR system:

We do not make the new plans, so they come from outside somewhere. But who they are...well.... (Leader No. 6)

Uncertainty about who was in charge of driving the SCPs further was shared by many of the participants. This led to discontinuity in training and use of SCPs, which was an obstacle for SCPs to become routinely embedded in their information practice. This speaks to the need for a safety net on a system level, such as continued access to external training and support, to ensure that any loss of individuals does not lead to a termination of SCP use. This could facilitate the sustained and widespread use of SCPs.

DISCUSSION

The aim of this study was to identify success criteria for the adoption and integration of SCPs into practice. The findings suggest three success criteria to help SCPs become an integrated part of nurses' information practice—the practice of how information is produced, organized, disseminated, distributed, reproduced, and circulated within the setting.⁴² These success criteria include system level facilitation, the engagement of system users, and the development of safety nets to reduce the vulnerability of being dependent on single individuals to provide support and training.

Regarding system level facilitation, our results emphasize that SCP implementation involves not only the training of nurses to use it correctly but also a supporting technical infrastructure that enables its use. It is widely known that such facilitating conditions are pivotal for technology acceptance.³² However, this continues to be an overlooked or underestimated criterion for a successful technology implementation. As municipal healthcare managers today struggle with low budgets,⁴³ policy makers wanting to implement new technology in this setting should allocate more resources to facilitate a technological upgrade. As things stand, slow and outdated technology may be impeding the possibility of SCPs to function as a tailored decision support system at the point of care.

Another factor identified as important for the use of SCPs is to address the SCPs' functionality. The participants felt that the way SCPs were designed and presented in the EHR did not support the nurses' workflow. Nurses are often subject to time constraints,⁴⁴ which means they need to quickly get an overview of patients and their needs. The need for overview has been described in the literature for decades,⁴⁵ yet vendors of EHR systems have often failed to provide this feature. When it is complicated and time-consuming to find important information in the EHR, nurses tend to use other information sources.¹ Thus, by addressing functionalities to enhance overview in the SCPs, one potentially facilitates increased use. Greenhalgh et al³¹ refer to this as penetration, meaning that the degree to which the technology integrates with the end users' workflow is a predictor for adoption and sustained use. Usability is a well-known predictor for use of a technology,³² and low usability of EHR systems leading to dissatisfaction and low adoption rates is a recognized problem.⁴⁶ EHRs are seldom designed to support nurses' workflow, and this may increase nurses' workload unnecessarily.⁴⁷ As also suggested in other studies,⁴⁸ these findings speak to a need to involve end users in technology development and design to make the technology compatible with the practice in which it is implemented. System level facilitation, that is, providing a sound technical infrastructure and adjusting functionalities to nurses' needs in daily practice, cannot alone guarantee increased use of SCPs, but it may prevent system level issues from becoming an obstacle for use.

Regarding engaged individuals, we found that in the settings where SCPs were commonly used, there were key persons and active leaders engaged in the use of SCPs. The participating leaders who were actively engaged in SCPs showed a proactive strategy, where the staff were given little room for choice and were expected to use SCPs. Other leaders expressed a need for support and training to be able to have an active role in encouraging their staff to use SCPs. Although it is common to emphasize support from leaders to be important in an implementation process,^{31,32} our findings suggest that leaders also have a need for support to be able to drive the technology development further. A recent scoping review found that even though leaders have an important role in technology implementation in healthcare, they struggle to fill this role and express insecurity and a need for support.⁴⁹ This points towards an extended need to focus on supporting leaders in implementation processes.

Engaged nurses who supported and encouraged the other staff members to use SCPs were also present in the settings where they were actively used. Together with proactive leaders, these nurses created a culture for using SCPs, which suggests that the normalization of SCPs is a collaborative effort requiring several engaged individuals. Collaboration was also seen as a possible facilitator for increased use of SCPs. Traditionally, making care plans has been an individual task, resulting in large discrepancies in outcome, where individual nurses have had different views of which interventions best suit the patients' needs, and their knowledge and self-efficacy regarding SCP use have varied greatly.¹⁹ The findings of this study suggest the need for collaboration between co-workers in developing care plans to possibly reduce insecurity and contribute to a more uniform understanding of how to use SCPs. Previous studies on care planning have tended to focus on inter-professional collaboration, rather than collaboration within a more homogenous group of healthcare workers within a setting. One of these studies highlight that collaboration requires personal motivation, mutual trust and respect, allocated time, and organization of meetings,⁵⁰ which are findings that can easily be applied also to collaboration on SCPs. Hence, we believe it to be a management responsibility to facilitate collaboration by allocating time and creating arenas for this purpose, although engaged nurses could be important for the peer support provided in such arenas.

Regarding the development of safety nets, we found that settings losing external support or losing their engaged individuals who drove the normalization of SCPs further were left in a kind of limbo where they did not know where to go for training or support. As there was no safety net developed for such events, the further development of the SCPs had stopped, and in some settings, new staff members did not use SCPs at all. This highlights the risks associated with

engaging just a few key persons in an implementation process. Although it is widely accepted that training and support of intended users is necessary when a new e-health initiative is implemented in practice,³¹ it is less well described that this need can still be present several years after the initial implementation. The present study reinforces the potential benefits of viewing this as an ongoing process, beyond the piloting and implementation phase. Even though this study took place 3 years after the initial implementation, it identified a need for access both to training and to super-users to ensure further development and use of SCPs. This finding suggests that developing a system level safety net to reduce vulnerability, instead of building a new practice entirely on individuals' engagement, is a success criterion for the integration and adoption of SCPs in municipal healthcare information practices.

CONCLUSION

The results of this study indicate that the integration of SCPs in municipal healthcare information practices is an ongoing effort. The successful implementation of SCPs may require system level facilitation of a sound technological infrastructure and the provision of functionality that supports nurses' workflow. Engaged individuals, both leaders and nurses, are pre-conditions to adoption, but this also reveals a vulnerability. Therefore, there appears to be a need for continued access to training and support that can function as a safety net when key individuals move on. These issues could be of relevance in the future implementation and further development of SCPs and other standardized documentation structures.

Acknowledgment

The authors wish to thank all the participants in the workshops who so generously shared their knowledge and ideas.

References

1. Østensen E, Bragstad LK, Hardiker NR, Hellesø R. Nurses' information practice in municipal health care—a web-like landscape. *Journal of Clinical Nursing*. 2019;28(13–14): 2706–2716. doi:10.1111/jocn.14873.
2. Ministry of Health and Care Services. Act of 2 July 1999 No. 64 Relating to Health Personnel etc. (The Health Personnel Act) (Lov om helsepersonell m.v.). 2001.
3. OECD. *OECD: Reviews of Health Care Quality, Norway 2014: Raising Standards*. 2014. doi:10.1787/9789264208469-en.
4. Saranto K, Kinnunen UM, Kivekas E, et al. Impacts of structuring nursing records: a systematic review. *Scandinavian Journal of Caring Sciences*. 2014;28(4): 629–647. doi:10.1111/scs.12094.
5. Maier CB, Aiken LH. Task shifting from physicians to nurses in primary care in 39 countries: a cross-country comparative study. *European Journal of Public Health*. 2016;26(6): 927–934. doi:10.1093/eurpub/ckw098.
6. Charalambous L, Goldberg S. 'Gaps, mishaps and overlaps'. Nursing documentation: how does it affect care? *Journal of Research in Nursing*. 2016;21(8): 638–648. doi:10.1177/1744987116678900.
7. Dykes PC, Collins SA. Building linkages between nursing care and improved patient outcomes: the role of health information technology. *The Online Journal of Issues in Nursing*. 2013;18(3): 4.

8. Hardiker NR, Dowding D, Dykes PC, Sermeus W. Reinterpreting the nursing record for an electronic context. *International Journal of Medical Informatics*. 2019;127: 120–126. doi:10.1016/j.ijmedinf.2019.04.021.
9. World Health Organization. From innovation to implementation eHealth in the WHO European Region. 2016. https://www.euro.who.int/__data/assets/pdf_file/0012/302331/From-Innovation-to-Implementation-eHealth-Report-EU.pdf
10. Strudwick G, Hardiker NR. Understanding the use of standardized nursing terminology and classification systems in published research: a case study using the International Classification for Nursing Practice. *International Journal of Medical Informatics*. 2016;94: 215–221. doi:10.1016/j.ijmedinf.2016.06.012.
11. Törmvall E, Jansson I. Preliminary evidence for the usefulness of standardized nursing terminologies in different fields of application: a literature review. *International Journal of Nursing Knowledge*. 2017;28(2): 109–119. doi:10.1111/2047-3095.12123.
12. Thoroddsen A, Ehrenberg A, Sermeus W, Saranto K. A survey of nursing documentation, terminologies and standards in European countries. *NI 2012 (2012)*. 2012;2012: 406.
13. De Groot K, De Veer AJE, Paans W, Francke AL. Use of electronic health records and standardized terminologies: a nationwide survey of nursing staff experiences. *International Journal of Nursing Studies*. 2020;104: 103523. doi:10.1016/j.ijnurstu.2020.103523.
14. Nantschev R, Ammenwerth E. Availability of standardized electronic patient data in nursing: a nationwide survey of austrian acute care hospitals. *Studies in Health Technology and Informatics*. 2020;272: 233–236. doi:10.3233/shti200537.
15. Gonçalves PDB, Sequeira CAC, Paiva E Silva MATC. Nursing interventions in mental health and psychiatry: content analysis of records from the nursing information systems in use in Portugal. *Journal of Psychiatric and Mental Health Nursing*. 2019;26(7–8): 199–211. doi:10.1111/jpm.12536.
16. Castellà-Creus M, Delgado-Hito P, Casanovas-Cuellar C, Tàpia-Pérez M, Juvé-Udina ME. Barriers and facilitators involved in standardised care plan individualisation process in acute hospitalisation wards: a grounded theory approach. *Journal of Clinical Nursing*. 2019;28: 4606–4620. doi:10.1111/jocn.15059.
17. Finn C. Narrative nursing notes in the electronic health record: a key communication tool. *On-line Journal of Nursing Informatics*. 2015;19(2). <http://www.himss.org/ojni>. Accessed July 7, 2021.
18. Wears RL. Standardisation and its discontents. *Cognition, Technology & Work (Online)*. 2015;17(1): 89–94. doi:10.1007/s10111-014-0299-6.
19. Østensen E, Hardiker NR, Bragstad LK, Hellesø R. Introducing standardised care plans as a new recording tool in municipal health care. *Journal of Clinical Nursing*. 2020;29(17-18): 3286–3297. doi:10.1111/jocn.15355.
20. Conrad D, Hanson PA, Hasenau SM, Stocker-Schneider J. Identifying the barriers to use of standardized nursing language in the electronic health record by the ambulatory care nurse practitioner. *Journal of the American Academy of Nurse Practitioners*. 2012;24(7): 443–451. doi:10.1111/j.1745-7599.2012.00705.x.
21. Lee S, Jeon MY, Kim EO. Implementation of structured documentation and standard nursing statements: perceptions of nurses in acute care settings. *CIN: Computers, Informatics, Nursing*. 2019;37(5): 266–275. doi:10.1097/cin.0000000000000510.
22. Nicklaus J, Kusser J, Zessin J, Amaya M. Transforming education for electronic health record implementation. *The Journal of Continuing Education in Nursing*. 2015;46(8): 359–363. doi:10.3928/00220124-20150721-02.
23. Bjurling-Sjöberg P, Wadensten B, Pöder U, Jansson I, Nordgren L. Struggling for a feasible tool—the process of implementing a clinical pathway in intensive care: a grounded theory study. *BMC Health Services Research*. 2018;18(1): 831. doi:10.1186/s12913-018-3629-1.
24. Vuokko R, Makela-Bengs P, Hyppönen H, Lindqvist M, Doupi P. Impacts of structuring the electronic health record: results of a systematic literature review from the perspective of secondary use of patient data. *International Journal of Medical Informatics*. 2017;97: 293–303. doi:10.1016/j.ijmedinf.2016.10.004.
25. Monsen KA, Foster DL, Gomez T, et al. Evidence-based standardized care plans for use internationally to improve home care practice and population health. *Applied Clinical Informatics*. 2011;2(3): 373–383. doi:10.4338/ACI-2011-03-RA-0023.
26. International Council of Nurses. About ICN <https://www.icn.ch/what-we-do/projects/ehealth-icnptm/about-icnp>
27. Shiells K, Holmerova I, Steff M, Stepankova O. Electronic patient records as a tool to facilitate care provision in nursing homes: an integrative review. *Informatics for Health and Social Care*. 2019;44(3): 262–277. doi:10.1080/17538157.2018.1496091.
28. Tuinman A, de Greef MHG, Krijnen WP, Paans W, Roodbol PF. Accuracy of documentation in the nursing care plan in long-term institutional care. *Geriatric Nursing*. 2017;38(6): 578–583. doi:10.1016/j.gerinurse.2017.04.007.
29. Lövestam E, Orrevall Y, Koochek A, Karlström B, Andersson A. Evaluation of nutrition care process documentation in electronic patient records: need of improvement. *Nutrition & Dietetics*. 2015;72(1): 74–80. doi:10.1111/1747-0080.12128.
30. Instefjord MH, Aasekjær K, Espehaug B, Graverholt B. Assessment of quality in psychiatric nursing documentation—a clinical audit. *BMC Nursing*. 2014;13(1): 32. doi:10.1186/1472-6955-13-32.
31. Greenhalgh T, Wherton J, Papoutsi C, et al. Beyond adoption: a new framework for theorizing and evaluating nonadoption, abandonment, and challenges to the scale-up, spread, and sustainability of health and care technologies. *Journal of Medical Internet Research*. 2017;19(11): e367. doi:10.2196/jmir.8775.
32. Venkatesh V, Thong J, Xu X. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*. 2012;36(1): 157–178. doi:10.2307/41410412.
33. May C, Finch T. Implementing, embedding, and integrating practices: an outline of normalization process theory. *Sociology*. 2009;43(3): 535–554. doi:10.1177/0038038509103208.
34. Simonsen J, Robertson T. *Routledge International Handbook of Participatory Design*. New York, NY: Routledge; 2013.
35. MacDonald C. Understanding participatory action research: a qualitative research methodology option. *The Canadian Journal of Action Research*. 2012;13(2): 34–50. doi:10.33524/cjar.v13i2.37.
36. Sanders EBN, Stappers PJ. *Convivial Toolbox: Generative Research for the Front End of Design*. Amsterdam, The Netherlands: BIS Publishers; 2018.
37. Ministry of Health and Care Services. The Norwegian Public Health Act (Lov om kommunale helse- og omsorgstjenester m.m.). Norwegian Ministry of Health and Care Services. 2011. <https://lovdata.no/dokument/NL/lov/2011-06-24-30>.
38. Statistics Norway. Sjukeheimar, heimetenester og andre omsorgstjenester [Nursing homes, home care services and other care services]. <https://www.ssb.no/helse/statistikker/pleie/aar>
39. Green J, Thorogood N. *Qualitative Methods for Health Research*. 3rd ed. London, United Kingdom: SAGE; 2014.
40. Hsieh H-F, Shannon SE. Three approaches to qualitative content analysis. *Qualitative Health Research*. 2005;15(9): 1277–1288. doi:10.1177/1049732305276687.
41. Patton MQ. *Qualitative Research & Evaluation Methods*. 4th ed. Thousand Oaks, CA: Sage Publications; 2015.
42. Bonner A, Lloyd A. What information counts at the moment of practice? Information practices of renal nurses. *Journal of Advanced Nursing*. 2011;67(6): 1213–1221. doi:10.1111/j.1365-2648.2011.05613.x.
43. Ree E, Johannessen T, Wiig S. How do contextual factors influence quality and safety work in the Norwegian home care and nursing home settings? A qualitative study about managers' experiences. *BMJ Open*. 2019;9(7): e025197. doi:10.1136/bmjopen-2018-025197.
44. Forsgren E, Skott C, Hartelius L, Saldert C. Communicative barriers and resources in nursing homes from the enrolled nurses' perspective: a qualitative interview study. *International Journal of Nursing Studies*. 2016;54: 112–121. doi:10.1016/j.ijnurstu.2015.05.006.
45. Allen D. Record-keeping and routine nursing practice: the view from the wards. *Journal of Advanced Nursing*. 1998;27(6): 1223–1230. doi:10.1046/j.1365-2648.1998.00645.x.
46. Topaz M, Ronquillo C, Peltonen LM, et al. Nurse informaticians report low satisfaction and multi-level concerns with electronic health records: results from an international survey. *AMIA Annual Symposium Proceedings*. 2017;2016: 2016–2025.

47. O'Brien A, Weaver C, Settegren TT, Hook ML, Ivory CH. EHR documentation: the hype and the hope for improving nursing satisfaction and quality outcomes. *Nursing Administration Quarterly*. 2015;39(4): 333–339. doi:10.1097/naq.0000000000000132.
48. Askari M, Tam JLYY, Aarnoutse MF, Meulendijk M. Perceived effectiveness of clinical pathway software: a before-after study in the Netherlands. *International Journal of Medical Informatics*. 2020;135: 104052. doi:10.1016/j.ijmedinf.2019.104052.
49. Laukka E, Huhtakangas M, Heponiemi T, Kanste O. Identifying the roles of healthcare leaders in HIT implementation: a scoping review of the quantitative and qualitative evidence. *International Journal of Environmental Research and Public Health*. 2020;17(8): 2865. doi:10.3390%2Fijerph17082865.
50. van Dongen JJ, Lenzen SA, van Bokhoven MA, Daniëls R, van der Weijden T, Beurskens A. Interprofessional collaboration regarding patients' care plans in primary care: a focus group study into influential factors. *BMC Family Practice*. 2016;17(1): 58. doi:10.1186/s12875-016-0456-5.