Home care nurses' views regarding nursing documentation in relation to perceived documentation burden: a focus group study

Master thesis

Name:	A.M. Munster
Student number:	6595316
Status:	Definitive
Course:	Research Internship 2: Master's thesis
Date:	16-06-2020
Education Institute:	Utrecht University Master Clinical Health Sciences, programm Nursing Science, University Medical Centre (UMC) Utrecht, The Netherlands
Course instructor:	Dr. S.W.M. Weldam
Research Institute:	Netherlands Institute for Health Services Research (Nivel), Utrecht, The Netherlands
Supervisors:	Prof. dr. A.L. Francke, Drs. K. de Groot
Intended journal:	International Journal of Nursing Studies
Criteria for transparency:	COnsolidated criteria for REporting Qualitative studies (COREQ)
Reference style:	Vancouver
Word count thesis:	3789
Word count English abstract:	295
Word count Dutch abstract:	298

English Abstract

Title: Home care nurses' views regarding nursing documentation in relation to perceived documentation burden: a focus group study.

Background: Accurate nursing documentation is essential for providing safe and efficient patient care. Increased documentation influences nurses' documentation burden. Literature indicates that challenges with the electronic health record (EHR) documentation may affect the perceived documentation burden. Thus, an improved understanding of the perceived documentation burden is needed.

Aims: The study aims to gain in-depth knowledge about the views of home care nurses regarding nursing documentation in relation to perceived documentation burden. The secondary aim is to explore whether these views vary between home care nurses with different educational levels.

Method: This study was conducted following an explorative, qualitative design using homogeneous focus groups (nurses with bachelor's degrees) and heterogeneous focus groups (nurses with bachelor's and secondary degrees). The transcripts were analysed using the thematic analysis method by Braun and Clarke (2006).

Results: A total of four focus groups (n = 28) were conducted: one face-to-face and three online. Several factors were found to increase the perceived documentation burden: the lack of perceived usefulness and importance of the documentation, which was higher for organisation-related documentation compared to client-related documentation; non-user-friendly EHR systems; lack of information exchange among healthcare professionals; organisational characteristics such as low level of organisational support; and poor integration of different documentation systems. Nurses with bachelor's degrees experienced a higher documentation burden than nurses with secondary degrees.

Conclusion and recommendations: Documentation burden is caused by various factors. Home care nurses should be assisted by user-friendly EHR systems in which information can be transferred from other healthcare professionals' systems. Additionally, organisations should work closely with nurses to critically assess their documentation activities. Future research should focus on further investigating the differences between home care nurses with bachelor's and secondary degrees.

Keywords: Home care services; registered nurses; nursing documentation; documentation burden; electronic health record

Nederlandse samenvatting

Titel: De opvattingen van verpleegkundigen in de wijkverpleging met betrekking tot verpleegkundige verslaglegging in relatie tot ervaren registratielast: een focusgroep studie.
Achtergrond: Nauwkeurige verpleegkundige verslaglegging is essentieel voor veilige en efficiënte patiëntenzorg. Toegenomen verslaglegging beïnvloedt de registratielast van verpleegkundigen. Literatuur geeft aan dat uitdagingen bij de verslaglegging in het elektronische patiëntendossier (EPD) van invloed kunnen zijn op de ervaren registratielast. Er is een beter begrip nodig van de ervaren registratielast.
Doelen: Het onderzoek beoogt diepgaande kennis te verkrijgen over de opvattingen van verpleegkundigen in de wijkverpleging met betrekking tot verpleegkundige verslaglegging in relatie tot ervaren registratielast. Het secundaire doel is om te exploreren of hierbij verschillen zijn tussen de ervaringen van verpleegkundigen van twee opleidingsniveaus.
Methode: Deze studie is uitgevoerd volgens een verkennend, kwalitatief ontwerp door middel van homogene (verpleegkundigen met een diploma in het hoger beroeps onderwijs (hbo)) en heterogene focusgroepen (verpleegkundigen met zowel een diploma in het hoger- als het middelbaar beroeps onderwijs (mbo)). De transcripten zijn geanalyseerd volgens de methode van thematische analyse van Braun & Clarke (2006).
Resultaten: In totaal zijn vier focusgroepen (n = 28) uitgevoerd: één face-to-face en drie online. Verschillende factoren bleken de ervaren registratielast te verhogen: het gebrek aan ervaren nut en belang van verslaglegging, die hoger was voor organisatiegerelateerde documentatie vergeleken met cliëntgerelateerde documentatie; niet-gebruiksvriendelijke EPD-systemen; gebrek aan informatie-uitwisseling tussen gezondheidszorgprofessionals; organisatorische kenmerken, zoals gebrekkige organisatorische ondersteuning; en slechte integratie tussen verschillende documentatiesystemen. Verpleegkundigen met een hbo diploma ervaarden een hogere registratielast dan verpleegkundigen met een mbo diploma.
Conclusies en aanbevelingen: De registratielast wordt veroorzaakt door verschillende factoren. Verpleegkundigen in de wijkverpleging moeten worden bijgestaan door gebruikvriendelijke EPD-systemen waarin informatie kan worden overgedragen naar systemen van andere gezondheidsprofessionals. Bovendien moeten organisaties nauw samenwerken met verpleegkundigen om hun documentatietaken kritisch te beoordelen. Toekomstig onderzoek zou zich moeten richten op het verder onderzoeken van de verschillen tussen hbo- en mbo verpleegkundigen.

Keywords: Thuiszorg; wijkverpleging; verpleegkundigen; verpleegkundige verslaglegging; registratielast; electronisch patiëntendossier

1. Introduction and rationale

Accurate nursing documentation is essential for providing safe and efficient patient care(1–3). Nursing documentation is now primarily processed electronically(4–6). Nurses enter the information related to nursing care into the individual electronic health records (EHRs) of their clients(7) using the internationally recognized stages of the nursing process as the theoretical elements for accurate documentation. These stages of the nursing process are: (a) assessment, (b) nursing diagnosis, (c) planning of interventions, (d) implementation of interventions, and (e) evaluation of care and—if applicable—handovers(8).

In recent years, the amount of nursing documentation has increased internationally(9–11). Documentation occupies a significant amount of nurses' time during which they cannot provide direct nursing care to patients(9,12), which can consequently increase nurses' workload and dissatisfaction(13,14). Nurses spend between 13% and 35% of nursing practice time on documenting care(12). In the Netherlands, this percentage has risen from 25% in 2016 to 35% in 2019, considerably higher than the percentage of time nurses actually intend to spend on documentation, which is 23%(6,15,16). However, it is known that nurses who spend most time on documentation do not necessarily experience the highest documentation burden, because there is a discrepancy between the perceived and actual time spent on documentation(17).

The literature indicates that documentation burden is a considerable source of stress for nurses(18–20) and may result in increased workload, which is a significant predictor of negative mental health outcomes in nursing(21). Documentation tends to feel burdensome when it includes duplicating information or takes up an excessive amount of time that removes nurses from direct nursing care(9,10,12,22). However, it is difficult to determine which types of documentation nurses consider as burdensome because there is no valid instrument to measure it(22). In the Netherlands, in addition to client-related documentation nurses also have to document information related to organisational purposes, such as completed work hours, declarations, quality label information, and authorization forms for aids and bandages(17).

In the Netherlands, home care nurses in particular are experiencing a high documentation burden(6,15–17,23). Dutch studies have demonstrated that home care nurses spend more hours on documentation compared with nurses in other care sectors(6,17). According to a recent Dutch survey, 52% of home care nurses experience increased workload due to client-related documentation, and 57% of home care nurses experience increased workload due to organisation-related documentation(6).

The documentation burden may be experienced differently by home care nurses with different educational levels. In the Netherlands, home care nurses have either a bachelor's or a secondary degree(24), and their roles and tasks differ depending on their education(25,26). Since 2015, only home care nurses with a bachelor's degree perform the formal assessment of care needs and assign the needed care to clients, including documentation actions required in activities such as establishing client care plans en requesting indications(27,28). Therefore, nurses with a bachelor's degree may experience higher documentation burden than nurses with secondary degrees.

Previous research indicates that challenges with today's electronic documentation may potentially have an effect on the perceived documenation burden of nurses. The structure of the EHR does not suit the way nurses think and work, leading to cognitive overload, time pressure and psychological distress(5,14). Nurses also indicate that the EHRs are not in line with the phases of the nursing process(7,29). Also, several studies indicate that home care nurses experience various obstacles regarding the user-friendliness of EHRs(13,14,30).

Given the high documentation burden, in-depth knowledge about the views of home care nurses regarding perceived documentation burden is needed. With this knowledge, recommendations can be made to reduce the documentation burden.

2. Objectives

The primary objective of the present study was to gain in-depth knowledge about the views of home care nurses regarding nursing documentation in relation to perceived documentation burden. The secondary objective was to explore whether these views vary between home care nurses with different educational levels.

3. Method

3.1. Design

This study was conducted following an explorative, qualitative design using focus groups(31). Focus groups were used, because they enable access to more extensive and detailed information as a result of interaction between participants(31–35). Compared with individual interviews, these interactions facilitate the expression of ideas(32). This study followed the COnsolidated criteria for REporting Qualitative studies(COREQ) guidelines(36).

The research team consisted of three members (A.M., K.G., and A.F.). Two researchers worked as a home care nurse on a part-time base during the study (A.M. and K.G.).

3.2. Participants and recruitment

The study population consisted of home care nurses. To be eligible to participate in this study, a participant needed to meet all of the following inclusion criteria: (a) being a registered nurse; (b) having a bachelor's nursing degree (from a university of applied sciences) or secondary vocational-level nursing qualification; (c) currently providing home care; and (d) using an EHR which at least includes: anamnesis, care plan, and progress reports. To increase variation in the sampling, no more than three home care nurses from one organization were included in the same focus group.

Purposeful sampling was used (31,34) to recruit a diverse group of participants working in various home care organisations in the Netherlands. Additionally, the sampling aimed at diversity in work experience, working hours per week, and working with various EHRs. Participants were recruited using the personal network of the reseachers (A.M. and K.G.). Home care nurses were approached to participate either personally, by e-mail, or by telephone. Additionally, the principal researcher posted a message on LinkedIn and Facebook to recruit participants. Home care nurses who indicated their willingness to participate in the study received an e-mail with additional information.

To be able to explore potentially different views between nurses with different educational levels, homogeneous and heterogeneous focus groups were established. The homogeneous focus group comprised nurses with the same educational level (a bachelor's nursing degree from a university of applied sciences), whereas the heterogeneous focus groups comprised nurses with diverse educational levels (a bachelor's nursing degree from a university of applied sciences or secondary vocational-level nursing qualification). Data saturation was achieved once no new aspects or dimensions relevant to the aims were identified in the analysis of the last focus group(31). Previous literature with home care nurses in the Netherlands showed that two focus groups was sufficient to reach data saturation(37,38), so it was expected that four focus groups were sufficient.

3.3. Data collection

Focus groups were conducted between February and May 2020: one face-to-face and three online.

Face-to-face focus group

All participants received a confirmation e-mail specifying a meeting date, time, and place. One week before the focus group, a reminder was sent by e-mail. The focus group took place in a conference room at a home care organistation. The focus group was facilitated by

two team members (A.M. and K.G.). Participant characteristics were obtained after the focus group. The focus group was audio recorded and field notes were taken.

Online focus groups (OFGs)

OFGs were conducted on a web-based application(39,40) containing three separate discussion boards, one for each group of participants. Participants received an e-mail with the starting date of the OFG, the website link, and their individual login names and passwords to access the OFG application. Participants' usernames were anonymized by the principal researcher (A.M.). The OFGs were held in an asynchronous form; participants were able to access the discussion boards at any time and read and respond to each other's messages as per their convenience, rather than having to participate in a simultaneous discussion(32). For two weeks the principal researcher posted questions on the discussion board three times a week (A.M.). The other researchers acted as moderators by checking the comments and posting questions. When a new question was posted, participants were sent a reminder by e-mail. Participants who did not log in on the second research day were sent a reminder by e-mail on the third day. Participant characteristics were obtained by e-mail from the participants immediately after the OFG.

The focus groups were based on an interview guide based on previous research studies and, in particular, based on a recent quantitative study(6). The interview guide contained questions related to client-related documentation, organisation-related documentation, documentation burden, and organisational support.

3.4. Data analysis

Data were analysed using thematic analysis, which provides a flexible method for identifying, analyzing, and reporting themes in rich detail because it lacks theoretical or philosophical underpinnings(41,42). Data analysis followed the six steps described by Braun and Clarke (2006)(41).

1) Familiarizing with data: the face-to-face focus group was transcribed verbatim. Transcripts of the OFGs were automatically saved on the web application. All transcripts were read several times to ensure that the content was understandable and to assign codes to text segments(41). Notes were taken during the analysis to support the research process and the formulation of ideas and hypotheses.

2) Generating initial codes: codes were developed by constantly comparing and contrasting the data across focus groups. Coding was performed manually by the principal researcher. To enhance reliability(35), the first two focus groups were coded independently by two researchers (A.M. and K.G.). Data collection and analysis were iterative, meaning that codes

elicited from the ‘new’ data were constantly compared to previously collected data. The interview guide was modified after each focus group to include new and revised topics. The interim analysis was performed by all members of the research team.

3) Searching for themes: codes were combined into preliminary themes of a higher abstraction level.

4) Reviewing themes: an initial draft with the preliminary themes underwent a secondary round of collective analysis by the entire research team. This researcher triangulation and peer debriefing by the research team enhanced both the credibility and validity(35). Peer debriefing uncovered broader perspectives, possible meanings, and reflexivity led to more depth which enhanced accurateness.

5) Defining and naming themes: through ongoing discussion, disagreements were resolved and the preliminary themes were modified to reflect a more nuanced and rich understanding.

6) Producing the report: a thematic mind map was drawn to create a clear view of the themes and codes. It was discussed with the research team until consensus was reached about the defining of themes. In the report, quotes were identified by focus groups and not by individual participants. To guarantee the study’s reliability and transparency, quotes from all focus groups were used(31). As a finial step, the results of the homogeneous focus group (only nurses with bachelor’s degrees) were compared to the results of the heterogeneous focus groups (nurses with bachelor’s and secondary degrees).

3.5. Ethical considerations

This study was conducted in accordance with the principles of the Declaration of Helsinki (version 7, October 2013)(43). Under the Dutch legislation, it was not necessary to obtain formal ethical approval since this study was not medical scientific research and participants were not subjected to procedures or required to follow rules of behavior(44). Prior to the focus groups, informed consent forms, whether written or by email, were obtained from all participants. Participants were adequately informed that their data would be used for research proposes. The audio recording was saved at the secured Nivel network. The participants’ confidentiality has been ensured throughout the study.

4. Results

4.1. Participants

A description of the study participants is presented in Table 1. One participant withdrew from the study due to vacation plans, and one was excluded from the analysis for not meeting the

inclusion criteria. Ultimately, 28 participants participated in the focus groups. Their average age was 34 years [22-60] and the average length of work experience was 9 years [1-33]. Six participants (21.4%) had a secondary vocational level qualification and 22 (78.6%) of a bachelor's nursing degree. The majority of the participants used the Omaha Classification System (96%), the most commonly used system in home care(6).

[Insert Table 1]

[Insert Table 2]

4.2. Themes

A thematic mind map of the four overarching themes identified within the data is presented in Figure 1: usefulness and importance of documentation, EHR user-friendliness, lack of information exchange among healthcare professionals, and organisational characteristics. Some themes were divided into client-related documentation and organisation-related documentation.

[Insert Figure 1]

Usefulness and importance of documentation

Nurses in all focus groups experienced less documentation burden when the usefulness and importance of the documentation was evident to them.

Client-related documentation: Nurses considered client-related documentation to be an important part of their work and did not perceive it as a burden, although some documentation activities, for example, the assessment of care needs, consumed a lot of their time.

> *"The documentation activities I perform for my clients are based on my nursing role, and this documentation is not an extra burden. This documentation helps me and my collegues to provide our clients with good (and appropriate) care."* (FG4) Box 1

Organisation-related documentation: Nurses experienced documentation burden with organization-related documentation when it occupied a large portion of nursing time or when they failed to see its added value for themselves or their clients, especially when their workload was high.

> *"I think the five-minute registration is something that takes time but does not yield anything positive for myself or the client. I understand the need to explain your time, on the other hand, too, although I find this annoying, especially if the workload is high."* (FG1) Box 2

EHR user-friendliness

Nurses mentioned the EHR user-friendliness as an important factor in the perceived documentation burden.

Click work: Nurses who had to complete minimal amount of 'click work' when using EHR felt less documentation burden than nurses who had excessive click work. Nurses in all focus groups mentioned they had to complete a lot of mouse clicks when filing out their clients' EHRs. They also had to use different forms and apps in addition to the client's established care plan, which caused duplication.

> *"As Participant 5 also described, my organisation has different profile lists in addition to the established care plan. This causes a lot of duplication and sometimes unnecessary data entry and click work. Because these lists are not linked, you need to keep going back to the tab page to be able to open another list, which is very cumbersome."* (FG3) Box 3

Alignment with the nursing process: Nurses who found the EHR to be in line with the phases of the nursing process experienced less documentation burden than nurses who did not. Nurses indicated it was important that the EHR system include tools for clearly clustering information, they were sometimes unsure where to place information and how much information they should be documenting. As a result, they documented in their own way, leading to inconsistency. In particular, nurses who worked in an organisation with its own designed EHR were positive about the relationship between the EHR and the nursing process.

> *"What is nice about the EHR is that it focused on the guidelines and structures relating to our care activities. So anything that we lack in our nursing process can be applied to the EHR, and so the EHR keeps developing (what do we need and support our process)."* (FG3) Box 4

Nurses' involvement: Nurses who felt involved in the development of the EHR system were more likely to view it as user-friendly and experienced less documentation burden than those who felt less involved in its development. A small number of nurses felt not sufficiently involved.

"Management now often makes decisions for all of the organisation as far as EHR is concerned and about the implementation of profile lists that are not of added value to every team. I often miss the opportunity to have input into this because ultimately, we work with it every day." (FG 3) Box 5

Lack of information exchange among healthcare professionals

Lack of connectivity across healthcare systems: All nurses experienced documentation burden due to the lack of links between their EHR systems and the systems of other health care professionals. Nurses mentioned they now had to complete documentation in multiple communication systems as well as in their clients' EHR, leading to information duplication. They suggested their documentation burden would be reduced if there was a better link between these different systems.

"In this sense, a link between the EHR of the general practitioner, hospital, and home care could potentially also work. Not that the general practitioner can access all of our data and vice versa, but that message exchange is possible. As a result, a general practitioner does not need to draw up a paper/handover first, which is then emailed. After this, retype and add all of the information into our system again. There is a lot of duplicating!" (FG 3) Box 6

Limited quality handovers: All nurses indicated that the lack of handover quality affected their perceived documentation burden, resulting in increased workload due to extra work. Nurses indicated they regularly lost unnecessary amounts of time trying to find out the information needed, such as retrieving information through digital communication with various institutions. In particular, handovers from hospital to home care were perceived as being incomplete, or containing incorrect information.

"Where a lot of time is still required is for inadequate/inappropriate hospital discharge handover. There is still a lot of work associated with this. Because the handover is unclear (or missing...), medication is not in order, no wound care material for the first day(s) has been supplied or there is no wound care management plan, more care is to be provided than was handed over etc." (FG 4) Box 7

Organisational characteristics

Several organisational characteristics influenced nursing documentation burden.

Organisational support: Nurses felt that the adequate support from their organisation reduced documentation burden. However, some nurses believed that the problems they experienced in documentation were not being resolved by their organisations or that it took a long time to solve them. This was the case for nurses working in both large and small organisations.

> *"Our organisation is trying to reduce the documentation burden. There is a supposed 'red button' where you can document as a home care nurse. Nonetheless, I have previously suggested improvements in the employees' hours registration but unfortunately nothing has changed.*" (FG 3) Box 8

Digital support: Some nurses felt they had only limited support for the digital systems they used in their daily practice.

> *"They have digitised a lot here now, but they have forgotten to explain to people how to do digital requests. And well, then everyone has to go and reinvent the wheel again and that also takes a lot of time. And yes, we now have some kind of program where you can ask the service team questions and they will work it out for you, but it takes at least three days to get an answer, because they get so many questions." (FG 1)* Box 9

Several nurses stated that having limited digital knowledge affected the perceived documentation burden. Nurses who reported having good technological skills felt more comforable with documentation in practice, most of those were younger nurses.

Systems integration: Nurses considered the multitude of documentation systems within their organisations to be burdensome. Preferably, nurses want everything integrated into a single program, although they understand that organisations choose to use systems that are the most appropriate.

> *"To me, the use of many different systems is a big workload. But a conscious choice is also made to use certain systems that are most appropriate/user-friendly. So both have a downside. I would prefer everything to be integrated, but I also know that this (unfortunately) is a utopia." (FG 3)* Box 10

Ease of ordering medical supplies (organisation-related documentation): Several nurses experienced challenges applying for medical materials or aids. Nurses stated that they often found it difficult to know where to order resources for their clients, because funded items varied by health insurer.

> *"For me, the documentation burden is mostly because of all the different agencies, fees etc. Our team works in two municipalities and the clients come from all kinds of different hospitals. This makes me feel as if I have to reinvent the wheel for every client, to figure out how to order resources for these clients." (FG 4)* Box 11

Nurses who worked in organisations that had regional agreements within the community to apply for resources and nurses who were able to use apps, reported less documentation burden than those who did not have these options.

Differences between nurses

Differences in perceived documentation burden were found between nurses with bachelor's and secondary degrees. Nurses with bachelor's degrees indicated that the time spent on documentation was not proportionate to and took away from the time spent on direct patient care; this was not the case for the nurses with secondary degrees. Additionally, nurses with bachelor's degrees indicated that they performed more documentation activities than nurses with secondary degrees, such as performing the formal assessment of care needs, requesting indications, justifying the quality of care, and billing. These activities were mainly related to organisational purposes and were often experienced as time consuming and burdensome. In addition, they found that some of these documentation activities were inconsistent with the nursing profession, such as the amount of administrative activities involved in requesting indications and billing of care for temporary flexworkers.

5. Discussion

The present study identified factors influencing the perceived documentation burden of home care nurses. Organisation-related documentation is considered as more burdensome than client-related documentation. In addition, non-user-friendly EHR systems and the lack of information exchange among healthcare professionals increase nurses' perceived documentation burden. Additionally, organisational characteristics—mainly the level of organisational support and poor integration of different documentation systems—influence the documentation burden. The perceived documentation burden differed between home care nurses with bachelor's and secondary degrees.

In this study, home care nurses experienced a higher documentation burden in relation to documentation for organisational purposes in comparison with client-related documentation. This finding is consistent with an earlier Dutch survey, as mentioned earlier, which found that the workload of home care nurses was higher for organisation-realted documentation than client-related documentation(6). In the present study, nurses perceived client-related documentation to be more useful and important than organisation-related documentation. This is in line with an earlier study by Einstein et al. (2012) in which nurses reported that they spent a significant amount of time documenting compliance with the legal standards, quality objectives, and financial measures—a source of constant frustration in the nursing community(9).

Another important finding is that nurses experienced documentation burden due to the lack of EHR user-friendliness; this is consistent with previous findings(5,7,13,14,29,30). Nurses who found their EHR to be user friendly experienced less documentation burden: this is consistent with the findings of a recent quantitative study, which demonstrated that healthcare professionals experienced significantly less documentation burden when working with a user-friendly EHR system(45). Moreover, insufficient information exchange was perceived as a burden, which is consistent with previous findings(46,47). Topaz et al. (2016) suggested that the lack of connectivity with other systems results in client-related information not being shared across acute and home care sectors. In addition, another study demonstrated that EHRs in home care should be interoperable to other health systems to improve nurses' workflow(48).

Another important finding of this study is that organisational characteristics influence nurses' perceived documentation burden. This finding is consistent with the findings of an earlier quantitative study in which nurses experienced a significantly higher documentation burden when they felt insufficiently supported by their manager or organisation(17). In addition, in the present study, poor integration of different documentation systems was observed to influence nurses' perceived documentation burden. This finding was in line with an international survey in which nurses experienced problems with the integration of multiple systems, resulting in information duplication, sometimes even quadruple documentation of the same information(46).

Remarkably, in the present study, nurses with bachelor's degrees experienced a higher documentation burden than nurses with secondary degrees; the former had to not only complete more documentation in general(25,26) but also document more organization-related information than the latter. These differences in perceived documentation burden

may be explained by the fact that organisation-related documentation was considered more burdensome than client-related documentation.

These results should be considered in light of the study's strengths and limitations. The first study strength was that the participants worked in areas distributed in a wide range across the Netherlands. However, the average age of the sample was ten years lower than the average age of nursing staff in Dutch home care(49). The second advantage was that data saturation was achieved after three focus groups. Third, the trustworthiness of the study was improved because the work was done by in a research team, which allowed independent analysis of focus group data and peer review processes from multiple researchers throughout the study.

However, the study also has several limitations. First, due to the COVID-19 pandemic, part of data was collected through OFGs, resulting in less interaction among participants comparing with face-to-face focus groups. Second, there was only one homogeneous group consisting of nurses with bachelor's degrees, and they all worked in the same area. While differences were found between this group and the heterogeneous groups, the heterogeneous groups also consisted mainly of nurses with bachelor's degrees. Therefore, the results regarding the second research question should be considered with caution.

The findings of this study contribute to the knowledge required to reduce the documentation burden of home care nurses. The results suggest that user-friendly EHR systems and transferability of information between the electronic systems of home care nurses and other healthcare professionals are crucial in reducing their documentation burden. An important policy implication is that organisations can reduce the documentation burden by working closely with nurses to critically assess which documentation activities are essential and appropriate for nurses and how these activities can be efficiently organised. Future research should focus on the difference between home care nurses with bachelor's and secondary degrees; further knowledge on this difference can help reduce home care nurses' documentation burden.

6. Conclusion

Documentation burden is caused by various factors. Client-related documentation is perceived as more useful and important than organisation-related documentation. Consistent with this view, higher documentation burden was experienced due to organisation-related documentation compared to client-related documentation. Challenges with the EHR user-friendliness and the lack of transferability of information increased the nurses' documentation

burden. Additionally, organisational characteristics—mainly, the level of organisational support and intergration of different documentation systems—influence perceived burden.

Furthermore, there were differences between nurses with bachelor's degrees and secondary degrees, with the former experiencing higher documentation burden the the latter. Nurses with bachelor's degrees believed that the time spent on documentation was not proportional to the time spent on direct patient care and reduced it further; this was not the case for the nurses with secondary degrees. Additionally, nurses with bachelor's degrees indicated that they performed more documentation activities related to organisational purposes than nurses with secondary degrees, which may explain their higher perceived documentation burden because organisation-related documentation was considered more burdensome than client-related documentation.

References

1. Urquhart C, Currell R, Grant MJ, Hardiker NR. Nursing record systems: Effects on nursing practice and healthcare outcomes. Cochrane Database Syst Rev. 2009;(1).

2. Jefferies D, Johnson M, Griffiths R. A meta-study of the essentials of quality nursing documentation. Int J Nurs Pract. 2010;16(2):112–24.

3. Wang N, Hailey D, Yu P. Quality of nursing documentation and approaches to its evaluation: A mixed-method systematic review. J Adv Nurs. 2011 Sep;67(9):1858–75.

4. Nivel, Nictiz. Themaverdieping 5: Elektronische gegevensuitwisseling en communicatie tussen zorgverleners. 2019. [Internet]. 2019 [cited 2020 May 12]. p. 13. Available from: https://www.nictiz.nl/rapporten/themaverdieping-5-elektronische-gegevensuitwisseling-en-communicatie-tussen-zorgverleners/

5. Wisner K, Lyndon A, Chesla CA. The electronic health record's impact on nurses' cognitive work: An integrative review. Vol. 94, International Journal of Nursing Studies. Elsevier Ltd; 2019. p. 74–84.

6. Verest, W., De Veer, A.J.E., De Groot, K., Francke AL. Kwaliteit en veiligheid van zorg aan cliënten: Verpleegkundigen, verzorgenden, begeleiders en praktijkondersteuners over wat ze nodig hebben voor goede zorg. | Nivel. Nivel. 2019;

7. 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. Int J Nurs Stud. 2020 Apr 1;104:103523.

8. De Groot K, Triemstra M, Paans W, Francke AL. Quality criteria, instruments, and requirements for nursing documentation: A systematic review of systematic reviews. Vol. 75, Journal of Advanced Nursing. Blackwell Publishing Ltd; 2019. p. 1379–93.

9. Einstein A, Cunningham L, Kennedy J, Nwolisa F, Callard L, Wike C. Patients not paperwork - Bureaucracy affecting nurses working in the NHS. London: NHS Institue for Innovation and Improvement; 2012.

10. Heuer AJ, Parrott JS, Percival D, Kacmarek RM. Examining the phenomenon of the administrative burden in health care, allied health and respiratory care. Jounal Allied Heal. 2016;(45(2)):152–6.

11. Blair W, Smith B. Nursing documentation: Frameworks and barriers. Vol. 41, Contemporary Nurse. 2012. p. 160–8.

12. Lavander P, Meriläinen M, Turkki L. Working time use and division of labour among nurses and health-care workers in hospitals – a systematic review. J Nurs Manag. 2016 Nov 1;24(8):1027–40.

13. de Groot K, Paans W, de Veer A, Francke A. Knelpunten bij verslaglegging door verpleegkundigen en verzorgenden. TVZ. 2017;127(6):34–6.

14. Vehko T, Hyppönen H, Puttonen S, Kujala S, Ketola E, Tuukkanen J, et al. Experienced time pressure and stress: electronic health records usability and information technology competence play a role. BMC Med Inform Decis Mak. 2019 Dec 14;19(1):160.

15. Hanekamp M, Heesbeen IS, Helm II Van Der, Valks IR. Administratieve belasting langdurige zorg 2019 Uitkomsten onderzoek Berenschot [Internet]. 2019. Available from: https://www.berenschot.nl/actueel/2019/september/administratieve-belasting/

16. Actieplan (Ont) Regel de Zorg. Ministerie van Volksgezondheid, Welzijn en Sport. Vol. 71. 2019.

17. de Veer AJ., De Groot K, Brinkman M, Francke AL. Administratieve druk: méér dan kwestie van tijd. | Nivel [Internet]. Nivel. 2017 [cited 2019 Sep 29]. Available from: https://www.nivel.nl/nl/publicatie/administratieve-druk-meer-dan-kwestie-van-tijd

18. Khamisa N, Peltzer K, Oldenburg B. Burnout in relation to specific contributing factors and health outcomes among nurses: A systematic review. Vol. 10, International Journal of Environmental Research and Public Health. Multidisciplinary Digital Publishing Institute (MDPI); 2013. p. 2214–40.

19. Chang CP, Lee TT, Liu CH, Mills ME. Nurses' experiences of an initial and reimplemented electronic health record use. CIN - Comput Informatics Nurs. 2016;34(4):183–90.

20. Vehko T, Hyppönen H, Puttonen S, Kujala S, Ketola E, Tuukkanen J, et al. Experienced time pressure and stress: Electronic health records usability and information technology competence play a role. BMC Med Inform Decis Mak. 2019;19(1).

21. Greenglass ER, Burke RJ, Fiksenbaum L. Workload and burnout in nurses. J Community Appl Soc Psychol. 2001 May;11(3):211–5.

22. Olivares Bøgeskov B, Grimshaw-Aagaard SLS. Essential task or meaningless

burden? Nurses' perceptions of the value of documentation. Nord J Nurs Res. 2019;39(1):9–19.

23. VWS. Wijkverpleging | (Ont)Regel de Zorg [Internet]. Den Haag: Ministerie van VWS. 2018 [cited 2019 Oct 11]. Available from: https://www.ordz.nl/wijkverpleging

24. Maurits E. Autonomy of nursing staff and the attractiveness of working in home care. 2019. 224 p.

25. Mast J, Pool A. Competentiebeschrijvingen voor wijkverpleegkundigen [Internet]. 2003 [cited 2019 Dec 2]. p. 1–92. Available from: http://www.vilans.nl/docs/producten/competentbeschwijkpl2edr_.pdf

26. Meerveld J, Mast J. Competentiebeschrijvingen voor verpleegkundigen in de thuiszorg, werkzaam op mbo-niveau [Internet]. 2004 [cited 2019 Dec 2]. p. 88. Available from: https://www.vilans.nl/docs/producten/Competentie_Verpleegkundigen_thuiszorg_mbo.pdf

27. Verpleegkundigen&VerzorgendenNederland(V&VN). Normen voor indiceren en organiseren van verpleging en verzorging in de eigen omgeving [Internet]. 2014 [cited 2019 Dec 15]. p. 39. Available from: https://www.venvn.nl/media/a4jhj5yt/normenkader-v-vn.pdf

28. Meer van der FM, Mastenbroek CG, Lange-Weisselberger de AC, Oonk M. Verpleegkundige indicatiestelling - een nadere duiding | Standpunt | Zorginstituut Nederland. 2019. p. 1–27.

29. Müller-Staub M, De Graaf-Waar H, Paans W. An internationally consented standard for nursing process-clinical decision support systems in electronic health records. CIN - Comput Informatics Nurs. 2016 Nov 28;34(11):493–502.

30. Ibrahim S, Donelle L, Regan S, Sidani S. A Qualitative Content Analysis of Nurses' Comfort and Employment of Workarounds With Electronic Documentation Systems in Home Care Practice. Can J Nurs Res. 2019 Jun 14;084456211985550.

31. Holloway I, Galvin K. Qualitat1. Holloway I, Galvin K. Qualitative Research in Nursing and Healthcare. Wiley; 2016. ive Research in Nursing and Healthcare. Wiley; 2016.

32. Bozkurt Y. Current debates in public relation & communication studies. IJOPEC Publ. 2018;28:33–46.

33. Polit D, Beck C. Nursing Research Generating and Assessing Evidence for Nursing Practice. 10th ed. Vol. 13, Nurse Education in Practice. Newyork: Wolters Kluwer Health/lippincott Williams & Wilkins; 2013. 814 p.

34. Creswell John W, Poth CN. Qualitative inquiry and reserach design : choosing among five approach. SAGE, publications; 2007. 448 p.

35. Boeije H. Analysis in Qualitative Research. Vol. 26, Sage Publications Ltd. Sage Publications; 2010. 19–42 p.

36. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups | International Journal for Quality in Health Care | Oxford Academic. Int J Qual Heal Care. 2007;19(6):349–57.

37. De Groot K, Maurits EEM, Francke AL. Attractiveness of working in home care: An online focus group study among nurses. Heal Soc Care Community. 2018 Jan 1;26(1):e94–101.

38. Putter ID de, Francke AL, Veer AJE de, Rademakers JJDJM. Kennissynthese de wijkverpleegkundige van vandaag en morgen: rollen, samenwerking en deskundigheid van wijkverpleegkundigen. Utrecht: Nivel. 2014.

39. Tates K. Online focusgroepgesprekken als methode van dataverzamelen. KWALON Tijdschr voor Kwalitatief Onderz Ned. 2010;15(2):40–6.

40. Tates K, Zwaanswijk M, Otten R, Van Dulmen S, Hoogerbrugge PM, Kamps WA, et al. Online focus groups as a tool to collect data in hard-to-include populations: Examples from paediatric oncology. BMC Med Res Methodol. 2009 Mar 3;9(1):15.

41. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101.

42. Braun V, Clarke V. What can 'thematic analysis' offer health and wellbeing researchers? Vol. 9, International Journal of Qualitative Studies on Health and Well-being. 2014.

43. World Medical Association. WMA Declaration of Helsinki - Ethical principles for medical research involving human subjects: World medical association declaration of Helsinki [Internet]. Klinische Pharmakologie Aktuell. [cited 2020 Jun 12]. Available from: https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-

for-medical-research-involving-human-subjects/

44. CCMO. Your research: Is it subject to the WMO or not? | Investigators | The Central Committee on Research Involving Human Subjects [Internet]. [cited 2020 May 3]. Available from: https://english.ccmo.nl/investigators/legal-framework-for-medical-scientific-research/your-research-is-it-subject-to-the-wmo-or-not

45. de Groot K, Verest W, de Veer A, Paans W, Francke A. Registratielast: waar komt het vandaan? TVZ - Verpleegkd Prakt en Wet. 2019 Dec 17;129(6):34–5.

46. Topaz M, Ronquillo C, Peltonen LM, Pruinelli L, Sarmiento RF, Badger MK, et al. Nurse Informaticians Report Low Satisfaction and Multi-level Concerns with Electronic Health Records: Results from an International Survey. AMIA . Annu Symp proceedings AMIA Symp. 2016;2016:2016–25.

47. Burton LC, Anderson GF, Kues IW. Using electronic health records to help coordinate care. Milbank Q. 2004;82(3):457–81.

48. Sockolow PS, Liao C, Chittams JL, Bowles KH. Evaluating the impact of electronic health records on nurse clinical process at two community health sites. NI 2012 11th Int Congr Nurs Informatics, June 23-27, 2012, Montr Canada Int Congr Nurs Informatics (11th 2012 Montr Quebec). 2012 Jun 23;2012:381.

49. AZWinfo. Personeelskenmerken: AZWinfo. 2014. [Internet]. [cited 2020 May 12]. Available from: https://azwstatline.cbs.nl/#/AZW/nl/

Tables and figures

Table 1: Characteristics sample (n = 28)

Charecteristics	Number (%)	Mean, [Range]
Gender, *female*	26 (86.7%)	-
Age, *years*	-	33.7 [22-60]
Educational level		
Secondary degree	6 (21.4%)	-
Bachelor's degree	22 (78.6%)	-
Work experience, *years*	-	8.8 [1-33]
Working hours a week, *hours*	-	29.8 [20-38]
Size of home care organisation		
1 to 99 people	-	-
100 to 999 people	6 (21.4%)	-
1.000 or more people	22 (78.6%)	-
Type of classification system		
Omaha system	27 (96.4%)	-
Combination of NANDA-I, NIC and NOC	1 (3.6%)	-
Type of IT system		
Nedap Ons	16 (57.1%)	-
Unit4	4 (14.3%)	-
Ecare	5 (17.9%)	-
Other[a]	3 (10.7%)	-

[a]*two participants used a combination system; their own designed system and the Nedap Ons system.*

Table 2: Focus groups

Focus group	Number	Type of participant	Work area	Type of focus group	Duration
1	8	Homogeneous	East Netherlands	Face-to-face focus group	1 hour
2	6	Heterogeneous	East Netherlands	Online focus group	
3	8	Heterogeneous	Central and Southern Netherlands	Online focus group	
4	6	Heterogeneous	Central and East Netherlands	Online focus group	

[a] *registered home care nurses with a bachelor's nursing degree from a university of applied sciences.*
[b] *registered home care nurses with mixed educational levels (a bachelor's nursing degree from a university of applied sciences or secondary vocational level nursing qualification).*

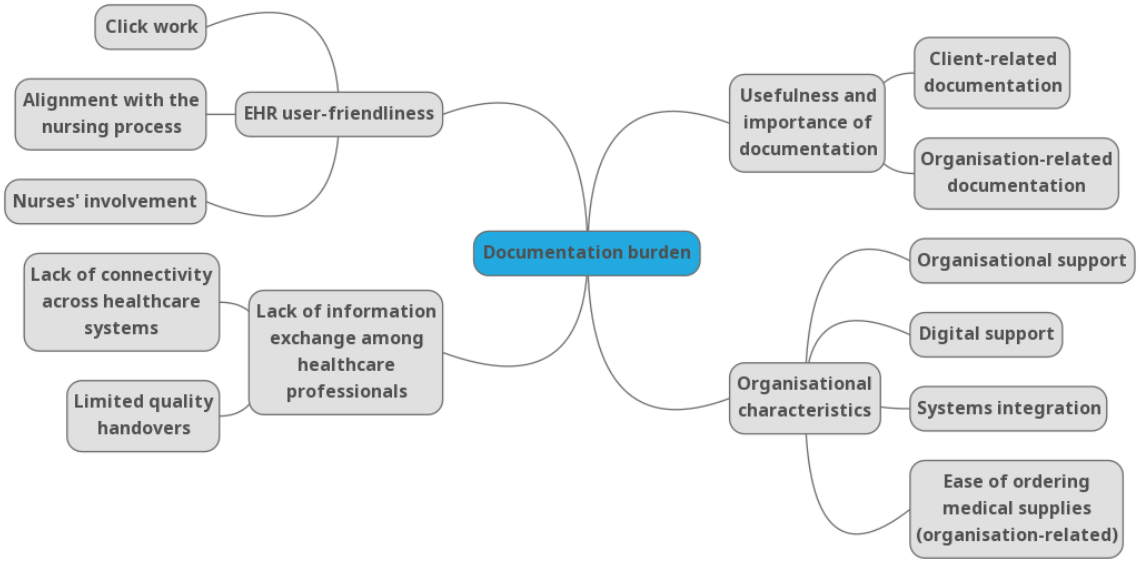

Figure 1: Thematic mind map