Patient Documentation in Home Health Nursing in Norway - A Study of Attitudes Among Professionals

Jorunn Bjerkan [1], Rose Mari Olsen [2,3]

[1] Nord University, Levanger, Norway
[2] Nord University, Namsos, Norway
[3] Centre of Care Research Mid-Norway, Namsos, Norway

Abstract. Introduction: Professionals in home health nursing mainly work alone in patients' homes. This makes documentation from the electronic patient record crucial for carrying out proper care. The aim of this study was to elaborate on knowledge of home health nursing professionals' attitudes towards electronic nursing documentation, and to investigate whether attitudes towards documentation and its performance differ with professionals' education level and working experiences. **Methods:** A sample of 161 home health nursing employees in Mid-Norway answered a questionnaire including statements about experiences of nursing documentation and its use. Data was analysed by descriptive statistics and bivariate analysis in SPSS. **Results:** Of the sample, 77 respondents had higher education (HE), and 84 had lower education (LE). In total, 46 had less than 4 years' experience at the workplace, and 115 had 4 years or more. The results showed an overall positive attitude towards documentation among the employees. However, HEs tended to have less positive attitudes towards nursing documentation than LEs. In addition, LEs more often gave neutral responses to the statements than HEs. Statistically significant differences were found in three of 11 statements: The HEs disagreed most with the statements that documentation makes it easier to find the nursing interventions planned for the patient (p=0.03), increases the quality of reporting to other caregivers (p=0.003), and provides clarification concerning the implemented nursing interventions. (p=0.04). The more experienced respondents tended to answer more positively than the less experienced. An exception was, however, found for statements dealing with the professionals' own performance, where the less experienced tended to answer more positively than the more experienced. **Conclusions:** The results of this study indicate that professionals with lower education, and those with longer experience at the workplace, have more positive attitudes towards documentation in home health nursing.

Proceedings of the 4th European Workshop on Practical Aspects of Health Informatics (PAHI 2017), Levanger, Norway, MAY-2017, published at http://ceur-ws.org

1 Introduction

Home health nursing professionals mainly work alone in patients' homes. This organisation of nursing work calls for patient information retrieval and documentation in ways other than those used by staff working together in a hospital ward or nursing home. Other nurses or other peers are nurses' preferred source of information related to care [1]. In home health nursing, this priority source of information, oral information from colleagues, will only be available by telephone and through meetings before or after home nursing visits. Other patient information for carrying out proper care in the patient's home must come from available patient documentation and written procedures, the patients themselves or their next of kin. Use of mobile electronic patient records (EPR) in home care nursing is scarcely documented so far [2]. EPR information is more often available through desktop systems at the home nursing centres in the municipalities [3].

Education level and stability in work forces might be regarded as quality criteria for nursing [4–6]. Educational levels in Norwegian home health nursing staff vary; the majority of employees are registered nurses (RNs) and nurse assistants with a certificate of apprenticeship. Social educators (bachelor's degree), nursing students and unlicensed assistive personnel might also be part of the staff [7]. Assistants without any health-care education are employed to assist in practical areas such as cleaning tasks, but also take part in practical nursing tasks such as bathroom assistance [8, 9].

In home health nursing, we find both a high turnover in staffing and more stable employee situations, according to various factors. Increasing age, variety in work tasks and continuity of patients, together with a steady salary or other benefits such as satisfactory work-life balance are factors associated with nurses' staying in home care [10]. Lack of a career path, physical work environment and time constraints cause nurses to leave home care [11].

The Norwegian structure for home health nursing services is organizationally homogenous, mainly public and run by each municipality [12]. Patients receiving home nursing in Norway receive a wide range of services, from practical bathroom assistance to advanced palliative care, wound treatment or other medically advanced nursing [9]. *The Coordination Reform* (2009) aimed to shift care and nursing from hospital care to nursing homes and home nursing, with the result that the group of patients in home care have increasingly severe conditions, requiring a higher degree of professional skills, professionalism and quality of care demands [13].

Documentation tasks are required by law for nursing staff and students in health-care education [14]. Assistants can and do also document care actions in the EPR if they carry out nursing tasks. EPRs have been available in public home health nursing for more than ten years and more than 90% of RNs and nearly 90% of nursing assistants were already writing EPR documentation in 2010 [3]. Many nurses qualified more than ten years ago, before the EPR implementation, and have been introduced to and trained in EPR documentation at their workplace. Nursing students

are educated and trained in the nursing process, but still have varying degrees of training in EPR documentation at nursing colleges or universities. Students are trained mainly through their practical educational periods.

We found few articles focusing on home health nursing documentation and the vast majority of these papers deal with the content of or processes in nursing documentation [15–17]. The aim of this study was to elaborate on knowledge of home health nursing professionals' attitudes towards electronic nursing documentation.

2 Methods

This paper presents results from a survey in home health nursing in Mid-Norway. The study was carried out from December 2015 to February 2016.

A request for permission to conduct the study was sent to leaders of home health nursing services in 11 municipalities. These municipalities are partners in a national board of 'care municipalities' established by the Centre for Care Research (http://www.omsorgsforskning.no/english), and are representative of Norwegian municipalities in terms of size and geographic locations. In total, eight municipalities took part in the study. Leaders of the home care services provided the email addresses of all employees (N=670) having direct patient contact in their work, and a questionnaire was distributed through the programme Enalyzer (www.enalyzer.com/no). Answers were treated anonymously and reminders were sent automatically to invited participants through Enalyzer.

Questionnaire

The entire survey included several questions regarding both patient safety and nursing documentation. However, in this study we included only the 11 questions regarding documentation presented in Tables 1–3. This documentation part of the survey was adapted from a Swedish survey found suitable for our purposes [18]. The questions were translated from Swedish [19] to Norwegian. These 11 questions asked participants about their attitudes towards a variety of nursing documentation issues, focusing both on documentation tasks and organisational context for documentation within the EPR systems. The questions were formulated as statements where respondents rated their agreement on a five-point Likert scale (1= strongly agree, 2= somewhat agree, 3= neutral, 4= somewhat disagree, 5= strongly disagree). An additional response category, 'not applicable', was included for all items. Background data was also collected, including age, gender, educational level and professional experience.

2.1 Data analyses

Statistical analysis was performed in SPSS version 23 for Windows (Chicago, Illinois,

USA). Data was described by frequencies, percentages, means, standard deviations (SD) and medians. Firstly, in order to compare our data with Törnvall [18], we analysed the variables regarding attitudes towards documentation as continuous variables, i.e. mean and standard deviation for the single items in the questionnaire – as shown in Table 1. In addition, we calculated frequencies and percentages for each item. Then, the documentation variables were used as categorical variables, recoded into three categories by combining the response categories 'strongly agree' and 'somewhat agree' into one category, and 'strongly disagree' and 'somewhat disagree' into one category, while the category 'neutral' remained unchanged (Tables 2 and 3).

The response category 'not applicable' was coded as 'missing'. Bivariate analysis (using Pearson's chi-squared test) was employed to assess the association between attitudes towards documentation and education level (lower level qualification *versus* bachelor's degree) and years of employment at current workplace (< 4 years *versus* ≥ 4 years).

2.2 Ethical considerations

Respondents received information about the study and principles of confidentiality and voluntary participation when they were invited to participate. The survey was approved by the Norwegian Social Science Data Services (NSD) (project number 44114).

3 Results

We received answers from eight municipalities in Mid-Norway, ranging from 1 401 to 45 033 inhabitants. A sample of 170 (25.4%) home health nursing employees answered the questionnaire. Among these, 161 answered the part including questions regarding attitudes towards documentation, including 157 women and four men; 64% of the respondents were aged 40 years or older. On average, the respondents had been employed for 17 years at their current workplace.

3.1 Mean score for the 11 items on attitudes towards documentation

As shown in Table 1, the mean score was relatively low on most of the items, indicating an overall positive attitude towards documentation. The statement gaining the lowest mean was 'Documentation describes the work I do', while the highest

mean (indicating the least positive attitude) was on 'I have access to an undisturbed working environment when documenting'.

3.2 Education level and attitudes towards documentation

Of the sample, 77 respondents had higher education (HEs, including 74 RNs and three social educators) and 84 had lower education (LEs, including 81 nurse assistants, two nursing students and one unlicensed assistive person).

Over all, HEs tended to have less positive attitudes towards nursing documentation than LEs (see Table 2). In addition, LEs more often gave neutral answers to the statements than the HEs. Statistically significant differences were found in three of 11 statements: the HEs disagreed most with the statements that documentation makes it easier to find the nursing interventions planned for the patient (p=0.03); increases the quality of reporting to other caregivers (p=0.00); and provides clarification concerning the implemented nursing interventions (p=0.04).

Table 1. Mean, standard deviation, frequencies and percentages for the 11-item questionnaire on attitudes towards documentation (N= 161)

Somewhat agree	Neutral	Somewhat disagree	Strongly disagree
n (%)	n (%)	n (%)	n (%)
66 (41.3)	20 (12.5)	15 (9.4)	3 (1.9)
69 (43.1)	18 (11.3)	15 (9.4)	2 (1.3)
64 (39.8)	21 (13.0)	15 (9.3)	3 (1.9)
66 (41.0)	11 (6.8)	8 (5.0)	3 (1.9)
77 (48.1)	12 (7.5)	16 (10.0)	4 (2.5)
72 (45.3)	11 (6.9)	17 (10.7)	3 (1.9)
64 (39.8)	9 (5.6)	13 (8.1)	3 (1.9)
63 (39.1)	18 (11.2)	14 (8.7)	1 (0.6)
65 (40.4)	25 (15.5)	8 (5.0)	5 (3.1)
35 (22.2)	35 (22.2)	14 (8.9)	7 (4.4)
35 (21.7)	17 (10.6)	39 (24.2)	47 (29.2)

[a]Scores range from 1 to 5, where low scores indicate a positive attitude towards documentation; [b]NA, (Not applicable) was included as a response category for all items, and this was set as 'missing' in the analyses.

Statements	Mean[a]	(SD)	NA[b]	Strongly agree n (%)
Documentation provides higher security (for the patient)	2.02	(1.01)	1	56 (35.0)
Documentation provides clarification concerning the implemented nursing interventions	1.99	(0.98)	1	56 (35.0)
Documentation increases the quality of reporting to other caregivers	2.01	(1.02)	0	58 (36.0)
Documentation describes the work I do	1.77	(0.92)	0	73 (45.3)
Documentation facilitates my judgement of the patient's current status	2.03	(1.01)	1	51 (31.9)
Documentation makes it easier to find the nursing interventions planned for the patient	1.99	(1.01)	2	56 (35.2)
I am satisfied with my own documentation in the patient records	1.83	(0.98)	0	72 (44.7)
I feel that it is easy to know what I should write in the record	1.90	(0.96)	0	65 (40.4)
Documentation facilitates the organization of my work	1.99	(1.00)	0	58 (36.0)
The heads of the Primary Health Care Centre support and encourage nursing documentation	2.11	(1.18)	3	67 (42.4)
I have access to an undisturbed working environment when documenting	3.32	(1.45)	0	23 (14.3)

3.3 Work experience and attitudes towards documentation

In total, 46 respondents had less than four years' experience with their current employer and 115 had four years or more.

As shown in Table 3, the more experienced respondents tended to answer more positively to the statements in the questionnaire than those who were less experienced (in 8 of 11 statements). An exception was, however, found for statements dealing with the professionals' own performance (e.g. satisfaction with own documentation), where the less experienced tended to answer more positively than the more experienced staff members.

Table 2: Differences in attitudes towards documentation by educational level

(N=161), %

	Bachelor level			Lower level			
Statements	Agree	Neutral	Disagree	Agree	Neutral	Disagree	*p*-value
Documentation provides higher security (for the patient)	72.7	11.7	15.6	79.5	13.3	7.2	0.25
Documentation provides clarification concerning the implemented nursing interventions	77.9	6.5	15.5	78.3	15.7	6.0	**0.04**
Documentation increases the quality of reporting to other caregivers	77.9	5.2	16.9	73.8	20.2	6.0	**0.00**
Documentation describes the work I do	87.0	5.2	7.8	85.7	8.3	6.0	0.68
Documentation facilitates my judgement of the patient's current status	77.9	5.2	16.9	81.9	9.6	8.4	0.18
Documentation makes it easier to find the nursing interventions planned for the patient	75.3	5.2	19.5	85.4	8.5	6.1	**0.03**
I am satisfied with my own documentation in the patient records	83.1	2.6	14.3	85.7	8.3	6.0	0.07
I feel that it is easy to know what I should write in the record	80.5	7.8	11.7	78.6	14.3	7.1	0.28
Documentation facilitates the organisation of my work	72.7	16.9	10.4	79.8	14.3	6.0	0.49
The heads of the primary health-care centre support and encourage nursing documentation	64.9	18.9	16.2	64.3	25.0	10.7	0.46
I have access to an undisturbed working environment when documenting	35.1	5.2	59.7	36.9	15.5	47.6	0.08

Note: *p*-value calculated by Pearson's chi-squared test

4 Discussion

We found that the majority of statements had a mean score from 1.77 to 2.11, indicating an overall positive attitude towards documentation among the employees. Only one statement had a considerably higher mean (indicating a less positive attitude): about having access to an undisturbed working environment when documenting (3.32). The second highest mean score was another organisational factor: the support and encouragement from leaders (2.11). Comparing our results with the Swedish study of Törnvall et al. [18], we see that they also reported the least positive attitudes for these two statements. This could indicate that the leadership and management level has less focus on workplace environment and organisational support for documentation tasks than the employees request. The SD was higher for these

two statements as well, also indicating greater variation in organisational support between the municipalities. The statement regarding patient safety had a higher mean score in our study than in Törnvall et al. (2.02 and 1.30, respectively). This could be explained by divergence in attitudes towards patient safety between the two countries. One reason could be that home health employees in our study have been involved in the Norwegian Patient Safety Programme in recent years http://www.pasientsikkerhetsprogrammet.no/om-oss/english). This may have increased knowledge and professional awareness in the staff group, making the professionals more critical towards the implemented level of patient security at their workplace [20]. Another explanation may be that the level of patient safety is experienced as higher in Sweden than in Norway [21] and that the respondents in Törnvall et al. reported a more positive attitude on this issue.

Table 3: Differences in attitudes towards documentation by working experience (N=161), %

Statements	**Experience < 4 years**			**Experience ≥ 4 years**			
	Agree	Neutral	Disagree	Agree	Neutral	Disagree	*p*-value
Documentation provides higher security (for the patient)	76.1	8.7	15.2	76.3	14.0	9.6	0.44
Documentation provides clarification concerning the implemented nursing interventions	75.6	8.9	15.6	79.1	12.2	8.7	0.41
Documentation increases the quality of reporting to other caregivers	71.7	15.2	13.0	77.4	12.2	10.4	0.75
Documentation describes the work I do	91.3	2.2	6.5	84.3	8.7	7.0	0.33
Documentation facilitates my judgement of the patient's current status	76.1	6.5	17.4	81.6	7.9	10.5	0.49
Documentation makes it easier to find the nursing interventions planned for the patient	71.1	11.1	17.8	84.2	5.3	10.5	0.16
I am satisfied with my own documentation in the patient records	84.8	6.5	8.7	84.3	5.2	10.4	0.91
I feel that it is easy to know what I should write in the record	80.4	10.9	8.7	79.1	11.3	9.6	0.98
Documentation facilitates the organisation of my work	73.9	15.2	10.9	77.4	15.7	7.0	0.71
The heads of the primary health-care centre support and encourage nursing documentation	62.8	23.3	14.0	65.2	21.7	13.0	0.96
I have access to an undisturbed working environment when documenting	34.8	10.9	54.3	36.5	10.4	53.0	0.98

Note: *p*-value calculated by Pearson's chi-squared test

The vast majority of nurses from both educational levels had an overall positive attitude towards documentation questions. We found significant variation in three of the statements, two of them dealing with nursing intervention issues and one focusing on reporting to others. The proportion of disagreement was higher in the HE group than in the LE group. HEs and in particular RNs, have more planning and documentation responsibilities than LEs do, and this might be a reason for being more critical of the documentation practices. Additionally, HEs disagree more than LEs with the undisturbed environment statement, even though we found almost equal levels of agreement in the score for both groups. This proves that both HEs and LEs experience disturbing environments during their documenting tasks. This strengthens the argument that the documentation represents a higher burden of responsibility for HEs and a task to be performed for the LEs. There are variations in staffing between municipalities, and no normative regulation concerning the number of HEs in home health nursing according to the number of patients or level of requested nursing. The national authorities require professional reliability to be interpreted and implemented by each municipality's health-care services. This might lead to unregulated variations in nursing assessment and documentation. The degree of professionalism depends on the leadership and/or working culture at each department.

We found no significant differences in attitudes towards documentation between the two subgroups of professional experience. Even so, a higher proportion of disagreement was seen among the nurses with less experience except for the three statements asking about their own performance. This could be seen as a higher level of confidence in documenting and computing tasks, while we did not see the same pattern among the more experienced nurses.

4.1 Methodological considerations

The same questionnaire was chosen for all participants independent of educational level, in order to be able to compare the groups and because all home health nursing staff members have a legal obligation to document their caring tasks. The use of Likert scale items in our study needs to be considered, as there is ongoing debate about whether single Likert items can be treated as interval data. In line with Brown [22], we let the reader decide how to interpret our results at the Likert-item level, by presenting present frequencies and percentages along with means and SD for each item (Table 1). The relatively small sample size and the low response rate limit the generalizability of the findings and the conclusions that can be drawn. There is a risk of selection bias, for example that professionals with the most negative attitudes

towards documentation declined to participate. In addition, the size of the subgroup ‘less than four years of working experience’ was small and this limits the validity of the results. However, this study gives new information about attitudes towards documentation in home health nursing and provides a basis for further exploration in the field.

5 Conclusion

This study revealed an overall positive attitude towards documentation among home health nursing employees. The result indicates that professionals with lower education and those with longer experience at the workplace, have more positive attitudes towards documentation in home health nursing. More research is needed to explore the reasons why attitudes differ by education levels and work experiences.

Acknowledgements. We want to thank the municipal employees responding to our survey.

References

1. O’Leary, D.F., and S.N. Mhaolrúnaigh, *Information-seeking behaviour of nurses: where is information sought and what processes are followed?* Journal of Advanced Nursing, 2012. **68**: pp. 379–390.
2. Eryilmaz, E., S. Ahrndt, J. Fähndrich, and S. Albayrak, *Personalised Fall Risk Assessment Tool by using the Data T*reasure contained in Mobile Electronic Patient Records. Studies in Health Technology and Informatics, 2014. **205**: pp. 398–402.
3. Faxvaag, A. EPJ-Monitor, Årsrapport 2010. Oversikt over utbredelse og klinisk bruk av IKT i helsetjenesten [In Norwegian] [EPR monitor: Annual report 2010]. NTNU, Norsk senter for elektronisk pasientjournal, Trondheim(2010).
4. Lin, H. *Revisiting the relationship between nurse staffing and quality of care in nursing homes: an instrumental variables approach.* Journal of Health Economics, 2014. **37**: pp. 13–24.
5. Donald, F., R. Martin-Misener, N. Carter, E.E. Donald, S. Kaasalainen, A. Wickson-Griffiths, M. Lloyd, N. Akhtar-Danesh, and A. Dicenso, *A systematic review of the effectiveness of advanced practice nurses in long- term care*. Journal of Advanced Nursing, 2013. **69**: pp. 2148–2161.

6. Castle, N.G., and J. Engberg, *Staff turnover and quality of care in nursing homes*. Medical Care, 2005. **43**: pp. 616–626.
7. SSB Statistics Norway: Årsverk innanfor pleie- og omsorgstenestene, etter utdanning. Pleie- og omsorgstenester. [In Norwegian] [Full-time equivalent employees in municipal care services by education]. Statistics Norway (2014).
8. Bing-Jonsson, P.C., D. Hofoss, M. Kirkevold, I.T. Bjørk, and C. Foss, *Sufficient competence in community elderly care? Results from a competence measurement of nursing staff*. BMC Nursing, 2016. **15**: p. 5.
9. Tarricone, R., and A.D. Tsouros, *Home care in Europe: the solid facts*. WHO Regional Office for Europe, Copenhagen (2008).
10. Tourangeau, A.E., E, Patterson, M. Saari, H. Thomson, and L. Cranley, *Work-related factors influencing home care nurse intent to remain employed*. Health Care Management Review, 2017. **42**: pp. 87–97.
11. Halcomb, E., and C. Ashley, *Australian primary health care nurses most and least satisfying aspects of work*. Journal of Clinical Nursing, 2016. **26**: pp. 535–545.
12. Genet, N., W.G. Boerma, D.S. Kringos, A. Bouman, A.L. Francke, C. Fagerström, M.G. Melchiorre, C. Greco, and W. Devillé, *Home care in Europe: a systematic literature review*. BMC Health Services Research, 2011. **11**: p. 207.
13. St. meld. nr. 47: Samhandlingsreformen [In Norwegian] [The Coordination Reform]. Det norske storting, Helse- og omsorgsdepartementet, Oslo (2009).
14. Helsepersonelloven: Lov om helsepersonell m.v. [In Norwegian] [The Health Personnel Act]. Oslo, Norway (1999).
15. Öhlén, A., C. Forsberg, and E. Broberger, *Documentation of nursing care in advanced home care*. Home Health Care Management and Practice, 2013. **25**: pp. 169–175.
16. Olsen, R.M., O. Hellzén, and I. Enmarker, *Nurses' information exchange during older patient transfer: prevalence and associations with patient and transfer characteristics*. International Journal of Integrated Care, 2013. **13**.
17. Turjamaa, R., S. Hartikainen, M. Kangasniemi, and A.M. Pietilä, *Is it time for a comprehensive approach in older home care clients' care planning in Finland?* Scandinavian Journal of Caring Sciences, 2015. **29**: pp. 317–324.
18. Törnvall, E., S. Wilhelmsson, and L.K. Wahren, *Electronic nursing documentation in primary health care*. Scandinavian Journal of Caring Sciences, 2004. **18**: pp. 310–317.
19. Törnvall, E. *Carrying out electronic nursing documentation: use and development in primary health care*. Institutionen för samhälls-och välfärdsstudier [Department of social and welfare studies], vol. PhD. Linköping University (2008).
20. Weaver, S.J., L.H. Lubomksi, R.F. Wilson, E.R. Pfoh, K.A. Martinez, and S.M. Dy, *Promoting a Culture of Safety as a Patient Safety Strategy: A Systematic Review*. Annals of Internal Medicine, 2013. **158**: pp. 369–374.
21. Skudal, K., Ø. Bjertnæs, O. Holmboe, G. Bukholm, and J. Rottingen, *The 2010 Commonwealth Fund survey: results from a comparative population survey in 11 countries*. The Norwegian Knowledge Centre for the Health Services, Oslo (2010).
22. Brown, J.D. *Likert items and scales of measurement*. Shiken: JALT Testing & Evaluation SIG Newsletter, 2011. **15**: pp. 10–14.