Journal of Nursing & Care
ISSN: 2167-1168

Kuusisto et al., J Nurs Care 2014, 3:2
DOI: 10.4172/2167-1168.1000147

Research Article Open Access

Medication Documentation in Nursing Discharge Summaries at Patient Discharge from Special Care to Primary Care

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Received date: September 03, 2013, **Accepted date:** February 05, 2014, **Published date:** March 10, 2014

Abstract

Background: Medication reconciliation problems are common among patients at hospital discharge and can lead to adverse events. The Electronic Nursing Discharge Summary (ENDS) has the potential of reducing discharge medication errors and ensuring the safe handover of care.

Aim: The aim of this study is to describe how ENDS supports medication data exchange, cooperation and work practices as well as to clarify dependencies between medication data transmission, cooperation and working practices at patient discharge from special care to primary care.

Methods: This cross-sectional study is part of a larger survey which aimed at clarifying how nursing professionals in primary care experience the flow of information at patient discharge from special care to primary care or homecare. The material was collected by e-mail survey with pre-tested questionnaire in 2012 in Finland. The data was analyzed by using descriptive statistical methods.

Results: A total of 180 nursing professionals answered the survey, 56 of whom reported having received ENDS. Nursing discharge summaries did not accurately and completely reflect patient medication. For instance, only 22 percent of nursing professionals were “Well” aware of the medication taken on transfer day. Less than half of the respondents felt that the medical case summary showed current patient medication "Well" (37%). There were also duplications concerning the data content of patient care in medical case summaries and in nursing summaries, especially concerning medication. We found positive dependencies between medication data transmission, cooperation and working practices.

Conclusion: The results show that medication recordkeeping should be developed in ENDS at the patient transfer phase from special care to primary care.

Keywords: Nursing discharge summary; Medication; Documentation; Patient safety; EHR

Introduction

Patient transition between special care and primary care represents a vulnerable period in health care delivery. The Joint Commission, which aims to solve health care’s most critical safety and quality problems, estimates that 80% of serious medical errors are associated with miscommunication during patient transfers [1]. Effective communication among health professionals during the hospital discharge process is critical for patient care. Insufficient information has caused significant stress to both patients and staff, and in turn has caused additional workload and risky workarounds [2]. Medication counseling is a central aspect of medication safety [3]. For safe further care, it is important that professionals have complete and up-to-date medication information. Deficits in information can contribute to medical errors.

Medication reconciliation problems are common among patients at hospital discharge and can lead to adverse events [4]. Discharge summaries often (2%-40%) lack important information such as discharge medications [5]. Concerning medication [6], omission was the commonest error when studying medication errors between handwritten and electronic discharge summaries. Also, reconciliation and discrepancy problems with medication are common. Therefore, more attention needs to be paid to the quality of discharge instructions [4].

Information deficits could be effectively mitigated by an up-to-date easy-access patient summary [2]. Several efforts have been made to develop electronic communication systems to facilitate the flow of information between health care providers, including initiatives to develop regional or national electronic patient summaries [6-8]. For example, an automated discharge summary process has been developed and implemented in a regional integrated managed system in USA. A multidisciplinary effort was initiated to correct deficits in medical record documentation, including discharge instructions, follow-up care, and discharge medications. The communication process has tremendously enhanced information management across the system and helped maintain complete and thorough documentation in patient records [7]. Moreover, the use of

standardized formats to highlight the most pertinent information has improved the perceived quality of documents [5].

In Finland, the structured electronic nursing discharge summary (ENDS) is regarded as essential for documenting patient status when the patient needs continuation of care after an episode of hospitalization [9]. ENDS will be the first document and data content of nursing archived in the National Patient Records Archive in 2014 [10]. ENDS has the potential to reduce discharge medication errors and to ensure the safe handover of care. ENDS has been used since 2005 in the patient transfer phase in the Satakunta Hospital District (SHD) of Finland. SHD is one of twenty hospital districts in Finland, producing specialized medical care services for the approximately two hundred thousand residents of its twenty member municipalities. ENDS can be opened through the Fiale Regional Information System (RIS), regardless of the patient information system in use. When required, RIS has provided the 17 782 social and health care professionals in Western Finland with the opportunity of viewing the summaries.

Materials and Methods

Aims and objectives

This cross-sectional study is part of a larger survey, the aim of which was to clarify how primary care nursing personnel experience data exchange at patient discharge from special care to primary care or homecare. The aim of the present study is to describe how ENDS supports medication data exchange, cooperation and work practices as well as to clarify dependencies between medication data transmission, cooperation and working practices at patient discharge from special care to primary care.

The study questions were as follows:

1. What kind of patient medication data exchange is there between different professional groups and organizations with ENDS?

2. What kind of cooperation and work practices are there between different professional groups and organizations in medication data exchange?

3. What kind of dependencies is there between medication data transmission, cooperation and working practices?

Data collection and analysis

The material in this cross-sectional study was collected using an e-mail survey of the primary care nursing personnel in nine community health centers in the region of Satakunta, in the period 1.11.2012 - 27.12.2012. In primary care organizations, nursing managers or their designated contact persons (n=15) assisted with the distribution of the e-mail survey (Webropol 2.0). The precondition for participation in the study was a personal e-mail address. There were about 1074 professionals in eight participating organizations that had a personal e-mail address according to the estimates received from the nursing managers or their designated contact persons. The response rate of the e-mail survey was 17.2.

Data were collected by means of a survey-type questionnaire developed by the authors for the purpose of this study using the literature, by combining and modifying two pre-tested survey instruments developed by [11,12]. The questionnaire had both Likert-type questions and one open-ended question. Respondents were asked whether they had received ENDS, and if so, whether it was it in electronic form or on paper. They were also asked to rate on a scale of one to five (very poor to very good) the extent to which they were currently aware of patient medical treatment in their own unit when a patient is transferred from the central hospital of SHD to outpatient or inpatient departments (four claims). The Cronbach's alpha coefficient of these four questions was 0.90. The professionals were also asked to rate on a scale of one to five (strongly disagree to strongly agree) the extent to which they assessed the cooperation and working practices of various professional groups and organizations (two claims). Moreover, in an open question, the respondents were asked to specify where duplications exist concerning the data content of patient care in medical case summaries and nursing summaries.

The SPSS for Windows 15.0 statistics program was used for analysis of the structured questions. The material was analyzed by using descriptive statistics (frequencies, percentages). Five-point Likert-scale responses were combined with dichotomous variables by combining response options 1, 2 and 3, as well as options 4 and 5. New classes were formulated in such a way that the response options 1, 2 and 3 ("Very bad", "Poor", "Satisfactory") were classed as "Poorly" and options 4 and 5 ("Very" or "Very well") were classed as "Well". The dependence between the variables was measured using Spearman´s rank correlation. Cronbach´s alpha was used to evaluate reliability. The open question was analyzed using thematic analysis.

Results

Participants

The survey was answered by a total of 180 nursing professionals. The largest groups were nurses (41%, n=73), practical nurses (23%, n=41), head nurses 12% (n=21), and public health nurses 11 % (n=20). Home nurses (n=2) and home aides (n=1) accounted for 1% in each professional group. The rest (12%, n=21) represented individual professional groups such as physiotherapists, diabetes nurses, instructors or fitness managers. One respondent did not indicate their professional title. Percentages have been rounded to the nearest whole number, which is why the total percentage differs from one hundred. Almost one third of the professionals (31%, n=56) had received ENDS, more on paper (75%, n=41) than electronically (26%, n=14).

Medication data exchange

We examined the assessments of the 56 respondents who reported receiving ENDS regarding their awareness of the content of ENDS. During the patient transfer phase in primary care, the receiving nursing professionals rated the information on patient medication and medication counseling from special care as inadequate.

Nursing discharge summaries did not accurately and completely reflect the patient medication taken on transfer day. More than twenty percent of the professionals (22%) reported being “Well” aware of medication taken on transfer day. Only a little over a tenth of the primary care health professionals (13%) considered that they were “Well” aware of the effects of medication-related matters. A little more, about a quarter of the professionals (26%), thought that they were “Well” aware of medication administration-related matters. Less than half of the respondents felt that the medical case summary showed current patient medication "Well" (37%) (Table 1).

Cooperation and work practices

A total of 16 respondents specified the duplications concerning the data content of patient care in medical case summaries and nursing summaries. Most of them (81%, n=13) mentioned medication. The following direct quotations are examples of nursing professionals' answers.

"Medication information may not overlap, but in different ways, there is confusion about which one is correct and up-to-date."

"Medication is listed in both, but they often have differences."

"Not so much overlap, but often conflicts with medication data. In medical case summaries medication was recorded in a different way than in the ENDS. For example, Marevan instructions may be missing, as well as pain medication to be given if required."

Medication treatment	n	Poorly	Well
Current medication clear from case summary	54	63	37
Medication administration-related matters	54	74	26
Effect of medication-related matters	53	87	13
Medication taken on transfer day	54	78	22

Table 1: Medication treatment (%)

Dependencies between medication data transmission, cooperation and working practices

Those who were "Well" aware of medication administration-related matters agreed that cooperation was fluent (r=0.41; p=0.002) and consulting each other was easy (r=0.43; p=0.001). Those who were "Well" aware of medication taken on transfer day agreed that cooperation was fluent (r=0.39; p=0.004) and consulting each other was easy (r=0.40; p=0.003) (Table 2).

		Cooperation is fluent	Consulting each other is easy
Medication administration-related matters	Correlation Coefficient Sig. (2-tailed) N	0.412** 0.002 54	0.431** 0.001 54
Effect of medication-related matters	Correlation Coefficient Sig. (2-tailed) N	0.244 0.078 53	0.202 0.146 53
Medication taken on transfer day	Correlation Coefficient Sig. (2-tailed) N	0.388** 0.004 54	0.403** 0.003 54

Table 2: Spearman's rank correlation matrix between variables: Medication data transmission, Cooperation, and Working practices.

**Correlation is significant at the 0.01 level (2-tailed).

Discussion

Previously Remen and Grimsmo (2011) have detected the potential of ENDS to reduce discharge medication errors and ensure the safe handover of patient care. We conducted a cross-sectional survey and found that receiving nursing professionals in primary care rated the information of patient medication and medication counseling from special care as inadequate. The finding is in line with the results of earlier studies [4-6]. In our study, almost half of those receiving ENDS (37%, n=20) were of the opinion that medical case summaries reflected the patient's current medications "Well". Different practices exist for documenting the patient's current medication at discharge in different operating divisions in special care. Usually in a medical division, physicians document the patient's medication in medical case summaries and in an operational division, nurse's document medication in ENDS. This may have had an impact on our results.

Medication was recorded in a different way in medical case summaries than in ENDS.

This caused confusion among receiving professionals about which one was correct and most up-to-date. This finding is consistent with a previous study [4]. Another prior study by Callen and McIntosh (2010) showed that medication omission was a common error. In our study, receiving nurses in primary care said that information about Marevan use and pain medication given may be missing in ENDS. In practice, the liability of whose and what records must be agreed upon between the nurses and doctors. Ultimately, the patient's medical care is the doctor's responsibility. The responsibility of the nurse is to document medication administration-related matters, the effect of medication-related matters, medication taken on transfer day, as well as the medication, such as Marevan and pain medication, given, if necessary. Guidance and counseling is an integral part of nursing. These should also be reflected in the nursing documentation and in ENDS.

We found a positive relationship between fluent medication data transmission, cooperation, and working practices. Therefore, like Crosswhite et al. [1997] we would argue that ENDS has the potential to guarantee a fluent communication process between special and primary care nursing professionals. The ultimate goal is that the patient's up-to-date medications, medication administration, and the effects of related matters, as well as medication taken on transfer day have been noticed and recorded correctly in one place for patient safety in further care.

The Electronic Health Record system is currently being upgraded at the Satakunta Hospital District. In 2014, the National Patient Records Archive [9-10] will be introduced in Finland. This technological support will offer new opportunities for medication documentation and utilization of ENDS.

Limitations of the study

The study was conducted at one hospital district with a limited professional group. Although the response rate was somewhat restricted, it was, in fact, similar to that of a previous mail survey [13]. The fact that participant recruitment was done in primary care may have biased the sample. It would have been interesting to compare medication data exchange between those who had received and those who had not received ENDS. However, this was not possible, because our data concerning the content of ENDS cover only the opinions of respondents who had received ENDS (n=56).

Conclusions and Relevance to Clinical Practice

The results show that medication recordkeeping should be developed further in nursing discharge summaries during the patient transfer phase from special care to primary care.

Common practices and responsibilities as well as information content of documents must be agreed upon by different professional groups. Cooperation and common working practices should be created and new features of health technology should be utilized for the safe further care of patients.

Acknowledgements

We gratefully acknowledge the funding of this research by the Finnish Work Environment Fund (Työsuojelurahasto) and Satakunta Hospital District (EVO 81711) in Finland.

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