MEDINFO 2010
C. Safran et al. (Eds.)
IOS Press, 2010

doi:10.3233/978-1-60750-588-4-269

Patients' Needs Assessment Documentation in Multidisciplinary Electronic Health Records

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Abstract

The purpose of this study is to describe and discuss physicians' and nurses' documentation of the patient's needs assessment in electronic health records (EHR) in the neurological care setting. Both physicians and nurses collect, record and interpret data during patient care episodes. Assessment of patient's need for care and treatment is an important part of the care process. Planning, implementation and outcome assessment of the care process are based on needs assessment data. The data of this study consist of 48 neurological medical narratives and nursing care plans. The data were analyzed using descriptive statistics and content analysis. Physician's medical narratives include referrals to physiotherapy and consultations in other care specialities in which they have recorded the reason for the care, anamnesis and status praesens data. Nurses have documented patient's needs assessment in nursing care plans using Finnish Classification of Nursing Diagnoses (FiCND) and additional narrative text. Physicians' and nurses' patient needs assessment documentation complement each other. Nursing documentation includes more detailed information about patients' needs for care due the use of FiCND in documentation. The use of standardised documentation improves quality of the documentation and retrieval of data from EHR.

Keywords:

Medical records systems, Computerized, Medical informatics, Nursing informatics, Documentation

Introduction

Patient's needs assessment documentation is an important part of electronic health record (EHR) data. Documentation of the planning, implementation and evaluation of patient care is based on needs assessment documentation. Among the various health care professionals who record in EHR are physicians and nurses. The EHR include all information documented by different health care professionals during patient care episodes in health care organizations. [1,2] EHR refers here to an information repository where patient data is stored in digital form. It contains retrospective, concurrent, and prospective information and its primary purpose is to support continuing, efficient and quality integrated health care. [3]. The primary function of EHR is to support health care professionals' decision-making while providing the patient with care. The goal is patient-centered recording and use of data of EHR for co-operative care both within one health care organization among different health care professionals and between health care organizations. [1,4] According to earlier studies EHR has been noted to support collaboration and communication between health care professionals. [5-7] The aim of this study is to describe and discuss physicians' and nurses' documentation of patients' needs assessment in EHRs.

Background

Patient's needs assessment documentation in EHR

EHR includes both physicians' documentation of the assessment of patients' complaints and nurses' documentation of patients' needs assessment. Physicians' notes may include subjective symptoms expressed by the patient, physician's objective observations based on physical examination and patient's medical, family and social history. [1,8] Nurses also collect and record patient health data by discussing with and examining the patient and utilize this information while assessing the patient's needs for nursing care [1,9]. (Table 1)

In information systems physicians document patients' assessment data in problem lists e.g. [10-14] templates or forms e.g. [15-17] or data is recorded in medical narratives e.g [8,18]. Earlier research on physicians' documentation of patients' assessment of complaints has mainly focused on information quality e.g. completeness or accuracy of documentation. Earlier studies reveal that use of information systems improves the completeness of documentation. [2] Galanter et al. argue that physician documentation of the problem list is incomplete. The quality of problem lists has improved with the integration of clinical decision support into the process of medication. The system proposes that the physician should add a diagnosis to the problem list based on the prescription. [14]

Nurses' documentation of patient's needs assessment is in nursing care plans. Earlier studies have shown a lack of notes on needs assessments including nursing diagnosis e.g. [19-20]. However, the inclusion of nursing diagnoses has been shown to improve the quality of patients' needs assessment

documentation, and the quality of nursing interventions and the outcomes of nursing interventions. Although deficiencies were found in the documentation of signs and symptoms. [21]

Bakken et al. (1995) has compared physicians', nurses' and patients' problem list between each other. Each patient has problem that occurred on more than one problem list. Problems which occurred only on nurses' problem lists were knowledge deficit and potential for injury. Nurses' problem lists provided additional significant information related to patient status that had the potential to affect patient outcomes. [13]

The unified content of EHR

In a national EHR development project in Finland the content of EHR was developed and unified. The core data elements and headings were defined [22]. The core data elements of EHR include patient identification information, the provider's identification information, care episode, risk factors, health patterns, vital signs, health problems and diagnosis, nursing minimum data set, surgical procedures, tests and examinations, information about medication, preventive measures, medical statements, functional status, technical aids, living will, tissue donor will, discharge summary, follow-up care plan and consent information. The documentation of the core data requires the use of vocabularies, nomenclatures and classifications. [23] Classification of Diseases and Related Health Problems (ICD 10) which is based on the WHO International Statistical Classification of Diseases and Related Health Problems is used in the documentation of medical diagnoses in specialized care. Surgical procedures are recorded using the NOMESCO Classification of Surgical Procedures. The Nursing Minimum Data Set includes information on the nursing diagnosis, interventions, outcomes, intensity and discharge summary. Nursing diagnoses and aims for care are documented according to the Finnish Classification of Nursing Diagnoses (FiCND). The Finnish Nursing Classification is based heavily on Clinical Care Classification e.g. [24].

The headings are almost the same as the core data elements supplemented with items such as reason for care, anamnesis or status praesens under which physicians record mainly narrative text.

The unified content of EHR also fulfills legislative demands. According to the Finnish legislation, each health care organization must create a cumulative patient record, which must include necessary and sufficiency information on patient care: reason for care, history, status, findings, tests, problems, diagnosis, health risk, conclusions, planning, delivering and assessment of patient care, progress notes and discharge summary for each care episode. [25]

Both physicians and nurses document patients' needs assessment information as free text in their own words and using, headings and classifications (Table 1).

Table 1 – Needs assessment documentation by physicians and nurses

	Free text	Use of headings	Use of classifications
Physician	Descriptions of subjective complaints as expressed by the patient and the findings of physicians, medical, social and family history	Reason for care Anamnesis Status praesens	Initial diagnoses (ICD 10)
Nurse	Descriptions of patients' signs and symptoms	Nursing diagnoses	Nursing diagnoses (FiCND)

Materials and Methods

The site for this research was a central hospital in Finland using an EHR system since 2000 and a nursing care plan component since 2004 in neurological care. An electronic health record comprises several data components (Figure 1). Data collection in this study was from anonymous medical narratives, nursing care plans and administrative data components in neurological care. The director of the Hospital District approved the study.

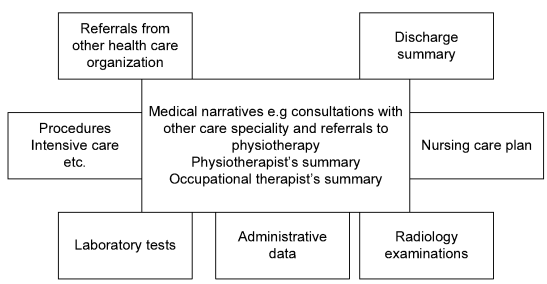

Figure 1- Data components of EHR

The Finnish Classification of Nursing Interventions (FiCNI 1.1), FiCND 1.0, ICD 10 and Classification of Surgical Procedures were implemented in an EHR system. The nurses did the documentation according to the national nursing documentation model based on the WHO nursing documentation model and use of Finnish Nursing Classifications [26]. Physicians may make entries themselves in the EHR system or dictate their documentation to be transcribed by audiotypists.

The data consist of 48 inpatient patient nursing care plans and physicians' medical narratives including consultations with other care specialities and referrals to physiotherapy. The duration of care episodes was from 6 to 127 days (mean 45). The nurses updated 11 patient's nursing care plans during care

episodes once or more frequently. The nurses recorded in almost all nursing care plans admission notes such as reason for care (n=44) and from where patient was admitted to the ward (n=43). Most of the patients (n=37) arrived from other wards or from the emergency department (n=3) of the hospital. Furthermore, one patient arrived from a university hospital. Some patients (n=2) had appointments for treatment. Physicians' documentation included consultations with different specialities (n=37) and referrals to physiotherapy (n= 46). The physicians documented 1-8 consultations with other care speciality or referrals to physiotherapy per patient. Mainly (n=38) physicians' documentation included only referrals to physiotherapy.

The frequencies of the nursing diagnoses were calculated. Physicians' medical narratives were first analyzed using deductive content analysis and categorized according national core data elements and headings. Secondly, frequencies of headings and data elements were calculated. The data were analyzed using statistical software SPSS® 14.0 (Statistical Package for the Social Sciences; SPSS Inc., Chicago, IL, USA).

Results

Nurse's needs assessment documentation

The nurses assessed each patient's need for care and recorded nursing diagnoses mainly using FiCND and complementary narrative text. Only in two patient's nursing care plan were nursing diagnoses documented using only narrative text. The nurses documented 2-17 nursing diagnoses per patient in the nursing care plans (mean 9).

Nursing diagnoses were documented mainly using FiCDN major categories or subcategories. All Care Components of FiCND except "Health services" were used in the documentation of nursing diagnoses. Nursing diagnoses were documented more frequently using "Self care", "Activity" and "Elimination" Care Components of FiCND. In table 2 is shown frequencies of different Care Components and major and subcategories of frequently used "Self care" and "Activity" Care Components. (Table 2) Inability to carry out activities of daily living were deficits in self care e.g impaired ability to perform ablutions alone, impaired ability to dress and tidy oneself, impaired ability to eat unaided or impaired ability to urinate or defecate unaided. The deficits of activity were changes in patient's physical or functional actions which were related his illness. The patients' elimination needs of nursing care include urinary and bowel incontinence.

Table 2 – Nursing diagnoses for 48 patients (N=407)

Care Component	**Major/sub category**	**n**	**N**	**%**
Self care			128	31
	As Care Component level	5		
	Self Care Deficit	11		
	Bathing/Hygiene Deficit	33		
	Dressing/Grooming Deficit	30		
	Feeding Deficit	5		
	Transferring Deficit	21		
	Toileting Deficit	17		
	Technical aids need	4		
	As free text	2		
Activity			58	14
	As Care Component level	3		
	Activity Alteration	1		
	Activity Intolerance	3		
	Diversional Activity Deficit	1		
	Physical Mobility Impairment	41		
	Sleep Deprivation	2		
	Sleep Pattern Disturbance	5		
	As free text	2		
Elimination			42	10
Physical regulation			34	8
Psychological regulation			25	6
Role relationship			22	5
Skin integrity			18	5
Coping			16	4
Sensory			15	4
Summary of care			14	4
Nutrition			10	3
Health behavior			7	2
Fluid volume			5	1
Respiration			5	1
Medication			4	1
Safety			4	1
Health services			0	0
Total			407	100

Physician's documentation

Physicians' medical narratives (n=83) included referrals to physiotherapists and consultations with other medical specialty e.g. surgery. These notes also included patient assessment documentation. Medical narratives were stored mainly as free

text. Only diagnoses (n=6) and surgical procedures (n=3) were documented using classifications in consultations with other medical specialties. ICD 10 was used in diagnosis and the NOMESCO Classification of Surgical Procedures in surgical procedures documentation. Notes were structured using headings in six patients' documentation. Physicians recorded reason for care, anamnesis and status praesens in referrals to physiotherapy or to other care specialties. (Table 3)

Table 3 – Documentation in physicians' medical narratives for 48 patients (n =83)

Headings	Data Element	n	%
Reason for care		27	32
Anamnes		46	55
	Laboratory test	2	
	Radiology	11	
	Medication	8	
	Functional status	23	
	Surgical procedures	15	
	Health patterns	3	
	Technical aids	6	
	Vital signs	8	
Status praesens		46	55
	Laboratory	3	
	Radiology	11	
	Medication	1	
	Functional status	29	
	Technical aids	2	
	Risk factors	1	
	Vital signs	9	

The reason for care was documented in 27 physicians' notes. Both anamnesis and status praesens information were documented in 46 physicians' notes. Anamnesis and status praesens information included information from laboratory or radiology tests, likewise on medication, functional status, technical aids and vital signs. Furthermore, anamnesis included information on surgical procedures, health patterns and status praesens documentation described risk factors. (Table 3) Physician documentation of patient's functional status described patient's problems in physical or functional actions related to medical diagnosis.

Both in physicians' and in nurses' notes more frequently described patients' inabilities to carry out activities of daily living and deficits in activity.

Discussion

The aim of the study was to describe and discuss physicians' and nurses' patient's needs assessment documentation in EHRs. The results indicate that both physicians and nurses had documented needs for patient care and treatment in their own documentation. Nurses mainly described patients' needs for care using the nursing diagnosis classification (FiCND). Nursing diagnoses represent patient problems requiring clinical care by nurses. The most used Care Components of FiCND were Self Care and Activity, which describe the functional health pattern of clinical care in nursing practice. It is obvious that these health patterns emerge in neurological patient nursing documentation. Nurses' documentation also included admission notes such as reason for care and arrival information. In Finland this is obligatory information for national statistics and perhaps therefore nurses also recorded these items. Thus the information on reason for care in nursing care plans include information which partially overlaps what is documented in physicians' medical narratives e.g. in anamnesis documentation and the information is related in medical diagnosis.

Physicians' medical narratives include referrals to physiotherapy and consultations with other treatment specialities. These notes include information on the reason for care, patients' subjective complaints and physicians' objective findings. Data retrieval of patients' problems could be easier if physicians' documentation of patients' problems were separately e.g. in a problem list rather than in medical narratives. Furthermore, the use of the structured and coded core data elements of the EHRs also facilitates e.g problem linked with free text. The use of classifications or structuring notes with headings in documentation could improve the completeness of patient records and data retrieval from patient records. [8,12]

Both nurses' and physicians' documentation described patient's problems in physical and functional actions. Bakken et al. (1995) has also noted that the same problems occurred in nurses' and physicians' documentation and these problems are related to medical diagnoses. Thus nurses' documentation used the FiCND and this documentation provided detailed descriptions information on patients' problems.

The use of the other health care professionals' documentation is necessary in patient care during care episodes. This study shows that nurses and physicians must also know where they can find other health care professionals' notes. It is remarkable that physicians' only notes recorded during care episodes are about consultations with other care specialities and referrals to physiotherapy. This may be due the use of paper notes in parallel: physicians utilize these paper notes while recording the discharge summary at the end of the care episode.

Conclusion

Both physicians and nurses record needs assessment data regarding patient care and treatment. Nurses' documentation is more detailed than physicians' documentation. Physicians' notes are narrative text, and due to this it is difficult to locate information. The use of standardised documentation would improve the quality of the documentation and retrieval of data from EHR.

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