

The chaos in primary nursing data: good information reduces risk

Janette Gogler^{1,3}, Carola Hullin^{1,3}, Val Monaghan¹, Christine Searle²

¹Nursing Informatics, Nursing Services, Austin Health, Vic Australia

²Nursing Education, Nursing Services, Austin Health, Vic Australia

³Global Health Informatics, Santiago Chile & Melbourne Australia

Abstract

Nursing as a discipline has been concerned with patient data since the early days of Nightingale. Nursing data as a first source is the most effective way to obtain a true picture of the nursing services the patient obtained while visiting a healthcare facility. The objective of this paper is to provide real examples from the operational level in how nurses are handling the daily challenges in collecting data on paper forms and electronic medium, such as computational solutions. An investigation / audit of nursing forms was conducted to gain insight into the type of data elements nurses collect in medical, surgical and aged care units for admission and discharge using a progressive method of auditing documentation done by nurses. Results: nurses were familiar with the discord between collecting real patient data/information and, the data required for reporting purposes for administration and / or to meet external requirements. A key finding suggested the quality and richness of data elements that describe patient's condition are usually kept as informal documentation. Another complexity has been the use of "shell forms" which are an official blank and titled templates for specific documentation such as care plans. The lack of patient data and extensive misuse of these documents is an issue and adds to the existing clinical complexity. The effectiveness in documentation by reduction in duplication and increasing the quality of data is often overlooked in a grand scale. In the information era in health, the transformation from paper to electronic is demanding and the cultural reengineering is not to be underestimated. The challenge is to reduce the risk to patient, staff and organisation in the process and from the cumbersome paper format develop an information model ready for a computerised space.

Keywords: Nursing data, risk prevention, medical record.

1. Introduction

Nursing as a discipline has been concerned with patient data since the early days of its practice. Nursing data is viewed as crucial for planning and managing resources within a healthcare facility. A clinical benefit that nursing documentation provides is the accurate picture of patient condition, and at the same time, the flow

of services received by the patient while visiting a particular facility.

The identification of nursing data elements during admission and discharge processes provides the opportunity to achieve good quality documentation for patient care. Hence, patient information needs to be contemporary, confidential and collaborative with the whole health team. Important factors for nursing documentation are: clarity, conciseness,

completeness, correctness, comprehensiveness, and being patient centred. This approach supports professional practice for documentation in healthcare services, such as medical / legal requirements. Quality documentation can enhance 1) communication and dissemination of patient information between and across healthcare services; 2) provide an accurate account of clinical assessment, nursing care planning, treat-

ment delivery and evaluation; 3) goal settings and evaluation of expected outcomes; and 4) detection of patient's health problems and provide an insight of their condition and service status [1-3].

2. Research Inquiry

Are nursing forms used in a medical, surgical and aged care services providing the appropriate information for admission and discharge requirements?

3. Research context

The research was conducted in a large metropolitan healthcare facility, with nearly one thousand beds in Victoria, Australia. The health care service provides healthcare treatment to more than ninety thousand inpatients annually and to more than 150.000 outpatients annually.

Some of the specialist care services in this healthcare facility include: heart conditions; spinal and head injuries; rehabilitation services; cancer services; neurology; particularly epilepsy and stroke; liver and bone marrow transplant; aged care; thoracic disease including asbestosis and mesothelioma; stress disorders; vascular and orthopaedic surgery; urology and mental health.

4. Research aim

To investigate and audit nursing forms in order to gain insight into the type of data elements nurses collect in medical, surgical and aged care units during admission and discharge.

5. Justification of Research

This research originated from the long-term interest by nursing informatics services within the organization and the governing committees interested in guiding nurses toward improved documentation related to patient care. The reasons this investigation was sponsored by several nursing groups within the facility (representing nearly five thousand practicing healthcare professionals) were: 1) nursing documentation is the basis for effective communication among the health team; 2) nursing documentation is crucial for recording the activities given to patients while receiving care; 3) nursing documentation impacts directly on services resource allocation and quality improvement programs; 4) documentation makes nurses accountable; 5) nursing documentation is a reliable and accurate source of information for assessing patient's condition and 6) nursing documentation makes nurses visible when organizing and planning resources allocation [4].

6. Method

This investigation used a mixed methodology to collect quantitative data (as numeral and textual data elements within the nursing forms) and also qualitative data by a consultative process amongst participants of the nursing profession within the healthcare facility. Two types of participants were involved in this comprehensive investigation, at the senior level: nurses directly involved with the Governance committees of the healthcare facilities, including: 1) Nursing Documentation Committee, more than 12 nurses; 2) Nursing Informatics Users Group comprising of up to seven nurses; 3) Nursing Advisory

Council consisting of up to 15 executives and senior nurses. The other participants were bedside nurses that perform the actual documentation in the nursing forms at the site where surgical, medical and aged care services are provided to patients.

7. Collection of data

The data for this investigation were collected from the documentation used in the normal working day for nurses providing medical, surgical and aged care services during admission and discharge processes. No assumption was made of the number or types of forms nurses should be using. Therefore, any documents that were identified by nurses providing direct care to patients were included in the auditing processes of collected data.

8. Research Results

8.1. Quantitative

The data elements found in the nursing forms under investigation, from nearly a total of three hundred forms were 1) numerical, 2) textual and 3) checklist elements, which were combined within a form (see Figure 1).

AGED CARE SERVICES NURSING CARE PLAN		Gives Names:			
		UR Number:			
		(Affix Patient label)			
Date:					
Observations: SaO2/TPR-BP Lying/standing BP Weight BSL:					
Meals:	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance <input type="checkbox"/> Enteral	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance <input type="checkbox"/> Enteral	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance <input type="checkbox"/> Enteral	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance <input type="checkbox"/> Enteral	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance <input type="checkbox"/> Enteral
Food: Food Chart Type/Texture	<input type="checkbox"/> Yes <input type="checkbox"/> No				
Fluids: FBC Type/ Restrictions	<input type="checkbox"/> Yes <input type="checkbox"/> No				
Hygiene /Oral care:	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance				
Dressing: Upper limbs	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance				
Lower Limbs	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance				
Hearing aids Glasses	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
Mobility:	Refer to Physiotherapy Assessment (on the back of this care plan)				
Falls & Pressure Care:	Refer to Nursing Risk Assessment – Inpatient (on the back of this care plan)				
Wounds:	<input type="checkbox"/> Charted				
Orthotics: Location					
Frequency					
Continence: Day Bladder: Status Product/strategy					
Bowel: Status Product/strategy					
Continence: Night Bladder: Status Product/strategy					
Bowel: Status Product/strategy					
Toileting	<input type="checkbox"/> Independent <input type="checkbox"/> Supervision <input type="checkbox"/> Assistance				
Other Treatments: Signature/ Designation					

Figure 1: Demonstration types of data elements found in one nursing form

Types of forms found in this investigation include, 1) formal forms, which include all forms that have a medical record department code 2) shell forms, which are forms created by nurses at the point of care, and 3) informal forms, documents that are designed at ward level to meet the local needs of nursing staff and may not be found in any other settings within the healthcare facility.

9. Results of data elements

Data elements found within the nursing forms did not correlate necessarily with each other. The analysis of the forms indicated that data element mostly used in clinical practice for admission included: 1)Activities of Daily Living: (ADL's); 2) Physical assessment by nurses; 3) Past health

history; 4) Belongings: clothing; 5) X-ray recording; 6) Current medication of the patient; 7) Allergies recording; 8) Bowel management;10) Services in the community for the patient.

For the discharge process, the data elements used in clinical practice were harder to find in the medical records. Since these were found mostly in the progress notes rather than the forms allocated for this purposes. The type of data elements most used for discharge included: 1) IVC removal;2) Patient orientated;3) Vital signs 4) Discharge medication provided and 5) Pressure areas.

9.1. Qualitative

The investigation found the current forms lacked consistency, structure and flow of nursing documentation, and duplication of data was common (some data elements are collected up

to seven times in the same process). Many forms were partially completed and “informal” forms were more dominant in some areas of clinical services such as medical healthcare delivery. Informal forms, local forms developed without any formal approval process, are discarded on patient discharge, and contain useful patient information used for decision-making. Shell forms have a historical development within the health service, and provide a shell template title, a medical record number and no content. The investigation found these were often inappropriately used and filed according to the medical record number within the paper medical record, which could lead to missing information during an inquiry post incident. Forms often contained a “tick box” list. An absence of “formal” discharge forms indicated that in fact the discharge process is not well defined. Most documentation

was a sentence or two in the progress notes that commonly mentioned removal of the IVT.

10. Recommendations

Based on the findings of this investigation, recommendations were made to the governing committees, and nurses at the operational level, to establish management of nursing data, information and knowledge, in order to prevent the continuation of using incomplete documentation and risk patient's safety due to the lack of data for decision making. The framework to enforce these recommendations is still in progress as a change management strategy, given that it will impact directly on the reduction of risk, harm, chaos and conflict which currently exists in nursing documentation as shown in this investigation. These recommendation were divided in three aspects, including; 1) People: Nursing Services to agree on a strategic approach to improve the management of nursing data, information and knowledge. Education and standardisation will be a key factor. All nursing staff to be aware of the critical role they play in collecting, storing and managing primary source data that impacts on the organisation's performance and clinical services delivery. 2) Process: To define admission and discharge processes, that provide clear articulated processes and limit the number of forms required for each process in order to avoid duplication. To create a mechanism in order to capture the process with structural interdependency within the whole organisation on paper or digitally. This requires compliance from all nurses conducting these processes in daily practice; 3) Technology: Admission and discharge documentation re-engineering, wherever possible, consolidate similar forms into a single form by, discouraging the use of 'informal' forms and improper use of 'shell forms'. All nursing staff to use official documents to articulate all clinical activi-

ties provided by them: medical records will reflect the actual clinical process and finally, a review of all assessment tools in order to have consistency across the organisation with the aim to use validated and referenced tools.

11. Conclusion & Discussion

This investigation has provided real evidence of the current status of nursing documentation used for admission and discharge. This confirmed the premise that nursing documentation is complex and the breadth of capturing patient data is extensive. The data in the forms under investigation were in worse condition than first thought. The implication of having data elements that do not follow an explicit order of a model of care, creates chaos. The diversity of data, information and knowledge is intricate and is challenging to describe it as a linear process which is required for computational programming. The preferred approach to address the issues is to use a continuous quality improvement framework principle. The following areas have been identified as key areas; provide a governance framework to manage the forms; regular meetings with stakeholders; identify rationale of each form and the utilisation pattern; merge similar forms to improve data quality; and provide education and competencies.

Acknowledgements

The authors of this article would like to acknowledge the assistance of the Health Information Management students we supervised during this study and special mention to our overseas European informatics students. Finally, this study would not be possible without the assistance and professionalism of all nurses collecting daily data with the intention of improving healthcare services.

References

1. Residential Care Manuals Documentation Accountability Manual: Chapter 4 accessed on 23 March, 2008 <http://152.91.25.226/internet/wcms/publishing.nsf/Content/ageing-manuals-dam-contents-chap4b.htm#4.8>
2. College of Nurses of Ontario Practice Standards Documentation (2006) accessed 27th March, 2008. <http://www.cno.org/prac/learn/modules/documentation/slides/Purpose.pdf>
3. American Health Information Management Association Long Term Care Health Information Practice and Documentation Standards (Sept 2001)
4. Personal communication with Dr Hulin, expert in nursing documentation and research, Austin Hospital, Nursing Informatics Services 2007
5. Pelletier D, Duffield C, Donoghue J Documentation and the transfer of clinical information in two aged care settings. *Australian Journal of Advanced Nursing*. 2005 Jun-Aug;22(4):40-
6. Liaskos J, Mantas J. Measuring the user acceptance of a Web-based nursing documentation system. *Methods Inf Med*. 2006;45(1):116-20.
7. Herlihy, R. & Allen, M. (2005) Building the compelling case to invest in Nursing Documentation. The Children's hospital at Westmead. N.S.W Australia.
8. King LA, Wasdovich A, Young C. Transforming nursing practice: clinical systems and the nursing unit of the future. *J Healthc Inf Manag*. 2004 Summer;18(3):32-6.

Correspondence

Ms Janette Gogler
Assistant Director of Nursing
Austin Health
Heidelberg Vic 3084
Ph: 61 (3) 9496 2859
Janette.gogler@austin.org.au