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Development and Implementation of an Electronic Risk Assessment Tool for Acute Hospital Patients.Part 1: Current Use and Effectiveness of Paper Based Risk Assessment Tools in Clinical Practice

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Abstract

The implementation of any electronic system first requires an assessment of the current system to determine it's effectiveness.[1] This paper reports on results from a nursing survey that was conducted to explore nursing opinion of the current paper based Inpatient Nursing Risk Assessment tool in use at Austin Health. Areas explored focused on a) when nurses carried out risk assessment, b) it's importance to care planning, c)the use of the hospital nursing risk assessment form in relation to their practice, d) time factors d)education pertaining to risk assessment and the form and e) whether a computerised form would assist their practice.

Keywords:

risk assessment, electronic, paper based, acute hospital patients, current use, effectiveness, clinical practice, nursing

Introduction

The Victorian Quality Council identified falls and pressure areas as two components of a strategic approach to reducing the risk of harm and improving health care safety and quality in Victoria.[2] [3] Austin Health introduced a paper based inpatient nursing risk screening and assessment tool [4] in response to these initiatives in 2004. The form was designed to carry out a risk triage for pressure areas and falls, with a single question relating to aggression. The tool is intended to be filled out for every patient upon admission, repeated upon a designated review date, and again, if a patient's condition changes. Once a patient has been assessed at risk of falls, or pressure ulcers, falls minimisation strategies and pressure ulcer prevention strategies are initiated and recorded in the strategies section of the form. Since the introduction of this form the health service has also developed and implemented a comprehensive aggression risk assessment and management form,[5] which has eight risk screening questions, aimed at identifying risk level. It too has actions, interventions and a suggested management plan.

Chart audits of 60 randomly chosen charts, carried out prior to the nursing survey indicated that the inpatient nursing risk assessment form was not being used effectively[6]. Only 68% of charts had the form present, with just 43% of those having the initial triage section of the form completed, or partially completed. With this in mind, it was important to gain a better understanding of nursing staff values and opinions regarding risk assessment and the use of the current paper based forms[7]. This survey forms part of the project designed to address one of the strategic priorities of Austin Health i.e "the development of an IT strategy to support improved safety and quality, including clinical audit"[8]. This will take the form of an electronic risk assessment tool . The initial focus will be upon the development of a nutrition risk screening tool, with pressure areas and falls risk to follow.

Methodology

Purpose developed nursing surveys were distributed to 10 randomly selected acute and sub acute wards on 3 campuses during a two week period. Both division one and division 2 nurses were surveyed. Of the 415 surveys handed out, 144 were completed, giving a 35% response rate.

Results

Risk Assessment

Participants in the survey group indicated that carrying out a risk assessment was important, that it is usually done during day to day care (93%), and that it helps them plan

1 Hawryszkiewycz IT, *Systems Analysis and Design.* 1994, Sydney : Prentice Hall
2 Victorian Quality Council, *VQC Strategic Plan 2002 – 2005* VQC, Melbourne www.health.vic.gov.au/qualtiy council
3 *VQC State-wide PUPPS Report* - 2003
4 Austin Health " *Nursing Risk Assessment – Inpatient Form M15.21"*
5 Austin Health " Aggression Risk Assessment & Management form M 15.22"
6 Austin Health Chart Audit –Gogler J, Stienkrug J, 2006
7 Spencer R, Logan P, Coiera E, Socio-technical factors surrounding practices related to telephone, paging and information system use in an emergency department, HIC 2003 RACGP
8 Austin Health Strategic Plan 2006-2008

their patient care (85%). They felt it was important to carry out a risk assessment at the beginning of every shift, when the patient had an incident and when the patient's condition changed.

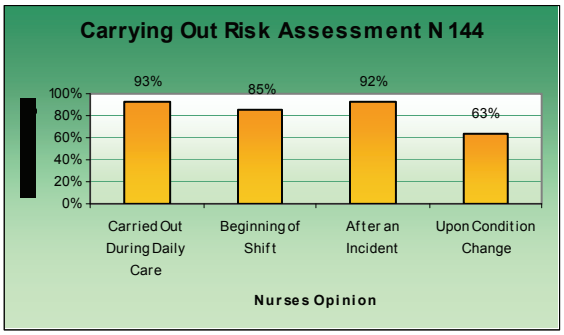

Figure 1 - Nursing Risk Assessment Tool

When the efficacy of the current paper based tool was addressed, the nurses were divided as to whether it fits in with day to day practice, however, 48% of nurses indicated that they often lacked the time to fill it out. They agreed that the suggested falls and pressure area strategies had value and were practical to implement. When questioned as to whether a computerised version of the form, with prompts to assist with initiating risk strategies, such as ordering equipment, and placing referrals to allied health services would assist in their practice, 15% of the nurses strongly agreed 33% agreed.26% were unsure with 16% disagreeing.

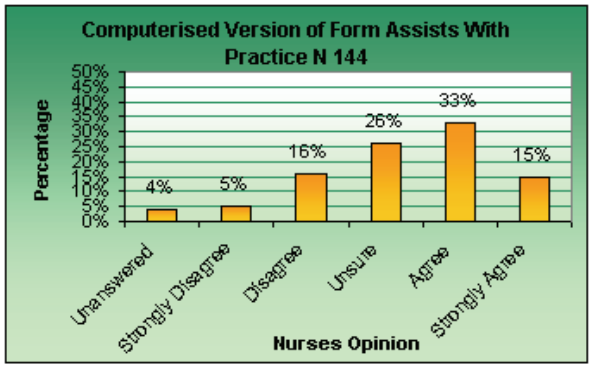

Figure 2 - Computerised version of form assists with practice. Nurses opinion

Education

When questioned about education on risk assessment, a large percentage of the nursing staff reported that they had not received recent education in the areas of; falls (47%), pressure area (41%) and aggression risk (25%). In addition a further 53% of nursing staff still require education on the use of the paper based tool.

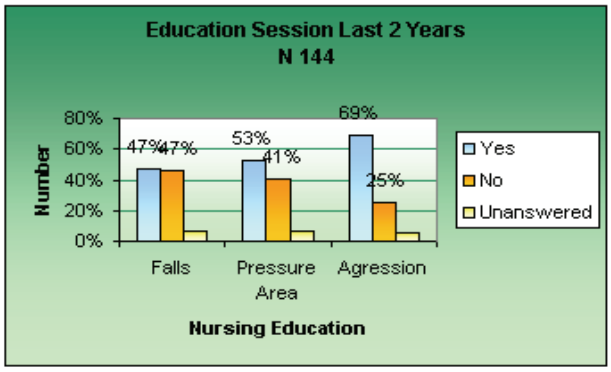

Figure 3 - Nursing Education

Discussion

Within the contemporary health care environment managers are constantly under pressure to find better and more efficient ways of transitioning patients through the system. This quest for streamlining processes needs to be supported by the development of equally streamlined health information management system. Risk Assessment is one component of that system.

The challenges we face in implementing electronic risk assessment are varied and require a multidisciplinary approach. We are relying on the frontline nursing staff to carry out risk screening upon patients, therefore it is imperative that we design a system that can be integrated into the way that nurses work.

Austin Health currently utilises a dual electronic and paper based patient health record. The nursing staff gathering patient information at the bedside are still using paper based nursing documentation which includes the current risk assessment tools.

Our results indicate that nurses believe risk assessment is instrumental in caring for patients, however, it is clear that a significant gap exists between their perceived values and documentation of their practice. To narrow this gap, we need to ensure that we design a system that enables nursing staff to document their practice in a streamlined and efficient manner. We believe the solution to this problem is an integrated electronic risk assessment tool that encompasses time saving features.

We can then improve the quality of nursing documentation. A recent study by Moody[9] of 100 nurses in a large

9 Moody L, Slocumb E, Berg B,Jackson D, *Electronic Health Records Documenation in Nursing: Nurses'Perceptions, Attitudes and Preferences* Comput Inform Nurs 22(6): 337-344, 2004. Lippincott Williams & Wilkins

Florida magnet hospital indicated that 75% of nurses thought electronic health records had improved the quality of documentation and 76% believed electronic charting would lead to improved safety and patient care.

We can further consolidate this practice improvement by the implementation of a planned, recurrent and accessible education programme. This will enable us to raise awareness of patient risk as an issue.

The education programme will be multidisciplinary in focus and be conducted in conjunction with an extensive change management initiative based around the importance of clinical risk management. Moody's study refers to need to seek input from potential users of systems as many problems that occur with the implementation of electronic health records are organizational and behavioural in nature[10].

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Early assessment of nursing practice will allow for identification of possible barriers to the uptake of an electronic system. In turn, this will enhance our chances of reaching our goal which is to - achieve a world class system which represents best practice principles of clinical risk assessment and subsequent management.

Conclusion

The development of an electronic risk assessment tool will need to encompass current nursing workflows and interactions with the multidisciplinary team. The design will have to take into account the time pressures of nursing and incorporate time saving productivities into the system. Change management and education are an important part of any quality improvement strategy. To improve the usage of the paper based risk assessment tool it is clear that the a concerted effort to educate the staff on it's usage is required. The same will be true of any electronic system.