Australian Nursing Informatics Competency Project

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Abstract. A study of Australian nurses on their use of information technology in the workplace was undertaken by the Australian Nursing Federation (ANF) in 2007. This study of over 4000 nurses highlighted that nurses recognise benefits to adopting more information technology in the workplace although there are significant barriers to their use. It also identified gross deficits in the capacity of the nursing workforce to engage in the digital processing of information. Following the release of the study last year, the ANF commenced work on a number of key recommendations from the report in order to overcome identified barriers and provide opportunities for nurses to better utilise information technology and information management systems. One of these recommendations was to seek research funding to develop national information technology and information management competency standards for nurses. This project has now received Federal Government funding to undertake this development. This project is being developed in collaboration with the ANF and the Queensland University of Technology. This paper will discuss the methodology, development and publication of the Australian Nursing Informatics Competency Standards Project which is currently underway and due for completion in May 2009. The Australian Nursing Informatics Competencies will be presented at the conference.

Keywords: Informatics, Nursing, Competencies,

1. Introduction

Nurses are employed across a wide range of enterprises and diverse geographic settings. Nursing is the largest group of health professionals in Australia, representing 55% of the workforce [1] with 285,619 registered personnel [2]. In Australia there are two levels of licensed nurse: registered nurses, who undertake a minimum of three years undergraduate preparation in the higher education sector; and enrolled nurses, who generally undertake their education in the vocational education sector. To practice, nurses must meet the national competency standards for registered and enrolled nurses, developed by the Australian Nursing and Midwifery Council and endorsed by all the nurse regulatory authorities [3]. These standards do not however address the necessity for nurses to have basic nursing informatics skills in either undergraduate education or vocational training.

A recent study of nurses and information technology found that nurses generally are poorly prepared to engage with information technology in their practice. The study found almost two thirds of nurses had not received any formal training in basic software applications and of the 90% of nurses who used computers or other information technology applications, only one third had any formal training [4].

In general, the study revealed a gross deficit in the capacity of the nursing workforce to engage in the digital processing of information. It is essential for nurses beginning practice to have basic computer skills and competencies in nursing informatics; in particular, they should understand the importance and use of clinical information systems in their practice, as well as have skills in the manipulation of data to support safe and informed practice. It is also necessary for more expert nurses to engage in these activities at more advanced levels.

The literature and anecdotal reports reveal that, if nursing is not involved in the planning stages of technology development, and if appropriate training and support is not provided to nurses, the health sector will not receive the potential benefits of the technology and a significant amount of financial and human resources will be wasted because implementations fail [5].

Because of Australia's current e-health agenda, a national approach to the development of competencies in informatics for nurses and the integration of these into nursing curricula is urgently required. In addition, any national and state information management or technology initiatives must include health informatics education, training and development strategies to support competency development for current nursing staff. To promote advances in informatics education and research, academic incentives must also be provided if governments are to demonstrate their commitment to nursing informatics scholarship.

Most competencies are developed by observing and recording the work that people do, based on work that is already being performed. They are not founded on work that may be undertaken in the future. Competencies must record and validate the standards that reflect best practice in nursing informatics. Some work on nursing informatics has been carried out internationally, but a pilot study in 2005 demonstrated that while these standards had some congruence, Australia must undergo its own development and validation process [6].

Competency standards have several uses. They provide a framework for nurses to develop meaningful educational programs against which nurses can assess their practice and plan their professional development. They also provide a measure against which employers can assess the performance of their nursing staff. Because competency standards are used extensively to develop curricula relevant to the work undertaken by nurses, nursing informatics competence is a vital inclusion in all contemporary curricula.

2. The Australian Nursing Informatics Project

2.1 Project Background

This project is stage one of a three stage project. The first stage is to develop and validate informatics competency standards for the nursing profession. The second stage is to develop and trial an online education program for nurses to enable them to become competent in nursing informatics. The third stage is to implement and evaluate the online education program and ensure its availability to nurses nationally.

A project advisory committee was convened by the project partners. The advisory committee includes representatives of the major nursing organisations, government and industry and the QLD University of Technology research team.

2.2 Stage 1

The first stage is to develop and validate informatics competency standards for the nursing profession.

This project is managed by the Australian Nursing Federation with funding from the Australian Department of Health and Ageing. The project is conducted by a research team from QLD University of Technology.

2.3   *Project Objectives*

The project aims to:
1.   conduct a literature review including an analysis of any existing international competency standards for nurses,
2.   develop competency standards which support the practice of nurses in relation to informatics and which articulate with other competency standards required by nurses in Australia,
3.   validate the draft competencies, and
4.   publish the competencies.

2.4   *Data Collection*

The project will use mixed methods of data collection: a literature review; an online survey of nurses auspiced by the project partners; and targeted focus group interviews. Engagement of the nursing profession in the project is considered essential if the final competencies are to be endorsed by them.

2.5   *Survey Tool*

A survey tool has been developed based on best practice guidelines and informed by work already undertaken in the area. The survey has been administered widely throughout the nursing community. It was made available on partner websites and the Coalition of National Nursing Organisations (CoNNO) were asked to distribute the survey electronically to their members. This enabled a wide range of nursing stakeholders to be represented in the project.

2.6   *Focus Groups*

Focus groups will be undertaken at various strategic locations and used to gain a wider perspective on the competencies required by nurses to function efficiently in the contemporary health system where interaction with information technology is integral to the provision of care. All eight Australian capitals cities and four rural areas have been identified as likely to achieve this. A key feature of the focus group method is the interaction among the group members [7], which assists participants to clarify and explore views [8] thus expanding their perspectives [9]. The participants' interactions are deemed to be particularly useful to capture the agreements and disagreements inevitable with diverse perspectives. The focus groups will be audio-taped and field notes will be written.

3.   Where is the project at?

As at the writing of this paper in February 2009, the online survey is currently being undertaken with the focus groups to follow in March. Following the results of these two (2) data collection strategies a set of Draft Competencies will be developed (April 2009) and validated by the Project Advisory Group; Nurse Informaticians and selected key stakeholders (May 2009) with the final Nursing Informatics Competencies developed and published for the profession in early June 2009. The results from the data collections and the final competencies will be presented at the Conference in Helsinki in June/July 2009.

4. Conclusion

The importance of informatics in the Australian health industry has been recognised by the Commonwealth Government with funding for this project as well as the research project 'Nurses and Information Technology Survey 2005' [4] which surveyed over 10,000 nurses across Australia to examine their use of information technology in the workplace. It is this study which provided clear evidence for the need for greater informatics training for Australian nurses. The Australian Commonwealth Government compiled a report into health information management and from their findings recommended that information technology should be incorporated into all Australian University nursing programs [10]. Similarly Nursing Informatics Australia [5] stated that:

> "A nationally agreed set of basic nursing informatics competencies that all nurses need to acquire must be developed. These should be incorporated in all undergraduate curricula and be used as the basis for staff development programs".

The mandate for a national set of nursing informatics competencies was also echoed by the Coalition of National Nursing Organisations in 2008. Therefore, the current project aims to develop and validate a national set of nursing informatics competencies to be used in Australia.

Promising research has emerged around the globe in developing nursing informatics competencies particularly that from the U.S. but the dissemination into nursing curricula has been slow. To-date in Australia a list of validated nursing informatics competencies, like that of Staggers et al. [11], has not been established. This has become increasingly important with the movement towards Electronic Health Records. Until a national set of core competencies are established and validated, nurses cannot be expected to be competent in informatics nor will nursing students be acquiring the informatics skills they need.

5. Acknowledgements

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