

Getting eHealth into Basic Nursing Education: Report of the RCN Information in Nursing Project

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Abstract: This paper reports the results of a project undertaken in 2008 by the Royal College of Nursing's Information in Nursing Forum. The project, undertaken by the RCN IN Forum in association with the RCN Education Forum and the RCN Association of Nursing Students, was in two parts. The first part consisted of an on-line survey of nursing students to discover their "readiness" for working in an electronic environment. The second part consisted of a workshop for invited stakeholders – organisations responsible for commissioning and providing basic nursing education, regulators, nurse teachers, and nursing students themselves – the objective of which was to consider the results of the survey and other information, in order to develop a consensus on how best to incorporate eHealth issues into basic nursing education. The survey was undertaken during April 2008 via the RCN website. Students were asked how well they felt their nursing education had prepared them for competencies set out in a previously published model curriculum [1]. 1120 students responded. 565 students who had used electronic patient records during their most recent clinical placement were asked about their experience. Students rated their basic computer skills much higher than their understanding of eHealth. While they felt competent to document assessments and care plans using paper records, few felt competent to do so using electronic records. Few know anything about telehealth (remote diagnosis and delivery of healthcare) or telecare (assistive technology in people's homes). Among those who had used computers in their most recent clinical placement there were clear breaches of the protocols designed to ensure security and confidentiality. Twenty seven invited participants attended the workshop held in October 2008, plus 12 members of the participating Forums and relevant RCN staff. Following presentation and discussion of the findings of the survey, participants worked in three groups to identify and discuss issues arising from the survey, and to identify barriers using a Force Field Analysis [2]. All participants agreed eHealth should be an integral part of nursing education and not an "add-on", and that the responsibility for "Getting eHealth into basic nursing education" had to be shared by university based educators, placement supervisors, and regulators.

Keywords: eHealth, information technology, nursing education

1. Introduction

The work of the Information in Nursing Forum over the past several years has repeatedly demonstrated that nurses, including RCN members, are unaware of and inadequately prepared for the accelerating pace of the introduction of eHealth into health services and nursing practice. Similar problems were identified by the RCN's Nursix surveys [3] and by the Information in Nursing (IN) Forum's earlier project An investigation of the emergent professional issues experienced by nurses when working in an health environment [4].

It is widely recognised that overcoming this problem must begin with basic nursing education. Accordingly in 2007 a bid was submitted by the Information in Nursing Forum to explore this issue by means of a project to be undertaken in two parts: an on-line survey to identify the nature and extent of the problem, to be followed by a workshop where key stakeholders are brought together in order to discuss the results of

the survey, to share current best practice, and to develop a consensus on how best to incorporate eHealth issues into pre-registration nursing education. The results of the survey and the workshop were to form part of the RCN's ongoing response to the proposals of the Nursing and Midwifery Council (the regulatory body for nursing in the UK) for pre-registration nursing education

2. Objectives

The objectives of the project were:

- 2.1 To discover the level of 'readiness' amongst student nurses for working in a technology enabled healthcare service;
- 2.2 To discover how well e-Health was currently covered in pre-registration nursing curricula.
- 2.3 To develop a consensus among those responsible for the commissioning, planning and provision of pre-registration nursing education about how to achieve nursing competence in e-Health and to prepare nurses for the introduction of ehealth into health services, including but not limited to the NHS.
- 2.4 To contribute evidence to the Nursing and Midwifery Council's proposed reform of pre-registration nursing education
- 2.5 To publish the findings as widely as possible to increase awareness throughout the profession of the need for change and to offer some guidance on how it may be achieved.

3. The survey: Methods

The original intent was to survey education providers to identify how they incorporated eHealth into their pre-registration curricula. However, a preliminary literature search revealed that considerable work of this kind has already been done. Moreover discussion with members of the Norwegian Nurses Organisation, identified that they had undertaken a project with similar aims, but had focussed on the students rather than the education providers and had identified discrepancies between the two perspectives. It was hoped that the Norwegian questionnaire could be used, but in the event this was not possible. Nevertheless the proposal was restructured and it was decided to direct the questionnaire to students.

The core of the survey was the question "How well do you feel that your nursing education has prepared you so far to achieve the following:" The question was followed by a list of competencies taken from *Learning to Manage Health Information – A theme for clinical education: Moving Ahead* [5]. This document, published by the NHSIA in 2002, was built on the earlier publication *Learning to Manage Health Information* which was published in 1999 with the aim of establishing a core framework in health informatics development for clinical health professionals at pre and post registration level [6]. *Learning to Manage Health Information – A theme for clinical education: Moving Ahead* took forward the earlier work by reviewing the learning outcomes and allocating them to various levels of practice: first health profession qualification, post first qualification, and related management learning. The competencies used in the questionnaire were all taken from the Level 1 list (first health profession qualification). To these competencies were added three more taken from the NMC standards of proficiency for pre-registration nursing education [7]. These related

to the ability to undertake and document a nursing assessment, a nursing care plan, and the outcomes of nursing interventions. Some additional questions were asked to a subset of the total sample consisting of those students who had used electronic patient records in a clinical placement. Demographic information was sought in order to check whether the profile of the respondents conformed to the profile of all nursing students as represented in other RCN databases.

The questionnaire was converted to the RCN format for on-line surveys and was placed on the RCN website for four weeks during April 2008. A prize of an iPod was made available to encourage responses. A total of 1120 responses were received.

4. The survey: Results

The first question asked respondents to rate their knowledge about eHealth overall. eHealth was broadly defined as “the use of information technologies (ICTs) in the delivery of healthcare”. A quarter of the respondents (285=25.5%) rated their knowledge as “good” or “very good”; a third (393=35.1%) as “quite good”, but almost 40% (442=39.5%) as “poor” or “very poor”.

The second question asked respondents to rate their basic computer skills. Three quarters of the respondents (832=73.3%) rated their skills as “very good” or “good”; (253=23%) as “quite good”, and only a very small number (35=3.1%) as “poor” or “very poor”.

Responses to the questions about how well their nursing education had prepared them for competencies specified by the NMC or recommended by Learning to Manage Information are shown in Table 1.

5. The workshop: Methods

Twenty seven invited participants attended the workshop held in October 2008, plus 12 members of the participating Forums and relevant RCN staff. Following presentation and discussion of the findings of the survey, participants worked in three groups to identify and discuss issues as described in Table 1. Comments were recorded on flip-charts and later collated.

6. The workshop: results

Concern was expressed about the apparently poor level of “readiness” of students revealed by the survey. There is an urgent need for the nursing profession to articulate its needs in relation to eHealth education, and to lobby at all levels for greater attention to be paid to them. There was a consensus that both lecturers in Higher Education Institutions and clinical staff in placement areas urgently needed education about ehealth and electronic patient records in order to be able to prepare and support students, and that the responsibility for “Getting eHealth into basic nursing education” had to be shared by university based educators, placement supervisors, and regulators. Suggested solutions to this problem included the development of nurse informaticist posts, and joint appointments between Higher Education Institutions and clinical areas. All participants agreed that eHealth should be an integral part of basic nursing education and not an “add-on”, and that such education should also be an integral and compulsory part of post-basic education and continuing professional development. EHealth should be included in the requirements specified by education commissioners.

The misuse of passwords by students was seen as a serious problem, which will be addressed by the professional associations and the Nursing and Midwifery Council.

7. Conclusion

This project has revealed serious deficiencies in the “readiness” of students for practice in an electronic environment, and an urgent need for this to be addressed by those responsible for commissioning and providing basic nursing education. It also suggests that nurse lecturers in Higher Education Institutions and supervisors in clinical placement areas themselves urgently need education in order to be able to support students. These findings will be reported to the Nursing and Midwifery Council which is currently reviewing basic nursing education in the UK.

Table 1. Issues discussed at the eHealth Workshop

Issues raised by students in Survey	Questions arising from Issues: Education	Questions arising from Issues: Placement areas	Issues for discussion at workshop
Three quarters (75.2%) of respondents rated their basic computer skills as good or very good, but only a quarter (25.9%) rated their knowledge of eHealth as good or very good. Most (69.9%) felt well or quite well prepared to use health related on-line sources of information. Very few felt they understood the concept, range, and practice of telemedicine (13.8%) or telecare (14.4%).	How many lecturers know about or have experience in the use of eHealth/e-records? How many commissioners of education understand the scope of eHealth? How many commissioners think e-Health is the same as e-learning? Lecturers are familiar with supporting usage of computers for on-line education, but know little about the use of computers in healthcare..	How many clinical staff and/or managers understand the potential and usage of eHealth and/or have any insight into local needs?	Is preparation/education of educators in HEI's and clinical staff in placement areas as important as education of students? Which comes first? How do the educationalists and the service providers ensure that their respective commissioners understand the complexities, scope and priorities for eHealth? What actions should be taken and by whom and how urgently?
More than half (55.9%) had used electronic patient records, including 10.8% who had used them “a lot”. Only a third (33.2%) felt that they understood the secondary uses of data, and only 13.8% felt prepared to carry out an audit. Nearly all (89.1%) felt they had been well or quite well prepared to undertake and document a nursing assessment using a paper system, but less than a quarter (23.8%) felt similarly prepared to undertake and document a nursing assessment using an	How can lecturers teach about e-records and eHealth without access to the hardware or software used in provider services? Who keeps Higher Education Institutions up to date and in line with eHealth developments at all the various placement areas? How relevant is teaching about paper records to student experience in placements which use e-records? How relevant is teaching re e-records to students in placements where only paper records are used?	How many clinical staff are able to fully teach about e-records, secondary uses etc, during a student's placement experience? Who keeps clinical staff up to date and in line with HEI's? Who ensures that the current eHealth situation in the clinical areas is reflected in pre-placement teaching at HEI's?	Is there a need for new sustainable collaborations between eHealth education and practice development, ie a sharing of knowledge between: educational establishments, service provider establishments, vendor companies – all facilitated by commissioners? How might this be made possible? What actions are needed? How will problems be avoided if silo working is not addressed? How might this be addressed – what needs to be done and by whom

electronic system. Similarly, nearly all (81.7%) felt they had been well or quite well prepared to undertake and document a plan of nursing care using a paper system, but less than a quarter (22.7%) felt similarly prepared to undertake and document a plan using an electronic system.			and funded by what?
(78.1%) had used a computer in their most recent placement but less than half (45.8%) had received training on the systems they were using, and more than a third (39.1%) had received no information about information governance requirements; yet just over half (59.1%) felt well or quite well prepared to explain to patients their rights in relation to the content and access to their records	Is computer 'software system' 'training' a subject which should be included in the HEI curriculum? Is Information Governance in it's most current e-form adequately understood by lecturers in HEI's? Should Information Governance be integrated into all parts of the curriculum, or be taught as a special subject?	How many clinical staff fully understand the scope and potential usage of e-records? How many staff fully understand provider policies related to Information Governance How many service providers have adequate policies relating to Information Governance? How many clinical staff have adequate training on their systems in order to support student nurses?	Is there a need for national standards related to Information Governance, education/ updating, and associated policies relating to eHealth. Should initial training on computer systems be followed or preceded by educationally supported development of systems in practice? Should there be assessment levels and methods relating to initial training and subsequent development in practice? Who would fund or provide this? How could it be realized?
Of those (78.1%) who had used a computer in their most recent placement, only 17.2% were given their own password, and almost a third (31.7%) had been asked to log-on to the system using a password that was not theirs.	Should awareness of misuse of passwords be taught more rigorously in HEIs? Would this cause professional dilemmas at placements for students?	How do we avoid clinical staff being forced into 'workarounds' in order to cope with these work pressures	Should the regulatory bodies be more involved in the resolution of this problem? Should there be national policy and national standards in relation to passwords for student nurses (and other healthcare students)? Who should do what and when to solve this issue?

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