# Nurses on the Net

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## ABSTRACT

*Nurses need to be able to use the Internet effectively to support their own professional practice, and to help patients meet their information needs. A study was undertaken with new student nurses to investigate their access and use of the Internet, and their perceptions of their skills.*

*The study found that whilst student nurses have access to computers and the Internet use is mainly limited to the World Wide Web and email. Skill levels tend to be poor when asked about anything other than the most basic tasks such as entering addresses in a web browser. Half of the students in this study could not efficiently locate information on the Internet, and only a third could check an email for viruses.*

*Students also showed a lack of awareness of their own skill levels especially when compared to external standards such as the European Computer Driving Licence. Nurse education needs to make students aware of the skills and knowledge that they will need once qualified, and to give them sufficient opportunity to develop these.*

*Keywords:*
Nursing Education; Nursing Students; Internet; Computer Literacy.

## Introduction

The UK National Health Service (NHS) is giving Information a high priority, having published its Information strategy, Information for Health(1), in 1998, and further subsequent advice on the implementation of the strategy to compliment their other plans for developing the NHS, in Building the Information Core(2) , in 2001. This is now being implemented through the National Programme for IT (NPfIT) and Connecting for Health.

The aim of the various documents is to work with new technologies to improve care for patients in several ways, including:

Ensuring that professional staff have access to up to date information on which to base their practice. Speeding up, and easing, access to services for patients
Improving communication flows of essential patient information
Ensuring that patients and carers are informed about the NHS and best practice in relation to their condition

Nurses need to be able to understand the role of information within the organisations they work in and across the healthcare system  as well as to support their professional practice. Care is moving away from hospitals, and indeed away from a centralised NHS, and nurses need to be able to communicate electronically as well as face to face in this dispersed healthcare environment.

Historically nurses had a role as information gatekeepers for their patients. Most detailed health information was only available in journals, and health libraries, with access limited to professionals. The NHS envisages a future where patients, especially those with ongoing and complex conditions, take much more responsibility for their care than they have historically, to do this they need access to information. With the widening use of the Internet much more information is now available, with easy access for a large number of people. The balance of power between

professionals and their patients is changing and nurses need to be able to work effectively within this new paradigm

Nurses also have quicker and easier access to information, they no longer have to visit the library to access information, or wait for the librarian to send information to them. If they have an Internet connection, and the skills to use it, they can access information anywhere, and at any time they need to.

Working within this computerised, information rich environment means that nurses need the skills to enable them to quickly and efficiently access reliable, quality information for their own use, and to be able to help patients find information and to evaluate the quality of that information.

The increased access to information that is afforded by computers is affecting all areas of peoples lives, both at work and at home. Dolence & Norris(3) , are of the view that 'Society is undergoing a fundamental transformation from the Industrial Age to the Information age'. Nurse education needs therefore to equip students with the skills and knowledge to work within this new paradigm.

Nursing in England is a profession struggling to recruit and retain staff. Students come from a wide range of backgrounds and have different skill sets when they start their course. The question was therefore asked, what Internet experience and skills do student nurses' have when they start their nursing course, and this is sufficient for their future professional use?

## Method

A study was conducted with students starting a pre-registration nursing course in September 2004 at an English university. The aim of the questionnaire was to investigate students' use of the Internet in the 3 months prior to starting the course; their perceptions of their skill levels, and their views on their ability to carry out some basic internet related tasks

Some demographic information was also collected, students were asked about their computer ownership, and if they had an Internet connection. Some students live at the same address throughout the year, others have different holiday and term time addresses, and students were asked to say about their computer ownership for both periods.

Participants were asked to rate their skills in using the Internet, with the categories of 'excellent', 'good', 'basic' and 'not used' being offered. Rather than relying on students perceptions of their skills

being consistent across the group, and with the teaching teams ideas of skill levels, students were asked to say if they could complete some basic Internet related tasks without any problems. The definition of 'without any problems' is subjective and it was left to the students to interpret as they felt appropriate.

The tasks were chosen after discussion within the teaching team, and with reference to external standards, including the European Computer Driving Licence (ECDL) and CLAIT, both basic IT qualifications in wide use in the UK. The tasks were:

- Enter a web address in a browser
- Use a search engine to find information
- Clear the history in a web browser
- Send and receive emails
- Send a picture file as an attachment to an email
- Run a virus check on an email attachment received

In the final section of the questionnaire three statements were offered, and using a likert type scale students were asked to indicate their agreement, or otherwise with the statements, including:

- I often use email to communicate with friends
- I end up with far too much irrelevant information when I try to find specific information on the Internet
- I often participate in online message/discussion boards
- I often use instant messaging services (eg MSN Messenger or ICQ)

The questionnaire was distributed to students in their first, introductory lecture during freshers week. It was self-administered, with the author available to answer any queries that the students had. This method of distributing and collecting questionnaires has been identified by Oppenheim(4) as having a high response rate. This was also found to be true for this survey. The response rate of students asked to participate was 100%. (204).

The results were entered into the SPSS software package for analysis. As the data was nominal or ordinal it was analysed using non-parametric methods. Cross-tabulations were used to look for relationships between the variables, and Chi-square used to calculate the statistical significance of the results.

## Results

Computer ownership amongst the group was high, with 94% (191) having a computer all year round, only 2% (3) had no computer access, 76% (144) had an Internet connection all year, and a further 12% (22) only had one at their holiday address. The internet access amongst these nursing students is high compared to the UK average of 50% of all households having internet access in May 2004 National Statistics Office(5). Nursing students who move away from home frequently initially live in nurses home attached to hospitals where arranging the necessary telephone line for an internet connection can be difficult.

Most of the students who had an Internet connection made use of it, with 69% (138) of students saying that they used the WWW at least weekly. Over three quarters of the students (76%, 144) had their own email address, with 62% (124) saying that they used email weekly.

Students were quite confident in their skills in using the Internet, only 29% (58) considered that their skills were basic, whilst 54% (109) thought they were good and 17% (35) expert. The responses to tasks that students thought they could carry out without any problems is shown in chart 1 below.
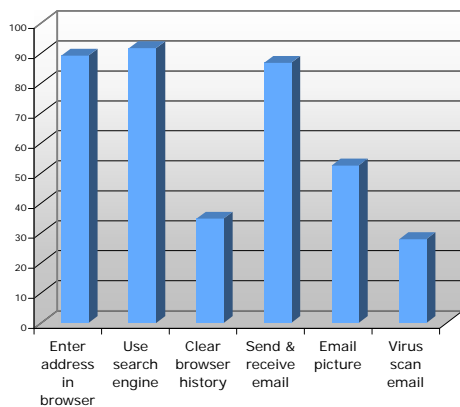


*Figure 1*
*Tasks done without problems*

When the responses from students who considered their skills to be expert or good are cross tabulated with their responses however it shows that some students perceptions of their skill levels do not meet the levels that external standards, such as the ECDL expect.

Most (95% 137) could enter a web address into their browser, and slightly more (97% 139) can send and receive email. Only 68% (98 ) could send

a picture as an attachment, and 38% (54) knew how to carry out a virus scan on an email they received.

The picture when looking at students' ability to use search engines is more complex, 97% of those students who thought their internet skills were good or expert said that they could use a search engine, however 49% agreed with the statement that 'I end up with far too much irrelevant information when I try to find specific information on the Internet'

Use of the Internet tended to be limited to using the WWW or email. Only 41% (83) of respondents often used instant messaging services, with 25% (50) never having tried them. Even fewer often use message boards (20%, 41) with 29% (59) saying they had never tried using them.

There is a popular belief that older people have poorer computer skills than younger people. Most of the areas explored in this study didn't find a statistically significant relationship between increasing age and skills. Three areas did, sending and receiving email; sending a picture in an email and effective use of a search engine ($p < 0.05$ in all cases). However as can be seen in chart 2 below the relationship was not linear with the younger students having the best skills. In all cases it was the 26-35 year olds who reported having the best skill levels.
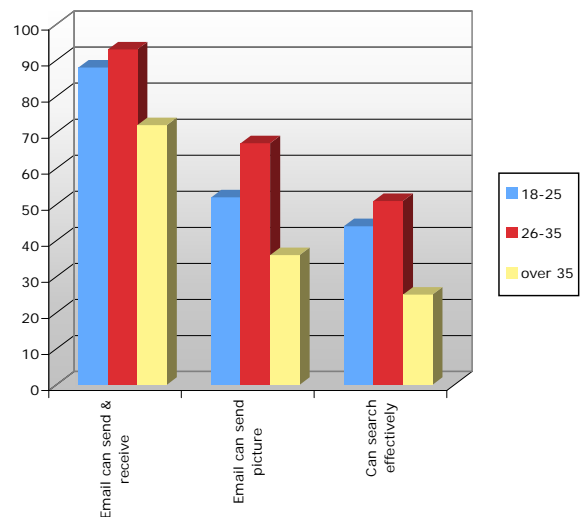


*Figure 2*
*Age and reported skills*

## Conclusion

The question that this study set out to answer was, What Internet experience and skills do student nurses' have when they start their nursing course,

and this is sufficient for their future professional use?

The results show that students are using the Internet when they start their course, but their use is generally quite basic.  Email and the WWW are both used by the majority of students, however other services such as discussion boards are not generally used.

Whilst use is high, skills are not. Only one third know how to check an email for viruses, which with the number of genuine, and hoax, viruses transmitted by email is a concern.  There is also a need for improved skills in efficiently locating information on the Internet.

An interesting finding that merits further investigation is the students' perception of their skill levels. All the tasks that students were questioned about are skills covered in basic level IT qualifications, such as the European Computer Driving Licence. The results however show that a significant proportion of students who thought their skills were good or excellent said that they could not carry these tasks out without problems.

This inability to accurately judge their own skill levels could lead to nurses being over confident of their abilities. This could result in them putting computer systems at risk, and even advising patients badly because of unrecognised gaps in their own knowledge.

It could also result in some nurses lacking confidence and being unnecessarily reluctant to use computers to support themselves and their patients.

Nurse education needs to ensure that students gain sufficient awareness of the safe and effective use of computers to support professional practice to be able to correctly assess their own skills and knowledge. It also needs to offer sufficient educational opportunities for students to be able to develop the skills and knowledge that they will need once they are qualified nurses.

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