Posters

The confidence and competence of community nurses in using information and communications technology and in accessing clinical evidence through electronic libraries and databases

Kate Pritchard MSc
Knowledge Officer
Simon de Lusignan MBBS MRCGP
Senior Lecturer

General Practice and Primary Care Informatics, Department of General Practice and Primary Care, St George's Hospital Medical School, London, UK

Tom Chan RMN RGN MSc PhD
R & D Manager KSSNet and Associate Nurse Director, Surrey Hampshire Borders NHS Trust, Guildford, UK

ABSTRACT

Introduction Little is known about the confidence and competence of community nurses in using information and communications technology. This survey set out to explore this issue.

Method A questionnaire survey was sent out in the latter half of 2001 to all community nurses in a London community trust. The questionnaire also provided the opportunity for free-text comments.

Results In total, 402 community nurses received questionnaires and 106 (26%) responded. Over half of the respondents felt they were not confident to use email and only just under half the Internet. Nearly a quarter lacked either the skills to use a keyboard or mouse. Less than 10% felt confident or very confident to use online sources of evidence.

Conclusions Even taking into account the low response rate, a large proportion of community nurses lack the confidence and basic competencies to enable them to function effectively in a health service pledged to electronic operation by 2005.

Keywords: access to information, community health nursing, computer literacy, computer user training

Introduction

Little is known about how confident community nurses feel about using basic information and communications technology (ICT), and whether they feel competent to use it to access the information within the health literature and clinical information held in computerised systems. This study set out to identify the levels of basic skills that community nurses had and whether they felt confident to apply them to gain access to the evidence through well-known bibliographic databases.

The push towards practice based on best evidence is reflected in recent government policies and the academic promotion of evidence-based medicine, and is enabled by technologies that make web-based access to a vast array of information commonplace. The importance of access to the evidence has been stressed in both the National Health Service (NHS) general strategy and information strategy documents, such as *The New NHS: modern, dependable* and *Information for Health*.[1,2] It is no longer good enough for health professionals simply to practise in a way that others do; a new duty, that of clinical governance, makes explicit the need to offer the best evidence-based care.[3]

If healthcare professionals are to practise evidence-based medicine, and satisfy the duty of clinical governance, they need to have the skills to convert their information needs into an answerable question, find the evidence to answer the question, critically appraise it, apply it and then finally have the skill to evaluate their performance.

The pace of change from the centre has, if anything, accelerated in the last few years. Information technology is now not only seen as a device to deliver access to information; it can inform the government of progress within the health service towards achieving national targets for standards of care.[4] If the latter are to be achieved, then patients' computerised medical records must be populated with high-quality data about their care.

The NHS Plan has effective use of information technology at its core, not only for providing access to information, but also for measuring progress towards the delivery of national standards for care.[4] These standards are enshrined within national service frameworks (NSFs). Effective ICT is not just a health service issue; there are pressures to reform other government departments, with an overarching body in control of the whole process. The department responsible for this shift towards the use of technology is the 'Office of the e-Envoy', which has made hard predictions of what will be available online by 2005.[5]

Nurses are expected to take on a larger role within this new NHS. There is to be an extension of their prescribing and expansion of their role as practitioners. These roles will be enacted within an electronic NHS, with computer-based records.

Therefore, community nurses need two types of ICT skills. They need to be able to access electronic guidelines and the evidence to support best practice. In addition, they will need to be able both to access and to record information about their patients within the computerised medical record. This survey is a snapshot of where community nurses were in relation to ICT skills in the latter half of 2001. It seeks to record what their skill levels were, and whether there are gaps between present skills and those that are needed for the NHS of 2005.

Method

Setting

The research was conducted using a questionnaire survey sent to employees of a London community trust. The clinical effectiveness board and the medical director of the trust approved the study on the basis that a single survey would be performed. The trust felt that the survey would be of benefit and would help them understand the level of expertise of their community nurses. Prior to the study no systematic ICT training was in place; nor were the skills to find and critically appraise online evidence provided. It was believed that basic ICT skills were adequate, as community nurses had been entering contact data through hand-held data entry devices.

Sample

The trust in the study employed approximately 2500 staff; of these, 402 were community nursing staff. The sample was drawn up by the personnel department of the trust. Community nursing staff were defined as: community nurses, district nurses and health visitors. These community-based nurses worked in either general practices or health centres.

Questionnaire design

The questionnaire was designed to be easy to complete. Pilot testing showed that it took five to 10 minutes to complete. There were 19 questions in total, of which 18 were of a multiple-choice type, with 16 giving the opportunity to give further information or make comments.

The questionnaire dealt with the following sequence of topics:

1 ability and confidence in using a computer
2 using electronic information
3 Internet access and use
4 confidence and frequency of using online databases
5 areas where training is desired or has been received.

Distribution and follow-up

The questionnaire, together with a covering letter explaining that the responses were confidential, was distributed to the 402 community-based nurses. The nurses were sent an addressed return envelope that could be sent back to the principal researcher (KP) by internal post. The respondents were included in the analysis. The agreement for the questionnaire was that the nurses would only get a single mailing and, to protect employee confidentiality, it was not possible to know who the non-responders were to chase them.

Results

The study showed that even within this small sample there were common deficiencies in basic skills. The

plethora of comments added to the questionnaire have enriched the responses.

Response rate

There were 106 completed questionnaires received, 104 of which were capable of analysis. This represents a response rate of 26%. The respondents were drawn from different health centres and practices throughout the community trust area of operation. They were equally drawn from both inner-city and outer south-west London areas. The different occupations within the community nursing sector are represented. However, health visitors were the largest single group (59/106), district nurses second (17/106), with a quarter of the sample (25/106) describing themselves simply as 'community nurses'. Five nurses belonged to specific other occupational groups. One was a nurse practitioner, one a school nurse, one a nursing auxiliary and one a healthcare support worker.

Ability and confidence in using a computer

Over half of the nurses that responded were not confident to use email and just under half to use the Internet. Eight percent were not confident to use a mouse, and 13% to use a keyboard. The self-rated levels of confidence are set out in Figure 1. In addition, 9% of nurses commented on a lack of training and experience as a leading contributor to a low confidence rating, half of them specifically referring to their lack of access to a computer.

'Very little training within this trust – no access to email at present.'

'I do not have access to a computer at work, which I think is appalling in this day and age.'

Using electronic information

Thirty-six percent of nurses used formal, high-grade evidence in their weekly work;[6] for the remainder, the source of information was their own personal notebook or journal collection.

Internet access and use

Although 83% of respondents reported that they had access to the Internet, 66% of nurses had this access at home. Twenty-one percent of nurses stated that they never used the Internet, even though they had access.

'Never – hate computers!'
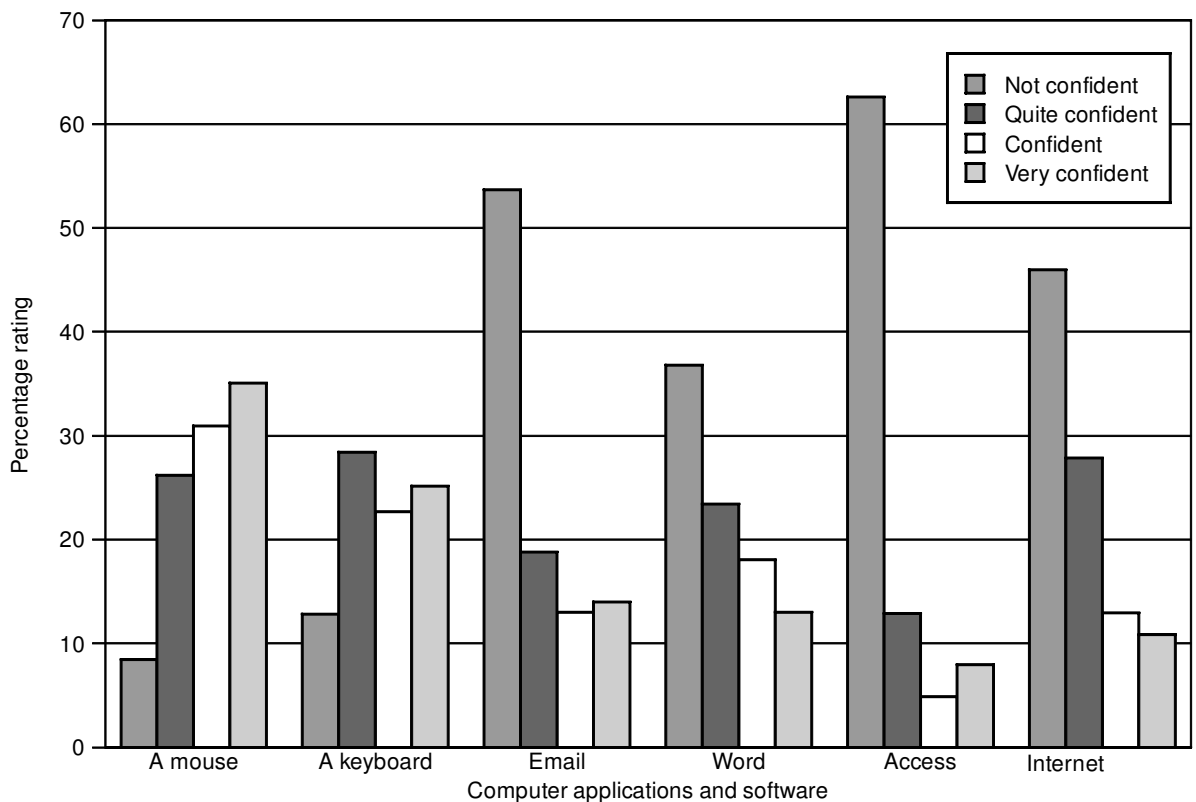
Figure 1 Self-ratings of confidence in using a computer and specified software

Six percent of nurses with full access do not use the Internet directly, asking others to access information for them.

'Other team members have accessed it for me.'

Figure 2 demonstrates the main areas for which the Internet was used, with literature searching, patient information and drug information high among the responses from this sample.

Confidence with and frequency of use of online databases

Over half (55%) of community-based nurses responding stated that they did not use any of the bibliographic databases asked about in the questionnaire. Four nurses stated that they were unaware of the databases.

'I have no idea what these are.'

Figure 3 demonstrates the low self-ratings of confidence amongst nurses when using the bibliographic databases. A lack of training and inexperience was an issue that was mentioned by eight nurses and was provided as a reason for their low usage rate; the responses pointed towards a lack of skills.

'I would like to learn about the databases I can use to access healthcare information.'

'Most are not user-friendly for the novice like me.'

Eleven percent of nurses stated that a lack of knowledge and skills contributed to difficulties experienced in obtaining information from electronic resources.

'I am embarrassed that I am unable to use a computer.'

'No good on computers.'

Five nurses appeared to lack confidence in their ability to use the interfaces.

'I don't seem to be able to use the correct words in my search for the information I need.'
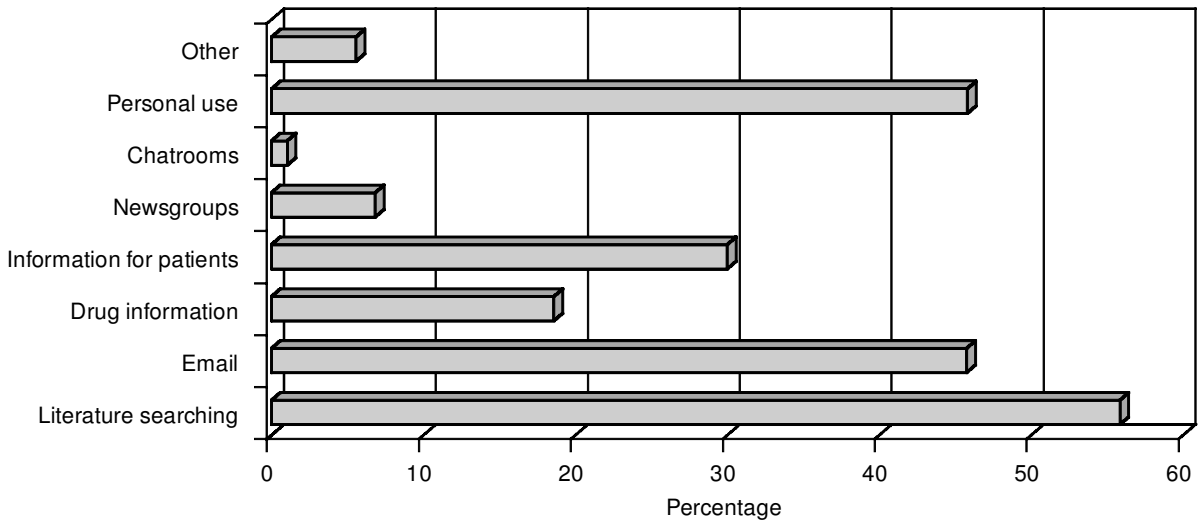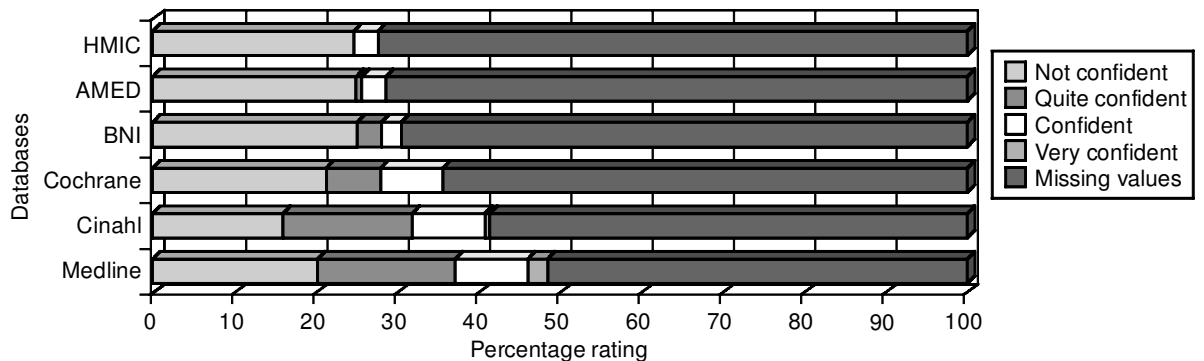

Figure 2 Purpose of Internet use

HMIC – Health Management Information Consortium
AMED – Allied and Alternative Medicine
BNI – British Nursing Index
Cinahl – Cumulative Index to Nursing and Allied Health Literature

Figure 3 Nurses' confidence with bibliographic databases

Areas where training is desired or has been received

Nurses mentioned the lack of training as a contributory factor in obtaining electronic information.

'Because of lack of confidence, training needed and time to put into practice.'

Nearly two-thirds of nurses (64%) grouped time and skill together as barriers that prevented their use of electronic resources.

There was an almost universal desire to make more use of electronic resources: 92% responded to this effect.

Over half (59%) had received training. Figure 4 shows the subject areas in which training was received. It was spread between commonly used applications such as word processing, databases and the Internet. Twelve nurses made comments that the training that had been received did not meet their needs.

'Yes, many years ago but as current training with the trust I believe it should be part of an induction.'

'Yes, totally unsatisfactorily – I have basic skills.'

Discussion

This study reports the poor levels of work access and low levels of basic ICT skills of primary care nurses. Self-reported levels of confidence are low but there is a high level of enthusiasm to learn. Nurses are using home connections for work-related activities, something that has been found in previous research.[7] Research has shown that the community sector is seen to be the most pressed for resources.[8] Nurses stated that they felt 'left out', and are concerned about what they are missing through not having sufficient access to electronic resources. Access to information resources has been shown to improve evidence-based practice.[9] This confirms previous research that nurses have positive attitudes to computer technology where they believe that it is capable of making their work easier.[10] The findings reflect those of a larger survey carried out by the Community Practitioners and Health Visitors Association among community practitioners, where basic IT provision, such as email, personal desktop access to the Internet and NHSnet, was still only available to the privileged few.[11]

The weakness of the present study is that the questionnaire achieved a low response rate. However, so profound are the poor levels of ICT skills that, even if those who lacked ICT skills were the only nurses who responded in this study, it still represents a sizeable proportion of the community nursing workforce of the trust studied. It could equally be argued that those who answered the questionnaire were more likely to be those with ICT skills, as a sizeable proportion of respondents are regularly doing literature searches, and are trained to use Microsoft Access. Further research is needed to understand if the levels of ICT skills found in this sample are replicated nationally. How long it takes for community nurses to acquire the necessary skills also needs to be researched.

Conclusions

If community nurses are to take their full place in the electronic NHS, urgent attention needs to be given to
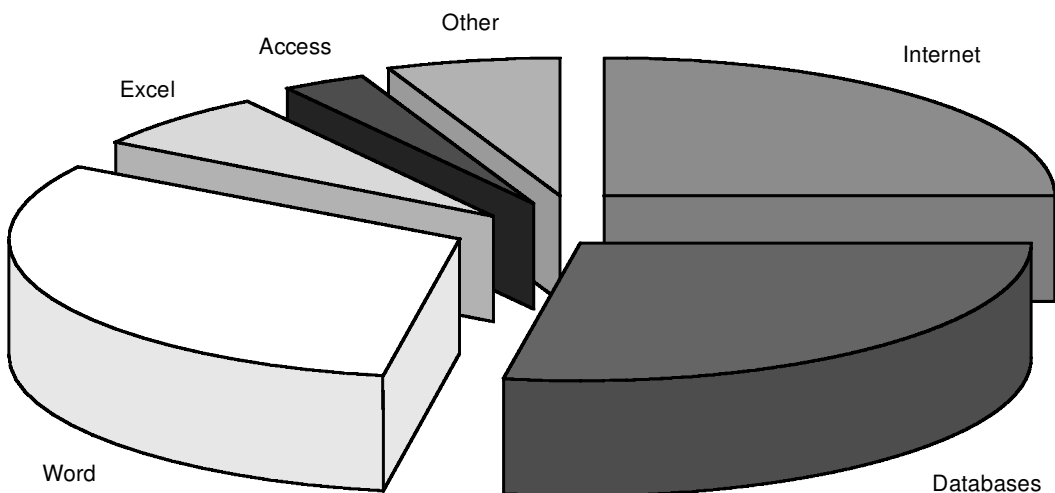

Figure 4 Types of ICT training that community nurses receive

their lack of access to ICT and their low levels of skills. This sample of community nurses has near universal enthusiasm to learn and to embrace what technology can offer them and their patients.

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ADDRESS FOR CORRESPONDENCE

Kate Pritchard
General Practice and Primary Care Informatics
Department of General Practice and Primary Care
Room 6.75, Hunter Wing
St George's Hospital Medical School
London SW17 0RE
UK
Tel: +44 (0)20 8725 0760
Fax: +44 (0)20 8767 7697
Email: kpritcha@sghms.ac.uk
Website: www.gpinformatics.org