Information and communication technologies to support patients with long term conditions

How nurses can develop and implement initiatives using information and communication technologies to support patients with long term conditions

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This one part unit explores how nurses can harness technologies to provide efficient and effective care for patients with long term conditions. It also examines the key issues nurses should consider when developing such a programme and looks at some examples of existing systems.

INTRODUCTION

Information and communication technologies (ICT) allow us to access information and communicate effectively and efficiently (e-Health Europe, 2007). Nurses have an excellent opportunity to contribute to innovation by using them to develop services for patients (NMC, 2009).

Technology is transforming healthcare delivery. Advances in diagnostic technologies enable practitioners to contribute to clinical decision making from a distance. For example, ultrasound scans can be transmitted over telephone lines for specialist opinion. In acute situations, paramedics can call on medical assistance using web technologies, while patients with long term conditions can use SMS text messaging to confirm blood results (Horton, 2008; Shanit et al, 1996).

This article explores how nurses can use ICT to support patients with long term conditions. For example, it considers how telephone and text messaging can be used to complement clinic attendance in providing support for them.

There are 15.4 million people with long term conditions in England (Department of Health, 2009) and their care can be enhanced by using ICT. Davies (2006) showed that technology has made it easy for patients to access high quality, evidence-based information, making them more informed and able to manage their conditions more effectively.

SERVICE AGENDAS

Lord Darzi's NHS Next Stage Review highlighted the need for quality care that is patient centred and more flexible (DH, 2008). This will help patients with busy lifestyles to manage their care.

Using technologies, nurses have the potential to reshape how they work, to provide care tailored to the needs of the increasing numbers of patients with long term conditions. Using a range of ICT will lead to both better quality and increased personalisation of patient care.

The NMC (2009) consultation on core competencies for nurses places skills in managing ICT and information literacy as a core requirement. The DH Modernising Nursing Careers strategy argued that nursing care should be based on evidence and critical thinking and aided by new technology (Centre for the Development of Healthcare Policy and Practice, 2008).

Fisk (2008) suggested that the use of ICT could change power relationships between practitioners and patients. As patients use technologies, they have access to more information. They expect and demand faster responses. Fisk (2008) showed this change in practice is challenging for nurses since they find it more difficult to establish a rapport with patients familiar with using technologies.

However, if the use of alternative forms of communication can be harnessed, this may enable nurses to develop a more patient-centred approach to care. For example, if the use of technologies enables people with long term conditions to take a more active role in setting goals and understanding the choices available to them, this can surely only increase opportunities to optimise health (Barlow, 2006).

LEARNING OBJECTIVES

1. Understand the range of possible uses for ICT in nurse-patient consultations.
2. Know the main factors to consider when developing an ICT innovation for your patient/client group.

COMMUNICATION TECHNOLOGIES

A range of communication technologies is being adapted for use in the NHS. Some are relatively simple to use, others require greater technical skills in terms of design and use.

Telephone services are the most established ICT (Davies, 2006). These are continuing to be developed for use with other technologies and form a key component of the NHS Direct computerised decision support software. They have been merged with other technologies to transport assessment data to aid clinical decision making. This includes the transfer of data such as vital signs and ultrasound readings.

KEY POINTS

When developing ICT support systems for patients with long term conditions, nurses must adopt a considered, evidence-based approach. They must take into account issues such as:
● The patient/client group's needs;
● Their access to ICT resources;
● Skills needed to use the system efficiently and effectively;
● The purpose of the initiative;
● Resources needed to set up and manage it;
● Evaluation of the system or monitoring its effects on health;
● Implications for skill mix;
● Implications for organisational changes in managing workloads and patient contact.

FIG 1. TECHNOLOGIES AVAILABLE
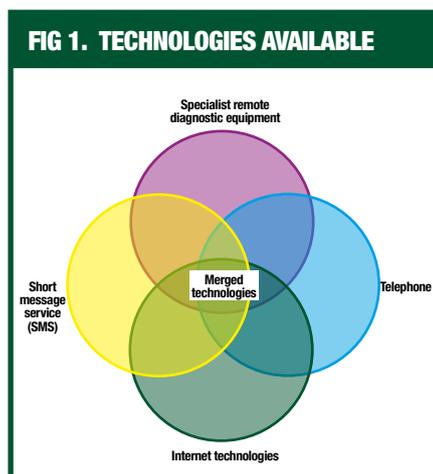
Shanit et al (1996) showed how a remote access cardiac support system could help people with long term heart conditions. They used handheld electrocardiogram monitoring devices equipped with a memory card to transfer data. This data informed the GP's discussion about the patient's condition with a specialist registrar.

Since then, there has been a rapid expansion in more sophisticated computer-assisted technologies. This has brought about further opportunities for changes in nurses' communication strategies.

In a study of computer-assisted assessment, Horton (2008) showed that patients with chronic obstructive pulmonary disease were able to use an electrical sphygmomanometer and thermometer to send data to a base computer. A community nurse was then able to offer telephone advice. Patients who were maintaining their condition felt this was beneficial since it offered them effective contact with a clinical nurse specialist while minimising interaction time.

The UK national chlamydia screening programme is an example of harnessing technologies for advice, diagnostic screening and treatment (www.chlamydiascreening.

nhs.uk). It uses telephone, SMS, online order and email to offer a comprehensive communication strategy.

The Southampton Hand Assessment Procedure (SHAP) illustrates the potential for innovation in ICT, in developing simulated diagnostic assessments (Ford, 2009; www.shap.ecs.soton.ac.uk).

Fig 1 shows the range of technologies while Table 1 (p16) outlines the advantages and disadvantages of ICT in healthcare.

ICT FIT FOR PURPOSE

A wide range of ICTs are available to nurses. Effective and efficient use of these requires a range of skills.

ICT must be fit for purpose (RCN, 2008), so when adapting technologies, nurses need to consider the needs of the target group. For example, in the national chlamydia screening programme, the target group is young people aged 15-24. Since many in this group are likely to be confident in using ICTs the programme has adopted a range of technologies to target them.

However, it is important not to make assumptions, since some young people may not have access to ICT while older people may have sophisticated access and skills.

QUESTIONS TO CONSIDER

When developing ways of working with patients using ICT, nurses need to consider the evidence and the resources they will need. Consideration should include:
● Why is ICT considered an appropriate way to support a particular patient group?
● Have you made a baseline profile of the numbers and types of patients it may suit?
● Does your employer have a strategy to develop patient-focused ICT initiatives?
● Do you have support from management?
● What technologies are available and are they compatible with other health and social care provision?
● Do you have sufficient knowledge of the

types of technologies available?
● Will the client group have access to and skills in using the technologies?
● Are training opportunities available to improve your skills in using ICT?
● Are staff available who can help design and monitor the ICT development?
● What is your timescale for developing a patient-focused support programme?
● How will you test the effectiveness of the programme before rolling it out to patients?
● How will you evaluate the programme?

CONCLUSION

Nurses need to consider engaging with ICT to meet the challenge of contributing to the design of high quality healthcare.

They need to develop flexible and purposeful methods of care management to meet the needs of the increasing numbers of people with long term conditions. This will require them to develop skills in designing and managing communication strategies that optimise use of resources. One way this could be achieved is by engaging with ICT programmes to discover new ways of connecting with patients. ●

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ONLINE CPD

Portfolio Pages contain activities that correspond to the learning objectives in the unit. They are presented in a convenient format for you to print out or work through on screen and can be filed in your professional portfolio as evidence of your learning and professional development.
● For the Portfolio Pages corresponding to this unit, and for other Guided Learning

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practice guided learning

TABLE 1. ADVANTAGES AND DISADVANTAGES OF ICT IN HEALTHCARE

Type of technology	Range of uses	Skills/technology needed	Advantages	Disadvantages
Telephone				
Landline and mobile phone	● Person to person ● Centralised decision system, such as NHS Direct ● Direct contact for appointments ● Basic information ● Telephone counselling	● Good telephone manner ● Reading conversations without visual clues ● Clear, concise approach	● Universal access ● Quick and easy ● In some counselling situations, patients may prefer not to see the nurse ● Confidential ● Can be recorded for training purposes	● Others may have use of a patient's landline or mobile phone, compromising confidentiality ● No written account of conversation
SMS text messaging	● Person to person ● Centralised decision system, such as NHS Direct ● Basic information ● Appointments ● Blood results ● Brief support message	● Mobile phone technology ● Text language	● Quick and easy ● Patients can access at any time ● Patients can refer back to the message ● Record of conversation can be stored	● Some patients may not be able to access and/or use SMS ● Not a formal core mode of communication in healthcare settings
Internet technologies				
Email	● Person to person ● Information alerts ● Basic information ● Appointments ● Blood results ● Support messages ● Links to advice pages	● Keyboard skills ● Use of email ● Text based communication	● Quick and easy ● Patients can access at any time ● Patients can refer back to the message ● Record can be stored ● Can be asynchronous	● Many patients do not have access or skills to use email
Web pages	● Information ● Announcements ● Information source ● Can provide substantive background information ● Can be interactive ● Can be used for self-assessment	● Advanced skills in information management ● Clarity about the purpose and scope of this source of information	● Easily accessible ● Can be found via a search engine	● A lot of information is available – the source needs to be credible ● Information needs to be clear – needs visual clues as well as text ● Navigation between pages needs to be clear ● Employer may not have a web output policy ● Needs technical support
Internet chat rooms	● Support from peer group to other patients with long term conditions	● Skills in locating and/or designing purposeful online discussion groups ● Skills in facilitating online discussion	● Support from peers contributes to acceptance of long term conditions ● Easy to access for many young people	● Comments can be misinterpreted and if not monitored or moderated misinformation can be generated ● Usually peer led with limited professional input
Webcam	● Visual and audio interface	● Access to equipment ● Skills in using visual and sound technologies	● Patents appreciate opportunity for remote consultation	● Some patients may not be able to access and/or use webcam ● Not a formal core mode of communication in healthcare settings ● Some people may feel uncomfortable with their image being on screen
Specialist diagnostic monitoring equipment				
Electronic monitoring system including remote diagnostic equipment	● Monitoring and evaluation of patients' condition ● Information to aid clinical decision making	● Access to equipment ● Skills in using technologies	● Patients can take readings in their own time ● Since they are engaged, patients tend to have better understanding of the reasons for taking readings ● Can be used by technical experts such as paramedics to access remote assistance	● During an acute episode patients may not be able to take their own readings ● Potential for professionals to become over-reliant on technology and forget to interact directly with patients