

## Chapter 6.2

# Current Challenges in Empowering Clinicians to Utilise Technology

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### **ABSTRACT**

This chapter is designed to outline the current situation and challenges to successful deployment of technologies to support clinical activities. It utilises action research and cooperative enquiry within the community of practice. It is grounded in UK experiences but will have international resonance in many key areas. Increasingly members of the public are joining the clinical professions in using health data to maintain and improve health

status of the individual; however this chapter predominantly focuses on catalysts and inhibitors to professional use. The second objective of this chapter is to consider the opportunities presented by emerging technologies, and restrictions to effective deployment such as cultural reluctance, ethical issues and privacy concerns. It is hoped that highlighting the key issues for consideration will reassure clinicians that they are faced with similar informatics challenges to all other in the health domain and that, for all, the benefits of persisting with utilising technology in support of their clinical work are considerable.

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## **INTRODUCTION**

The first information technology / computer (IT) systems were introduced in the 1960s into primary (non-hospital) and hospital environments in the UK for clinically related purposes. Whilst initially there was a tendency for interested clinicians to get computer scientists to write programs for their purposes or to use off-the-shelf core computing applications, it was not long before interested parties started to write their own solutions. It was some time before formal courses in IT for health were established, and indeed there are still occurrences of medical and nursing courses without significant explicit informatics content.

The term ‘clinical’ as used here, does not distinguish between that relating to doctors, the nursing professions and other healthcare practitioners with direct patient care impact. Citizens are also increasingly enabled by technologies to play a role in their own care and lifestyle management; and thus will wish to access information about themselves personally which was previously used solely by clinicians and those that manage the facilities in which they work.

‘Informatics’ relates to the whole spectrum of information technology, application and operating systems, information handling and data quality; and health informatics (HI) applies these in the health domain. Having such a collective term means that job roles and titles are also varied. The recent publication (Equalitec, 2007) adds contextualisation to Health Informatics per se.

## **OPERATIONAL INFORMATICS**

Use of technologies in health is pervasive but not yet ubiquitous (Roberts, 2006). For example administrative (component) solutions which identify which patients are in what bed in a particular ward of a hospital are in use almost everywhere but functionality which facilitates independent living, providing autonomous wireless signal alerts

which indicate vital signs have become critical and alerts a clinician or induces an emergency action are less prevalent (Lymberis, 2004). Within a hospital, similar monitoring become more critical – whether applied to a patient directly or the life support services they need, such as anaesthesia or pain control. In addition, the results of laboratory tests requested by clinicians as part of their day to day practice can now be uploaded directly to the patient’s individual record, with only abnormal results pertinent to the specific patient being drawn to the attention of attending clinicians. The information available, from increasingly comprehensive systems (NHSCFH, 2008), not only contains the detailed clinical interventions and outcomes within an episode of care in hospital or in the community but contains significant aggregated data about the lifelong clinical history of the patient, wherever that care was delivered. Readily available techno-based sources for patient information may result in risks that clinicians under pressure may rely solely on records and ignore clinical signs presented by evaluation of the patient themselves.

The e-Skills UK Sector Skills Council in its workforce survey (e-Skills, 2006) makes a distinction between IT professionals and ‘super-users’, whilst still indicating that overall 220,000 informatics competent individuals will be required in the health domain in the UK within a period of four years – a huge challenge that will not be met by new modular content in academic qualifications or ad hoc short courses alone. Clinicians with informatics competencies will, with notable exceptions, I submit, form part of the super-user community. As a basic medical qualification is typically gained over a five year period (a nursing registration over three) and curricular additions only accepted once every three then much training will have to be gained ‘on the job’. This in itself produces challenges as junior doctors rotate between locations normally twice a year, which may require them to work with different hospital information systems in each

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