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Synopsis

Some Evaluations of Informatics Applications in Health Care

The papers selected for this section address the issues of effectiveness and utility of a selection of informatics applications in health care from diverse perspectives.

Telemedicine and informatics are sometimes regarded as technology looking for a use. When any new device is introduced into an area where resources are scarce it is therefore necessary to prove from the onset that the new techniques are effective as well as cost effective and acceptable by all parties involved in its usage. Much of the usefulness of applications in medical informatics as well as in medicine are often based on 'good feel' on the part of the experts and also of the sales people. In a world where medical devices and materials are big business research is often directed to the sale of medical cures and devices with the profit motive as the main factor. About 90% of research is directed to the treatment of the ailments of the richest 10% of the population. In the area dealing with the application of informatics and telematics we need to prove that the methods used or proposed are cost effective and useful. The papers in this section deal specifically with these issues.

The first paper in this section is a thoughtful presentation by Coiera on the limitations of the computerization of human communication that occurs

in the medical care process. This paper should be of particular interest to those who are concerned about the 'over computerization' of human activity and of the Medical Care Process. The writer points to the evidence for the relation between communication breakdown and morbidity and mortality in the clinical settings thereby emphasizing the need for this process to be efficient. This is therefore an area which requires serious attention by informaticians. The author discusses what he calls the communication space and appeals for a better understanding of the health care communication process in a complex organization such as a health care facility so that better systems can be designed. He also discusses the possible non technical interventions such as the change in the communication process as well as the teaching of cost and benefits of other communication channels. The author points out the need of the Informatician to understand the process of communication and the resources constraints when building an information model for an organization.

The paper by Gray et al. looks for evidence that the internet and telemedicine is 'personal' enough to be amenable and useful for the co-operative care and management of low birth weight babies and their families. The authors believe that their result shows that the emotional and

educational needs of the very low birth weight infants and their families can be met through the telemedicine methods they investigated. The overall length of stay in the care facility of these infants also improved. Whether these methods are applicable in a community with less resource needs to be investigated.

The question posed in the paper by Francis Mair and Pamela Whitten is fundamental to telematics and many experts are of the opinion that satisfaction with telematics care has been proven if not experimentally at least by consensus of expert opinion. The author reviews carefully selected papers from a number of databases and examined patient reported satisfaction with the telematics service. The authors discuss shortcoming of the reported studies and generalisabilities of the studies. They suggest that the evidence of the effectiveness of the teleconsultation is inconclusive. A useful addition to this study would be to follow up reports of successful implementations of systems and telematics applications in order to see if there is a sustained benefit.

The paper by Marcello and others deals with the practical issues of clarity of image transmitted in telepathology, size of files and the means of handling file size by compression. The concern most people have is whether file

compression has an effect of image quality when the file is decompressed for use. The authors approach the problem using the method of the randomized double blind controlled trial which has been proven so successfully in Clinical Research [1]. The evidence produce will assure areas which do not have many resources at their disposal that image quality is not compromised with the more economical forms of file compression.

The paper by Nahm and Poston is another paper which deals with what is fundamental in Medical Informatics application. They investigated the effectiveness of a point of care system on the nursing process and concluded that their data shows that a point of care computer system does improve nursing documentation as measured by compliance to the Joint Commission on Accreditation of Health Care Organisation. An additional value in the paper is the care with which the analysis was done.

References

1. NHS Centre for Reviews and Dissemination. Report number 4. York: York University; 1996.

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