IMPLEMENTATION AND USE OF COMPUTING DEVICES IN HOSPITALS

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Introduction: Clinical work is highly mobile [1]. Clinicians require systems that allow access to information, resources and people where and when work is conducted [2]. Technology has the potential to provide more effective and efficient modes of healthcare delivery [3]. However, the evidence-base to guide the optimal mix of devices in hospitals is extremely limited.

Methods/Procedures: This research aims to: (a) identify factors decision-makers consider when selecting computing devices for implementation on hospital wards; and (b) assess clinicians' usage of various computing devices to determine factors impacting on device use and preference. This will be achieved through a multi-method approach [4]. Interviews will be conducted with key stakeholders who select computing devices or who act as consultants to decision-makers. Observations will be utilized to examine factors influencing clinicians’ use of computing devices and interviews will gauge perceptions on how technology is integrated into clinical workflow.

Results: Interview data will enable understanding of current decision-making processes and factors influencing device selection. Workflow observations will reveal device usage patterns, which will be assessed in terms of which device is used, where, for which task and in what circumstance (e.g. ward rounds). This data will allow a rich description of the relationships between clinical roles, device preference, clinical tasks and effects on work practices.

Discussion/Conclusions: Data arising from this study will assist in establishing recommendations to aid decision-makers by informing selection of the optimal number, type and placement of clinical computing devices to support mobile work practices and efficient healthcare delivery.


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Keywords: mobility; mobile computers; computer hardware; clinicians; multi-method study

ICT-FACILITATED ROLE CHANGE FOR NON-PHYSICIAN CLINICIANS IN THE ED

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Introduction: Evolving in the 1960s in the United States, the roles of Physician Assistants and Nurse Practitioners are relatively new to Australia. In the advent of the state-wide implementation of a compulsory clinical patient information system, research is yet to be undertaken on the influence of such IT on changing and defining the clinical roles and work practices of such non-physician clinicians.

Methods/Procedures: A formative, multi-method 3-year longitudinal study will be conducted in two Emergency Departments. Systematic observations of non-physician clinician work processes will take place to determine current roles and work practices of non-physician clinicians. In-depth interviews with all clinical ED staff will be conducted to assess the role of a clinical patient information system on shaping the work of non-physician clinicians. Quantitative analysis of information from hospital databases will take place to discern the impact of non-physician clinician roles on ED outcomes.

Research was approved by the relevant Area Health Service Human Research Ethics Committee.

Results: The study will address the following key questions:
(1) What is the current role of non-physician clinicians in a highly computerised ED?
(2) What is the impact of non-physician clinicians on ED outcomes?
(3) How do the roles of non-physician clinicians affect staff functioning and departmental dynamics of the ED?
(4) What is the extent to which IT is responsible for shaping the role and work of non-physician clinicians?
(5) What are the implications of non-physician clinician roles for the quality of patient care?

Discussion/Conclusions: Study results will contribute to a more holistic insight into the potential impacts of clinical IT implementation on clinical work culture. In addition, it will identify the underlying mechanisms which determine optimal systems functioning within clinical departments and advise future implementation of information technology in the shift towards full computerisation of the healthcare system.


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Keywords: Emergency services, hospital; hospital information systems; non-physician clinicians; role