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Nurses' Role in Designing and Using eHealth Systems

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Abstract

eHealth systems development to date have had little involvement from nurses. The Australian Government eHealth strategy was developed to implement a Personally Controlled Electronic Health Record as the foundation to an integrated and coordinated eHealth system for the 21st Century. A review of the PCEHR was released on the 19th May 2014 recommending a greater involvement of users in the governance of this major infrastructure project. Nurses will have a seat on the governing Board. There is an opportunity to provide nursing input into the design and development of the system. The Norwegian Nurses Organisation call for the inclusion of the International Classification of Nursing Practice into all eHealth systems.

Keywords: eHealth; Nurses role; International Classification of Nursing Practice

Introduction

Nurses have had a minor role in eHealth systems design and development in Australia till now. The major national investment in eHealth has been through the troubled national Personally Controlled Electronic Health Record (PCEHR) project. But concurrent to this, health consumers and practitioners including nurses have been embracing information technology in their daily lives and in receiving and delivering health care.

eHealth System Development

eHealth has been variously defined; in their framework document van Gemert-Pinjen et al [1] have defined eHealth comprehensively as,eHealth, refers to all kinds of information and communication technology used for supporting health care and promoting a sense of well-being. Within eHealth, a broad spectrum of technologies is used. These technologies include Internet technologies, such as informational websites, interactive health communication applications (ie, e-consultation, online communities, online health decision-support programs, and tailored online health education programs), online health care portals, and electronic health records. It also includes mobile health communication programs, and other advanced technologies such as virtual reality programs (ie serious gaming to stimulate exercise or 3-dimensional applications for the treatment of anxiety disorders), home automation (domotics), sensor technology for independent living and remote monitoring, and robotics, the deployment of robots for assisting people with domestic tasks or to perform surgery (p. e111).

Countries have their own health systems, built through historical and political processes with differing contributions from citizens, employers and governments. The Australian health system is largely government funded, the funding being shared between two tiers of government; the States who have responsibility for hospitals and the Federal government who have responsibility for the primary care sector and pharmaceuticals. This two tier system has led to problems with coordination for projects and processes across the whole country, for the whole of its modern history, summed up by many as a "rail gauge" problem. Referring to an historical freight and passenger rail inefficiency caused by different rail gauges in each State meaning both goods and passengers were required to be unloaded and reloaded at each State border. In 2008 a National eHealth Strategy was released to ensure a coordinated approach was adopted so that the integration of many small systems could occur, resulting in a truly national health information system. The task has been complicated by powerful lobby groups from health, community and information technology sectors. In addition, privacy is a core value in Australia and referenda have been held and defeated in the past to establish an Australia card linking people's government held information. Any eHealth system has the potential to leak private medical information if access is not well controlled; creating robust security protocols for accessing the health information of citizens has been a priority in Australia's digital medical record development. The PCEHR project was commenced with a governing company that was independent of government but had each level of government as members of its Board, NEHTA. Despite a very large investment, in excess, of $AUD 50 million, less than 5% of the population have registered for the PCEHR [2]. Owing to ongoing difficulties with establishing a robust national PCEHR using an opt-in approach that meets the needs of consumers and health practitioners a review was commissioned in 2013. The report was finally released on the 19th of May 2014, claiming poor governance as one of the major factors that has led to the lack of deliverables [3]. Nurses have now been recognised to be important users of any eHealth system and as such, have been recommended to be included as members of the Board of the proposed Australian Commission for Electronic Health, as well as part of the membership of the Clinical and Technical Advisory Committee and the Consumer Advisory Committee.

eHealth Benefits

Better continuity of care across the continuum of care between home, the primary health care sector, the hospital and aged care sectors is one of the benefits proposed by integrated eHealth systems.

Kaiser Permanente report that they believe that their US$ 4Billion investment in eHealth has led to reduced infection rates in their hospitals, reduced death rates from stroke, bone fractures and heart attacks. The magnitude of these reductions is reported to be approximately 40% [4]. Booz and Company [5] categorised the benefits of ehealth for the purposes of developing an investment model. They chose 6 categories that they believed eHealth would lead to better health to build their model. They are

- reduced errors in diagnosis, medication, and treatment without medication.
- enhanced adherence to best practice by providers and better self-management by patients.
- better utilisation of healthcare infrastructure including average stay length and wait times.
- avoidance of duplication of effort e.g. lab tests and imaging.
- optimising use of pharmaceuticals.
- enhanced workforce productivity by greater efficiencies in obtaining patient information, record keeping, administration and referrals (p.8).

The International Council of Nurses Telenursing Fact sheet [6] reports that in home nursing can be replaced by telenursing in 46% of instances and that 18% of all home visits by nurses in the UK use some form of technology.

Nurses Role

Nurses need to inform and engage with the eHealth agenda nationally and internationally, both as users and providers. The Norwegian Nurses Organisation are leading the way with their strategic document "Developing the Nursing Profession: eHealth 2013-2016". They recognise that the benefits to patients from nurses becoming more informed and engaged with eHealth are enormous. They recognise along with others, such as the World Health Organisation in their Innovative Care for Chronic Conditions document that patients are demanding health care that is high quality, participative, gives them more autonomy and access to health information [7]. At the same time the limitations in the current electronic record systems are not purely technical. There is widespread recognition that today's electronic record systems are not generally well designed to support nurses working processes. They recommend that the International Classification for Nursing Practice be integrated into all eHealth system designs [8].

Conclusion

As the population ages and health technologies allow people to stay alive longer, it has become increasingly important for nurses to work with the rest of the health system to improve efficiency through better access to information and better coordination of care and nursing work. Improved self-management across the lifespan, reduced chronic illness, effective health promotions will ensure that people add more to their middle years and that the effects of ageing are delayed. Improved information exchange, reduced waste through duplication of tests and better management of medications and better understanding of patients wishes at end of life will ensure a more efficient and effective health system. Incorporation of nursing work and nursing taxonomies into the eHealth system will ensure that nursing is both recognised and values in the health system of the 21st Century.

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