Health Portals

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INTRODUCTION

A lack of health services has long been the thorn in the side of many communities, especially rural and regional communities. The high costs of treating ever growing chronic and complex conditions in traditional settings, where rural allied health services providers are non-existent and doctors are already overcommitted, are prompting a shift in focus to more efficient technology driven delivery of health services. Moreover, these days it is also increasingly unlikely that health professionals will encounter patients who have not used information technology to influence their health knowledge, health behaviour, perception of symptoms, and illness behaviour.

Advances in Internet technologies offer promise towards the development of an e-health care system. This article will postulate whether portal technologies can play a role facilitating the transition to such e-health care systems.

This article aims at reviewing the literature to present to the reader the barriers and opportunities out here for effective health portals. However, the article does not intend to provide a one-fits-all technical/content solution, only to make implementers and developers aware of the potential implications.

BACKGROUND

Many rural and regional communities lack the range of allied health services that are readily available in metropolitan areas, and many rural doctors who are already overcommitted, provide services that an allied health professional could readily provide (Department of Health and Ageing, 2004). The Australian Institute of Health and Welfare data shows that death and disability from chronic disease is higher in rural and regional communities, including Indigenous people. Coronary heart disease, asthma and diabetes are the biggest killers. Participants in the Regional Australia Summit highlighted chronic disease as a major menace (Department of Health and Ageing, 2004).

This state of affairs is already prompting a change in the health care system to focus more on preventive medicine and health care away from the traditional settings (Yellowlees & Brooks, 1999). According to Yellowlees and Brooks (1999), there are three major drivers for this change:

- The *economic imperative* to restrain health care costs
- *Increasing consumerism*, and the evolution of the "informed patient"
- *Changes in communication technology*, and the evolution of the Internet

PORTALS AND HEALTH

The benefits of Web portals in aggregating information from multiple sources and making that information available to various users is well known; more importantly, they can provide the services of a guide that can help to protect the user from the chaos of the Internet and direct them towards an eventual goal (Tatnall, 2005). More generally, however, a portal should be seen as providing a gateway not just to sites on the Web, but to *all network-accessible resources,* whether involving intranets (within an organisation), extranets (for special partners of an organisation), or the Internet (Tatnall, Burgess, & Singh, 2004). In other words a portal offers centralised access to all relevant content and applications (Tatnall, 2005).

The literature on health portals tells us that the Internet offers a significant amount of health information of varying quality. Health portals, which provide entry points to quality-controlled collections of Web sites, have been hailed as a solution to this problem (Glenton, Paulsen, & Oxman, 2005). However, it has been demonstrated that the information accessible through (government run and funded) health portals is unlikely to be based on systematic reviews and is often unclear, incomplete and misleading. Portals are only as good as the Websites they lead to (Glenton et al., 2005). However, irrelevant information could easily be filtered using a number of frameworks that can be used to evaluate the quality of Web-located health information. For example, Sellito and Burgess (2005) have developed a set of affirmative response evaluation features identified across four quality categories: currency/authority, accuracy, objectivity and privacy. And they are used as the basis for determining

the fundamental quality of Web-located health information (Sellitto & Burgess, 2005).

THE CONSUMER AND HEALTH INFORMATION

Increasingly, consumers are accessing health information via the Web (Thompson & Brailer, 2004). It has been estimated that 6.4 million Australian adults—almost half the adult population—accessed the Internet during 2000 (Gretchen, Berland, Elliott et al., 2001). This is not just an Australian phenomenon. In the United States, 52 million Americans access health or medical information on the Web (Fox & Fallows, 2003).

The existence of health portals has made life easier for the people that need this information. However, the quality of portal interfaces as well as the portal content has many times been in doubt (Bamidis, Kerassidis & Pappas, 2005). Using popular search engines may be aesthetically appealing and easy to use, but they often provide inaccurate information (Sutherland, Wildemuth, Campbell, & Haines, 2005). What is clear however, is that while most consumers still use word-of-mouth as a primary information source for health care decisions, the use of Internet information is increasing (Snipes, Ingram, & Jiang, 2005). In Australia, for example, more Internet users search the Web for information on depression than any other health condition (Lissman & Boehnlein, 2001). This is not surprising given the high level of disability associated with depression in the community and the fact that the Web provides a convenient, anonymous means of obtaining information about the problem (Cain, Sarasohn-Kahn, & Wayne, 2000). However, much of the depression information on the Web is of low quality and originates in the United States (Jadad & Gagliardi, 1998).

SERVICE PROVIDERS AND HEALTH INFORMATION

General Practitioners (GPs)

The gap between what GPs might do (based on evidence-based clinical practice guidelines and what they actually do is wide, variable and growing. Many factors contribute to this situation. GPs are inundated with new, often poorly evidence-based and sometimes conflicting clinical information. This is particularly serious for the generalist, with over 400,000 articles added to the biomedical literature each year. Adding further pressure to the "gap" are workloads that have increased over the past decade: GPs are seeing more patients with acute and complex conditions. Rural practitioners work even longer hours, offer more medical services and perform more clinical procedures than their urban counterparts—thus facing an even greater need for up-to-date information (Davis, Ciurea, Flanagan, & Perrier, 2004).

There are four steps in incorporating research evidence in clinical decision making: *asking* answerable questions; *accessing* the best information; *appraising* the information for validity and relevance; and *applying* the information to patient care (Craig, Irwig, & Stockler, 2001). However, a study in New Zealand suggested that to make this happen, practitioners urgently need training in searching and evaluating information on the Internet and in identifying and applying evidence-based information; as well as (health) portals to provide access to high-quality, evidence-based clinical and patient information along with access to the full text of relevant items (Cullen, 2002). Many sites have been developed to help the search for quality peer-reviewed literature. These include the Cochrane Library and the U.S. National Library of Medicine's PubMed, as well as sites offering full-text access to medical journals, such as Stanford University's HighWire Press and freemedicaljournals.com (Robinson & Day, 2004). GPs can keep up to date with reliable information from readily accessible Web sites such as PubMed and HighWire Press. PubMed is part of the National Library of Medicine in the U.S. It is a useful system for retrieving clinically relevant search results. HighWire Press has a less sophisticated search engine, but is an excellent source for obtaining the full text of journal articles (Robinson & Day, 2004). However, and although increasing, access to these resources by practitioners is still low (Young & Ward, 1999).

Nurses

E-health can deliver health care services and education, via a Web portal, to older persons with chronic conditions and their caregivers and enables the patient's home to be the point of care. This growing industry is ripe for exploration by nurses who can empower the patient and caregiver to gain self-care and coping skills. Advances in information technology now make this dream a reality (Moody, 2005). However, at the American Academy of Nurse Practitioner's Conference, it was identified that information on educational options for acute care nurse practitioner (ACNP) practice was needed (Kleinpell, Perez, & McLaughlin, 2005). Information technology skills of nurse managers and staff need to be developed in order to use information technology effectively. In order to learn in a Web-based environment, everyone needs the opportunity and access to required resources. Additionally, nurse managers' experiences are important to promote wider utilisation of Web-based learning (Korhonen & Lammintakanen, 2005).

Web portals could help nursing staff in a number of ways; for example, health assessment skills are vital to professional nursing practice. Health assessment has traditionally been