

# E-Health and Ensuring Quality

**Prajesh Chhanabhai**

*University of Otago, New Zealand*

**Alec Holt**

*University of Otago, New Zealand*

## INTRODUCTION

The Internet is one of the most utilized resources for obtaining information, learning, communication, and as a source of advice. The most sought after advice and information are related with health matters. In the United States, for example, over 16 million people per year visit WebMD ([http://my.webmd.com/webmd\\_today/home/default](http://my.webmd.com/webmd_today/home/default)), an online portal dedicated to providing health information and services (Sass, 2003). Health information on the Internet has grown exponentially, with up to 88 million adults predicted to access medical information online in 2005 (Ansani et al., 2005). This merging of medical knowledge and information knowledge has given birth to e-health.

Despite the growth and application of information and communications technology (ICT) in health care over the last 15 years, e-health is a relatively new concept, with the term being introduced in the year 2000 (Pagliari et al., 2005). Its use has grown exponentially, and as Pagliari et al. (2005) reported, there are over 320,000 publications addressing e-health listed in MEDLINE alone. However, there is still no clear definition of e-health. There have been two international calls, in 2001 and 2004, for a clear and concise definition of e-health, but both failed to produce an internationally acceptable definition. In the same paper, Pagliari et al. (2005) found 24 different definitions, highlighting the fact that this is a gray area. Hence, without a clear and standardized definition, the opportunities to conduct unethical behavior are made easier.

In this article Eysenbach's (2001) definition will be used, as it provides a comprehensive overview of the term e-health. It has also been used, as Eysenbach is regarded as an expert in the area of e-health and consumer informatics. He has defined e-health as:

*An emerging field in the intersection of medical informatics, public health and business, referring to*

*health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology. (Eysenbach, 2001, p. 1)*

This phenomenon has led to consumers becoming more educated and aware of their health condition. This advice is not only accessed by people who may be suffering from a health condition, but also those who are healthy and want to remain so. E-health is being used as a tool for preventive and predictive treatment, as well as a means of locating others in a similar situation and sharing various experiences. In most developed countries e-health is seen to be the first step that one will take towards healing themselves, and if not avoiding the doctor, it is a useful second opinion.

However, the quality of the information on medical Web sites is highly variable and thus some users are reluctant to utilize the information given on mainstream sites. Through social engineering, some Web sites exploit the public's weakness for trusting information on the Web. There are numerous cases of online financial transactions in which unsuspecting members of the public have lost large amounts of money as they have been victims of exploitation. As with a financial setting, there is a great potential for good use and misuse for health information. With e-health experiencing rapid growth, it is becoming increasingly important to consider the various ethical issues that are involved with this form of health information. Unlike financial transactions, inaccurate and unethical information on health informing Web sites could lead to greater complications and even death (Theodosiou & Green, 2003).

Medicine and those that practice it have always had ethics as a core component of their field. There should be no difference when the more traditional aspects of medicine are modernized and utilized as e-health. All those involved with the running of online health care sites have to realize that they are running a site that could potentially mean the difference between life and death for those who access it. It is imperative that such Web sites follow codes and guidelines to prevent individuals' personal medical information, including patterns of use and interests, from involuntarily entering the hands of unauthorized people.

This article focuses on a number of privacy issues that are associated with e-health. Among these are concerns about determining the quality of technologically mediated care, ensuring and managing privacy, and allowing freedom of choice. It is well known that the Internet has the potential of exposing the public to unregulated volumes of misleading information on health and illness. This article will give a short summary of the various regulatory bodies that have been set up to try and ensure that any health information that is put up on the Internet is accurate and in no manner misleading. The *Codes of Conduct* proposed by the Health on the Net Foundation, *URAC* guidelines, and the *e-Code of Ethics* are examples of some regulatory ventures. It has to be made clear that medicine is a practice in which the interests of the patient are the priority rather than the exception, and with rules and regulations e-health can be as "safe" as going to one's local general practitioner. With the exponential growth of e-health, the need to determine the safety, security, and ethical behavior in relation to the traditional services is of paramount importance.

## **BACKGROUND**

### **The Impact of E-Health**

The Internet is seen as the primary medium for the expansion of e-health (Maddox, 2002). This has already resulted in a shift away from the traditional health care delivery model. Patients need not rely on their health care provider for information, and the development of telemedicine has removed the geographic limits that have always been present in health care. The advent of electronic health records with decision support systems will enable medical records to be stored in

large data warehouses, thus promoting easier disease management. Also the shift in financial and clinical relationships between all parties involved in health care are all a result of the e-health revolution.

The importance of the Internet in the e-health revolution is crucial. The expansion through this medium has produced eight different types of e-health Web sites. According to Sass (2003), these are:

- Internet-based medical education
- medical expert sites for patient management of a complex nature
- general health information sites for laypeople
- specialized medical sites where physicians play an active role
- cyber doctors who give second opinions for tests carried out in the real world
- sites provided by insurers and drug companies informing about various products
- community Web sites where people suffering from similar ailments share experiences and advice
- research Web sites that focus on new treatment techniques and methods

With such a large variety of e-health Web sites, it can be seen why more than 88 million people in America alone utilize the Internet to search for health information (Ansani et al., 2005).

This rapid expansion has led to the development of new challenges that will require a readjustment in current regulatory systems. Two primary concerns that are a direct result of the information explosion are the quality of information and the possibility of misinterpretation and deceit (Fried, Weinreich, Cavalier, & Lester, 2000). Health consumers and health care providers who access the Internet to obtain knowledge and information have to be able to trust the quality of information being presented to them. Also, with the large volume of content available, the chance of manipulating data and putting up incorrect information is a major concern and a real problem (Goldman & Hudson, 2000). It is this element of uncertainty that has proved to be the main barrier for the growth of e-health at an even faster rate (Fried et al., 2000). Apart from the problems with actual content, the major fear concerns the lack of privacy and security (Chhanabhai, 2005).

The fear arises from the inherent nature of the way business is run on the Internet. Currently most online

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