

## Chapter 3.31

# The Impact of Information Technology in Healthcare Privacy

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### ABSTRACT

The increased use of the Internet and latest information technologies such as wireless computing is revolutionizing the healthcare industry by improving services and reducing costs. The advances in technology help to empower individuals to understand and take charge of their healthcare needs. Patients can participate in healthcare processes, such as diagnosis and treatment, through secure electronic communication services. Patients can search healthcare information over the Internet and interact with physicians. The same advances in technology have also heightened privacy awareness. Privacy concerns include healthcare Web sites that do not practice the privacy policies they preach, computer break-ins, insider and hacker attacks, temporary and careless employees, virus attacks, human errors, system design faults, and social engineering. This chapter looks at medical privacy issues and how they are handled in the U.S. and New Zealand. A sample of 20 New Zealand health Web sites was investigated.

### INTRODUCTION

Advances in information technology have increased the efficiency of providing healthcare services to patients. Using Web-based technology, the healthcare team can also include the patient, who must be an informed decision maker and active participant in his or her care. These same advances also improve the features, functions, and capabilities of the electronic medical record systems and potentially increase the number of parties, namely hospitals, insurance companies, marketing agencies, pharmaceutical companies, and employers that may have unauthorized access to private medical information. These systems are justifying themselves in terms of cost and life savings. Accessibility to mobile computing devices in the healthcare industry is also evolving. Wireless computing devices enable physicians, clinicians, and nurses to enter patient data at the point of care (Kimmel & Sensmeier, 2002). Disease management systems provide caregivers with

information on efficacy of drugs and treatments at various stages of a medical condition. Using bar-coding technology together with decision support, systems can ensure that patients can receive the correct medication or treatment.

Healthcare organizations must manage a tremendous amount of information, from clinical test results, to financial data, to patient tracking information. While most healthcare organizations have policies and procedures in place to guarantee at least minimum levels of privacy protection, they are not core features of most technology systems in the healthcare industry. This is true despite the fact that unauthorized disclosure of an individual's private medical information can affect one's career, insurance status, and even reputation in the community. Without adequate privacy protection, individuals must take steps to protect themselves from what they consider harmful and intrusive uses of their health information, often at significant costs to their health.

Healthcare privacy is an increasingly complex legal and operational issue facing the healthcare industry. For example, in the areas of mental health, HIV, pharmaceuticals, and genetic information, issues of privacy and the appropriate use of health information have already shown themselves to be particularly sensitive. The public has also become increasingly conscious of privacy issues, such as protection of electronic medical records, commercial uses of health information, and insurer and employer access to patient-identifiable information. The increasing use of the Internet also brings a corresponding need for privacy awareness. The very nature of electronic records makes them more easily transportable and thus accessible.

Healthcare professionals face many challenges as they seek ways to deliver quality healthcare while maximizing efficiency and effectiveness and at the same time ensuring privacy. A substantial barrier to improving the quality of and access to healthcare is the lack of enforceable privacy rules. Individuals share a great deal of sensitive,

personal information with their doctors. This information is then shared with others, such as insurance companies, pharmacies, researchers, and employers, for many reasons. Yet unlike other personal information, there is very little legal protection for medical records.

This chapter focuses mainly on the impact that information technology has on healthcare privacy and the ways in which privacy can be achieved. We examine this in the context of the situation in the U.S.A. and in New Zealand, which has supposedly the world's strictest privacy legislations in the Privacy Act (1993). Comparisons to other countries are also made where information security technology has been applied in the medical domain.

## **WHAT IS HEALTH INFORMATION?**

The American Health Information Management Association (AHIMA) (The American Health Information Management Association and the Medical Transcription Industry Alliance, 1998) defines health information as:

- Clinical data captured during the process of diagnosis and treatment.
- Epidemiological databases that aggregate data about a population.
- Demographic data used to identify and communicate with and about an individual.
- Financial data derived from the care process or aggregated for an organization or population.
- Research data gathered as a part of care and used for research or gathered for specific research purposes in clinical trials.
- Clinical data and observations taken by trainees in a teaching hospital.
- Reference data that interacts with the care of the individual or with the healthcare delivery systems, like a formula, protocol, care plan, clinical alerts, or reminders.

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