Chapter 7.2
HIPAA:
Privacy and Security in Health Care Networks

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ABSTRACT

This chapter explores privacy and security issues in health care. It describes the difference between privacy and security in the context of health care, identifies sources of concern for individuals who use information technologies for health-related purposes, and presents technology-based solutions for privacy and security in health care networks. The purpose of the chapter is to provide an investigation of the sources of concern for regulations and technologies in the health care industry. The discussion is based on the Health Insurance Portability and Accountability Act (HIPAA) and its eight guiding principles. The chapter explores the implications of legal and regulatory environments driving HIPAA regulations, the need for privacy and security in health care networks, and information technologies used in the health care industry. Related ethical issues, current technologies for providing secure solutions that comply with the regulations, and products emerging in the market are also examined.

INTRODUCTION

Data communication infrastructures are changing how health information and health care is provided and received. People using tools such

as the Internet for health-related purposes — patients, health care professionals, administrators, and researchers, those creating or selling health products and services, and other stakeholders — must join together to create a safe environment and enhance the value of the Internet for meeting health care needs. Because health information, products, and services have the potential to both improve health and do harm, organizations and individuals that provide health information via the Internet have obligations to be trustworthy, provide high quality content, protect users' privacy, and adhere to standards of best practices for services in health care. People using telecommunications infrastructures in health care share a responsibility to help assure the value and integrity of the information by exercising judgment in using health care sites, products, and services. Internet Health Coalition (2000)

The Health Insurance Portability and Accountability Act (HIPAA) has brought about significant changes in the procedures and practices within the health care industry. As newer information technologies are implemented in health care organizations, the challenge becomes to increase network connectivity and enable access to key information without compromising its confidentiality, integrity, or availability. With the advent of HIPAA regulations, health care organizations are required by law to have procedures in place to protect the privacy of patient information. This chapter addresses issues related to privacy and security of patient information in health care networks. It provides a background on HIPAA regulations, drivers for the need for privacy and security in health care organizations, the role of technology-based solutions, and the products available to the industry. The chapter includes a discussion of the ethical issues driving the design and implementation of information in support of HIPAA guidelines. The increased use of information technology in health care promises greater functionality and decreasing costs. While these

factors point towards continued development of more robust applications, careful selection and implementation is necessary to ensure the security and privacy of patient information.

The evolution of networking technologies has enabled businesses to provide enhanced services, greater access to information, and higher levels of availability for both the service providers and the customers. While many industries have easily adopted internetworking technologies, others have been unable to do so because of the inherent complexities of their specific businesses. The health care industry is a prime example. Health care is a document-intensive industry that has faced significant challenges in migrating to the near "paperless" environments that many industries strive to achieve utilizing networking technologies (Cisco Systems, 2002). Furthermore, health care organizations work with highly sensitive data such as patients' personal health information. As such, health care organizations must be keenly aware of the privacy concerns and security risks of converting to electronic infrastructures.

BACKGROUND

Anyone seeking health-related information, products, or services has a right to expect that organizations and individuals who provide such information follow a set of guiding principles. If confidences are not kept, individuals will be less forthcoming with information, which in turn may impact the care they receive. Health information includes information for staying in good physical condition as well as for preventing and managing disease. It may also include information for making decisions about health products and health services and may be in the form of data, text, audio, and/or video. In addition, enhanced health information may be available through programming and interactivity (Internet Health Coalition, 2000). Managing health information in a technological world implies the persistent stor-

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