

Preface

In recent years, healthcare organizations worldwide have undergone major reorganizations and adjustments to meet the demands of improved health service accessibility and quality as well as lowered costs. In addition, the use of information technology to process health data continues to grow, and much of the critical information needed by healthcare administrators, providers and other users is being stored digitally in a variety of formats, often at multiple locations. As a result, an open network architecture to support data access and integration from a multitude of internal and external sources has become essential.

A major trend in healthcare computing involves the use of Web-enabled technologies to address the complex information-processing requirements that are emerging in this transforming industry. Web-enabled technologies refer to information systems that utilize standard Web browser utilities as a front-end to combinations of existing software applications with other information sources. These systems generally reside on an organization's intranet and may be connected to the Internet, providing heterogeneous connectivity for all authorized systems and users.

Web-enabled systems can provide strategic advantages for healthcare organizations. For example, the transparent streamlining of organizational processes with existing transaction processing systems can significantly reduce overhead costs while improving the delivery of health services. Secondly, Web-based interorganizational systems can lead to the establishment of more efficient and effective relationships with affiliated healthcare organizations. Finally, using a standardized Web browser provides a universal user interface for disparate systems and applications that can be accessed globally.

Web-enabled technologies are being integrated with many existing computer-based healthcare applications. Examples of successful implementations include expanded access to computer-based patient records and improved access to large data warehouses. Additionally, Web technologies are being utilized to enhance the effectiveness of telemedicine applications in rural and underdeveloped areas. There are some areas for concern, however, as Web-enabled technologies 'open the door' for greater accessibility of health data. Issues such as information privacy and adherence to information standards are just some of important challenges being faced by many organizations.

This book presents a selection of research and case studies from academics and practitioners around the world that are paving the way for the emergence of Web-enabled healthcare information systems. Their chapters focus on the critical man-

agement decision-making areas that are being realized by both healthcare and computer information systems professionals as these systems evolve. They address many of the current technological, organizational, and ethical concerns associated with the use of Web-enabled technologies to access and integrate health information.

Readers of this book will find that the chapters provide a global perspective of Web technology use in healthcare that is truly multidisciplinary. Research from several bodies of literature, including management information systems, medical informatics, computer science, clinical medicine, and organizational science are represented in this collection of highly informative readings. Together, the contributions provide experiences and insights that are both practical and theoretical in nature.

The book is divided into four general themes. First the issues surrounding Web-based interorganizational communications in healthcare are addressed from multiple perspectives. Transformations in legacy relationships are discussed, as are existing technological challenges and potential benefits for stakeholders. Second, the transition to become a Web-enabled healthcare organization is explored from both a technology-oriented and an organizational viewpoint. Strategies, proposed models, and 'lessons learned' are presented and evaluated. Web-based clinical applications are illustrated in the third section. Proposed system architectures as well as potential implications for researchers and practitioners are explored. In the final section, the Internet and the World Wide Web are considered enablers for empowering health practitioners and their patients. Several examples demonstrate how the Web-based interface to health information is having a profound impact on physicians and patients alike.

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