

**HEALTH CARE INFORMATION SYSTEMS**  
***A Practical Approach for Health Care Management***  
***Second Edition***

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## **Transition Guide**

### **Overview of Changes to the Second Edition**

- Learning objectives and key terms have been added to each chapter. Many of the learning activities at the end of the chapters have been updated to give students an opportunity to explore more fully concepts covered in the chapter.
- Chapter 16 is entirely new. It includes sixteen management-related case studies involving health care IT. All of the cases are based upon real-world experiences but have been fictionalized, and all names of a facilities and individuals involved have been changed. The cases are intended to serve as a supplement to the various chapters and promote discussion among students.
- All references have been updated and new information has been added related to recent trends in health care IT, including activities occurring at the federal level.

### **Chapter-by-Chapter Updates**

#### **Introduction**

Data on the size of the health care IT market has been updated. The sections on complexity of the industry have been shortened.

### **Chapter 1: Introduction to Health Care Information**

Chapter 1 is updated to reflect changes in terminology and the Joint Commission name. A section introducing the National Alliance for Health Information Technology Definitions was added. Examples of the sources for comparative health care data were updated to include the most recent web pages and forms.

### **Chapter 2: Health Care Data Quality**

The changes to Chapter 2 include updated references and perspectives. An expanded discussion of the use of IT to improve data quality was added to the chapter and is illustrated by a new perspective outlining a 2007 GOA data quality report.

### **Chapter 3: Health Care Information Regulations, Laws and Standards**

Changes and updates to reflect the 2008 Joint Commission hospital accreditation standards for the Management of Information are incorporated into Chapter 3. The perspective on health care privacy violations includes several cases that have been reported since the first edition. References to standards and regulations are updated throughout the chapter.

### **Chapter 4: History and Evolution of Health Care Information Systems**

Updates to chapter 4 include a discussion on the activities and events that have occurred at a national level since the first edition in promoting the adoption and use of health care IT. New and expanded topics include the personal health record (PHR), e-prescribing, the Medicare Modernization Act of 2003, pay-for-performance, Regional Health Information Organizations (RHIOs), and Health Information Exchange (HIE).

### **Chapter 5: Current and Emerging Use of Health Care Information Systems**

Chapter 5 has been restructured and entirely updated. The definitions of the electronic medical record (EMR), the electronic health record (HER) and the personal health record (PHR) are provided and the eight functions of an EHR are described. Two charts have been added illustrating the current use and adoption of EMR-type systems in hospitals and physician offices, by size. The chapter includes noteworthy EMR implementations, including perspectives on several of the 2007 Davies Award recipients. The chapter also includes a discussion on the use of the PHR, in addition to computerized provider order entry, bar-coding medication administration, telehealth and telemedicine. A new clinical information schematic has also been added to aid the reader in visualizing the components of an EMR, and the exchange of health information across organizations (e.g. EHR, RHIO, and PHR).

### **Chapter 6: System Acquisition**

A discussion of the systems development life cycle, and its four main phases, has been added to Chapter 6. Describes the concept of contracting with an application service provider (ASP) and the factors to consider in deciding whether to build, buy, or lease. The section on conducting a cost-benefit analysis has been expanded, and an example of one is given.

### **Chapter 7: System Implementation and Support**

The references have updated and more recent examples of system implementations are given, including CPOE implementations. The discussion on the organizational aspects of system implementation and the things that can go wrong has been expanded. Added a section on the

unintended consequences that can occur during a CPOE implementation based upon work by Ash and colleagues (2007).

### **Chapter 8: Technologies that Support Health Care Information Systems**

Chapter 8 was reorganized and includes information about the newest information technologies that are used in health care information systems. The discussion of wireless LANs is expanded and a section of the use of Web 2.0 in health care is added.

### **Chapter 9: Health Care Information Standards**

All of the references in Chapter 9 are updated to reflect the most current sources for health care information standards. New to the chapter is a section describing the Office of National Coordinator for Health Information Technology. This section discusses, among other points, the Healthcare Information Technology Standards Panel, the Nationwide Health Information Network, Health Information Exchanges, and Regional Health Information Organizations.

### **Chapter 10: Security of Health Care Information Systems**

In addition to its detailed discussion of the HIPAA security rule, Chapter 10 is expanded in two sections, Security in a Wireless Environment and Remote Access Security. The CMS recommendations for accessing ePHI remotely are included in a summary table at the end of the chapter.

### **Chapter 11: Organizing Information Technology Services**

A perspective on evaluating the IT function has been replaced with a more recent version.

### **Chapter 12: IT Alignment and Strategic Planning**

Chapter 12 has been updated to include more recent examples of technology, e.g., Web 2.0, and IT survey results.

### **Chapter 13: IT Governance and Management**

No major changes have been made to Chapter 13.

### **Chapter 14: Management's Role in Major IT Initiatives**

In Chapter 14 example project plan documents have been update to reflect more recent dates.

### **Chapter 15: Assessing and Achieving Value in Health Care Information Systems**

Chapter 15 has been updated to incorporate more recent value studies.

### **Chapter 16: Health Care IT Leadership**

This chapter is new. Included are 16 cases of management-related issues involving health care IT. Each case begins with background information that includes a description of the setting, the current information system (IS) challenge facing the organization, and the factors that are felt to have contributed to the current situation. Following each case is a set of recommended discussion questions. To the extent possible, the cases are organized by major theme, such as strategic IS planning, system acquisition, and system implementation. The cases are intended to be used as a supplement by faculty to stimulate thought and discussion among students on the various topics covered in the text.

**Appendix A: Overview of the Health Care IT Industry**

In Appendix A data on the size of the health care IT market, dominant vendors and composition of IT spending have been updated. Industry publications have been updated.

**Appendix B: Sample Project Charter**

Project charter dates have been updated in Appendix B.