



This course supports the assessment for Information Management and the Application of Technology. This course covers 7 competencies and 3 competency units.

Introduction

Overview

Managing information is an essential role of professional nurses in all settings. This course provides a basic overview of information management for the beginning baccalaureate-prepared nurse to start integrating informatics into practice. You will explore the history of informatics and the science behind this discipline, the role of information management in practice settings, and ways that nurses can utilize information management in clinical practice. Nurses must recognize that technology is changing the way information is collected, stored, shared, and secured. Increasingly, nurses are actively participating in the selection, design, and evaluation of information systems. In this course, you will learn how to identify the unique responsibilities of nurses related to the application of technology and the management of patient information, as well as understand the evolving role of nurse informaticists.

Upon completion, you will be able to do the following:

- demonstrate the skills needed to use electronic health records
- identify nurse-sensitive outcomes that lead to quality improvement measures and support the unique contributions of nurses to patient care
- look at workflow changes and process changes related to the implementation of computerized management systems offering electronic health records and online decision support
- develop awareness of emerging information technology and learn to analyze the implications of new technology on security, practice research

Watch the following video for an introduction to this course: Information Management and the Application of Technology

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Outcomes and Evaluation

This course provides guidance to help you demonstrate the following 7 competencies:

- **Competency 744.1.1: Information Management**
The graduate analyzes the role of information management in the delivery of timely, high-quality, patient-centered care.
- **Competency 744.1.2: Leadership in Information Technology**
The graduate analyzes the relationships among nursing initiatives, professional organizations, and leadership as they influence nursing informatics.
- **Competency 744.1.3: Health Information Systems**



The graduate determines appropriate features and functions of health information systems necessary to meet the needs of healthcare delivery.

- **Competency 744.1.4: Electronic Health Record**

The graduate appropriately uses electronic health records to enter, retrieve, and analyze patient data.

- **Competency 744.1.5: Information Security**

The graduate analyzes privacy and security measures designed to protect electronically stored information.

- **Competency 744.1.6: Technology Supporting Quality Improvement**

The graduate analyzes the importance of technology in supporting quality patient outcomes.

- **Competency 744.1.7: Current and Future Technologies**

The graduate analyzes the implications of current and emerging technologies for practice, research, education, and administration.

Nursing Dispositions Statement

Please review the [Statement of Nursing Dispositions](#).

Preparing for Success

The information in this section is provided to detail the resources available for you to use as you complete this course.

Learning Resources

The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

Automatically Enrolled Learning Resources

You will be automatically enrolled at the activity level for the following learning resources. Simply click on the links provided in the activities to access the learning materials.

VitalSource E-Text

The following textbook is available to you as an e-text within this course. You will be directly linked to the specific readings required within the activities that follow.

- Hebda, T. & Czar, P. (2013). *Handbook of informatics for nurses and healthcare professionals* (5th ed.). Upper Saddle River, NJ: Prentice Hall. Print ISBN: 978-0132574952

Pearson CourseConnect

This additional learning resource includes interactive presentation material, self-checks, and analysis that supports the content in this course. Complete the CourseConnect activities as necessary to increase your understanding of concepts presented in the e-text.

You will access the following CourseConnect course at the activity level within this course:



- Nursing Informatics

Other Learning Resources

You will use the following learning resources for this course.

Jones & Bartlett Supplemental Textbook Companion Site

Although not the primary resource for this course, the online content offered by Jones & Bartlett for the *Nursing Informatics and the Foundations of Knowledge* e-text offers additional online learning materials that can be used as review material prior to taking the final exam.

- [Nursing Informatics and the Foundation of Knowledge Companion Site](#)

Nursing Standards

You will be able to access Nursing Professional Standards as they apply to your program through the WGU Library. Please access the documents at the following website:

- [WGU Library Nursing E-Reserves](#)

Topics and Pacing

This course overview suggests a balanced topic and pacing structure for completion of the required learning activities for Information Management and the Application of Technology.

- Information Management
 - Informatics and Information Science
 - Nursing and Informatics
 - Information Management
- Leadership in IT
 - State of the Field
 - Leadership
- Health Information Systems
 - Features and Functions
- Electronic Health Record
 - Introduction to the Electronic Health Record
 - Using an Electronic Health Record
 - Knowledge Check I
- Information Security
 - Privacy, Confidentiality, and Security: Standards and Regulations
 - Hardware and Network Security Measures
- Technology Supporting Quality Improvement
 - Quality Outcomes
 - Decision Support Tools
 - Patient Safety and Care
- Current and Future Technologies
 - Emerging Technologies
 - Knowledge Check II
- Final Steps



- Review for Assessment

Information Management

In the activities that follow, you will engage with the fundamentals of information management.

Informatics and Information Science

In this topic, the student will begin to explore the relationships between foundational concepts in nursing informatics as a nursing specialty and the information systems currently in place within their work environments.

This topic addresses the following competency:

- **Competency 744.1.1: Information Management**

The graduate analyzes the role of information management in the delivery of timely, high-quality, patient-centered care.

This topic highlights the following objectives:

- Differentiate among information science, information processing, and information systems.
- Define nursing informatics.
- Discuss the relationship between the terms data, information, knowledge and wisdom.
- Relate the concept of information literacy to nursing informatics.

Read: Foundations of Nursing Informatics

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 6–8 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)

Complete: Nursing Informatics Foundation

Throughout this course, you will complete lesson from the Pearson CourseConnect course that corresponds with the *Handbook of Informatics for Nurses and Healthcare Professionals* e-text. To access content, click on the link for the lesson and choose the specific topic indicated. Use the arrows near the top of the page to navigate through the content. Read the pages assigned and complete the activities included in those pages.

Access the following lesson in Pearson CourseConnect:

- [Lesson 1: Informatics in Health Care](#)

As you read the lesson, complete the activities on the following pages:

- pages 3–9 of topic 1 ("History of Healthcare Informatics")



Access the following lesson in Pearson CourseConnect:

- [Lesson 2: The Impact of Health Care Informatics on Nursing](#)

As you read the lesson, complete the activities on the following pages:

- pages 3–5 of topic 1 ("The Role of Informatics in Nursing")

Read: Information Literacy Concepts

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 8–9 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)

Complete: Consumer Information Literacy

Access the following lesson in Pearson CourseConnect:

- [Lesson 3: The Role of the Internet in Health Care Informatics](#)

As you read the lesson, complete the activities on the following pages:

- pages 18–24 of topic 3 ("Concerns Pertaining to Health-Related Information on the Internet")
- pages 25–30 topic 4 ("Evaluation of Health-Related Information on the Internet")

Read: Data, Information, Knowledge, and Wisdom

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 2–4 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)

Watch the following video: Understanding the 4 I's

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Nursing and Informatics

In this topic, you will build upon the foundational concepts of information science and how they align with nursing informatics roles.

This topic addresses the following competency:

- **Competency 744.1.1: Information Management**

The graduate analyzes the role of information management in the delivery of timely, high quality, patient-centered care.

This topic highlights the following objectives:



- Recognize the role of nurses as knowledge workers.
- Explain the relationship of information science, computer science, cognitive science, and nursing science within the context of nursing practice.
- Distinguish among the beginning nurse, experienced nurse, informatics nurse specialist, and informatics innovator.
- Identify diverse nursing informatics roles.

Complete: Nursing Roles in Informatics

Access the following lesson in Pearson CourseConnect:

- [Lesson 2: The Impact of Health Care Informatics on Nursing](#)

As you read the lesson, complete the activities on the following pages:

- pages 14–23 of topic 2 ("The Nurse's Role in Informatics")

Read: Nurses as Knowledge Workers

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 4–5 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)

Watch the following video: The Nurse's Role in Informatics

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Read: Relationship of Various Sciences to Nursing Practice

Review the following tables in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- Tables 1-3 on page 6 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)

Read: The Spectrum of Nursing Informatics Expertise

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 12–13 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)

Watch the following video: Nursing Informatics: Professional Roles, Certifications, and Organizations

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Read: Diversity of the Nursing Informatics Role



Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 24–27 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)
- pages 464–465 of [chapter 23 \("Integrating Technology, Informatics, and the Internet Into Nursing Education"\)](#)

Complete: Impact of Nursing Informatics Roles on Patient Outcomes

Access the following lesson in Pearson CourseConnect:

- [Lesson 12: Informatics and Patient Outcomes](#)

As you read the lesson, complete the activities on the following pages:

- pages 1–19 of topic 1 ("Using Informatics to Support Evidence-Based Practice")
- pages 20–32 of topic 2 ("Informatics and Patient Education")
- page 33 ("Summary")

Information Management

Information systems have become commonplace within many nursing environments. In this topic, you will gain exposure to a variety of information systems and the many ways in which they support patient-centered care.

This topic addresses the following competency:

- **Competency 744.1.1: Information Management**
The graduate analyzes the role of information management in the delivery of timely, high-quality, patient-centered care.

This topic highlights the following objectives:

- Differentiate among information system technologies used in the healthcare environment.
- Determine available clinical technologies and how they impact the nursing process.
- Identify the clinical information available to support patient-centered care.
- Determine desired clinical outcomes supported by information systems.
- Analyze potential barriers to patient-centered care created by the use of various technologies.

Read: Information System Exploration

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 114–134 of [chapter 6 \("Healthcare Information Systems"\)](#)
- pages 276–291 of [chapter 14 \("The Electronic Health Record"\)](#)
- pages 325–347 of [chapter 16 \("Personal Health Records"\)](#)

Read: Clinical Outcomes with Technology: Evidence-Based Care



Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 550–557 of [chapter 27 \("Evidence-Based Practice and Research"\)](#)

Complete: Informatics Systems from the Patient Side: the Personal Health Record

Access the following lesson in Pearson CourseConnect:

- [Lesson 7: Personal Health Records](#)

As you read the lesson, complete the activities on the following pages:

- pages 1–14 of topic 1 ("Personal Health Records Development")
- pages 15–22 of topic 2 ("Personal Health Records Implications")
- pages 23–33 topic 3 ("Personal Health Records Concerns")

Leadership in IT

In the activities that follow, you will engage with concepts of IT leadership.

State of the Field

National trends and initiatives have a profound effect on the field of nursing informatics. Nursing and informatics leaders must stay abreast of changes and developments within this field as technology supports patient-centered care. Students will be introduced to these trends and initiatives, exploring their impact on care.

This topic addresses the following competency:

- **Competency 744.1.2: Leadership in Information Technology**
The graduate analyzes the relationships among nursing initiatives, professional organizations, and leadership as they influence nursing informatics.

This topic highlights the following objectives:

- Recognize national trends and initiatives related to informatics.
- Identify standard dataset formats.
- Recognize the principles of standardization of nursing terminology and data.
- Explain the influences of technology on nursing practice.
- Explain the challenges and opportunities in leveraging healthcare technologies.

Read: Informatics Trends

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 11–31 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 367–376 of [chapter 18 \("Health Policy and Health Information Technology"\)](#)



- pages 380–385 of [chapter 19 \("Legislation"\)](#)

Read: Standardized Terminology and Data Sets

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 297–320 of [chapter 15 \("The Role of Standardizing Terminology and Language in Informatics"\)](#)

Watch the following video: System Integration, Interoperability, and Standardized Terminology

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Complete: Technological Impact on Patient Care

Read the following lesson in Pearson CourseConnect:

- [Lesson 2: The Impact of Health Care Informatics on Nursing](#)

As you read the lesson, complete the activities on the following pages:

- pages 7–10 of topic 1 ("The Role of Informatics in Nursing")

Leadership

In this topic, you will explore formal and informal leadership considerations important to the selection and implementation of healthcare technologies.

This topic addresses the following competency:

- **Competency 744.1.2: Leadership in Information Technology**
The graduate analyzes the relationships among nursing initiatives, professional organizations, and leadership as they influence nursing informatics.

This topic highlights the following objectives:

- Recognize the various roles of nurses in selecting and implementing patient information systems.
- Recognize the importance of active participation in the evaluation, selection, and implementation of technologies.
- Recognize obstacles nurses face in assuming a leadership role in technology-based decision making.
- Analyze the influence of technology on interdisciplinary collaboration.

Read: The Role of the Nurse with Patient Information Systems

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:



- pages 153–158 of [chapter 8 \("Selecting a Healthcare Information System"\)](#)

Complete: Implementing Information Systems

Access the following lesson in Pearson CourseConnect:

- [Lesson 5: Implementing Information Systems](#)

As you read the lesson, complete the activities on the following pages:

- pages 10–14 of topic 2 ("Selecting New Informatics Systems")
- pages 24–32 of topic 3 ("Implementing Informatics Systems")

Read: Nursing Obstacles in a Leadership Role with Technologies

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 139–151 of [chapter 7 \("Strategic Planning for Information Technology Projects"\)](#)

Watch the following video: Strategic Planning and Project Management

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Health Information Systems

In the activities that follow, you will engage with the use of health information systems.

Features and Functions

In this topic, you will explore the various types of health information systems, as well as the terminology and common features of these systems. The concept of interdisciplinary collaboration will also be further explored.

This topic addresses the following competency:

- **Competency 744.1.3: Health Information Systems**
The graduate determines appropriate features and functions of health information systems necessary to meet the needs of healthcare delivery.

This topic highlights the following objectives:

- Recognize various types of health information systems.
- Recognize common features of various health information systems.
- Recognize important terms relevant to various healthcare information systems.
- Differentiate among various types of health information systems.
- Determine the importance of collaboration in selecting a health information system.
- Explain how health information systems promote or inhibit collaboration among healthcare teams or patients.



- Analyze the importance of interoperability in terms of knowledge sharing and collaboration.

Define: Informatics Terminology

Click on the link below and navigate to the “Index”:

- [Handbook of Informatics for Nurses and Healthcare Professionals](#)

Using the index, define the following terms and describe how they are used in health information management:

- Computerized Physician Order Entry (CPOE)
- Clinical Decision-Support (CDS)
- Meaningful Use (MU)

The acronyms EMR, EHR, and PHR are often mistaken to mean the same thing. Be sure you are able to define describe, and outline the use of each of the following records:

- Personal Health Record (PHR)
- Electronic Health Record (EHR)
- Electronic Medical Record (EMR)

Review: Introduction to Health Information Systems

Review the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 275–277 of [chapter 14 \("The Electronic Health Record"\)](#)

Define the following terms and describe the differences between them:

- Electronic Health Record (EHR)
- Electronic Medical Record (EMR)

Complete: Introduction to Health Information Systems: System Types, Terminology, and Functions

Access the following lesson in Pearson CourseConnect:

- [Lesson 1: Informatics in Healthcare](#)

As you read the lesson, complete the activities on the following pages:

- pages 10–22 of topic 2 ("Computer and Health Care Information Systems")

Access the following lesson in Pearson CourseConnect:



- [Lesson 4: Information Systems](#)

As you read the lesson, complete the activities on the following pages:

- pages 3–13 of topic 1 ("Clinical Information Systems")
- pages 14–20 of topic 2 ("Administrative Systems")
- pages 21–29 of topic 3 ("Smart Technology")
- pages 30–39 of topic 4 ("User-Friendly Informatics Systems")

Read: Healthcare Information System Terminology

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 170–179 of [chapter 9 \("Improving the Usability of Health Informatics Applications"\)](#)

Read: Healthcare Information Systems and Multidisciplinary Collaboration

Review the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 157–158 of [chapter 8 \("Selecting a Healthcare Information System"\)](#)
- pages 267–271 of [chapter 13 \("System Integration and Interoperability"\)](#)

Electronic Health Record

In the activities that follow, you will engage with electronic health records.

Introduction to the Electronic Health Record

Healthcare legislation has spurred the introduction of electronic health records in a variety of clinical settings. In this topic, you will begin to explore common components, functions, benefits, and challenges of using an electronic health record.

This topic addresses the following competency:

- **Competency 744.1.4: Electronic Health Record**
The graduate appropriately uses electronic health records to enter, retrieve, and analyze patient data.

This topic highlights the following objectives:

- Identify the essential components of an electronic health record.
- Identify the various functions performed within an electronic health record system.
- Distinguish among the various methods for accessing an electronic health record.
- Distinguish between an electronic health record and a health information system.
- Assess the benefits of using an electronic health record system.
- Explain the challenges in developing a universal electronic health record.

Complete: Electronic Health Record Overview



Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 275–293 of [chapter 14 \("The Electronic Health Record"\)](#)

Access the following lesson in Pearson CourseConnect:

- [Lesson 6: Electronic Health Records](#)

As you read the lesson, complete the activities on the following pages:

- pages 3–10 of topic 1 ("Electronic Health Records Development")
- pages 11–18 of topic 2 ("Electronic Health Records Implications")
- pages 19–28 of topic 3 ("Implementing Electronic Health Records")

Read: Challenges to Developing a Universal EHR

Read the following section in the *Handbook of Informatics for Nurse and Healthcare Professionals*.

- "Issues and Concerns" (p. 318-319) of [chapter 15 \("The Role of Standardizing Terminology and Language in Informatics"\)](#)

Using an Electronic Health Record

In this topic, through a laboratory exercise, you will review simulated data entry from an ambulatory electronic health record as an exemplar.

This topic addresses the following competency:

- **Competency 744.1.4: Electronic Health Record**
The graduate appropriately uses electronic health records to enter, retrieve, and analyze patient data.

This topic highlights the following objectives:

- Enter patient data accurately into an electronic health record.
- Interpret appropriate patient data from an electronic health record.
- Recommend appropriate nursing interventions for specific patient data.

Complete Lab 1: Essential Data Contents of an EHR

- Identify the essential components of an Electronic Health Record.
- Identify the various functions performed within an Electronic Health Record System.

Follow the link below to Lab 1:

- [Lab 1: Essential Data Contents of an EHR](#)

Complete Lab 2: EHR Functions



- Enter patient data accurately into an Electronic Health Record.
- Interpret appropriate patient data from an Electronic Health Record.
- Recommend appropriate nursing interventions for specific patient data.

Follow the link below to Lab 2:

- [Lab 2: EHR Functions](#)

Knowledge Check I

The following quiz results do not impact grading in this course. This quiz is optional and serves solely as a review for content covered in the course e-text *Handbook of Informatics for Nurses and Healthcare Professionals*.

- [Knowledge Check I](#)

Information Security

In the activities that follow, you will engage with information security.

Privacy, Confidentiality, and Security: Standards and Regulations

In this topic, you will explore the topics of privacy, confidentiality, and security as they relate to patient information in this highly technological climate.

This topic addresses the following competency:

- **Competency 744.1.5: Information Security**
The graduate analyzes privacy and security measures designed to protect electronically stored information.

This topic highlights the following objectives:

- Identify common security measures used in health settings to protect electronic information.
- Identify the principle provisions of the Health Information Portability and Accountability Act (HIPAA) related to information security.
- Identify the principle provisions of the Health Information Technology for Economic and Clinical Health (HITECH) Act related to information security.
- Explain how the Health Information Technology for Economic and Clinical Health (HITECH) Act enhanced the security provisions of the Health Information Portability and Accountability Act (HIPAA).
- Explain the importance of information security standards for protected health information.
- Analyze the legal and ethical issues related to breaches of security and confidentiality.

Read: Protection of Electronic Information

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:



- pages 232–258 of [chapter 12 \("Information Security and Confidentiality"\)](#)

Read: Information Security Standards

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- page 234 of [chapter 12 \("Information Security and Confidentiality"\)](#)
- page 357 of [chapter 17 \("Health Information Exchanges"\)](#)
- page 382 of [chapter 19 \("Legislation"\)](#)

Complete: Information Security

Access the following lesson in Pearson CourseConnect:

- [Lesson 9: Enhancing the Privacy and Security of Patient Information](#)

As you read the lesson, complete the activities on the following pages:

- pages 3–12 of topic 1 ("Confidentiality within Informatics")

Hardware and Network Security Measures

Advances in technology and increased use of the internet pose additional risks to security of patient health information, hardware, and the networks through which data is stored and shared. In this topic, threats to security will be examined.

This topic addresses the following competency:

- **Competency 744.1.5: Information Security**
The graduate analyzes privacy and security measures designed to protect electronically stored information.

This topic highlights the following objectives:

- Identify the aspects of a secure network.
- Recognize common social engineering security threats.
- Recognize common physical and hardware security threats.
- Recognize common data access security threats.
- Identify the role of policies and regulations related to security.
- Determine appropriate security technologies and policies used to prevent common security threats.
- Analyze the nurse's role in protecting electronically stored information.

Read: Network Security

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 63–64 of [chapter 3 \("Ensuring the Quality and Best Use of Information"\)](#)
- pages 232–241 of [chapter 12 \("Information Security and Confidentiality"\)](#)



Describe important aspects of network security in your healthcare system.



Complete: Physical, Network and Hardware Security

Access the following lesson in Pearson CourseConnect:

- [Lesson 9: Enhancing the Privacy and Security of Patient Information](#)

As you read the lesson, complete the activities on the following pages:

- pages 13–21 of topic 2 ("Protecting Patient Information")
- pages 22–30 of topic 3 ("Mobile Access Concerns")

Technology Supporting Quality Improvement

In the activities that follow, you will examine the relationship between quality improvement and technology.

Quality Outcomes

To meet "Meaningful Use" criteria specified by the American Recovery and Reinvestment Act of 2009, healthcare providers must use technology to collect data with the intent to improve care. This topic will explore the relationship between this technology use and quality patient outcomes.

This topic addresses the following competency:

- **Competency 744.1.6: Technology Supporting Quality Improvement**
The graduate analyzes the importance of technology in supporting quality patient outcomes.

This topic highlights the following objectives:

- Explore the relationship between quality patient outcomes and Meaningful Use.
- Recognize the role of technology as a change agent.
- Analyze the relationship between technologies and patient outcomes.
- Analyze the role of workflow analysis in advancing practice.

Complete: Meeting "Meaningful Use" with Quality Outcomes

Review the following sections in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 281-282 of [chapter 14 \("The Electronic Health Record"\)](#)
- pages 341-342 of [chapter 16 \("Personal Health Records"\)](#)
- pages 401-402 of [chapter 20 \("Regulatory and Reimbursement Issues"\)](#)

Be sure you are able to identify the specific references to quality care.

Complete: Workflow Analysis

Read the following page in *Handbook of informatics for Nurses and Healthcare Professionals*:



- page 216 of [chapter 11 \("Information Systems Training"\)](#)

Complete: Meeting "Meaningful Use" with Quality Outcomes II

Access the following lesson in Pearson CourseConnect:

- [Lesson 10: Information Technology Oversight](#)

As you read the lesson, complete the activities on the following pages:

- pages 17–26 of topic 2 ("Accreditation and Health Care Informatics")

Decision Support Tools

The provision of quality, safe patient care can be enhanced with the use of decision support tools. This topic, you will analyze these tools for their contributions to patient outcomes.

This topic addresses the following competency:

- **Competency 744.1.6: Technology Supporting Quality Improvement**
The graduate analyzes the importance of technology in supporting quality patient outcomes.

This topic highlights the following objectives:

- Identify the characteristics of a decision support tool.
- Recognize the functions of a clinical decision support tool.
- Explain how decision support tools contribute to a safe practice environment for both patients and healthcare providers.
- Analyze decision support tools and system safeguards meant to enhance a safe practice environment.
- Analyze issues surrounding the use of decision support tools.

Read: Important Considerations with Decision Support Tools

Review the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- page 19 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)
- page 130 of [chapter 6 \("Healthcare Information Systems"\)](#)
- page 317 of [chapter 15 \("The Role of Standardizing Terminology and Language in Informatics"\)](#)

Watch the following video: Decision Support Systems

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).



Complete Lab: Clinical Decision Support Systems (CDSS)

In completing lab 3, you will analyze how patient data can be used to facilitate quality improvement.

- [Lab 3: Improving Patient Outcomes with EHRs](#)

In completing lab 4, you will:

- Identify the characteristics of a decision support tool.
- Recognize the functions of a clinical decision support tool.
- Complete Lab: Clinical Decision Support Systems (CDSS)
- Analyze decision support tools and system safeguards meant to enhance a safe practice environment.

Follow the link below to Lab 4:

- [Lab 4: Clinical Decision Support Systems \(CDSS\)](#)

Patient Safety and Care

In this topic, you will discover the role that informatics tools play in the provision of safe patient care.

This topic addresses the following competency:

- **Competency 744.1.6: Technology Supporting Quality Improvement**
The graduate analyzes the importance of technology in supporting quality patient outcomes.

This topic highlights the following objectives:

- Recognize the principles of a culture of safety.
- Identify informatics tools for collecting and analyzing patient data.
- Identify technologies that support the medication administration cycle (e.g., Pyxis, Omnicell, centralized pharmacy).
- Explain how human factors often lead to errors in practice.
- Explain how technology can facilitate a culture of safety.
- Analyze the impact of informatics technology on patient safety.
- Analyze how patient data can be used to facilitate quality improvement.

Read: Culture of Safety

Read the following sections in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 11 and 14–19 of [chapter 1 \("Informatics in the Healthcare Professions"\)](#)
- Box 6-7 ("Smart Technology") on pages 131-134 of [chapter 6 \("Healthcare Information](#)



[Systems"\)](#)

- pages 282–283 of [chapter 14 \("The Electronic Health Record"\)](#)

Read: Patient Data Analysis

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- page 147 of [chapter 7 \("Strategic Planning for Information Technology Projects"\)](#)
- page 556 of [chapter 27 \("Evidence-Based Practice and Research"\)](#)

Complete: The Role of Patient Data in Quality Improvement

Access the following lesson in Pearson CourseConnect:

- [Lesson 1: Informatics in Health Care](#)

As you read the lesson, complete the activities on the following pages:

- pages 24–32 of topic 3 ("Improving Patient Safety with Health Care Informatics")

Current and Future Technologies

In the activities that follow, you will discuss the issues with current and future technologies.

Emerging Technologies

This topic will explore various components of telehealth as an emerging technology.

This topic addresses the following competency:

- **Competency 744.1.7: Current and Future Technologies**
The graduate analyzes the implications of current and emerging technologies for practice, research, education, and administration.

This topic highlights the following objectives:

- Identify the principle characteristics of various types of telehealth.
- Identify ethical and legal issues related to the practice of telehealth.
- Recognize important historical developments in the evolution of telehealth.
- Explain the effect of socioeconomic factors on the use of telehealth.
- Compare the clinical and non-clinical practice of telehealth.
- Determine how telehealth technologies are used to facilitate nursing practice.
- Select appropriate telecommunication technologies to facilitate more effective communication in a given healthcare environment.
- Analyze the potential benefits of telehealth for a specific population.
- Analyze the impacts of telehealth on the delivery of healthcare.
- Analyze the potential impact of emerging technologies on healthcare delivery.

Read: Introduction to Telehealth: History and Characteristics

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:



- pages 507–508 and 509–512 of [chapter 25 \("Telehealth"\)](#)

Read: Telehealth Considerations: Legal Issues and Socioeconomic Considerations

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- pages 514–517 of [chapter 25 \("Telehealth"\)](#)

Read: How Telehealth Benefits Nursing Practice

Read the following pages in the *Handbook of Nursing Informatics for Nurses and Healthcare Professionals*:

- pages 505–506 and 518–526 of [chapter 25 \("Telehealth"\)](#)

Read: The Impact of Technology on Healthcare Delivery

Read the following pages in *Handbook of Informatics for Nurses and Healthcare Professionals*:

- page 58 of [chapter 2 \("Hardware, Software, and the Roles of Support Personnel"\)](#)
- pages 458–459 of [chapter 23 \("Integrating Technology, Informatics, and the Internet Into Nursing Education"\)](#)

Complete: Telehealth Review

Access the following lesson in Pearson CourseConnect:

- [Lesson 8: Telehealth](#)

As you read the lesson, complete the activities on the following pages:

- pages 1–12 of topic 1 ("The Development of Telehealth")
- pages 13–24 of topic 2 ("Telehealth in Nursing Practice")
- pages 25–36 of topic 3 ("Telehealth Concerns")

Knowledge Check II

The following quiz results do not impact grading in this course. This quiz is optional and serves solely as a focused review for content covered in the course e-text *Handbook of Informatics for Nurses and Healthcare Professionals*.

- [Knowledge Check II](#)

Final Steps

Congratulations on completing the activities in this course! This course has prepared you to complete the assessment associated with this course. If you have not already been directed to complete the assessment, schedule and complete your assessment now.

Review for Assessment

In order to review for the final assessment for Information Management and the Application of Technology, you may choose to complete the following supplemental resources prior to taking



the exam. Although the textbook companion site below is linked to a separate resource than the primary textbook used in this course, the chapter resources utilized in this text align to the same concepts and material covered in the course, and can be used as a self-check prior to scheduling the final exam.

- [Nursing Informatics and The Foundation of Knowledge Companion Site](#)