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Health Information Technology

# **Component 3: Terminology in Health Care and Public Health Settings Instructor Manual Version 3.0/Spring 2012**

## Notes to Instructors

This Instructor Manual is a resource for instructors using this component. Each component is broken down into units, which include the following elements:

- Learning objectives
- Suggested student readings, texts, reference links to supplement the narrated PowerPoint slides
- Lectures (voiceover PowerPoint in Flash format); PowerPoint slides (Microsoft PowerPoint format), lecture transcripts (Microsoft Word format); and audio files (MP3 format) for each lecture
- Self-assessment questions reflecting Unit Objectives with answer keys and/or expected outcomes
- Application Activities (e.g., discussion questions, assignments, projects) with instructor guidelines, answer keys and/or expected outcomes

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## **Disclaimer**

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*Likewise, the above also applies to the Curriculum Development Centers (including Columbia University, Duke University, Johns Hopkins University, Oregon Health & Science University, University of Alabama at Birmingham, and their affiliated entities).*

## **Component Overview**

This component explains specific terminology used by workers in health care and public health. This is NOT a course in data representation or standards.

## **Component Objectives**

At the completion of this component, the student will be able to:

- Define, understand and correctly pronounce medical terms related to each of the major body systems.
- Define commonly used terms in public health, nursing, health information technology, and clinical vocabularies & terminologies related to the implementation of electronic health records.
- Identify the purpose and uses of pertinent health care terminologies in the electronic health record.
- Demonstrate the ability to integrate and use health care terminology in the various health information technology roles.

## **Component Authors**

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## Author Biography

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Jacqueline Moss, PhD, RN, is an Associate Professor and Chair of the Adult/Acute Health, Chronic Care and Foundations Department in the School of Nursing at the University of Alabama at Birmingham. She is a Scientist, Center for Outcomes Effectiveness Research and Education (Steering Committee, Health Informatics Unit) and Scientist, Center for Aging, University of Alabama at Birmingham. Dr. Moss has experience in teaching and researching topics in the area of standardizing nursing documentation for outcome assessment and has been twice awarded the Harriet H. Werley award for her work from the American Medical Informatics Association (AMIA). She is a member of the Clinical Care

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Midge Ray, RN, MSN, CCS, is an Associate Professor in Health Information Management Program and a scientist in the Center for Outcomes and Effectiveness Research and Education (COERE) and a member of the UAB Center for Education and Research on Therapeutics (CERTs) of Musculoskeletal Diseases at the University of Alabama at Birmingham. She has Master's degrees in both nursing and education. She currently teaches in health informatics, health information management and healthcare systems. Course responsibilities include development of the electronic health record and clinical information. As investigator, her research has included using technology in outcomes and health behavior change in primary care practices. She has been a co-author on two different manuscripts that received the Distinguished Paper Award from American Medical Informatics Association and has published with her colleagues in numerous journals including *Journal of American Medical Informatics Association*, *Journal of Health Psychology*, *Journal of Pharmacotherapy*, and *Journal of General Internal Medicine*.

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Dan L. Murphy, is an Instructional Design Manager in the School of Nursing. He has a BS in Corporate Training and Development and a prior Associate of Applied Science Degree (Instructor of Technology). He is currently studying for a Masters in Education in Instructional Technology. He has prior experience as a Technical Training Instructor and Technical Training Evaluator for the US Air Force. He has developed a Virtual Patient Simulator for which he has a patent pending. He currently provides instructional design support for a number of externally funded projects including “Distance-Based Education for International Study Coordinators”, “A Culturally Competent Online NNP Program”, “Psychiatric NP program for the Rural Deep South”, “Leadership Education in Child-Health Nursing (LECHN)”, “Culturally Competent Alabama Clinical Nurse Leaders Program”, and a “Distance Learning Culturally Competent ANP/GNP Program for rural and underserved populations.”

Michelle Robinson DMD, MA, is Associate Professor in General Dental Sciences and Associate Dean for Health Information and Business Systems at the UAB School of Dentistry. Her dental career has included private practice, teaching, consulting, outreach programs, and working with online learning and computer and communications technologies. In her current role, Dr. Robinson is completing her third clinical systems implementation and online curriculum for a professional school. Dr. Robinson is a graduate of the University of Medicine and Dentistry of New Jersey and has a master's degree in medical informatics from Columbia University. She also has several certifications, including Special Patient Care, IT Project Management, and Online Education. Among several honors and awards, Dr. Robinson is the recipient of the 2002 "Most Promising Health Professional" award from the International Women of Color in Health, Science and Technology, and the 2007 Faculty Award for research from the National Dental Association.

Susan P. Bagwell, MA, received her Masters degree in Education from The University of Alabama at Birmingham in 2009. She is an alumna of the UAB Urban Teacher Enhancement Program. She has over six years of teaching experience and served as administrator and teacher at a summer learning program for urban school children.

Shannon Houser, PhD, MPH, RHIA, is an Associate Professor in the Department of Health Services Administration, School of Health Professions of the University of Alabama at Birmingham (UAB). Dr. Houser serves as a member of the American Health Information Management Association (AHIMA)'s Education Strategy Committee and Research Committee; and the Healthcare Information and Management Systems Society (HIMSS)'s Electronic Health Record Usability Taskforce. She has served on the editorial review board and is currently a reviewer of the *Perspectives in Health Information Management* journal, and associate editor of the *International Journal of Privacy and Health Information Management*. Dr. Houser develops courses and teaches in the undergraduate and graduate Health Information Management Programs for both the traditional classroom courses and online/distance learning courses.

## **Component 3/Unit 1**

### **Unit Title**

#### **Understanding Medical Words**

### **Unit Description**

This unit describes the meanings of medical words.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Discuss the four parts of medical terms.
2. Recognize word roots and combining forms.
3. Identify the most common prefixes and suffixes.
4. Describe the anatomical positions.
5. Define the body planes.
6. Identify regions of the body.
7. Define directional and positional terms.
8. Build, divide, spell and pronounce common medical words.

### **Unit Topics**

- 1a.1 Understanding medical words
- 1a.2 Parts of a medical term
- 1a.3 Word and combining forms
- 1a.4 Common prefixes and suffixes
- 1a.5 Singular and plural endings
- 1a.6 Abbreviations
- 1b.1 Body structure
- 1b.2 Anatomical positions
- 1b.3 Body planes
- 1b.4 Regions of the body
- 1b.5 Directional and positional terms

### **Lecture Titles**

- 1a Word Roots
- 1b Prefixes and Suffixes
- 1c Body Organization

### **Unit References**

(All links accessible as of 1/1/2014.)

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\*Indicates this link is no longer functional.

### **Lecture 1a**

1. Understanding medical words: a tutorial from the National Library of Medicine. [Internet]. 2011 Nov 28. Available from: <http://www.nlm.nih.gov/medlineplus/medicalwords/>

### **Lecture 1a Charts, Tables, Figures and Images**

None.

### **Lecture 1b**

1. Understanding medical words: a tutorial from the National Library of Medicine [Internet]. 2011 Nov 27. Available from: <http://www.nlm.nih.gov/medlineplus/medicalwords/>

### **Lecture 1b Charts, Tables, Figures and Images**

None.

### **Lecture 1c**

1. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. 6/27/2010 <http://training.seer.cancer.gov/anatomy/body/>
2. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. 6/27/2010 <http://training.seer.cancer.gov/anatomy/body/terminology.html>
3. For additional information on content covered in this unit, please visit: <http://www.nlm.nih.gov/medlineplus/medicalwords/>

### **Lecture 1c Charts, Tables, and Figures**

None.

### **Lecture 1c Images**

Slide 12: Available From: [http://en.wikiversity.org/wiki/File:Anatomical\\_Directions.png](http://en.wikiversity.org/wiki/File:Anatomical_Directions.png)

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

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\*Indicates this link is no longer functional.

## **Student Application Activities**

comp3\_unit1\_activity.doc  
comp3\_unit1\_activity\_key.doc  
comp3\_unit1\_self\_assess.doc  
comp3\_unit1\_self\_assess\_key.doc  
comp3\_unit1\_additional\_materials.doc

## **Additional Materials**

1. Rules for plurals (table 1)
2. Word Roots Table (table 2)
3. Body Quadrants (table 3)
4. Abdominopelvic Regions (table 4)
5. Prefix Table (table 5)
6. Suffix Table (table 6)
7. Directional Terms (table 7)
8. Understanding Medical Words: A Tutorial from the National Library of Medicine. This is a tutorial from the National Library of Medicine that teaches about medical words. Available from: <http://www.nlm.nih.gov/medlineplus/medicalwords.html> Students will learn about how to put together parts of medical words. Students will also find quizzes to see what they have learned.

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\*Indicates this link is no longer functional.



## **Component 3/Unit 2**

### **Unit Title**

### **Integumentary System**

### **Unit Description**

This unit describes the integumentary system.

### **Unit Objectives**

#### **By the end of this unit the student will be able to:**

1. Define, understand and correctly pronounce medical terms related to the Integumentary System.
2. Describe common diseases and conditions with an overview of various treatments related to the Integumentary System.

### **Unit Topics**

- 2.1 Integumentary System Overview
- 2.2 Organs of the Integumentary System
- 2.3 Function
- 2.4 Skin
- 2.5 Accessory Organs
- 2.6 Integumentary Combining Forms
- 2.7 Integumentary System Disorders/Diseases
- 2.8 Burns
- 2.9 Skin Cancer
- 2.10 Wounds
- 2.11 Common Hair problems
- 2.12 Nail Problems

### **Lecture Titles**

2 Integumentary System

### **Unit References**

(All links accessible as of 1/1/2014.)

### **Lecture 2**

1. MedlinePlus [Internet]. Skin, hair and nails. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/skinhairandnails.html>

### **Lecture 2 Charts, Tables, and Figures**

None.

\*Indicates this link is no longer functional.

## Lecture 2 Images

Slide 3: Available From: <http://www.nlm.nih.gov/medlineplus/skinhairandnails.html>

Slide 5: Don Blis, illustrator. Available From: [http://commons.wikimedia.org/wiki/File:Anatomy\\_The\\_Skin\\_-\\_NCI\\_Visuals\\_Online.jpg](http://commons.wikimedia.org/wiki/File:Anatomy_The_Skin_-_NCI_Visuals_Online.jpg)

Slide 7: Available From: <http://en.wikipedia.org/wiki/File:Sunburn.jpg>

Slide 8: Available From: [http://en.wikipedia.org/wiki/File:Second\\_Degree\\_Burn\\_on\\_Shoulder.jpg](http://en.wikipedia.org/wiki/File:Second_Degree_Burn_on_Shoulder.jpg)

Slide 9: Craig0927. Available From: <http://en.wikipedia.org/wiki/File:8-day-old-3rd-degree-burn.jpg>

Slide 8, 9: Available From: [http://www.cancer.gov/PublishedContent/Images/images/documents/42ec158c-ba4d-4bfd-a152-26987644af0a/symptom5.jpg\\*](http://www.cancer.gov/PublishedContent/Images/images/documents/42ec158c-ba4d-4bfd-a152-26987644af0a/symptom5.jpg*)

Slide 8, 9: Available From: <http://www.cancer.gov/PublishedContent/Images/images/documents/42ec158c-ba4d-4bfd-a152-26987644af0a/symptoms-top.jpg>

## Unit Required Readings

None.

## Unit Suggested Readings

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

## Student Application Activities

comp3\_unit2\_activity.doc  
comp3\_unit2\_activity\_key.doc  
comp3\_unit2\_self\_assess.doc  
comp3\_unit2\_self\_assess\_key.doc

## Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These are in Quick Time format. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Components of the skin
  - Feeling pain
  - Sun's effect on skin
  - Sweating

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## **Component 3/Unit 3**

### **Unit Title**

### **Musculoskeletal System**

### **Unit Description**

This unit describes the musculoskeletal system.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Musculoskeletal System.
2. Describe common diseases and conditions, with an overview of various treatments related to the Musculoskeletal System.

### **Unit Topics**

- 3.1 Musculoskeletal system overview
- 3.2 Muscular components
- 3.3 Skeletal components
- 3.4 Functions
- 3.5 Bones
- 3.6 Joint
- 3.7 Muscles
- 3.8 Muscle disorders
- 3.9 Myopathy
- 3.10 Myositis
- 3.11 Muscular dystrophy
- 3.12 Muscular system combining forms
- 3.13 Skeletal system
- 3.14 Spinal column
- 3.15 Upper extremity
- 3.16 Lower extremity
- 3.17 Skeletal disorders
- 3.18 Fractures
- 3.19 Arthritis
- 3.20 Osteoporosis
- 3.21 Skeletal system combining forms

### **Lecture Titles**

### **3 Musculoskeletal System**

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\*Indicates this link is no longer functional.

## Unit References

(All links accessible as of 1/1/2014. \*Indicates link is no longer functional.)

### Lecture 3

1. MedlinePlus [Internet]. Bones, joints and muscles. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/bonesjointsandmuscles.html>\*

### Lecture 3 Charts, Tables, and Figures

None.

### Lecture 3 Images

Slide 3: Available from: <http://www.nlm.nih.gov/medlineplus/bonesjointsandmuscles.html>

Slide 4: Available from: [http://commons.wikimedia.org/wiki/File:Muscles\\_anterior.png](http://commons.wikimedia.org/wiki/File:Muscles_anterior.png)

Slide 12, 13, 14: Author: LadyofHats. Available from: [http://commons.wikimedia.org/wiki/File:Human\\_skeleton\\_front\\_en.svg](http://commons.wikimedia.org/wiki/File:Human_skeleton_front_en.svg)

### Unit Required Readings

None.

### Unit Suggested Readings

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

### Student Application Activities

comp3\_unit3\_activity.doc  
comp3\_unit3\_activity\_key.doc  
comp3\_unit3\_self\_assess.doc  
comp3\_unit3\_self\_assess\_key.doc

### Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These are in Quick Time format. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Herniated nucleus pulposus (slipped disk)

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\*Indicates this link is no longer functional.

- Osteoarthritis
  - Osteoporosis
  - Parkinson's disease
  - Shoulder joint dislocation
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>
- Lumbar Fusion
  - Carpal Tunnel syndrome
  - Herniated Disk
  - Hip Replacement
  - Arthroscopic Surgery
  - Knee replacement
  - Scoliosis
  - Shoulder Injuries and Disorders
  - Spinal Diseases
  - Spinal Stenosis

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\*Indicates this link is no longer functional.

## **Component 3/Unit 4**

### **Unit Title**

#### **Blood, Lymphatic and Immune System**

### **Unit Description**

This unit describes the blood, lymphatic and immune systems.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Blood, Lymphatic and Immune Systems.
2. Describe common diseases and conditions with an overview of various treatments related to the Blood, Lymphatic and Immune Systems.

### **Unit Topics**

- 4.1 Blood Overview
- 4.2 Function
- 4.3 Blood Components
- 4.4 Blood cells
- 4.5 Plasma
- 4.6 Common Blood disorders/conditions
- 4.7 Iron deficiency Anemia
- 4.8 Sickle Cell Anemia
- 4.9 Blood Combining Forms
- 4.10 The Lymphatic and Immune Systems
- 4.11 Primary organs
- 4.12 Lymph nodes
- 4.13 Lymphatic vessels
- 4.14 Thymus gland
- 4.15 Tonsils
- 4.16 Functions
- 4.17 Immunity
- 4.18 Types
- 4.19 Natural Immunity
- 4.20 Passive Acquired immunity
- 4.21 Active Acquired immunity
- 4.22 Common Lymphatic and Immune disorders/conditions
- 4.23 Lymphedema

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\*Indicates this link is no longer functional.

- 4.24 Tonsillitis
- 4.25 AIDS
- 4.26 Lymphatic & Immune Combining Forms

### **Lecture Titles**

4 Blood, Lymphatic, and Immune Systems

### **Unit References**

(All links accessible as of 1/1/2014.)

### **Lecture 4**

1. MedlinePlus [Internet]. Blood, heart and circulation. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/bloodheartandcirculation.html>
2. MedlinePlus [Internet]. Immune system. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/immunesystem.html>
3. MedlinePlus [Internet]. Medical dictionary. Bethesda (MD): National Library of Medicine (US); [updated 2010 Jul 11]. Available from: <http://www.nlm.nih.gov/medlineplus/mplusdictionary.html>

### **Lecture 4 Charts, Tables, and Figures**

None.

### **Lecture 4 Images**

Slide 5: Bruce Wetzel & Harry Schaefer (photographers) Available from:

[http://commons.wikimedia.org/wiki/File:SEM\\_blood\\_cells.jpg](http://commons.wikimedia.org/wiki/File:SEM_blood_cells.jpg)

Slide 14: Available from: <http://www.nlm.nih.gov/medlineplus/immunesystem.html>

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

### **Student Application Activities**

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\*Indicates this link is no longer functional.

comp3\_unit4\_activity\_key.doc  
comp3\_unit4\_self\_assess.doc  
comp3\_unit4\_self\_assess\_key.doc

### **Additional Materials**

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These are in Quick Time format. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Blood clotting
  - Blood flow
  - Immune response
  - Lymph nodes
  - Lymphatics and the breast
  - Phagocytosis
  - Red blood cell production
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>
  - Tonsils/Tonsillectomy

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\*Indicates this link is no longer functional.



## **Component 3/Unit 5**

### **Unit Title**

### **Cardiovascular System**

### **Unit Description**

This unit describes the cardiovascular system.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Cardiovascular System.
2. Describe common diseases and conditions with an overview of various treatments related to the Cardiovascular System.

### **Unit Topics**

- 5.1 Cardiovascular System Overview
- 5.2 Function
- 5.3 Primary Organs
- 5.4 Heart
- 5.5 Atria
- 5.6 Ventricle
- 5.7 Septum
- 5.8 Blood Vessels
- 5.9 Common diseases/conditions
- 5.10 Atherosclerosis
- 5.11 Stroke
- 5.12 Hypertension
- 5.13 Myocardial Infarction
- 5.14 Cardiovascular Combining Forms

### **Lecture Titles**

5 Cardiovascular System

### **Unit References**

(All links accessible as of 1/1/2014.)

### **Lecture 5**

1. Classification and structure of blood vessels. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute [Internet]. [cited 2010 Jun 27]. Available

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\*Indicates this link is no longer functional.

from: <http://training.seer.cancer.gov/anatomy/cardiovascular/blood/classification.html>

2. Introduction to the cardiovascular system. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute [Internet]. [cited 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/cardiovascular>
3. MedlinePlus [Internet]. Blood, heart and circulation. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/bloodheartandcirculation.html>
4. Structure of the heart. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute [Internet]. [cited 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/cardiovascular/heart/structure.html>

### **Lecture 5 Charts, Tables, and Figures**

None.

### **Lecture 5 Images**

Slide 4: Available from: [http://en.wikipedia.org/wiki/File:Circulatory\\_System\\_en.svg](http://en.wikipedia.org/wiki/File:Circulatory_System_en.svg)

Slide 5: Patrick J. Lynch, medical illustrator; C. Carl Jaffe, MD, cardiologist. Available from: [http://en.wikipedia.org/wiki/File:Heart\\_oblique\\_external.jpg](http://en.wikipedia.org/wiki/File:Heart_oblique_external.jpg)

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

### **Student Application Activities**

comp3\_unit5\_activity.doc  
comp3\_unit5\_activity\_key.doc  
comp3\_unit5\_self\_assess.doc  
comp3\_unit5\_self\_assess\_key.doc

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\*Indicates this link is no longer functional.

## Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Arrhythmias
  - Atherosclerosis
  - Blood pressure
  - Cardiac conduction system
  - Cardiomyopathy
  - Cardiovascular system
  - Coronary artery disease
  - Directional coronary atherectomy (DCA)
  - Heart bypass surgery
  - Heartbeat
  - Hypertension—overview
  - Percutaneous transluminal coronary angioplasty (PTCA)
  - Stroke
  - Stroke –secondary to cardiogenic embolism
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>

### Cardiovascular System

- Aortic Aneurysm
- Arrhythmia
- Atrial Fibrillation
- Carotid Artery Disease
- Congenital Heart Defects
- Coronary Artery Bypass Surgery
- Coronary Artery Disease
- Heart Diseases
- Heart Failure
- Heart Valve Diseases
- Heart Transplantation
- Mitral Valve Prolapse
- Pacemakers and Implantable Defibrillators
- Peripheral Arterial Disease
- Stroke

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\*Indicates this link is no longer functional.

## **Component 3/Unit 6**

### **Unit Title**

### **Digestive System**

### **Unit Description**

This unit describes the digestive system.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Digestive System.
2. Describe common diseases and conditions with an overview of various treatments related to the Digestive System.

### **Unit Topics**

- 6.1 Digestive system overview
- 6.2 Function
- 6.3 Primary organs
- 6.4 Accessory organs
- 6.5 Primary organs
- 6.6 Oral cavity
- 6.7 Pharynx
- 6.8 Esophagus
- 6.9 Stomach
- 6.10 Small intestine
- 6.11 Colon
- 6.12 Rectum and anus
- 6.13 Accessory organs
- 6.14 Salivary glands
- 6.15 Liver
- 6.16 Gallbladder
- 6.17 Pancreas
- 6.18 Common diseases/conditions
- 6.19 Peptic ulcer
- 6.20 Cholelithiasis
- 6.21 Crohn's disease
- 6.22 Digestive system combining forms

### **Lecture Titles**

#### **6 Digestive System**

\*Indicates this link is no longer functional.

## Unit References

(All links accessible as of 1/1/2014)

### Lecture 6

1. Digestive anatomy. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. [Updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/digestive/>
2. Digestive regions. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. [Updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/digestive/regions>
3. Gallbladder. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. [Updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/digestive/regions/gallbladder.html>
4. Intestine. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. [Updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/digestive/regions/intestine.html>
5. Liver. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. [Updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/digestive/regions/accessory.html#liver>
6. MedlinePlus [Internet]. Digestive system. Bethesda (MD): National Library of Medicine (US): [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/digestivesystem.html>
7. Salivary. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute. [Updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/digestive/regions/accessory.html#salivary>

### Lecture 6 Charts, Tables, and Figures

None.

### Lecture 6 Images

Slide 4, 5: Available from: <http://www.nlm.nih.gov/medlineplus/digestivesystem.html>

Slide 8, 9, 11, 13, 14, 15: Available from: <http://training.seer.cancer.gov/anatomy/digestive/regions/intestine.html>

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\*Indicates this link is no longer functional.

## Unit Required Readings

None.

## Unit Suggested Readings

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

## Student Application Activities

comp3\_unit6\_activity.doc  
comp3\_unit6\_activity\_key.doc  
comp3\_unit6\_self\_assess.doc  
comp3\_unit6\_self\_assess\_key.doc

## Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Heartburn
  - Peristalsis
  - Stomach ulcer
  - Swallowing
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>
  - Digestive System
  - Anal and Rectal Diseases
  - Bile Duct Diseases
  - Colonic Diseases
  - Colonic Polyps
  - Colorectal Cancer
  - Crohn's Disease
  - Fistulas
  - Gallstones
  - GERD
  - Hernia
  - Hiatal Hernia

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- Pancreatic Cancer
- Pancreatic Diseases
- Weight Loss Surgery

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\*Indicates this link is no longer functional.

## Component 3/Unit 7

### Unit Title Endocrine System

#### Unit Description

This unit describes the endocrine system.

#### Unit Objectives

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Endocrine System.
2. Describe common diseases and conditions with an overview of various treatments related to the Endocrine System.

#### Unit Topics

- 7a.1 Overview of the Endocrine System
- 7a.2 Hormones
- 7a.3 Disorders
- 7a.4 Identification of the location of the endocrine glands
- 7a.5 Adrenal Glands
- 7a.6 Pancreas
- 7b.1 Pituitary Gland
- 7b.2 Pineal Gland
- 7b.3 Thyroid Gland
- 7b.4 Reproductive Organs
- 7b.5 Thymus Gland

#### Lecture Titles

- 7a Overview of the Endocrine System, Adrenal Glands, and Pancreas
- 7b Other Organs in the Endocrine System

#### Unit References

(All links accessible as of 1/1/2014)

#### Lecture 7a

1. Endocrine glands. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute; [updated 2010 Jul 27]. Available from: <http://training.seer.cancer.gov/anatomy/endocrine/glands>
2. MedlinePlus [Internet]. Endocrine system. Bethesda (MD): National

\*Indicates this link is no longer functional.



Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/endocrinesystem.html>

3. Pancreas. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute; [updated 2010 Jul 27]. Available from: <http://training.seer.cancer.gov/anatomy/endocrine/glands/pancreas.html>

### **Lecture 7a Charts, Tables, and Figures**

None.

### **Lecture 7a Images**

Slide 5: Available from: [http://commons.wikimedia.org/wiki/File:Illu\\_endocrine\\_system.jpg](http://commons.wikimedia.org/wiki/File:Illu_endocrine_system.jpg)

Slide 8: Available from: [http://commons.wikimedia.org/wiki/File:Illu\\_adrenal\\_gland.jpg](http://commons.wikimedia.org/wiki/File:Illu_adrenal_gland.jpg)

Slide 11: Available from: <http://commons.wikimedia.org/wiki/File:Duodenumandpancreas.jpg>

### **Lecture 7b**

1. Endocrine system. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute; [updated 2010 Jun 27]. Available from: <http://www.nlm.nih.gov/medlineplus/endocrinesystem.html>
2. MedlinePlus [Internet]. Endocrine system. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jun 27]. Available from: <http://www.nlm.nih.gov/medlineplus/endocrinesystem.html>
3. Pituitary. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute; [updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/endocrine/glands/pituitary.html>
4. Thyroid. SEER Training Modules, Anatomy & Physiology. U.S. National Institutes of Health, National Cancer Institute; [updated 2010 Jun 27]. Available from: <http://training.seer.cancer.gov/anatomy/endocrine/glands/thyroid.html>

### **Lecture 7b Charts, Tables, and Figures**

None.

### **Lecture 7b Images**

Slide 2, 9: Images are generated by Life Science Databases (LSDB). CC-BY-SA-2. -jp Available from: <http://commons.wikimedia.org/wiki/>

\*Indicates this link is no longer functional.

[File:Pituitary\\_gland\\_image.png](#)

Slide 11, 12: Available from: [http://commons.wikimedia.org/wiki/File:Illu\\_thyroid\\_parathyroid.jpg](http://commons.wikimedia.org/wiki/File:Illu_thyroid_parathyroid.jpg)

Slide 16: Available from: [http://commons.wikimedia.org/wiki/File:Ovary\\_nih.jpg](http://commons.wikimedia.org/wiki/File:Ovary_nih.jpg)

Slide 19: Available from: <http://commons.wikimedia.org/wiki/File:Gray1148.png>

Slide 21: Available from: <http://commons.wikimedia.org/wiki/File:Thymus.png>

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

### **Student Application Activities**

comp3\_unit7\_activity.doc  
comp3\_unit7\_activity\_key.doc  
comp3\_unit7\_self\_assess.doc  
comp3\_unit7\_self\_assess\_key.doc

### **Additional Materials**

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Diabetes – retinal conditions
  - Endocrine glands
  - Pituitary gland
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in Flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>

Endocrine System

  - Minimally Invasive Endoscopic Pituitary Surgery
  - Partial Nephrectomy
  - Advances in Parotidectomy and Thyroidectomy Surgery\

\*Indicates this link is no longer functional.

## **Component 3/Unit 8**

### **Unit Title**

**Ears, Nose, Throat, Eye and Vision**

### **Unit Description**

This unit describes the ears, nose, throat, eyes and vision.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Ears, Nose and Throat and Eyes and Vision.
2. Describe common diseases and conditions with an overview of various treatments related to the Ears, Nose and Throat and Eyes and Vision.

### **Unit Topics**

- 8a.1 Overview of the Ear Anatomy
- 8a.2 Hearing Loss and Deafness
- 8a.3 Ear Disorders and Diseases
- 8a.4 Overview of the Nose and Throat Anatomy
- 8a.5 Nasal Cavity Disorders
- 8a.6 Allergies
- 8a.7 Common Cold
- 8a.8 Hay Fever
- 8a.9 Deviated Septum
- 8a.10 Nasal Polyps
- 8a.11 Nosebleed
- 8a.12 Rhinitis
- 8a.13 Sinusitis
- 8a.14 Nasal Cancer
- 8a.15 Paranasal Sinuses
- 8a.16 Throat Disorders
- 8a.17 Cough
- 8a.18 Diphtheria
- 8a.19 Streptococcal Infections
- 8a.20 Head and Neck Cancers
- 8b.1 Overview of the Eye Anatomy
- 8b.2 Eye Disorders and Diseases
- 8b.3 Cataract

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\*Indicates this link is no longer functional.

- 8b.4 Color Blindness
- 8b.5 Diabetic Retinopathy
- 8b.6 Glaucoma
- 8b.7 Eye Infections
- 8b.8 Conjunctivitis
- 8b.9 Styne
- 8b.10 Macular Degeneration
- 8b.11 Refractive Errors
- 8b.12 Myopia
- 8b.13 Hyperopia
- 8b.14 Presbyopia
- 8b.15 Astigmatism
- 8b.16 Eye Cancers
- 8b.17 Melanoma
- 8b.18 Lymphoma

### **Lecture Titles**

8a Ears, Nose, and Throat

8b Eyes and Vision

Unit References

(All links accessible as of 1/1/2014)

### **Lecture 8a**

1. MedlinePlus [Internet]. Ear, nose and throat. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/earnoseandthroat.html>

### **Lecture 8a Charts, Tables, and Figures**

None.

### **Lecture 8a Images**

**Slide 3, 5: Available from:** <http://commons.wikimedia.org/wiki/File:Ear-anatomy-text-small-en.png>

### **Lecture 8b**

1. MedlinePlus [Internet]. Eyes and vision. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/eyesandvision.html>

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\*Indicates this link is no longer functional.

## Lecture 8b Charts, Tables, and Figures

None.

## Lecture 8b Images

Slides 3, 4: Available from: <http://www.thirdeyehealth.com/images/eye-anatomy-line.gif>\*

Slide 3: Available from: <http://commons.wikimedia.org/wiki/File:Meninges-en.svg>

## Unit Required Readings

None.

## Unit Suggested Readings

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

## Student Application Activities

comp3\_unit8\_activity.doc  
comp3\_unit8\_activity\_key.doc  
comp3\_unit8\_self\_assess.doc  
comp3\_unit8\_self\_assess\_key.doc

## Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Cataract
  - Corneal injury
  - Macular degeneration
  - Retina
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in Flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>
  - Ears, Nose & Throat and Eyes
  - Acoustic Neuroma Procedure
  - Bone Anchored Hearing Treatment Procedure
  - Diabetic Vitrectomy Surgery

\*Indicates this link is no longer functional.

## **Component 3/Unit 9**

### **Unit Title**

### **Nervous System**

### **Unit Description**

This unit describes the nervous system.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Nervous System.
2. Describe common diseases and conditions with an overview of various treatments related to the Nervous System.

### **Unit Topics**

- 9.1 Overview of the Anatomy of the Nervous System
- 9.2 Central Nervous System
- 9.3 Brain
- 9.4 Spinal Cord
- 9.5 Cerebrospinal fluid
- 9.6 Cerebrum
- 9.7 Hypothalamus
- 9.8 Cerebellum
- 9.9 Peripheral Nervous System
- 9.10 Cranial Nerves
- 9.11 Spinal Nerves
- 9.12 Brain Disorders and Diseases
- 9.13 Alzheimer's Disease
- 9.14 Brain Aneurysm
- 9.15 Brain Cancer
- 9.16 Epilepsy
- 9.17 Parkinson's Disease
- 9.18 Stroke
- 9.19 Ischemic
- 9.20 Hemorrhagic
- 9.21 Spinal Cord Disorders and Disease
- 9.22 Arteriovenous Malformation
- 9.23 Meningitis
- 9.24 Multiple Sclerosis

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\*Indicates this link is no longer functional.

- 9.25 Nerve Disorders and Diseases
- 9.26 Bell's Palsy
- 9.27 Carpal Tunnel Syndrome
- 9.28 Peripheral Nerve Disorders
- 9.29 Neurofibromatosis

### **Lecture Titles**

9 Nervous System

### **Unit References**

(All links accessible as of 1/1/2014)

### **Lecture 9**

1. MedlinePlus [Internet]. Brain and nerves. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/brainandnerves.html>

### **Lecture 9 Charts, Tables, and Figures**

None.

### **Lecture 9 Images**

Slide 4, 5: Available from: [http://commons.wikimedia.org/wiki/File:Brain\\_\(PSF\).jpg](http://commons.wikimedia.org/wiki/File:Brain_(PSF).jpg)

Slide 6: Licensed under the Creative Commons Attribution 2.5 Available from: [http://commons.wikimedia.org/wiki/File:Brain\\_human\\_normal\\_inferior\\_view\\_with\\_labels\\_en.svg](http://commons.wikimedia.org/wiki/File:Brain_human_normal_inferior_view_with_labels_en.svg)

Slide 8: Available from: <http://en.wikipedia.org/wiki/File:Gray838.png>

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

### **Student Application Activities**

comp3\_unit9\_activity.doc

comp3\_unit9\_activity\_key.doc

comp3\_unit9\_self\_assess.doc

comp3\_unit9\_self\_assess\_key.doc

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\*Indicates this link is no longer functional.

## Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Brain components
  - Nerve Conduction
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in Flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>

### Nervous System

- Vagus Nerve Stimulation (VNS Therapy)
- Minimally Invasive-Endoscopic Intraventricular Neurosurgery

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\*Indicates this link is no longer functional.



## Component 3/Unit 10

### Unit Title Reproductive System

#### Unit Description

This unit describes the reproductive systems.

#### Unit Objectives

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Female Reproductive System and Male Reproductive System.
2. Describe common diseases and conditions with an overview of various treatments related to the Female Reproductive System and Male Reproductive System.

#### Unit Topics

- 10a.1 Overview of the female reproductive system anatomy
- 10a.2 Breast
- 10a.3 Ovary
- 10a.4 Fallopian tube
- 10a.5 Uterus
- 10a.6 Cervix
- 10a.7 Vagina
- 10a.8 Breast disorders and diseases
- 10a.9 Fibrocystic breast
- 10a.10 Cysts
- 10a.11 Fibroadenomas
- 10a.12 Intraductal papillomas
- 10a.13 Breast Cancer
- 10a.14 Cervical disorders and disease
- 10a.15 Cervicitis
- 10a.16 Cervical incompetence
- 10a.17 Cervical polyps and cysts
- 10a.18 Human papillomavirus (HPV)
- 10a.19 Gonorrhea
- 10a.20 Trichomoniasis
- 10a.21 Ovarian disorders and diseases
- 10a.22 Pelvic inflammatory disease
- 10a.23 Uterine disorders and diseases

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- 10a.24 Dysfunctional uterine bleeding
- 10a.25 Endometriosis
- 10a.26 Uterine fibroids
- 10a.27 Adenomyosis
- 10a.28 Vaginal disorders and diseases
- 10a.29 Vaginal cancer
- 10b.1 Overview of the male reproductive system anatomy
- 10b.2 Testes
- 10b.3 Scrotum
- 10b.4 Excretory ducts
- 10b.5 Seminal vesicles
- 10b.6 Prostate gland
- 10b.7 Penis
- 10b.8 Disorders and diseases of the penis
- 10b.9 Balanitis
- 10b.10 Erectile dysfunction
- 10b.11 Infections
- 10b.12 Chlamydia
- 10b.13 Genital warts
- 10b.14 Gonorrhea
- 10b.15 Disorders and diseases of the prostate
- 10b.16 Prostatitis
- 10b.17 Benign prostatic hypertrophy (BPH)
- 10b.18 Prostate cancer
- 10b.19 Disorders and diseases of the testicles
- 10b.20 Testicular disorders
- 10b.21 Testicular cancer

### **Lecture Titles**

- 10a Female Reproductive System
- 10b Male Reproductive System

### **Unit References**

(All links accessible as of 1/1/2014)

#### **Lecture 10a**

1. MedlinePlus [Internet]. Female reproductive system. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/femalereproductivesystem.html>

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\*Indicates this link is no longer functional.

## Lecture 10a Charts, Tables, and Figures

None.

## Lecture 10a Images

Slide 3, 4: CC BY-SA. Available from: [http://en.wikibooks.org/wiki/File:Female\\_reproductive\\_system\\_lateral.png](http://en.wikibooks.org/wiki/File:Female_reproductive_system_lateral.png)

Slide 6, 7: Available from: [http://en.labs.wikimedia.org/wiki/File:Illu\\_breast\\_anatomy.jpg](http://en.labs.wikimedia.org/wiki/File:Illu_breast_anatomy.jpg)

## Lecture 10b

MedlinePlus [Internet]. Male reproductive system. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/malereproductivesystem.html>

## Lecture 10b Charts, Tables, and Figures

None.

## Lecture 10b Images

Slide 3, 4: CC BY-SA Available from: [http://en.wikibooks.org/wiki/File:Male\\_anatomy.png](http://en.wikibooks.org/wiki/File:Male_anatomy.png)

## Unit Required Readings

None.

## Unit Suggested Readings

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

## Student Application Activities

comp3\_unit10\_activity.doc  
comp3\_unit10\_activity\_key.doc  
comp3\_unit10\_self\_assess.doc  
comp3\_unit10\_self\_assess\_key.doc

## Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Cesarean section

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- Lymphatics and the breast
  - Enlarged prostate gland
  - Vasectomy
2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in Flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>
- Robot-Assisted Laparoscopic Prostatectomy
  - Breast Cancer Treatment
  - Varicocele Surgery
  - Robot-Assisted Gynecologic Oncology Surgery

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\*Indicates this link is no longer functional.

## **Component 3/Unit 11**

### **Unit Title**

### **Respiratory System**

### **Unit Description**

This unit describes the respiratory system.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Respiratory System.
2. Describe common diseases and conditions with an overview of various treatments related to the Respiratory System.

### **Unit Topics**

- 11.1 Overview of the Anatomy of the Respiratory System
- 11.2 Upper Respiratory Tract
- 11.3 Lower Respiratory Tract
- 11.4 Diseases and Disorders of the Bronchus
- 11.5 Asthma
- 11.6 Bronchitis
- 11.7 Diseases and Disorders of the Pharynx
- 11.8 Tonsillitis
- 11.9 Pharyngitis
- 11.10 Head and Neck Cancer
- 11.11 Diseases and Disorders of the Lung
- 11.12 Cystic Fibrosis
- 11.13 Lung Transplantation
- 11.14 Pneumonia
- 11.15 Pulmonary Embolism
- 11.16 Pulmonary Hypertension

### **Lecture Titles**

11 Respiratory System

### **Unit References**

(All links accessible as of 1/1/2014)

### **Lecture 11**

1. MedlinePlus [Internet]. Lungs and breathing. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available

\*Indicates this link is no longer functional.

from: <http://www.nlm.nih.gov/medlineplus/lungsandbreathing.html>

### **Lecture 11 Charts, Tables, and Figures**

None.

### **Lecture 11 Images**

Slide 3: Available from: [http://en.wikipedia.org/wiki/File:Illu\\_bronchi\\_lungs.jpg](http://en.wikipedia.org/wiki/File:Illu_bronchi_lungs.jpg)

Slide 4: Available from: [http://en.wikipedia.org/wiki/File:Illu\\_bronchi\\_lungs.jpg](http://en.wikipedia.org/wiki/File:Illu_bronchi_lungs.jpg)

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

### **Student Application Activities**

comp3\_unit11\_activity.doc

comp3\_unit11\_activity\_key.doc

comp3\_unit11\_self\_assess.doc

comp3\_unit11\_self\_assess\_key.doc

### **Additional Materials**

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>

- Allergies
- Breathing

2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in Flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>

Respiratory System

- Minimally Invasive Treatment for Lung Cancer
- Video Assisted Thoracic Surgery (VATS) Lobectomy and Lymphadenectomy for Lung Cancer
- Video Assisted Thoracoscopy Lung Resection

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## **.Component 3/Unit 12**

### **Unit Title**

#### **Urinary System**

### **Unit Description**

This unit describes the urinary system.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define, understand and correctly pronounce medical terms related to the Urinary System.
2. Describe common diseases and conditions with an overview of various treatments related to the Urinary System.

### **Unit Topics**

- 12.1 Overview of the Anatomy of the Urinary System
- 12.2 Kidneys
- 12.3 Ureters
- 12.4 Urinary Bladder
- 12.5 Urethra
- 12.6 Diseases and Disorders of the Urinary System
- 12.7 Bladder Diseases
- 12.8 Cystitis
- 12.9 Urinary Tract Infection
- 12.10 Interstitial Cystitis
- 12.11 Diagnostic Tests
- 12.12 Urine Tests
- 12.13 X-rays
- 12.14 Cystoscopy
- 12.15 Bladder Cancer
- 12.16 Diseases and Disorders of the Kidney
- 12.17 Nephrolithiasis
- 12.18 Diabetic Nephropathy
- 12.19 Kidney Failure Treatments
- 12.20 Hemodialysis
- 12.21 Peritoneal Dialysis
- 12.22 Kidney Transplantation
- 12.23 Wilms' Tumor
- 12.24 Renal Cancer

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\*Indicates this link is no longer functional.

## Lecture Titles

12 Urinary System

## Unit References

(All links accessible as of 1/1/2014)

### Lecture 12

1. MedlinePlus [Internet]. Kidneys and urinary system. Bethesda (MD): National Library of Medicine (US); [updated 2011 Jul 27]. Available from: <http://www.nlm.nih.gov/medlineplus/kidneysandurinarysystem.html>

### Lecture 12 Charts, Tables, and Figures

None.

### Lecture 12 Images

Slide 3: 2 & CC BY & CC BY-SA. Available from: [http://commons.wikimedia.org/wiki/File:Urinary\\_tract\\_en.png](http://commons.wikimedia.org/wiki/File:Urinary_tract_en.png)

### Unit Required Readings

None.

### Unit Suggested Readings

1. A Medical Terminology Textbook from any publisher
2. A Medical Dictionary from any publisher
3. See links in Additional Materials for MedlinePlus

### Student Application Activities

comp3\_unit12\_activity.doc  
comp3\_unit12\_activity\_key.doc  
comp3\_unit12\_self\_assess.doc  
comp3\_unit12\_self\_assess\_key.doc

### Additional Materials

1. Anatomy videos. These animated videos show the anatomy of body parts and organ systems and how diseases and conditions affect them. These videos are in Quick Time. Available from: <http://www.nlm.nih.gov/medlineplus/anatomyvideos.html>
  - Bladder function – neurological control
  - Kidney Stones

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\*Indicates this link is no longer functional.



2. Surgical Procedure videos. These are prerecorded webcasts of surgical procedures from actual operations performed at medical centers in the United States since 2004. The videos last an hour and are in Flash format. Available from: <http://www.nlm.nih.gov/medlineplus/surgeryvideos.html>

#### Urinary System

- Living Donor Kidney Transplant Surgery
- Innovative Incontinence Surgery: The Male Sling

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## **Component 3/Unit 13**

### **Unit Title**

#### **Public Health and Healthcare System Terminology**

### **Unit Description**

This unit describes public health.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define frequently used public health terms.
2. Identify distinguishing features of public health.
3. Identify categories and factors that influence health.
4. Identify terms commonly used as measures of health status.
5. Define frequently used healthcare systems terms.
6. Identify and define types of patients in various healthcare settings.
7. Identify and define the healthcare professions.

### **Unit Topics**

- 13a.1 What is Public Health?
- 13a.2 Public Health Definitions
- 13a.3 Public Health Terms
- 13a.4 Features of Public Health
- 13a.5 Defining Health
- 13a.6 Factors that influence Health
- 13a.7 Measurement of Health Status
- 13b.1 Healthcare System Terms
- 13b.2 Healthcare Services
- 13b.3 Healthcare Professionals
- 13b.4 Healthcare Services Terms

### **Lecture Titles**

- 13a Public Health Terminology
- 13b Healthcare System Terminology

### **Unit References**

(All links accessible as of 1/1/2014.)

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\*Indicates this link is no longer functional.

## Lecture 13a

1. CDC, Births and natality. Centers for Disease Control and Prevention. Available from: <http://www.cdc.gov/nchs/fastats/births.htm>
2. CDC, Deaths and mortality. Centers for Disease Control and Prevention. [Internet]. [updated 2012 Jan 27]. Available from: <http://www.cdc.gov/nchs/fastats/deaths.htm>
3. CDC, Glossary of Epidemiology Terms. Public Health Foundation. 2006. Available from: <http://www.cdc.gov/excite/library/glossary.htm>\*
4. CDC, Heart disease. Centers for Disease Control and Prevention[Internet]. [Updated 2010 Dec 21]. Available from: <http://www.cdc.gov/heartdisease/facts.htm>
5. CDC, Mortality data. Centers for Disease Control and Prevention [Internet]. [Updated 2010 Dec 21]. Available from: <http://www.cdc.gov/nchs/deaths.htm>
6. CDC, West Nile virus. Division of vector-borne diseases. Centers for Disease Control and Prevention. [Internet]. [updated 2010 Dec 21]. Available from: [http://www.cdc.gov/ncidod/dvbid/westnile/surv&controlCaseCount09\\_detailed.htm](http://www.cdc.gov/ncidod/dvbid/westnile/surv&controlCaseCount09_detailed.htm)
7. Communicable Disease Control. Encyclopedia of Public Health. Ed. Lester Breslow. Vol. 1. Gale Cengage, 2002. Available from: <http://www.enotes.com/communicable-disease-control-reference/>\*
8. International Comparisons of Health Care. The Health Care System. [Internet]. 2009. Available from: <http://www.encyclopedia.com/doc/1G2-1839000013.html>
9. IOM, Future of public health. Institute of Medicine. [Internet]. [1998]. Available from: <http://www.iom.edu/Reports/1988/The-Future-of-Public-Health.aspx>
10. Healthy people 2010: understanding and improving health. US Department of Health and Human Services. [Internet]. 2000. Available from: <http://www.healthypeople.gov>
11. Public health functions project [Internet]. [Updated 2000 Nov 28]. Available from: <http://www.health.gov/phfunctions/public.htm>
12. Sutton P, Hamilton BE. Recent trends in births and fertility rates through June 2010. Center for Disease Control and Prevention [updated 2010 Dec 21]. Available from: [http://www.cdc.gov/nchs/data/hestat/births\\_fertility\\_2010/births\\_fertility\\_2010.pdf](http://www.cdc.gov/nchs/data/hestat/births_fertility_2010/births_fertility_2010.pdf)
13. Turnock BJ. Essentials of public health. Boston: Jones & Bartlett Learning; 2007.

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\*Indicates this link is no longer functional.

14. World Health Organization. Health promotion glossary. Geneva (Switzerland): WHO; 1998. 36 p. Available from: [http://www.who.int/hpr/NPH/docs/hp\\_glossary\\_en.pdf](http://www.who.int/hpr/NPH/docs/hp_glossary_en.pdf)\*

### **Lecture 13a Charts, Tables, and Figures**

None.

### **Lecture 13a Images**

Slide 6, 11, 18, 19: Microsoft clip art. Used with permission from Microsoft  
Slide 9: Public Health Pie Chart. Available from: <http://www.health.gov/phfunctions/public.htm>

### **Lecture 13b**

1. American Health Information Management Association (AHIMA). 2006 Pocket glossary health information management and technology. Chicago (IL): AHIMA, 2006.
2. American Nursing Association (ANA). Frequently asked questions [Internet]. 2012. Available from: <http://nursingworld.org/FunctionalMenuCategories/FAQs#def>
3. Centers for Medicare & Medicaid Services (CMS) [Internet]. Overview; Physician Quality Reporting System. Baltimore (MD); CMS.gov; 2011 [updated 2011 Oct 17]. Available from: [http://www.cms.gov/pqrs/01\\_overview.asp](http://www.cms.gov/pqrs/01_overview.asp)
4. Department of Health and Human Services (DHHS). Registered nurse population; initial findings from the 2008 national sample survey of registered nurses. Health Resources and Services Administration [Internet]. 2010 Sep. Available from: <http://bhpr.hrsa.gov/healthworkforce/rnsurvey2008.html>\*
5. Dictionary.com [Internet]. Oakland (CA): Dictionary.com; 2012. Registered nurse. Available from: <http://dictionary.reference.com/browse/registered+nurse>
6. Encyclopedia of Surgery. Discharge from the hospital. Advameg, Inc. [Internet]. Available from: <http://www.surgeryencyclopedia.com/Ce-Fi/Discharge-from-the-Hospital.html>
7. Healthcare.gov [Internet]. Accountable care organizations: improving care coordination for people with Medicare. Washington (DC): Healthcare.gov; c2012 [updated 2011 Nov 16]. Available from: <http://www.healthcare.gov/news/factsheets/2011/03/accountablecare03312011a.html>

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8. Healthcare.gov [Internet]. Roadmap to better care transitions and fewer readmissions. Washington (DC): Healthcare.gov; c2012 [updated 2011 Jun 23]. Available from: <http://www.healthcare.gov/compare/partnership-for-patients/safety/transitions.html>\*
9. New Jersey Hospital Association. Glossary of healthcare terms & abbreviations [Internet]. Princeton (NJ): NJHA, 2002. Available from: <http://www.njha.com/publications/pubcatalog/glossary.pdf>\*
10. Patient Centered Outcomes Research Institute (PCORI) [Internet]. About us. Washington (DC): PCORI, 2012. Available from: <http://www.pcori.org/> Shi L, Singh DA. Delivering health care in America: a systems approach. Boston (MA): Jones and Bartlett Publishers; 2008.

### **Lecture 13b Charts, Tables, Figures and Images**

None.

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. Review information on Healthy People 2010. Available from: <http://www.healthypeople.gov/>
2. Review information regarding the variety of information from the Centers for Disease Control and Prevention. Available from: <http://www.cdc.gov/>
3. Houser SH, Manger BJ, Price BJ, Silvers C, Hart-Hester S. Expanding the Health Information Management Public Health Role. *Perspect Health Inf Manag* 2009; 6(Summer):1b. Available from: [http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1\\_044303.pdf](http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_044303.pdf)
4. Fenton, SH. "Public Health and E-HIM: How EHRs Can Provide Data to Help Monitor the Population's Health." *Journal of AHIMA* 76, no.8 (September 2005): 64-65.
5. Introduction to Public Health from any basic public health textbook

### **Student Application Activities**

comp3\_unit13\_activity.doc  
 comp3\_unit13\_activity\_key.doc  
 comp3\_unit13\_self\_assess.doc  
 comp3\_unit13\_self\_assess\_key.doc

### **Additional Materials**

None.

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\*Indicates this link is no longer functional.

## **Component 3/Unit 14**

### **Unit Title**

#### **What is Health Information Management and Technology?**

### **Unit Description**

This unit describes health information management and technology.

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define and explain the terms and concepts used in the field of Health Information Management and Technology.
2. Understand the terms that frame Health Information Management (HIM) and Health Information Technology (HIT) practice.
3. Describe health IT hardware and software.
4. Define acronyms and abbreviations.

### **Unit Topics**

- 14.1 Electronic Health Information Management
- 14.2 Health Information Technology: Hardware and Software
- 14.3 Types of Networks
- 14.4 Data Entry Devices and Locations
- 14.5 Commonly Used Health Information Technology (HIT) Acronyms
- 14.6 Professional Organizations Supporting HIT
- 14.7 National Agencies Supporting HIT
- 14.8 US Governmental Oversight for HITECH
- 14.9 Organizations Supporting HIT Standards
- 14.10 Commonly Used Health Information Technology Acronyms
- 14.11 Commonly Used HIT Acronyms
- 14.12 Commonly Used HIPAA Acronyms

### **Lecture Titles**

14 What is Health Information Management and Technology?

### **Unit References**

(All links accessible as of 1/1/2014)

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\*Indicates this link is no longer functional.

## Lecture 14

1. AHIMA. ARRA acronyms. Available from: [http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1\\_047273.hcsp?dDocName=bok1\\_047273](http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_047273.hcsp?dDocName=bok1_047273)
2. Amatayakul MK. Electronic health records: a practical guide for professionals and organizations. Chicago (IL): AHIMA; 2009.
3. AHIMA. eHIM. Electronic health information management. Available from: <http://www.ahima.org/ehim/default.aspx>\*
4. AHIMA. HIM role in EHR management and the legal EHR. Available from: <http://www.ahima.org/resources/ehrroles.aspx>
5. HRSA. About HRSA. Available from: <http://www.hrsa.gov/about/>
6. Relationship of terminologies and classifications. American Health Information Management Association. Available from: <http://www.ahima.org/resources/termclass.aspx> ONC. Acronyms. Available from: [http://healthit.hhs.gov/portal/server.pt/community/health\\_it\\_hhs\\_gov\\_acronyms/1217](http://healthit.hhs.gov/portal/server.pt/community/health_it_hhs_gov_acronyms/1217)\*

## Lecture 14 Charts, Tables, and Figures

None.

## Lecture 14 Images

Slides 5, 6: Microsoft clip art. Used with permission from Microsoft.

## Unit Required Readings

None.

## Unit Suggested Readings

1. a. Visit the Home Page of The Office of the National Coordinator for Health Information Technology (ONCHIT), at [http://healthit.hhs.gov/portal/server.pt/community/healthit\\_hhs\\_gov\\_home/1204](http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_home/1204)\* and read information under the following categories:
  - Why Health IT?
  - Improving Patient Care
  - What's New?
- b. From the **Home Page**, select **Regulations and Guidance** from the left hand menu and then **Meaningful Use** from the Quick Links Menu and review the information on "Electronic Health Records and Meaningful Use".
- c. From the **Meaningful Use** page, click on the **Information for Providers** button and review information on "Being a Meaningful User of Electronic Health Records".

\*Indicates this link is no longer functional.

- d. Return to the **Meaningful Use** page and select the **Consumers** button to review information on “Electronic Health Records: Improving America’s Health Care”.
2. The “Meaningful Use” Regulation for Electronic Health Records, David Blumenthal, M.D., M.P.P., and Marilyn Tavenner, R.N., M.H.A. N Engl J Med 2010; 363:501-504. Available from: <http://healthpolicyandreform.nejm.org/?p=3732>
3. Finding My Way to Electronic Health Records, Regina Benjamin, M.D., M.B.A. N Engl J Med 2010; 363:505-506. Available from: <http://healthpolicyandreform.nejm.org/?p=3736>
4. Review information on Personal Health Records. Available from: <http://www.ahima.org/resources/phr.aspx>
5. Visit the myPHR website at <http://myPHR.com> and read the featured story “Electronic Health Records Improving Care”.
6. Wiedemann LA. Using Clinical Photos in EHRs. Journal of AHIMA 2010 April;81(4):44-45. Available from: [http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1\\_046939.hcsp?dDocName=bok1\\_046939](http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_046939.hcsp?dDocName=bok1_046939)
7. Dougherty M, Washington L. Still seeking the legal EHR: the push for electronic records increases, the record management questions remain. Journal of AHIMA. 2010 February;81(2):42-45. Available from: [http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1\\_046428.hcsp?dDocName=bok1\\_046428](http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_046428.hcsp?dDocName=bok1_046428)

### **Student Application Activities**

comp3\_unit14\_activity.doc  
comp3\_unit14\_activity\_key.doc  
comp3\_unit14\_self\_assess.doc  
comp3\_unit14\_self\_assess\_key.doc

### **Additional Materials**

None.

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## Component 3/Unit 15

### Unit Title

### Electronic Health Records

### Unit Description

This unit describes the overview and introduction to the electronic health record (EHR).

### Unit Objectives

By the end of this unit the student will be able to:

1. Identify the function of the health record.
2. Describe the American Recovery and Reinvestment Act of 2009 (ARRA) including the portion of the bill called the Health Information Technology for Economic and Clinical Health Act (HITECH) Act of 2009.
3. Define meaningful use.
4. Discuss the difference between an EHR, EMR, and PHR.
5. Define functional requirements of an electronic health record (EHR).
6. Identify the purposes of EHR components.
7. Describe methods to ensure data security and confidentiality.

### Unit Topics

- 15a.1 Functions of the Health Record
- 15a.2 Electronic Health Record
- 15a.3 Past and Future
- 15a.4 Data Rich and Information Poor
- 15a.5 Rights of Information
- 15a.6 Health Information Technology Regulations
- 15a.7 American Recovery and Reinvestment Act (ARRA)
- 15a.8 Health Information Technology for Economic and Clinical Health Act (HITECH)
- 15a.9 Meaningful Use
- 15a.10 Regional Extension Centers (RECs)
- 15a.11 Data Capture and Data Sharing
- 15a.12 Improve Quality
- 15a.13 Engage Patients and Families
- 15a.14 Improve Care Coordination
- 15a.15 Improve Population and Public Health

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- 15a.16 Meaningful Use Rule
- 15b.1 The Electronic Health Record
- 15b.2 Users of the Electronic Health Record
- 15b.3 Components of an Electronic Medical Record
- 15b.4 Clinical Systems
- 15b.5 Personal Health Records
- 15b.6 Functions of Personal Health Records
- 15b.7 Personal Health Record Models
- 15b.8 Attributes of the HER
- 15b.9 Key EHR-Related Terms
- 15b.10 Data Security and Confidentiality
- 15b.11 Legal Protections
- 15b.12 Maintaining Confidentiality

### Lecture Titles

- 15a Introduction to the EHR
- 15b Definitions and Concepts in the EHR

### Unit References

(All links accessible as of 1/1/2014)

### Lecture 15a

1. CDC. Meaningful Use. Introduction. Centers for Disease Control and Prevention. Available from: <http://www.cdc.gov/ehrmeaningfuluse/introduction.html>
2. Centers for Medicare & Medicaid Services. Electronic health records overview. [Internet]. Available from: <https://www.cms.gov/EHealthRecords/>
3. Blumenthal D, Tavenner R. The “meaningful use” regulation for electronic health records. N Engl J Med. 2010 Jul 13. Available from: <http://healthcarereform.nejm.org/?p=3732&query=home>
4. HIMSS. CDS Five Rights. Clinical Decision Support Wiki. Available from: <http://himssclinicaldecisionsupportwiki.pbworks.com/w/page/18288541/CDS%205%20Rights>
5. ONC. HITECH Programs. The Office of the National Coordinator for Health Information Technology. Available from: [http://healthit.hhs.gov/portal/server.pt/community/healthit\\_hhs\\_gov\\_hitech\\_programs/1487\\*](http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_hitech_programs/1487*)
6. LaTour KM, Maki SE. Health information management concepts, principles and practice. Chicago: AHIMA, 2010.

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7. Office of the National Coordinator for Health IT. Health IT terms. [Internet] Available from: [http://healthit.hhs.gov/portal/server.pt/community/health\\_it\\_hhs\\_gov\\_glossary/1256](http://healthit.hhs.gov/portal/server.pt/community/health_it_hhs_gov_glossary/1256)\*
8. ONC. About ONC. The Office of the National Coordinator for Health Information Technology. Available from: [http://healthit.hhs.gov/portal/server.pt/community/healthit\\_hhs\\_gov\\_onc/1200](http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_onc/1200)\*
9. ONC. Health Information Technology Extension Program. Office of the National Coordinator for Health Information Technology. Available from: <http://www.healthit.hhs.gov/portal/server.pt?open=512&objID=1335&mode=2>\*
10. The Markle Foundation. Achieving the Health IT Objectives of the American Recovery and Reinvestment Act. The Markle Foundation: Connecting for Health, [Internet] 2009 April. Available from: <http://www.markle.org/publications/403-achieving-health-it-objectives-american-recovery-and-reinvestment-act>

### **Lecture 15a Charts, Tables, and Figures**

None.

### **Lecture 15a Images**

Slides 6, 15, 16, 17, 18: Clip Art. Available from: Microsoft clips online. Used with permission from Microsoft.

### **Lecture 15b**

1. Amatayakul MK. Electronic health records: A practical guide for professionals and organizations. Chicago (IL): AHIMA; 2009.
2. CITL. The value of personal health records. Center for Healthcare Technology Leadership, 2008. Available from: [http://tigerphr.pbworks.com/f/CITL\\_PHR\\_Report.pdf](http://tigerphr.pbworks.com/f/CITL_PHR_Report.pdf)
3. Garets D, Davis M. Electronic medical records vs. electronic health records: yes, there is a difference. Chicago (IL): HIMSS Analytics, 2006, p. 2. Available from: [http://www.himssanalytics.org/docs/WP\\_EMR\\_EHR.pdf](http://www.himssanalytics.org/docs/WP_EMR_EHR.pdf)
4. Office for Civil Rights. HIPAA Administrative Simplification; Regulation Text. US Department of Health and Human Services,. 2006 Feb 16. Available from: <http://www.hhs.gov/ocr/privacy/hipaa/administrative/privacyrule/adminsimpregtext.pdf>
5. Markle. Connecting for Health. A public-private collaborative. The personal health working group. Final report; 2003 Jul 1; New York: Markle Foundation. p. 3.

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6. Office for Civil Rights. The Patient Safety Rule. US Department of Health and Human Services. 2008 Nov 21. Available from: <http://www.hhs.gov/ocr/privacy/psa/regulation/rule/index.html>
7. Office of the National Coordinator for Health IT. Health IT terms. [Internet] Available from: [http://healthit.hhs.gov/portal/server.pt/community/health\\_it\\_hhs\\_gov\\_glossary/1256](http://healthit.hhs.gov/portal/server.pt/community/health_it_hhs_gov_glossary/1256)\*
8. ONC. Acronyms. Available from: [http://healthit.hhs.gov/portal/server.pt/community/health\\_it\\_hhs\\_gov\\_acronyms/1217](http://healthit.hhs.gov/portal/server.pt/community/health_it_hhs_gov_acronyms/1217)\*

### **Lecture 15b Charts, Tables, and Figures**

None.

### **Lecture 15b Images**

Slides 7, 8, 17, 20, 21: Microsoft clip art. Used with permission from Microsoft.

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. **Review the American Recovery and Reinvestment Act.**  
Available from:  
[http://www.recovery.gov/About/Pages/The\\_Act.aspx](http://www.recovery.gov/About/Pages/The_Act.aspx)\*
2. Blumenthal D, Tavenner M. The “Meaningful Use” regulation for electronic health records. N Engl J Med. 363:501-504. Available from: <http://healthcarereform.nejm.org/?p=3732>
3. An introduction to healthcare informatics book from any publisher.

### **Student Application Activities**

comp3\_unit15\_activity.doc  
comp3\_unit15\_activity\_key.doc  
comp3\_unit15\_self\_assess.doc  
comp3\_unit15\_self\_assess\_key.doc

### **Additional Materials**

None.

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\*Indicates this link is no longer functional.

## **Component 3/Unit 16**

### **Unit Title**

#### **Standards to Promote Health Information Exchange**

### **Unit Description**

This unit describes definitions and concepts in the electronic health record (EHR).

### **Unit Objectives**

By the end of this unit the student will be able to:

1. Define terms related to standardized terminologies.
2. Identify and define HIPAA standard code sets.
3. Identify and define terminologies and vocabularies that represent nursing care.
4. Define and give examples of data interchange standards.

### **Unit Topics**

- 16.1 Terms Related to Health Information Standards
- 16.2 EHR Messaging Standards
- 16.3 Digital Imaging Communications in Medicine (DICOM)
- 16.4 Health Level 7 (HL7)
- 16.5 Classifications, Terminologies and Vocabularies
- 16.6 Clinical Terminologies
- 16.7 Health Information Standards
- 16.8 HIPAA Standard Code Sets
- 16.9 International Classification of Diseases, 9th Revision, Clinical Modificaton
- 16.10 National Drug Codes (NDC)
- 16.11 Healthcare Common Procedure Coding System (HCPCS)
- 16.12 American Nursing Association's Recommended Standardized Nursing Terminologies
- 16.13 North American Nursing Diagnosis Association (NAND)
- 16.14 Nursing Intervention Classification (NIC)
- 16.15 Nursing Outcomes Classification (NOC)
- 16.16 Perioperative Nursing Data Set (PNDS)
- 16.17 National Committee on Vital and Health Statistics Recommended Data Interchange Standards
- 16.18 Health Level 7
- 16.19 SNOMED CT

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\*Indicates this link is no longer functional.

16.20 Logical Observation Identifiers, Names, and Codes (LOINC)

16.21 Consolidated Health Informatics (CHI) Initiative

### Lecture Titles

16 Standards to Promote Health Information Exchange

### Unit References

(All links accessible as of 1/1/2014)

### Lecture 16

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2. American Medical Association. Current procedural terminology (CPT). 4<sup>th</sup> edition. Chicago (IL): American Medical Association; 2011.
3. Centers for Medicare and Medicaid Services. Overview of HIPAA. US Department of Health and Human Services. Available from: <http://www.cms.gov/HIPAAGenInfo/>
4. Center for Nursing Classification [Internet]. Available from: <http://ncvhs.hhs.gov/970416w6.htm>\*
5. Consolidated health informatics (CHI). Office of the National Coordinator. United States Department of Health and Human Services [Internet]. Available from: <http://www.hhs.gov/healthit/chi.html>\*
6. Giannangelo K, editor. Healthcare code sets, clinical terminologies, and classifications. 2<sup>nd</sup> edition. Chicago (IL): AHIMA; 2010.
7. Health Level Seven International. About HL7. [Internet]. Ann Arbor (MI). Available from: <http://www.hl7.org/about/index.cfm?ref=nav>
8. International Health Terminology Standards Development Organization [Internet]. About SNOMED. Available from: <http://www.ihtsdo.org/snomed-ct/>
9. National Alliance for Health Information Technology. Report to the Office of the National Coordinator for Health Information Technology on defining key health information technology terms. The National Alliance for Health Information Technology. 2008 Apr 28. p. 10.
10. Nightingale F. Notes on hospitals. London: Longman, Green, Longman, Roberts, and Green; 1863. Available from: <http://pds.lib.harvard.edu/pds/view/7024419?n=208>

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\*Indicates this link is no longer functional.

11. Thede L, Schwiran P. Informatics: the standardized nursing terminologies: a national survey of nurses' experiences and attitudes. OJIN: The Online Journal of Issues in Nursing [Internet]. 2011 Feb 25;16(2). Available from: <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-16-2011/No2-May-2011/Standardized-Nursing-Terminologies.aspx>
12. US Food and Drug Administration [Internet]. Silver Springs (MD): 2012. Protecting and Promoting Your Health. National Drug Code Directory. Available from: <http://www.fda.gov/Drugs/InformationOnDrugs/ucm142438.htm>

### **Lecture 16 Charts, Tables, Figures and Images**

None.

### **Unit Required Readings**

None.

### **Unit Suggested Readings**

1. Review the HIPAA Privacy Rule. Available from: <http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/index.html> <http://healthcarereform.nejm.org/?p=3732>
2. Review the HIPAA Security Rule. Available from: <http://www.hhs.gov/ocr/privacy/hipaa/understanding/srsummary.html>
3. Review Electronic Health Records Overview by the National Institutes of Health National Center for Research Resources. Available from: <http://www.ncrr.nih.gov/publications/informatics/EHR.pdf>\*
4. A introduction to healthcare informatics book from any publisher

### **Student Application Activities**

comp3\_unit16\_activity.doc  
 comp3\_unit16\_activity\_key.doc  
 comp3\_unit16\_self\_assess.doc  
 comp3\_unit16\_self\_assess\_key.doc

### **Additional Materials**

None.

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\*Indicates this link is no longer functional.

## **Component Acronym Glossary**

ACB–Authorized Certification Body  
ACTH–Adrenocorticotropin hormone  
AD–Alzheimer’s Disease  
ADH–Antidiuretic hormone  
ADT–Admission, Discharge & Transfer  
AHIMA–American Health Information Management Association  
AHRQ–Agency for Healthcare Research & Quality  
AIDS–acquired immunodeficiency syndrome  
AMD–age-related macular degeneration  
AMIA–American Medical Informatics Association  
ARRA–American Recovery and Reinvestment Act  
ATCB–Authorized Testing and Certification Body  
AVM–Arteriovenous malformation  
BA–Business Associate  
BAA–Business Associate Agreement  
BCMA–Bar-code medication administration  
BPH–Benign prostatic hypertrophy  
BRCA1 and 2–Breast cancer gene 1 and 2  
CAH–Critical Access Hospital  
CBMR–Computer-based medical record  
CCC–Clinical Care Classification  
CCHIT–Certification Commission for Health Information Technology  
CD–Compact disc  
CDC–Centers for Disease Control and Prevention  
CDS–Clinical decision support  
CE–Covered Entity  
CF–Cystic fibrosis  
CFR–Code of Federal Regulation  
CHI–Consolidated health informatics  
CIO–Chief Information Officer  
CMS–Centers for Medicare & Medicaid Services  
COPD–chronic obstructive pulmonary disease  
CP–cerebral palsy  
CPOE–Computerized provider order entry  
CPR–Computerized patient record  
CPT–Current Procedural Terminology  
CPU–Central Processing Unit  
CSF–Cerebrospinal Fluid  
CT–Computerized tomography



DB–decibels  
DES–diethylstilbestrol  
DI–Diabetes insipidus  
DM–Diabetes mellitus  
DPT–diphtheria, pertussis and tetanus (vaccine)  
DRG–Diagnostic Related Group  
DSS–Decision support system  
DVT–deep vein thrombosis  
eAccess–Electronic Access  
eHIM®–Electronic health information management  
EHR–Electronic health record  
EHRA–HIMSS Electronic Health Record Association  
EHRVA–Electronic Health Record Vendors Association  
EMG–electromyogram  
EMR–Electronic Medical Record  
ENT–Ear, Nose & Throat  
EPR–Electronic patient record  
ER–Emergency room  
ERCP–Endoscopic Retrograde Cholangiopancreatography  
eRx–Electronic prescribing  
ESRD–end stage renal disease  
eSubmit–Electronic Submit  
ESWL–extracorporeal shock wave lithotripsy  
FDA–Food and Drug Administration  
FHA–Federal Health Architecture  
FSH–follicle-stimulating hormone  
GERD–gastroesophageal reflux disease  
GH–Growth hormone  
GI–gastrointestinal  
GnRH–Gonadotropin-Releasing Hormone  
HCl–hydrochloric acid  
HHS–Department of Health and Human Services  
HIE–Health Information Exchange  
HIM–Health information management  
HIMSS–Healthcare Information and Management Systems Society  
HIPAA–Health Insurance Portability and Accountability Act  
HIT–Health information technology  
HITECH–Health Information Technology for Economic and Clinical Health  
HITSP–Health Information Technology Standards Panel  
HIV–human immunodeficiency virus

HL-7–Health Level 7  
HPV–Human papillomavirus  
HRSA–Health Resources and Services Administration  
ICD-9-CM–International Classification of Diseases –Ninth Revision-  
Clinical Modification  
ICD-10-CM–International Classification of Diseases –Tenth Revision-  
Clinical Modification  
ICNP®–International Classification for Nursing Practice  
IFR–Interim Final Rule  
IOM–Institute of Medicine  
ISO–International Organization for Standardization  
IVP–intravenous pyelogram  
LH–Luteinizing hormone  
LOINC–Logical Observation Identifiers Names and Codes  
LSP–language for special purposes  
MD–Macular degeneration  
MD–Muscular dystrophy  
MI–Myocardial infarction  
MRCP–Magnetic resonance cholangiopancreatography  
MRI–magnetic resonance imaging  
MS–Multiple sclerosis  
MS-DRG–Medicare Severity Diagnosis Related Group  
MU–Meaningful Use  
NANDA–North American Nursing Diagnosis Association  
NHIN–Nationwide Health Information Network  
NPRM–Notice of Proposed Rule-Making  
NIC–Nursing Intervention Classification  
NIH–National Institutes of Health  
NLM–National Library of Medicine  
OCR–Office of Civil Rights  
OM–Otitis media  
ONC–Office of the National Coordinator  
ONCHIT–Office of the National Coordinator for Health Information  
Technology  
PDA–Personal Digital Assistant  
PHI–Protected Health Information  
PHR–Personal Health Record  
PID–Pelvic inflammatory disease  
PMS–Premenstrual Syndrome  
PNDS–Perioperative Nursing Data Set

POF–Premature Ovarian Failure  
PQRI–Physician Quality Reporting Initiative  
PSA–Prostate specific antigen  
REC–Regional Extension Center  
RHIO–Regional Health Information Network  
Rx–prescription  
SDO–Standards Development Organization  
SNOMED–Systemized Nomenclature of Medicine  
SNOMED CT–Systematized Nomenclature of Medicine Clinical Terms  
SPF–Sun protection factor  
STD–Sexually transmitted disease  
TIA–transient ischemic attack  
TSH–Thyroid-stimulating hormone  
TV–television  
US–United States  
USB–Universal Serial Bus  
UTI–Urinary tract infection  
VHA–Veterans Health Administration  
VistA–Veterans Health Information Systems and Technology Architecture  
WBC–white blood cell  
WHO–World Health Organization



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