UNIT 1
Information Systems

LESSON 1.1
Basic Concepts

Steps to Complete this Lesson

❖ STEP 1 ❖ OUTCOMES
Read the lesson learning outcomes(s). The learning objectives will tell you what we will cover in this lesson and what you should focus on.

❖ STEP 2 ❖ READINGS
Do the required readings for this lesson, including the textbook, study notes (below), and/or other sources.

You can print a checklist of all the required readings for this course, located on the course Website in the “Study Materials” section (“Required Readings and Resources” icon).

❖ STEP 3 ❖ ACTIVITIES & ASSIGNMENTS
Perform any required (and optional) activities for this lesson. Required Activities will count toward your unit grade. You can print a checklist of all the required activities for this course, located on the course Website, in the “Study Materials” section (“Required Activities and Assignments” icon).

NOTE: Start the assignment for each lesson in the unit on a new page in a MS Word file. Be sure to include the lesson numbers.

Submit all the assignments for the unit as one e-mail file attachment, via the “Submit an Assignment” form on the course homepage.

What Do I Need To Complete This Lesson?

- Required Reading materials
- Online access for Required Activity
Health information includes many forms of information. The patient record is the foundation, but indices, registries, logs, and data sets are also health information. Management of all of this information has evolved over time, as technology and accessibility of information has evolved. As health information has moved from paper to an electronic format, health care professionals have had to change the way they do business. Their roles and responsibilities have changed, as has their approach to the provision of medicine in this new environment.

The Basics

The process of building and maintaining a health record begins with documentation done by appropriately trained and credentialed individuals. The information is linked to the individual patient through the use of a unique patient identifier (UPI). The UPI enables a health care system, or multiple health care systems, to combine and track all available health information about a single patient.

The information gathered must be organized logically in order to be useful. There are many established models for organizing an individual health record. There are advantages and disadvantages to each model. Every health care organization must decide how they will organize the patient information they gather. The model they choose will likely be determined by their type of health care organization.

Once a record has been created, it must be maintained. Federal and state laws set requirements for how long an organization must retain records, but specific health care organizations create their own retention policy within those requirements. Most regulations allow an organization to, at some point, destroy records. Many health care organizations are reluctant to destroy records, even when it is legal. For example, some county health services organizations still have records on microfilm for services provided in the 1960s. Every once in awhile someone requests a record from that era and they are able to provide it. It is up to each organization to make decisions about records retention and destruction, within the parameters of the law. In addition to the individual health record, health information includes aggregate information gathered from individual health records. This includes data, logs indexes, and registries.

Logs

Logs are frequently used to list all patients who utilize services for a specific event. A
delivery log is an example of this. The information about each patient that delivers a baby in a hospital is entered into a delivery log, with predefined bits of information gathered about each delivery. An operating room log is another example. These logs are internal documents a health care organization maintains for their own use. They are often also required for the purpose of reporting to state and federal agencies.

Indices

Indexes (or indices) are maintained in health care organizations so that specific information can be maintained. The basic indices virtually all health care organizations maintain are the Master Patient Index (MPI), the Disease or Diagnosis Index (DI), Procedure Index, and Physician Index. Each of these enables a health care organization to readily identify, for example, the health record pertaining to a specific patient. Another example would be if a hospital wants to analyze the efficacy of their surgical department, their procedure index would allow them to identify and further study the record of each surgery performed within a specific timeframe.

Registries

Registries contain disease or event information. This information is gathered by the health care organization, but is generally provided to outside entities. For example, California has a birth defects monitoring registry. State law requires health care organizations to provide specific information regarding infants that are noted to have birth defects to a nonprofit organization, March of Dimes, which is contracted with the state for the purpose of tracking birth defects and looking for causes.

An individual working for the California Birth Defects Monitoring Program as a Data Collection Specialist is responsible to visit all acute hospitals in designated counties to review their logs and records to identify children with birth defects. He or she then abstracts specific information about each of these children. This information is entered into a database with all the information gathered throughout the state for this purpose. This registry enabled researchers to identify, for example, that a lack of folic acid during pregnancy increased a woman’s likelihood of giving birth to an infant with a neural tube defect, like spina bifida or anencephaly. This is just one example of a registry and how it may be used.

Historically, paper records were used to maintain all of this health information. Until the advent of computers, the business of health care was entirely based on paper. Billing was done manually and records were maintained manually. It is only in the 20th century that computerization of health records and data has been the norm. By the year 2000 many health care organizations moved to a paperless environment in which all or most of their records could be maintained and processed electronically.