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Module 1 - Home

HISTORY OF HEALTH INFORMATION SYSTEMS

Modular Learning Outcomes

Upon successful completion of this module, the student will be able to satisfy the following outcomes:

- Case
  - Describe the history and origins of healthcare information systems and explain the connection to Health Informatics.
  - Describe trends in Health Informatics and factors shaping its evolution.
  - Identify and differentiate various healthcare disciplines and their relationship to Health Informatics.

- SLP
  - Select a relevant healthcare organization that will be researched.
  - Describe trends in Health Informatics and factors shaping its evolution.

- TD
  - Describe trends in Health Informatics and factors shaping its evolution.

Module Overview

Computers in healthcare are recognized and accepted worldwide. Their use and application in areas such as clinical care, administration, and research, and as diagnostic aids for improving overall patient care, is well steeped in history.

As technology has continued to advance, new and more specialized healthcare disciplines and areas of medical science emerge. Likewise, medical data, information, and knowledge have grown exponentially in terms of both abundance and complexity; so has the need for a discipline and profession to manage them—Health Informatics.
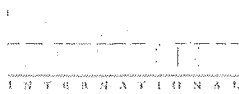
Health Informatics is concerned primarily with the processing of data, information, and knowledge across all areas of healthcare. It is a rapidly growing medical discipline and profession that has profound implications for the future and quality of patient care.

In this module, we will examine the history of healthcare information systems and Health Informatics as an emerging profession, along with internal and external forces affecting its evolution. We will also identify various healthcare disciplines and examine their connection to Health Informatics.

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Module 1 - Background

HISTORY OF HEALTH INFORMATION SYSTEMS

Although the use of healthcare-related electronic computer systems first emerged just 30 to 40 years ago, the origins of healthcare computing tools and information systems can be traced back several centuries. The earliest forms of computing and information systems were derived from Von Liebnitz's views surrounding codification and classification of human behaviors.

Since the early 1960s, Health Information Systems have grown rapidly. They now touch essentially every aspect of healthcare and affect professionals from across all medical-related disciplines and areas of practice. For the past several decades, technology and computing systems have continued to evolve at astounding rates, followed closely by an abundance of complex medical data and information. With more computing power comes more data and information, along with new advancements in medical technology and procedures. Accordingly, we now face an ever-expanding body of medical knowledge that changes quickly; one where information and knowledge are generated and abandoned in continually shorter and shorter cycles.

Additional changes to the healthcare environment caused by market-driven healthcare reform during the 1990s have also fueled heavy demand for Health Information Systems. More specifically, the expansion of managed care, the development of integrated delivery systems by healthcare providers, and major changes to billing and insurance reimbursement processes require systems to integrate and exchange information and data efficiently and in like form.
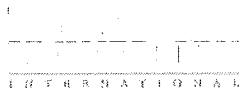
It is from these growing information demands on the healthcare industry that the discipline of Health Informatics is born. As medical and patient-related information reaches deep across every healthcare discipline and health services provider, so too does the science of Health Informatics.

Health Informatics is defined as "an evolving scientific discipline that deals with the collection, storage, retrieval, communication and optimal use of health-related data, information and knowledge. The discipline utilizes the methods and technologies of the information sciences for the purposes of problem solving, decision making and assuring highest quality health care in all basic and applied areas of the biomedical sciences" (Graham, 1994).

The substance of Health Informatics is data, information, and knowledge, and all that is done with it by healthcare professionals. Therefore, it is reasonable to think that the significance of Health Informatics will continue to increase as technology advances and the abundance of available information continues to grow. Indeed, the rapidly growing knowledge base in the medical field is vast and encompasses both scientific knowledge and the day-to-day business of providing healthcare. Accordingly, administrative processes are becoming increasingly augmented with systems that address the core of medicine in the clinical and research settings.

Required Reading

- *Health Care Technology: A History of Clinical Care Innovation* examines the evolution of Health Information within the context of clinical care.[1]

- In the John Paul Chakackal article *Health Information Systems*[2], he defines Health Informatics and describes its various applications.

- Dr. William Hersh provides a good overview of Health Informatics and its contribution to improving healthcare in *Medical Informatics*[3].

- *Integration and Beyond*[4] from the Journal of the American Medical Informatics Association provides a more technical inspection of the successive generations of work related to Health Informatics and integration between healthcare disciplines.

- Michael Herrick and Andrew Patterson discuss the changing landscape and trends surrounding healthcare in *Healthcare Trends*[5].

- Mullner and Chung discuss *Current Issues in Health Care Informatics*[6].

Case

Module 1 - Case

HISTORY OF HEALTH INFORMATION SYSTEMS

Case Assignment

Over the past several decades, healthcare and information technology have undergone a period of dramatic change caused by a multitude of pressures and opportunities, many of which continue to persist and evolve. As we have moved into globalization of communication, technology, and information, Health Information Systems need to reflect what is happening to ensure optimal use of clinical information.

In 2-3 (full) pages, discuss three current trends in Health Information Systems to optimize the use of information and three issues of concern (e.g., ethical issues) that present barriers to the evolution of Health Information Systems. In your discussion, include a brief history of Health Information Systems and connect it to Health Informatics. Include reference to literature, expert opinion, and case examples from your research to support your position, key points, and explanations.
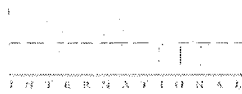
Assignment Expectations

1. Your references and citations should be consistent with a particular formatting style, such as APA.

2. Your response should be based on reliable and scholarly material, such as peer-reviewed articles, white papers, technical papers, etc. Do not include information from non-scholarly materials such as wikis, encyclopedias, or www.freearticles.com (or similar websites).

3. Your response should incorporate the outcomes of the module with the requirements of this assignment.

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Module 1 - SLP

HISTORY OF HEALTH INFORMATION SYSTEMS

The SLP Assignment

Your specific assignment for this module is to select a healthcare organization for your project and have it approved by your professor. You may consider any organization as long as you have enough access to the organization and/or level of understanding of that organization necessary to respond to the assignments. Note: You will not be asked to reveal any proprietary or confidential information in your reports. Most of your reports will be based on your research and observations.

Accordingly, your selected healthcare organization can be:

- The organization for which you work.

- A healthcare organization for which a friend or relative works. You must be able to access information concerning this organization that is relevant to your SLP assignments.

- A local healthcare organization that is willing to share insight about how it manages health information.

- Any healthcare organization that makes public its approach to health informatiion management, operations, and organizational structure.

Provide a brief one-page overview of the organization you have selected. Be sure to describe the reason for your selection and or your relationship to the organization.

Submit your paper. Your professor will then either approve your choice or discuss other possibilities with you.

SLP Assignment Expectations

1. Your references and citations should be consistent with a particular formatting style, such as APA.

2. Your response should be based on reliable and scholarly material, such as peer-reviewed articles, white papers, technical papers, etc. Do not include information from non-scholarly materials such as wikis, encyclopedias, or www.freearticles.com (or similar websites).

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