**Instructions**

This assignment supports the following objective:

* Model the development, selection, implementation and maintenance of healthcare data systems that include customization and procurement using appropriate lifecycle concepts; including electronic health records (EHRs), personal health records (PHRs), public health, and other administrative applications.

Selecting and maintaining an electronic health record system (EHR) takes the collaboration and communication of multiple professionals. EHRs are an integral part of most health care organizations, and contribute to effective delivery of care, and are essential for accurate and timely administrative and financial functions, as well. In this assignment, you will demonstrate your understanding of the foundations of EHR selection, implementation, and maintenance.

Review all required resources for Unit 1, specifically. Then, conduct additional research to effectively address the following questions. Please use the assignment template document, provided below.

How is an EHR selected?

* Explain who is involved in the selection process. What administrative leaders? What clinical staff? Describe the extent of their involvement in a selection process.

How is an EHR maintained?

* Explain who has oversight of the overall system. Who performs technical maintenance, who provides feedback on performance?

Explain the process for improving EHR performance or functionality.

* What individuals or teams initiate changes in EHR functionality? How are the desires/needs for change communicated to the maintenance team you identified above?
* What is the role of data analysis in this process? Who collects performance data, who analyzes it, how is data used to make decisions about modifying functionality of the EHR?
* In general terms, how often are improvements in performance/functionality made to an EHR? (You may consider a hospital facility as the basis for answering this question).

APA requirements: Title and reference pages, in-text citations, three sources.

**Unit 1 Topic 1 - Health Information Management**

**Introduction**

Health information is “…the data related to a person’s medical history, including symptoms, diagnoses, procedures and outcomes.  A health record includes information such as: a patient’s history, lab results, X-rays, clinical information, demographic information, and notes.” (AHIMA, n.d., para. 2).  This topic will examine the department and the manager’s role in protecting and administering health information.

**Identify: Health Information Department**

Health information management (HIM) involves creating, analyzing, and protecting all medical information generated from patient care.  HIM also includes coding, billing, and sometimes even the revenue cycle aspects of the facility. Read [What is Health Information Management & Why Is It Important](https://nearterm.com/what-is-health-information-management-why-is-it-important/)

[Links to an external site.](https://nearterm.com/what-is-health-information-management-why-is-it-important/)?

**Discover: Health Information Manager**

In charge of the health information department is the health information manager.  These individuals not only manage the staff, but they must be familiar with the information management technology as well as workflow processes, coding and billing aspects, privacy laws and many other requirements.  Read [Health Information Manager – A Day in the Life](https://www.mhaonline.com/blog/day-in-the-life-of-a-health-information-manager)

[Links to an external site.](https://www.mhaonline.com/blog/day-in-the-life-of-a-health-information-manager).

**Explain: Credentials and Certifications**

While many health information departments are managed by individuals who have been in the medical records field for quite some time, there is a transition occurring to have these departments managed by trained and credentialed health information managers.  The American Health Information Management Association (AHIMA) is the nation’s leader in credentialing these professionals.  The Registered Health Information Technician (RHIT) or the Registered Health Information Administrator (RHIA) credentials show that these professionals have the required knowledge to manage the ever-changing health information department.  Review the RHIT and RHIA at [Certifications & Careers](https://ahima.org/certification-careers/certifications-overview/)

[Links to an external site.](https://ahima.org/certification-careers/certifications-overview/).

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**Summary**

Health information departments and health information managers are vital components for any healthcare organization.  Ensuring that the information collected via patient care is correct, protected, available and used to generate reports all fall under this department and the professionals within.

Estimated time to complete topic: 1 hour

**References**

AHIMA. (n.d.). *Certifications & careers*. <https://ahima.org/certification-careers/certifications-overview/>

AHIMA. (n.d.). *Health information 101*. <https://www.ahima.org/certification-careers/certifications-overview/career-tools/career-pages/health-information-101/#:~:text=Health%20information%20management%20(HIM)%20is,to%20providing%20quality%20paNeartient%20care.&text=They%20ensure%20a%20patient's%20health,complete%2C%20accurate%2C%20and%20protected>.

MHA Online. (n.d.). *Health information manager – A day in the life*. <https://www.mhaonline.com/blog/day-in-the-life-of-a-health-information-manager>

Nearterm. (2018). *What is health information management & why is it important?* [What is Health Information Management & Why Is It Important? - Nearterm](https://nearterm.com/what-is-health-information-management-why-is-it-)

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**Unit 1 Topic 2 - Information Systems**

**Introduction**

An information system is an integrated set of components to gather, maintain and process data which then provides information, knowledge and other digital outcomes (Zwass, n.d.).  A healthcare or hospital information system includes the health informatics and other systems used to manage data collected during healthcare activities.  This topic will look at some of the more recognizable information systems used in healthcare.

**Identify: Information Systems**

A health information system (HIS) is the system put in place to manage all healthcare data.  Consider where data is collected – patient care, ancillary departments, operations, and many other administrative aspects of providing care.  Most organizations combine all these systems into one comprehensive HIS.  Read [What is a Health Information System](https://digitalguardian.com/blog/what-health-information-system)

[Links to an external site.](https://digitalguardian.com/blog/what-health-information-system)?

**Explore: Electronic Health Record**

An electronic health record (EHR) contains the digital version of all the patient information.  The EHR is different than the EMR (examined next) in that it contains not only clinical data but evidence-based tools for decision-making as well as the ability to automate and streamline many processes including electronic prescribing and other workflows.  Read [What is an Electronic Health Record (EHR)](https://www.healthit.gov/faq/what-electronic-health-record-ehr)

[Links to an external site.](https://www.healthit.gov/faq/what-electronic-health-record-ehr)?

**Examine: Electronic Medical Record**

On the other side is the electronic medical record (EMR).  These are just digital versions of the patient’s paper chart.  There is not as much functionality and workflow guidance in EMR’s as compared to EHR’s.  EMRs would be found in smaller clinics where as EHR’s are in hospitals and larger corporations.  Read [What Are the Differences Between Electronic Medical Records, Electronic Health Records, and Personal Health Records](https://www.healthit.gov/faq/what-are-differences-between-electronic-medical-records-electronic-health-records-and-personal)

[Links to an external site.](https://www.healthit.gov/faq/what-are-differences-between-electronic-medical-records-electronic-health-records-and-personal)?

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**Summary**

Information systems form the backbone of the records systems used in healthcare.  Paper charts, for the most part, have been replaced with electronic medical records or electronic health records.  The choice depends on the organization’s needs, financial capabilities, and the number of providers that will be using the record.

Estimated time to complete topic: 1 hour

**References**

Brook, C. (2020). *What is a health information system?* <https://digitalguardian.com/blog/what-health-information-system>

HealthIT. (n.d.). *What are the differences between electronic medical records, electronic health records, and personal health records?* <https://www.healthit.gov/faq/what-are-differences-between-electronic-medical-records-electronic-health-records-and-personal>

HealthIT. (n.d.). *What is an electronic health record?* <https://www.healthit.gov/faq/what-electronic-health-record-ehr>

Zwass, V. (n.d.). *Information system*. [Information system | Definition, Examples, & Facts](https://www.britannica.com/topic/information-system)

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**Unit 1 Topic 3 - Managing Information Systems**

**Introduction**

When it comes to managing information systems, a few parties are involved.  An earlier topic introduced the health information manager, but there are also IT specialists and other professionals involved in managing the information system.  This topic will examine this concept a bit deeper.

**Identify: Database Administrator**

Database administrators work with the organization to create and ensure that the information system and databases run efficiently and smoothly.  Depending on the size of the organization, the database administrator could be the IT manager, but they can be separate roles.  Review what a database administrator does on [Database Administrators and Architects](https://www.bls.gov/ooh/computer-and-information-technology/database-administrators.htm)

[Links to an external site.](https://www.bls.gov/ooh/computer-and-information-technology/database-administrators.htm).

**Explain: Information Technology Administrator**

An IT administrator, or systems administrator, is responsible for maintaining operations on all computer systems, servers and other systems the organization uses.  The administrator usually serves as the overseer of staff that works on the IT systems within the organization.  Review [IT Administrator Job Description](https://www.jobhero.com/job-description/examples/information-technology/administrator)

[Links to an external site.](https://www.jobhero.com/job-description/examples/information-technology/administrator).

**Discover: Information Technology Staff**

Larger corporations and employers will also have IT staff in addition to the administrator(s).  When many different systems are used, or the technology is spread out, the IT department must have people available to fix issues as they arise.  Read [How Much IT Staff Do You Need](https://www.hpe.com/us/en/insights/articles/how-much-it-staff-do-you-need-1909.html)

[Links to an external site.](https://www.hpe.com/us/en/insights/articles/how-much-it-staff-do-you-need-1909.html)?

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**Summary**

Once an information system is in place, there needs to be a team of administrators and staff to maintain it.  Having these individuals to trouble-shoot, set up new accounts, help with issues or errors, and many other tasks can help ensure that the information system is running a peak efficiency.

Estimated time to complete topic: 1 hour

**References**

BLS. (n.d.). *Database administrators and architects*. <https://www.bls.gov/ooh/computer-and-information-technology/database-administrators.htm>

HPE. (2019). *How much IT staff do you need?* <https://www.hpe.com/us/en/insights/articles/how-much-it-staff-do-you-need-1909.html>

JobHero. (n.d.). *IT administrator job description*. [IT Administrator Job Description - JobHero](https://www.jobhero.com/job-description/examples/information-technology/administrator)

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**Unit 1 Topic 4 - Systems Development Life Cycle**

**Introduction**

The systems development life cycle (SDLC) is a project management model that outlines the stages that are required to bring a project from start to finish.  This model can help ensure that projects are properly designed and implemented.  The framework has seven steps: planning, analysis, design, development, testing, implementation and maintenance (Preston, 2021).

**Discover: Why Is It Important?**

The SDLC provides a structure and guidelines to make the process of implementation more successful.  This system can be used for any software or other technology plan to identify steps and checkpoints to ensure that the final product meets or exceeds expectations.  Read [System Development Life Cycle](https://svitla.com/blog/system-development-life-cycle)

[Links to an external site.](https://svitla.com/blog/system-development-life-cycle).

**Identify: SDLC and Healthcare**

While the basis of the SDLC model is for software applications, it can be applied to healthcare as well.  As healthcare continues to move towards telemedicine, data management, and compliance with HIPAA and other security expectations, the SDLC can help organizations plan.  Read [How to Apply SDLC to the Healthcare Industry](https://www.innovativearchitects.com/KnowledgeCenter/industry-specific/healthcare-industry-sdlc.aspx)

[Links to an external site.](https://www.innovativearchitects.com/KnowledgeCenter/industry-specific/healthcare-industry-sdlc.aspx).

**Explore: A Case Study**

This article shows the SDLC in action, as it was used to identify and implement a software package in a regional hospital care facility.  While this article is specific to that project, it shows the SDLC in action.  Read [A Case Study of the Application of the Systems Development Life Cycle (SDLC) in 21st Century Health Care: Something Old, Something New](https://quod.lib.umich.edu/j/jsais/11880084.0001.103/--case-study-of-the-application-of-the-systems-development?rgn=main;view=fulltext)

[Links to an external site.](https://quod.lib.umich.edu/j/jsais/11880084.0001.103/--case-study-of-the-application-of-the-systems-development?rgn=main;view=fulltext)?

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**Summary**

The system development life cycle is a project management tool that can be used to implement software packages and other aspects into an organization.  This model is a positive asset when implementing electronic health or medical records to ensure a smooth transition and successful launch.

Estimated time to complete topic: 1 hour

**References**

McMurterey, M. (2013). *A case study of the application of the systems development life cycle (SDLC) in 21st century health care: Something old, something new?*  <https://quod.lib.umich.edu/j/jsais/11880084.0001.103/--case-study-of-the-application-of-the-systems-development?rgn=main;view=fulltext>

Preston, M. (2021). *System development life cycle guide*. <https://www.clouddefense.ai/blog/system-development-life-cycle>

Svitla. (n.d.). *System development life cycle*. <https://svitla.com/blog/system-development-life-cycle>

Wikimedia Commons. (n.d.). *SDLC – software development life cycle* [online image]. <https://commons.wikimedia.org/wiki/File:SDLC_-_Software_Development_Life_Cycle.jpg>

**Unit 1 Topic - Selecting, Implementing & Maintaining an EHR System**

**Introduction**

EHRs are selected, implemented and maintained by individuals or teams within an organization. In most instances, a committee or team structure is used to navigate selection, implementation and EHR maintenance. From clinical to administrative roles, there are many facets to this process, and all parties must work collaboratively to produce the best outcome for patients, providers, and the health system overall.

**Identify: EHR Selection Committees**

Identifying and selecting an EHR is a collaborative effort, often including health professionals from a variety of disciplines and areas within the facility. Read [Who Should Be on the Electronic Health Record Selection Committee](https://www.healthit.gov/faq/who-should-be-electronic-health-record-selection-committee)

[Links to an external site.](https://www.healthit.gov/faq/who-should-be-electronic-health-record-selection-committee)?

**Discover: EHR Maintenance and Change Process**

Even the most advanced and high-performing EHRs are not perfect. Due to the nature of human interactions, and differing preferences between professional disciplines, providers, and practice environments, EHRs must be adaptable. Changes to an EHR can be made to improve clinical efficiency, care delivery, administrative functionality, and more. Read [Inpatient Electronic Health Record Maintenance From 2010 to 2015](https://www.ajmc.com/view/inpatient-electronic-health-record-maintenance-from-2010-to-2015)

[Links to an external site.](https://www.ajmc.com/view/inpatient-electronic-health-record-maintenance-from-2010-to-2015).

**Explain: Continual Modification of EHRs**

EHR modification is not necessarily a one-time fix. In many health systems, modifications can be reflective of changes in care delivery models, interdisciplinary team structures, or a variety of other reasons. Read [Why EHRs Require Continual Modification](https://www.healthcareitnews.com/news/why-ehrs-require-continual-modification)

[Links to an external site.](https://www.healthcareitnews.com/news/why-ehrs-require-continual-modification).

**Summary**

EHR selection, implementation and maintenance is performed by both individuals and teams. In most organizations, a committee or team structure is used to select, implement and maintain the EHR. From clinical to administrative roles, there are many facets to this process, and all parties must work collaboratively to produce the best outcome for patients, providers, and the health system overall.

Estimated time to complete topic: 1 hour

**References**

Government Health IT Staff. (2014). *Why EHRs require continual modification*. Healthcare IT News. <https://www.healthcareitnews.com/news/why-ehrs-require-continual-modification>

Liu, V., Haq, N., Chan, I., & Hoberman, B. (2019). *Inpatient electronic health record maintenance from 2010 to 2015*. AJMC. <https://www.ajmc.com/view/inpatient-electronic-health-record-maintenance-from-2010-to-2015>

ONC | Office of the National Coordinator for Health Information Technology. (n.d.). *Who should be on the electronic health record selection committee? |*HealthIT.gov*.* <https://www.healthit.gov/faq/who-should-be-electronic-health-record-selection-committee>