

Course: Health Records Management

Lecture: 6 Answers to Self-Assessment Questions

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- 1) Define Health Information Systems (HIS) and Electronic Health Records (EHRs) and explain how they complement each other in healthcare delivery.**

A Health Information System (HIS) is an integrated framework that manages the collection, storage, analysis, and dissemination of health-related data to support decision-making in healthcare organizations. It covers clinical, administrative, and financial functions. An Electronic Health Record (EHR) is a digital version of a patient's medical history, including demographics, diagnoses, treatment plans, laboratory results, and progress notes. HIS provides the infrastructure and processes for managing overall health information, while EHRs focus specifically on patient-level data. Together, they complement each other by ensuring efficient management of population health data and accurate patient-centered care.

- 2) Describe the major components of Health Information Systems and analyze how they support both clinical and administrative functions.**

The major components of HIS include hardware (servers, computers, mobile devices), software (applications such as EHR systems, laboratory information systems), databases (where structured health data is stored), networks (enabling data sharing and interoperability), and users (healthcare professionals and administrators). Clinically, HIS supports diagnosis, treatment planning, and monitoring by providing access to real-time patient data. Administratively, HIS facilitates scheduling, billing, resource management, and reporting. The integration of these components ensures efficiency, reduces duplication of tasks, and improves both patient outcomes and organizational performance.

- 3) Discuss the benefits and limitations of Electronic Health Records, giving practical examples from healthcare institutions.**

EHRs offer benefits such as improved access to patient information, reduced medical errors, enhanced coordination of care, and better support for research and public health

reporting. For instance, a hospital using EHRs can quickly share patient records between departments, improving emergency response times. However, limitations include high implementation costs, resistance from healthcare staff, privacy and security concerns, and usability challenges that may lead to clinician burnout. For example, in some developing countries, poor infrastructure limits the full adoption of EHRs, affecting continuity of care.

4) **Explain the importance of interoperability standards such as HL7, FHIR, and SNOMED CT in the integration of HIS and EHRs.**

Interoperability standards enable different health information systems to communicate and exchange data seamlessly. HL7 (Health Level Seven) defines messaging standards for clinical data exchange. FHIR (Fast Healthcare Interoperability Resources) supports modern, web-based integration of EHR data, making systems more flexible and scalable. SNOMED CT provides a standardized clinical terminology that ensures consistency in documenting medical conditions, treatments, and outcomes. These standards are crucial for integrating HIS and EHRs across hospitals, clinics, and national health systems, ensuring continuity of care and supporting evidence-based decision-making.

5) **Evaluate how the integration of HIS and EHRs contributes to improved patient care, efficiency, and evidence-based decision-making in healthcare.**

The integration of HIS and EHRs improves patient care by ensuring that accurate and up-to-date information is available at the point of care, reducing duplication of tests and avoiding medication errors. Efficiency is enhanced by streamlining workflows such as patient registration, billing, and follow-up, thereby saving time and resources. Evidence-based decision-making is supported through the use of large datasets that enable predictive analytics, clinical decision support systems, and population health management. For example, data from HIS and EHRs can be analyzed to track disease trends, evaluate treatment effectiveness, and inform policy decisions at both institutional and national levels.