

# **Course: Health Records Management**

## **Lecture: 2 Answers to Self-Assessment Questions**

**Lecturer: Dr. Johnson Masinde**

### **1. Differentiate between paper-based, electronic, and hybrid health records, giving examples of where each might be applied in healthcare.**

- Paper-based health records are traditional, handwritten or typed records stored in physical files and folders. They are commonly used in small clinics, rural hospitals, or resource-constrained settings where digital infrastructure is limited. For example, a rural dispensary in Kenya may keep patient notes in manila folders filed in cabinets.
- Electronic Health Records (EHRs) are digital versions of patients' medical histories stored electronically and accessible across multiple facilities. They are widely used in modern hospitals and national health systems where interoperability is needed. For example, a tertiary referral hospital may use an EHR that integrates laboratory, pharmacy, and billing systems.
- Hybrid health records combine both paper and electronic systems during the transition to full digitization. They are common in developing countries or facilities upgrading their systems. For example, a hospital might keep doctor's notes on paper but store laboratory and radiology results electronically.

### **2. Discuss the major advantages and limitations of Electronic Health Records (EHRs) in comparison to paper-based systems.**

Advantages of EHRs compared to paper records:

- **Accessibility:** EHRs can be accessed simultaneously by multiple users across locations, while paper records can only be accessed by one person at a time.
- **Accuracy:** EHRs eliminate illegible handwriting and missing pages common in paper systems.
- **Integration:** They allow interoperability across labs, pharmacies, and other departments.

- Decision support: Built-in alerts, reminders, and clinical guidelines support better patient care.
- Research and policy: Data can be aggregated for epidemiology, surveillance, and planning.
- Security: Digital records can be protected with encryption, passwords, and audit trails.

#### **Limitations of EHRs compared to paper records:**

- **High cost of implementation and maintenance**, while paper systems are relatively cheaper to initiate.
- **Training needs** for staff, whereas most are already familiar with paper records.
- **System failures:** Power outages, software bugs, or cyberattacks can disrupt access, while paper is independent of technology.
- **Resistance to change:** Some healthcare providers find EHRs cumbersome compared to the simplicity of paper notes.

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### **3. Explain the challenges of managing hybrid health records and suggest strategies for minimizing duplication and inconsistencies.**

#### Challenges of Hybrid Health Records:

- Duplication of effort: Staff may have to document the same information in both systems.
- Inconsistency: Data may differ between the paper file and the electronic record.
- Fragmentation: Patient history may be incomplete because information is split between formats.
- Time consumption: Cross-referencing between systems slows down clinical workflows.
- Legal ambiguity: It may be unclear whether the paper or electronic copy is the official record.
- Storage burden: Requires both physical storage space for paper and digital infrastructure for electronic systems.

#### **Strategies to minimize duplication and inconsistencies:**

- Define the authoritative record: Clear policies on which format (paper or electronic) is considered the official record.
- Scanning and indexing: Digitize key paper documents into electronic databases.

- Standardized documentation protocols: Ensure uniform procedures for data entry across systems.
- Regular audits: Conduct checks to identify and correct discrepancies between paper and electronic versions.
- Training healthcare staff: Equip staff to manage both formats efficiently.
- Gradual migration plan: Develop a strategy for full transition to EHRs to reduce long-term reliance on dual systems.

#### **4. Compare structured and unstructured health record formats and analyze how each impacts decision-making in patient care.**

Structured records capture data in standardized fields, codes, or templates, such as drop-down menus or ICD codes. They are consistent, searchable, and easy to analyze with computers.

- Impact on decision-making: They support fast retrieval of information, clinical decision support systems (CDSS), interoperability, and population health analysis. For example, structured coding of diagnoses enables accurate disease reporting and treatment planning.
- Limitation in decision-making: They may lack context or narrative details, making it harder to understand complex cases fully.

Unstructured records are free-text or narrative entries such as doctor's notes, nursing reports, or radiology narratives. They are rich in clinical detail but harder to process automatically.

- Impact on decision-making: They allow providers to capture nuanced observations, patient concerns, and context that structured data may not accommodate. For example, a physician's detailed description of symptoms can guide differential diagnosis.
- Limitation in decision-making: Harder to analyze systematically and may lead to missed insights if not reviewed carefully.

Conclusion: Both formats are essential. Structured data ensures standardization and efficiency, while unstructured data provides depth and clinical richness. Modern EHRs integrate both, supported by Natural Language Processing (NLP) to extract insights from unstructured notes.

## **5. With the growing adoption of digital systems, why is it important for health records managers to still understand paper-based records?**

Even with the increasing digitization of healthcare, understanding paper-based records remains important because:

- Widespread use in developing countries: Many health facilities, particularly in rural and resource-poor settings, still depend on paper records.
- Backup systems: Paper records often serve as a backup when electronic systems fail due to power outages or technical problems.
- Historical records: Older patient records are likely to exist only in paper format, requiring management and referencing.
- Legal and administrative value: Paper records are still recognized in courts of law and may be needed for audits, insurance, or compliance.
- Hybrid systems: Many institutions are in transitional phases where both paper and electronic records are used.
- Skills diversity: Health records managers need the flexibility to handle both formats depending on the institutional context.

In summary, knowledge of paper-based records ensures that managers can bridge traditional and modern systems, maintain continuity of care, and support gradual migration to fully electronic health record systems.