

Content Outline

A. Basics of Health Data (25% to 30% of questions)

1. Understand types and sources of health data (internal vs. external).
 - Structured vs Unstructured vs Semi-structured
 - Administrative, claims data, financial, patient-generated
 - Clinical (EHR), patient disease registries
 - Health surveys, clinical trial data, public health data sources (e.g., CDC, WHO)
2. Describe data use (e.g., patient care, billing), functions, purposes, and how data can be utilized for decision-making
3. Demonstrate an understanding of coding systems and the structure of the codes (ICD-10, CPT, HCPCS, SNOMED CT, etc.)
4. Describe the data literacy needs of different levels within organizations:
 - Individual Level
 - Departmental Level
 - Organizational Level
 - Community Level
5. Describe the Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM), and basic data modeling
6. Recognize the categories of health care data that are available in an EHR
7. Differentiate between the types of patient encounters – inpatient vs. outpatient – and the associated data

B. Health Data Integrity (20% to 25% of questions)

1. Describe data quality characteristics
 - Accuracy
 - Accessibility
 - Comprehensiveness
 - Consistency
 - Currency
 - Definition
 - Granularity
 - Precision
 - Relevancy
 - Timeliness
2. Evaluate the quality of data sources
3. Ensure quality and integrity of data
4. Understand the secondary use of data, such as research
5. Explain data governance frameworks and policies
6. Ensure data use adheres to privacy, confidentiality, and compliance requirements

C. Health Data Analysis Fundamentals and Practice (30% to 35% of questions)

1. Use clinical terminologies appropriately in healthcare settings
2. Explain elements and identify examples of an appropriate query
3. Create meaningful data reports
4. Interpret data visualizations, such as histograms, scatter plots, and dashboards
5. Explain how to use data to drive improvement
6. Communicate results of data analysis to various stakeholders
7. Describe ethical considerations in handling sensitive healthcare data
8. Calculate statistics and measures commonly used in healthcare data analysis (example length of stay)
9. Apply data analysis and data cleaning techniques

D. Health Data Management (15% to 20% of questions)

1. Describe the steps in the data lifecycle
2. Understand database design and functionality
3. Describe how health care data is generated and stored
4. Describe EHR database schemas
5. Understand emerging technologies and their impact on health data use and analytics, such as AI and machine learning, big data and its applications in healthcare