**Session 0 term list, Pathology Informatics and Data**

ACMIO

Associate Chief Medical Information Officer. Typically an MD who works under the Chief Medical Information Officer in the medical leadership hierarchy. Usually has a focus on a particular medical service. Often has board certification in clinical informatics in addition to a medical specialty. Pathologists with informatics interests often serve as ACMIOs.

Bioinformatics

A subdiscipline of biomedical informatics that uses computer technology to collect, store, analyze, and disseminate biological data and information usually at the molecular and cellular levels. It is most commonly used to refer to technology and techniques for determining, managing, and annotating nucleic acid and amino acid sequences but is also applied to protein and recepter structural data more generally, metabolism, and cell signalling.

CIO

Chief Information Officer. The head of information technology within the hospital administrative leadership. The IT technicians and managers are on a reporting path up to the CIO.

CMIO

Chief Medical Information Officer. An MD, typically with board certification in clinical informatics, who provides primary medical leadership for IT within the medical administrative hierarchy. Pathologists may serve as CMIOs.

Complex data type

A set of related simple data types that usually represent a real-world object such as a patient or a laboratory test. Complex data types are sometimes referred to generically as “data objects” or “entities” because of their relationship to real-world objects. A single example of a data object is called an “instance.” The simple data types that make up the complex data types are called data elements or attributes.

Data literacy

Having the required knowledge to work with data, interpret it as information, and use it to communicate effectively.

Data quality

The ability of data to satisfy its intended purpose. Data quality has several aspects: completeness/availability, correctness, concordance/consistency, plausibility, and currency.

Data representation

The form in which data is stored, processed, and communicated. Data representation typically includes syntax (a specified arrangement of tokens such as characters to denote a concept) and semantics (a definition of the concept).

Data standard

A formal agreement on data representation, which may include data syntax, semantics, and the set of data elements that should be used to represent specified complex data types.

Informatics

The study of the structure, behavior, and interactions of natural and engineered computational systems including the representation, processing, and communication of information. It has computational, cognitive, and social aspects. In practice, it is usually applied to the optimal design and use of digital computational systems and associated data standards. There are many informatics subdomains including medical informatics and pathology informatics.

Information technology

Hardware and software for acquiring, storing, processing, and communicating digital data. Also, the practice of assembling, configuring, and managing this hardware and software.

Interoperability

The ability of data from one system to be communicated and processed correctly by another system without translation.

Laboratory information stewardship

Taking responsibility for correct and optimal creation, storage, management, communication, presentation, and use of patients’ laboratory data throughout a healthcare enterprise.

Pathology informatics

The subdiscipline of medical informatics that focuses on pathology practice (AP and CP). Its primary goal is the optimal use of pathology information and data systems for effective and efficient patient care. Pathology informatics has a distinct flavor because pathology data has a unique organization that is specimen-centric rather than patient-centric, and an order-result (or report) data flow.

Semantics

The meaning of data, ie, definitions for particular character sequences or the kind of measurement to which numerical values apply.

Semistructured data

Data that includes both structured components and unconstrained natural language components. For example, a data object may have some data elements whose content is fully defined and some for which natural language is allowable. Alternatively, a data object might be a report with defined sections but natural language content in each section.

Structured data

Data that includes only constrained components for which the syntax of all possible entries and their semantics (definitions) are fully specified.

Syntax

The form of data representation, ie, the allowable values for the data in terms of numbers or character sequences.

Unstructured data

Generally refers to character sequences allowing natural language without additional constraint, or only length constraint.



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