

GLOBAL HEALTH INFORMATICS STANDARDS FOR NATIONAL HEALTH INFORMATION

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What is Interoperability?

is ability of two or more systems or components to **exchange information** and to **use the information** that has been exchanged.

IEEE standard computer dictionary: a compilation of IEEE standard computer glossaries.1990.

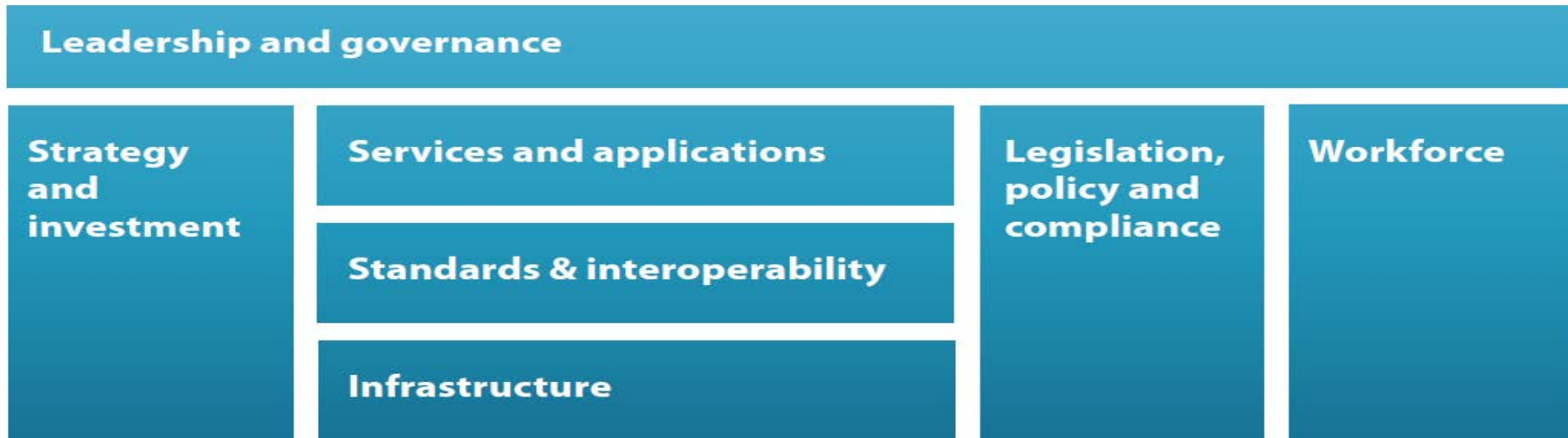
Applied to information technology...

- ...refers to the ability to exchange information meaningfully among separately developed systems, where the separate systems are able to **understand the format, meaning and quality** of the information being exchanged

WHO-ITU National eHealth Strategy Toolkit

Seven eHealth Components

eHealth components



Why Interoperability and information standards

Improve use of data



**Exchange of health information
across health systems and
services.**



Standards enable consistent and accurate collection of data



**WHAT ARE SOME OTHER EXAMPLES
OF STANDARDS?**

An example...



One laboratory may record a lab test as a “white count”.

A hospital, however, might call the same test a “WBC”.



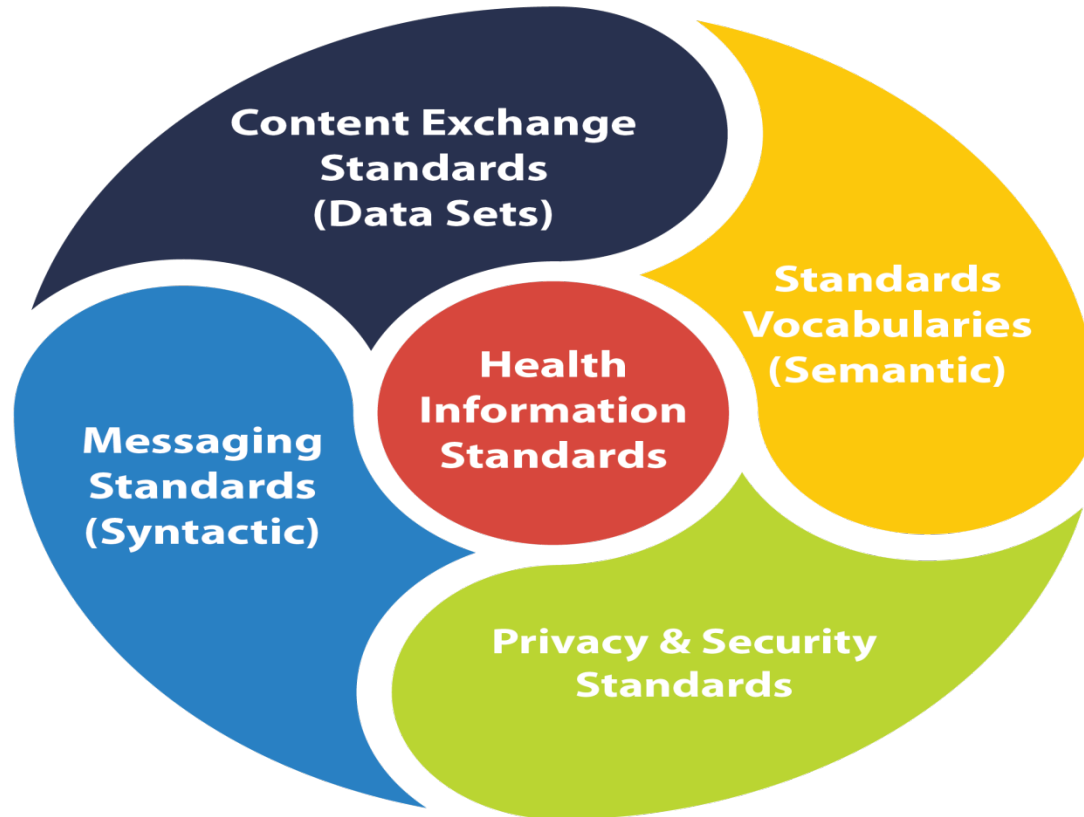
For a computer to report and analyze these tests accurately, they should both be coded in an industry standard terminology such as LOINC.



Some examples of data standards...

- **Health Level Seven (HL7)** — standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services
- **International Classification of Diseases, 10th revision (ICD-10)** — a coding scheme for clinical diagnoses and causes of death
- **Systematized Nomenclature for Medicine (SNOMED)** – a clinical messaging standard
- **Logical Observation Identifiers Names and Codes (LOINC)** – to facilitate the exchange and pooling of results for clinical care, outcomes management, and research

Categories of Health Information Standards



Health data Standards

❑ Content Exchange Standards - Core data sets

- Health Data Dictionary: eg. Referral letter, Billing Data Set
- Patient summary data set
- Continuity Care Document (CCD) - HL7 CDA

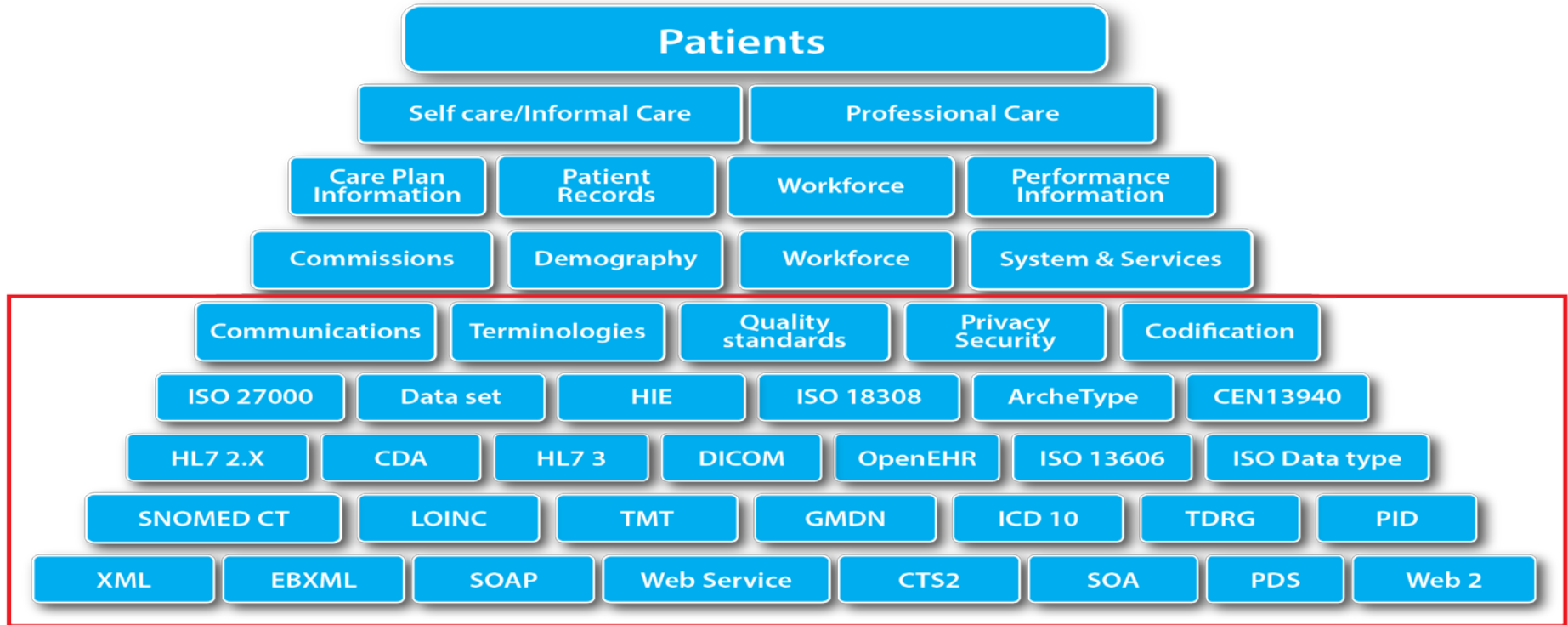
❑ Standard Vocabularies - Semantic

- Patient, Providers identifiers
- Classification : ICDs
- Terminology: SNOMED-CT, LOINC

Health data Standards (2)

- Messaging Standards - Syntactic :
 - HL7 V2, HL7 V3 messaging standards
 - DICOM
- Security and Privacy standards
 - PKI (Public Key Infrastructure)
 - SSL (Secure Sockets Layer)
 - Digital signature

Landscape of Health Data Standards



From: Standards – Yesterday, Today and Tomorrow: Integrating the Standards for Healthcare presentation , Ken Lunn, 17 October 2011

Where does this happen in HIE architecture?

- Terminology Services provides a centralized resource for key data structures that ensure incoming data is:
 - normalized to defined standards,
 - stored using these standards, and
 - accessed by other HIE components in a consistent, reproducible way.
- Terminology Services is the “registration entity” for clinical data elements and standards used throughout the HIE.

An example...

- In our previous example of “white count” and “WBC”.
- The Terminology Services component performs this function for the HIE, reporting that both tests are examples of LOINC 6690-2 “Leukocytes [# /volume] in Blood by Automated count”.