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HEALTH IT STANDARDS

Data Sheet

Health IT Standards

Like every other industry, healthcare has a set of standards for the information exchange. These standards are necessary for the information flow connecting systems together. Standards may be related to security, data transport, data format or structure, or the meanings of codes and terms.

Standards are developed and maintained by Standards Development Organizations (SDOs). These standards are certified by the American National Standards Institute (ANSI) based on a number of rules. Standards definition is a collaborative process involving the audience that will be using them.

Health care organizations can reduce implementation costs, accelerate integration projects, and cash in of common tooling by making an attempt to use standards whenever possible.

Interoperability is made possible by the implementation of standards. ONC publishes the Interoperability Standards Advisory (ISA) to recognize the interoperability standards and implementation specifications for industry use. ONC is supporting the health IT community in organizing and prioritizing health IT challenges and providing the standards consequently to fulfill the specific health IT interoperability needs and to overcome the challenges.

Standards can be classified based on the functionality, the syntax, or the purpose of their use.

Functionally:

IT standards can support the data transport, communication between systems, define the content used, or describe computations or operations performed by the system.

Syntactically:

The standards can use traditional text-based forms of electronic data interchange (EDI), use XML, ODL, IDL, or UML, or binary data formats (e.g. ASN.1) for exchange.

Purpose:

Treatment, payment or operations, or a combination of these can be supported by Health IT standards.

Major Developers of Healthcare IT Standards

ASC X12
The Accredited Standards Committee

Accredited Standards
Committee (ASC)

NCPDP

National Council for
Prescription Drug
Programs (NCPDP)

DICOM
Digital Imaging and Communications in Medicine

Digital Imaging and
Communication in
Medicine (DICOM)

International
Standards
Organization (ISO)

International Health
Terminology SDO
(IHTSDO)

Institute of Electrical
and Electronics
Engineers (IEEE)

Regenstrief
(LOINC)

ASTM
International

Health Level Seven
International
(Hl7)

Health IT Standards to Watch

- **Consolidated–Clinical Document Architecture (C-CDA)** — A framework for creating clinical documents that contain both human-readable text and machine-readable XML. It provides an exchange model specifying the structure and semantics for the clinical documents, recently known as Patient Record Architecture (PRA).
- **Direct** — A standard developed for a secure, scalable, standards-based way to send encrypted health information directly to cryptographically validated recipients over the Internet.
- **Fast Healthcare Interoperability Resource (FHIR)** — FHIR is a specification for exchanging clinical and administrative healthcare data. The standard is based on REST and OAuth, published by Hl7.
- **Validated Healthcare Directory Implementation Guide** – an HL7 FHIR based implementation guide that describes the architectural considerations for attesting to, validating, and exchanging validated data from a central source as well as a RESTful FHIR API for accessing data from that directory.
- **Integrating the Healthcare Enterprise (IHE)** — It promotes the coordinated use if established healthcare integration standards to address specific clinical needs in support of optimal patient care. IHE's work is organized into profiles that define how systems should cooperate and some of those profiles are:

  - **ATNA** — audit trail and node authentication: basic security and audit logging
  - **XCA** — cross-community access: query and retrieve patient records held by other communities
  - **XCPD** — cross-community patient discovery: locates patient records in other communities and resolves different patient identifiers
  - **XDR** — cross-community interchange: point-to-point sharing of electronic documents
  - **XDS** — cross community document sharing: discovery and sharing of electronic documents
  - **PDQ** — patient demographics query: consult a central patient information server to look up patient identity based on demographics
  - **PIX** — queries for patient identity cross references among different sites

- **Health Level 7 (HL7) v2 messaging** — A commonly used data interchange standard. This standard includes messaging specifications for patient administration, orders, results, scheduling, claims management, document management, and many others.
- **Quality Reporting Document Architecture (QRDA)** — A standard for communicating healthcare quality measurement information. The standard conforms to the requirements of HL7 Clinical Document Architecture Release 2.0.
- **Health Quality Measure Format (HQMF)** — A standards-based representation of quality measures as electronic documents. It defines the information necessary to compute a quality measure and result value.
- **OAuth 2.0** — A simple authorization framework that enables a third-party application to obtain access to an HTTP service.
- **HEART** (Health Relationship Trust) — A set of profiles that enables patients to control how, when, and with whom their clinical data is shared. It builds on existing security and adds additional components to ensure that patient clinical data is securely exchanged.

- **OpenID Connect** — A simple identity layer designed to work with Oauth 2.0. It allows clients of all types to request and receive information about authenticated sessions and end-users.
- **Prescription Drug Monitoring Program (PDMP)** — An electronic database that provides health authorities timely information about prescribing and patient behaviors.
- **DICOM** — A Standard that handles, stores, prints, and transmits information in medical imaging.
- **LOINC** — It applies universal code names and identifiers to medical terminology and assists in the electronic exchange and gathering of clinical results.
- **EHR-Lab Interoperability and Connectivity Standards (ELINCS)** — A Standard for reporting lab test results.
- **National Council for Prescription Drug Programs (NCPDP)** — It governs prescription transactions.