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**Networking and Health
Information Exchange**

Unit 3c
National and International Standards
Developing Organizations

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Unit 3 Objectives

- To learn about standards developing organizations and the standards they create – a continuation of the focusing on U.S. standards bodies.

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**International Health Terminology Standards
Development Organization (IHTSDO)**

- Purpose is to develop and promote use of SNOMED CT to support the safe, accurate, and effective exchange of health information.

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Digital Imaging and Communications in Medicine

- Formed by American College of Radiology (ACR) and the National Electrical Manufacturers Association (NEMA) in 1983
- Purpose: create a standard for the transmission of medical images and their associated information.

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DICOM

- DICOM addresses images in cardiology, dentistry, endoscopy, mammography, ophthalmology, orthopedics, pathology, pediatrics, radiation therapy, surgery, and others.

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DICOM functionality

- Transmission and persistence of objects (images, waveforms, and documents)
- Query and retrieval of such objects
- Performance of specific functions (such as printing images on film)
- Workflow management (support of worklists and status information)
- Quality and consistency of image appearance for display and print

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**ASTM E31
Healthcare Informatics**

- Develops standards related to the architecture, content, storage, security, confidentiality, functionality, and communication of information used within healthcare.

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ASTM E31 key standards

- Continuity of Care Record (CCR) is a core dataset sent to the next provider whenever a patient is referred, transferred, or uses a different clinic, hospital or other provider.
- Standards for medical transcription
- Content and structure of the EHR

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ASTM E31 key standards

- Confidentiality, privacy and security; authentication and authorization
- Guideline Elements Model (GEM)
- Quality Indicators
- Voluntary Universal Healthcare Identification System

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ASC X12N

- Chartered by ANSI in 1979 to develop electronic data interchange (EDI) standards.
- Responsible for insurance/ claims/ reimbursement standards.
- HIPAA requires the use of a number of X12N standards.

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X12N key standards

- 835 – Health Care Claim Payment/Advice
- 837 – Health Care Claim
- 274 – Health Care Provider Information
- 275 – Additional Payer Health Care Information
- 277 – Health Care Claim Acknowledgement
- 276 – Health Care Claim Status Report
- Claims attachment standards – co-developed with HL7

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National Council for Prescription Drug Programs (NCPDP)

- Create and promote data interchange standards for the pharmacy services industry.
- NCPDP standards have been named in HIPAA legislation in Medicare Prescription Drug, Improvement, and Modernization Act (Medicare, Part D).

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NCPDP key standards

- Script (v10.10) – allows communication between physician and pharmacist
- Telecommunication (vD.3) – addresses data format and content, transmission protocol
- Data dictionary – names and definitions of data elements used in all NCPDP standards

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NCPDP key standards

- Batch Standard Implementation Guide (IG) (v1.2)
- Billing Unit Standard IG (v3.0)
- Formulary and Benefit IG (v2.1)
- Prescription File Transfer IG (v2.0)
- Universal Claim Form (v1.1)

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SDO Charter Organizations objectives

- Create common information model
- Define common method for expressing stakeholder commitments
- Leveraging current terminology and data types work
- Use common approach to achieve interoperability across healthcare community
- Recognizing roles and responsibilities of stakeholders and creating an effective outreach to subject matter experts

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Category	Examples	SDOs
Generic, broad use	XML, TCP/IP, Web services, OCL, OWL, CCOW, GIS	W3C, IETF, OMG, HL7
Data definition	RIM, data elements, data types, terminology, templates, archetypes, clinical statements	HL7, CEN, ISO, NCPDP, X12N, IEEE, SNOMED, LOINC, R3Norm, SPL, openEHR
Data exchange	Structured and free form documents, images, CDA, CCR	HL7, DICOM, ASTM, NCPDP, IEEE, X12N, ISO
Knowledge representation	Guidelines and protocols, Arden Syntax, GLIF, GEM, PRODIGY, PROTIGE, vMR, GELLO, disease management	HL7, ASTM, CEN, openEHR, ISO

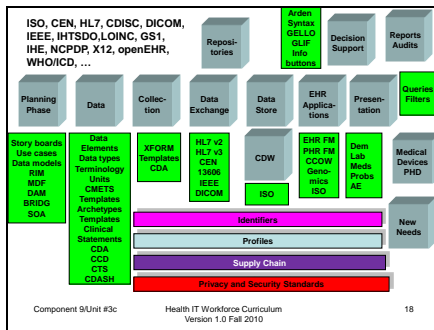
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Category	Examples	SDOs
Electronic Health Record	Functional requirements, content data sets, minimum data sets, EHR models, architecture	HL7, ASTM, CEN, openEHR, ISO
Security and Privacy	Encoding, encryption, authentication, authorization, integrity, digital signature	IETF, OMG, ASTM, HL7, ISO
Application	Identifiers, resource registries, tool sets, conformance requirements, certification, SOA, simulation, implementation manuals	HL7, ASTM, ISO, CEN

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Getting access to standards

- Standards Knowledge Management Tool
 - JIC/ISO project sponsored by Universite de Sherbrooke
 - www.skmtglossary.org
 - Most major standards listed
- Duke Center for Best Practices
 - www.ctnbestpractices.org/standards-inventory/

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Getting involved

- HIT data standards will continue to evolve, and new standards will be introduced.
- Most standards are created by a consensus process by individuals interested in influencing, developing and using the resulting standards. To participate, join the SDO and participate in the work groups.
- Most SDO provide tutorials and educational opportunities to learn about the standards.

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