Supporting Health IT Standardization Across the Globe

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AHIMA's core strategy is to drive the power of knowledge where and when it's needed. The development and use of sound standards are a key component of that vision. AHIMA has long provided leadership for its members and other healthcare stakeholders by developing and implementing health information technology (HIT) standards with various standard development organizations and entities—including the World Health Organization Family of International Classifications (WHO-FIC), Health Level Seven (HL7), Integrating the Healthcare Enterprise (IHE), and others.

With its expertise and both national and international recognition, in 2011 AHIMA was invited by the American National Standards Institute (ANSI) to support standards development activities at the global level by holding the Office of the Secretariat for the International Organization for Standardization (ISO) Technical Committee (TC) 215 on Health Informatics (ISO/TC215) and the United States Technical Advisory Group (US TAG) for ISO/TC215, the group of US-based experts participating in ISO/TC215.

AHIMA's Role at ISO

AHIMA is committed to partnering with industry allies, including other associations, employers, universities, government agencies, and consumer groups, to enhance the use of health data in professional practice; create standards for interoperability of health information systems; and advocate for their consistent application across the healthcare domain. To support this goal, AHIMA holds the ISO/TC215 Office of the Secretariat and administers ISO/TC215 US TAG.

ISO is the world's largest developer and publisher of international standards. Since its inception in 1989, ISO/TC215 Health Informatics and its US TAG cover multiple domains of healthcare delivery systems. Working as a global community, ISO/TC215 brings together public and private sectors from more than 50 nations participating and observing the development of health information and HIT standards. ISO/TC215 also collaborates with 29 other ISO Technical Committees and nearly 15 other liaison organizations to create consensus standards in health informatics.

The mission of ISO/TC215 is to improve compatibility and promote interoperability between health information systems—electronic health record (EHRs) systems, laboratory information management systems (LIMS), pharmacy systems, public health surveillance systems, personal health record systems (PHRs), and other medical and population health information communication products and technologies. ISO/TC215 focuses on standardizing information and communications technology (ICT) for compatibility of data to improve safety and positive outcomes of healthcare delivery, compare statistical purposes, aid public health interventions, foster research, and reduce a duplication of efforts and inefficiencies across healthcare.

The ISO/TC215 US TAG is the formal committee through which US organizations and individuals can participate in and influence international standards in healthcare. The US TAG is comprised of subject matter experts and organizations from both public and private stakeholder communities to represent American interests on health informatics and HIT interoperability-focused standards. The US TAG met on September 11, 2014 in Washington, DC, in preparation for the ISO 215 meeting in October 2014. Participants reviewed new standards that are currently under development at ISO/TC215. In addition, they discussed ways to increase the efficiency of standards development and adoption by the healthcare industry.

The Role of the HIM Professional in ISO

AHIMA believes that expertise in HIM is necessary for the development and adoption of effective interoperable standards-based HIT solutions that will be able to share information electronically. ISO/TC215 and ISO/TC215 US TAG provide the forum where HIM professionals can participate in developing heath IT standards for HIM practices in the US and internationally. In ISO, HIM professionals may:

- Help standards developers to understand:
    - Medical records life cycle
    - Data needs for HIM, such as:
        - Electronic data capture, validation, and maintenance
        - Data/information analysis and decision support
        - Health information resource management and innovation
        - Information governance and stewardship
- Develop HIT and HIM practice standards for the management of health information in the electronic environment
- Establish HIM leadership and influence on health informatics standardization

Today ISO/TC215's portfolio includes over 125 standards, technical specifications (TS), and technical reports (TR). Table 1 [below] presents examples of ISO standards that support electronic health information exchanges (HIEs). These standards are grouped by high level categories (health; eHealth; medical records; clinical information systems; content, electronic information exchanges; and information governance) to demonstrate relevance of these standards to HIM practices.

These standards play a vital role in enabling health information systems to collect and exchange information seamlessly. For example, "content standards" (terminologies, classifications, data formats, and structure) aimed to unify representation of data and information across various systems. "Information exchange standards" define transport mechanisms for sending/receiving/sharing information between clinical, public health, administrative, and research systems. "Information governance" standards ensure data integrity, secure access to information for authorized users, and protection of information privacy.

More Work to Be Done

Further efforts are needed to conduct a gap analysis of these and other ISO standards in order to ensure their coverage and readiness in supporting HIM practices in electronic data exchanges. AHIMA invites its members to collaborate with the ISO/TC215 international community in developing and implementing HIT standards to enable interoperability (i.e., the ability to share information electronically) across health information systems.

With advances in virtual tools and teleconferencing technology used by ISO/TC215, it is easier than ever to collaborate, contribute, learn, and discover standards-based technology to support HIM. AHIMA members' expertise and perspectives are essential to the successful development of international standards for systems interoperability and information sharing at ISO. To participate in health informatics standards development with AHIMA and ISO, please contact AHIMA's standards team at standards@ahima.org.

Table 1. Examples of ISO/TC215 Standards to Support Electronic Information Exchanges
Health
Health indicators conceptual framework ISO 21667:2010
System of concepts to support continuity of care ISO/IS 13940
eHealth

Capacity-based eHealth architecture roadmap — Part 1: Overview of national eHealth initiatives ISO/TR* 14639-1
Deployment of a clinical data warehouse ISO/ TS** 29585:2010
Knowledge management of health information standards ISO/TR 13054:2012
Interoperability of telehealth systems and networks — Part 1: Introduction and definitions ISO/TR 16056-1
Health informatics profiling framework TR 17119 ISO/TR 17119:2005
Public key infrastructure — Part 1: Overview of digital certificate services ISO 17090-1:2008
Public key infrastructure — Part 2: Certificate profile ISO 17090-2:2008
Public key infrastructure — Part 3: Policy management of certification authority ISO 17090-3:2008
Medical Records
Business requirements for health summary records — Part 1: Requirements ISO/TR 12773-16
Business requirements for health summary records — Part 2: Environmental scan ISO/TR 12773-1
Classification of purposes for processing personal health information ISO/TS 14265:2011
Health cards — General characteristics ISO 20301:2006
Health cards — Numbering system and registration procedure for issuers identifiers ISO 20302:2006
Personal health records: definition, scope and context ISO/TR 14292:2012
Patient healthcard data — Part 1: General structure ISO 21549-1:2004
Patient healthcard data — Part 2: Common objects ISO 21549-2:2004

Patient healthcard data — Part 3: Limited clinical data ISO 21549-3:2004
Patient healthcard data — Part 4: Extended clinical data ISO 21549-4:2006
Patient healthcard data — Part 5: Identification data ISO 21549-5:2008
Patient healthcard data — Part 6: Administrative data ISO 21549-6:2008
Patient healthcard data — Part 7: Medication data ISO 21549-7:2007
Patient healthcard data — Part 8: Links ISO 21549-8:2010
Document registry framework ISO/TS 27790:2009
Health Information Systems (EHR, LIMS, Medical Devices and Other)
EHR definition, scope and context ISO/TR 20514:2005
EHR system functional model ISO/HL7 10781:2009
Functional and structural roles ISO/TS 21298:2008
Requirements for an electronic health record architecture ISO/TS 18308:2011
Clinical analyser interfaces to laboratory information systems — Use profiles ISO 18812:2003
Personal health device communication — Part 10406: Device specialization— Basic electrocardiograph (ECG) (1- to 3-lead ECG) ISO/IEEE 11073-10406:2012
Classification of safety risks from health software ISO/TS 25238:2007
Content (Data Content, Formats and Structures)
Guidelines for terminology development organizations ISO/TR 12309:2009

Controlled health terminology — Structure and high-level indicators ISO/TS 17117:2002
Harmonized data types for information interchange (name change 2007) ISO 21090:2011
HL7 v3 — Reference information model SO/HL7 21731:2006
Integration of a reference term model for nursing ISO 18104:2003
Identification of subjects of healthcare ISO/TS 22220:2011
Format of length limited globally unique string identifiers ISO 18232:2006
Medical waveform format — Part 92001: Encoding rules ISO/TS 11073-92001:2007
Vocabulary for terminological systems ISO 17115:2007
Information Exchanges
EHR communication — Part 1: Reference model ISO 13606-1:2009
EHR communication — Part 2: Archetype interchange specifications ISO 13606-2:2008
EHR communication — Part 3: Archetypes and term list interchange specifications ISO 13606-3:2008
EHR communication — Part 4: Security ISO/TS 13606-1.561805556
EHR communication — Part 5: Interface specification ISO 13606-5:2010
Health Informatics — Service architecture — Enterprise viewpoint ISO 12967-1:2009
Health Informatics — Service architecture — Information viewpoint ISO 12967-2:2009
Health Informatics — Service architecture — Computational viewpoint ISO 12967-3:2009

HL7 v 2.5 — An application protocol for electronic data exchange in healthcare environments ISO/HL7 27931:2009
IHE global standards adoption — Part 1: Process ISO/TR 28380-1:2014
IHE global standards adoption — Part 2: Integration and content profiles ISO/TR 28380-2:2014
IHE global standards adoption — Part 3: Deployment ISO/TR 28380-3: 2014 [Publication expected December 2014]
Information Governance
Good principles and practices for a clinical data warehouse ISO/TR 22221:2006
Information security management in health using ISO/IEC 27002 ISO 27799:2008
Directory services for healthcare providers, subjects of care and other entities ISO 21091:2013
Privilege management and access control — Part 1: Overview and policy management ISO/TS 22600-1
Privilege management and access control — Part 2: Formal models ISO/TS 22600-1
Privilege management and access control — Part 3: Implementations ISO/TS 22600-1
Audit trails for electronic health records ISO 27789
Pseudonymization ISO/TS 25237:2008
Secure archiving of electronic health records — Part 1: Principles and requirements ISO/TS 21547:2010
Secure archiving of electronic health records — Part 2: Guidelines ISO/TR 21548:2010
*TR – Technical report **TS – Technical specification

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