HIT Standards for HIM Practices in an Interoperable World

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At the 2015 AHIMA Convention and Exhibit, members of AHIMA's Standards Task Force reported on a ground-breaking white paper they developed called "Health IT Standards for Health Information Management Practices," a first-of-its-kind white paper that serves as a guide for health information management (HIM) and health information technology (HIT) professionals involved in the development, implementation, and operation of HIT products in healthcare.[1]

Developed by AHIMA in collaboration with Integrating the Healthcare Enterprise (IHE)—an international collaborative of HIT vendors, professional associations, and governmental entities that develop, test, implement, and use interoperability standards in healthcare—the white paper does the following:

- Informs HIT standards developers and implementers about HIM practices
- Outlines a methodology to engage HIM professionals in defining their needs for HIT products
- Offers a detailed analysis of HIM business requirements and best practices related to information governance principles in healthcare that, in turn, guide the development of use cases for standards-based software applications
- Specifies use cases for HIT capabilities needed to support HIM practices
- Defines an approach for adoption of interoperability standards to support HIM practices

The white paper also provides a roadmap for cross-collaboration between HIM professionals, standards developers, and HIT vendors to support the capture, management, sharing, and use of electronic health information.

Figure 1: Approach for Guiding the Development of HIT Standards to Support HIM Practices

Source: AHIMA and Integrating the Healthcare Enterprise. "Health IT Standards for Health Information Management Practices." 2015. http://qrs.ly/lb4vec0.

Standardizing HIM Practices

The 2015 AHIMA-IHE white paper specified a collaborative informatics-based approach for translating HIM practices into HIT standards as depicted in Figure 1 above. Based on AHIMA's Information Governance Principles for Healthcare™, HIM business requirements were specified by principle; a literature review enabled the generation of a checklist of best HIM practices by requirement; and a requirement analysis allowed deriving use cases to specify both clinical work processes and needed capabilities of HIT products. Use cases serve as a foundation for the development of HIT standards.

Based on this approach, in 2016 AHIMA's Standards Task Force will continue to focus on two major recommendations of the roadmap:

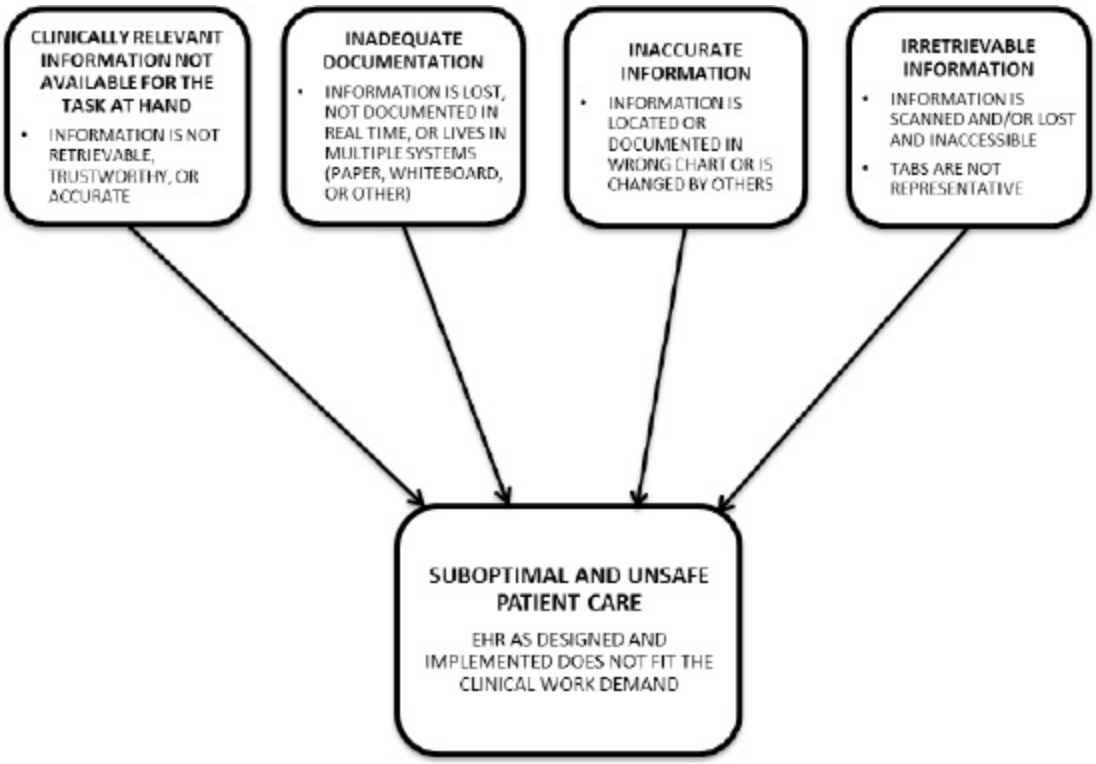
1. Standardize HIM business practices in collaboration with HIM professionals.

2. Guide the development and adoption of standards-based HIT solutions in collaboration with standard developers and vendors.

AHIMA and IHE developed the white paper as part of AHIMA's globally focused information governance (IG) initiative to address real problems that users of HIT systems have been experiencing. A five-year study recently published by the US National Institute of Standards and Technology (NIST) on usability of EHR systems identified the following four issues with EHR adoption:[2]

1. Clinically relevant information is not available for the task at hand
2. Inadequate documentation
3. Inaccurate information
4. Irretrievable information

Figure 2: EHR Usability Concerns that May Affect Patient Care



Source: US National Institute of Standardization and Technology (NIST). "Technical Evaluation, Testing, and Validation of the Usability of Electronic Health Records: Empirically Based Use Cases for Validating Safety-Enhanced Usability and Guidelines for Standardization." http://nvlpubs.nist.gov/nistpubs/ir/2015/NIST.IR.7804-1.pdf.

Figure 2 above, which was featured in the NIST study, shows how these four issues affect patient safety.

The roadmap for collaboration between HIM professionals, standards developers, and HIT vendors outlined in the 2015 AHIMA-IHE white paper is specifically focused on addressing these issues.Business requirements for information availability, integrity, and protection were specified in the AHIMA-IHE white paper. Table 1 below shows completed and future efforts in specifying business requirements by IG principle for information accountability, transparency, compliance, retention, and disposition.

Table 1: Business Requirements Specified by IG Principle

Information Governance Principles: Business Requirements	
2015 AHIMA-IHE White Paper	**2016**
1. Information availability 2. Information integrity 3. Information protection	1. Information accountability 2. Information compliance 3. Information transparency 4. Information retention 5. Information disposition

AHIMA will continue to deploy requirement analysis methodology to specify functional requirements for HIT systems by business requirement (see Figure 2). In this effort, AHIMA will differentiate work processes conducted by clinicians and/or HIM professionals (business actors) from those conducted by or with the support of the EHR system and other HIT products (technical actors). The resulting requirements will be depicted in (a) an HIM practice checklist of best practices of business actors (i.e., business standards), as well as (b) use cases for supporting HIM practices by technical actors (HIT systems) in order to guide standardization of HIT capabilities (i.e., HIT standards). Table 2 below shows use cases specified in the 2015 AHIMA-IHE white paper and those that will be developed in 2016.

Table 2: Use Cases for HIT Standards

2015 White Paper	**2016**
1. All documents in the episode of care record are accounted for 2. Episode of care record is complete and closed 3. Release of Information (ROI) to external requestor 4. Audit for the episode of care record 5. Audit for the ROI	1. Data quality 2. Copy and paste 3. Patient registration 4. Patient matching 10. Transition of care

Upon completion of the business requirements, HIM practice checklists, and use cases (Tables 1 and 2), AHIMA anticipates conducting harmonization between these elements and the AHIMA Information Governance Adoption Model. This will provide examples of policies, procedures, and controls that organizations could use when implementing and using HIT products.

Guiding the Development of HIT Standards

In 2016 AHIMA will initiate the review of IHE interoperability standards to ensure they meet HIM business practice standards.

The approach employed in the IHE is to support the use of existing standards developed by the standards development organizations, such as Health Level Seven (HL7), ASTM International (ASTM), Digital Imaging and Communication in Medicine (DICOM), International Organization for Standardization (ISO), Internet Engineering Task Force (IETF), Organization for the Advancement of Structured Information Standards (OASIS), and others. IHE interoperability standards further constrain configuration choices where necessary to ensure they can be used in their respective domains in an integrated manner. When revisions or extensions to existing standards are necessary, IHE refers recommendations to the relevant standards bodies.

IHE interoperability standards are maintained under technical frameworks—a conduit of profiles aimed at enabling interoperability. Various IHE committees produce technical frameworks within their respective areas that form the IHE Technical Framework. IHE develops technical frameworks for anatomic pathology, cardiology, dentistry, endoscopy, eye care, IT infrastructure, laboratory, patient care coordination, patient care device, pharmacy, quality, research and public health, radiation oncology, and radiology.

The IHE IT Infrastructure (ITI) Technical Framework identifies a subset of the functional components of the healthcare enterprise, called IHE actors, and specifies their interactions in terms of a set of coordinated, standards-based transactions.[3] The transactions are organized into functional units called integration profiles that highlight their capacity to address specific IT infrastructure requirements. ITI integration profiles are consistent and can be used in conjunction with the profiles of other IHE domains mentioned above. The ITI Technical Framework includes several fundamental profiles, such as:

- Sharing Value Set
- Consistent Time
- Patient Identifier Cross-referencing
- Patient Demographics Query
- Patient Administration Management
- Patient Synchronized Applications
- Basic Patient Privacy Consents
- Enterprise User Authentication
- Cross-Community Access
- Cross-Enterprise User Assertion
- Cross-Enterprise Document Sharing
- Cross-Enterprise Document Reliable Interchange
- Scanned Documents Integration Profile
- Cross-Enterprise Document Media Interchange
- Retrieve Information for Display
- Retrieve Form for Data Capture
- Audit Trail and Node Authentication

In 2016, AHIMA will initiate the review of IHE interoperability standards to ensure they meet HIM business practice standards. Consistent with its selected use cases (see Table 2), AHIMA will focus on reviewing IHE standards related to representation of organizational policies, patient identity management and matching, and privacy choices. Therefore, the following standards have been selected for review (the following sections provide a brief overview of these selected standards):

- IHE ITI White Paper: Template for Cross-Document Sharing Affinity Domain Deployment Planning[4]
- Patient Identifier Cross-Referencing (PIX)[5]
- Patient Demographics Query (PDQ)[6]
- Basic Patient Privacy Consents (BPPC)[7]

Affinity Domain Deployment Planning

Published in 2008, the IHE ITI white paper "Template for Cross-Document Sharing Affinity Domain Deployment Planning" described how organizations need to define policies for successful implementation of document sharing software applications. The paper provides an inventory of needed documentation for specifying implementation decisions and policies as well as a list of topics for implementers in planning for deployment. Specific examples of these policies include operational policies on documentation management; definitions of business actors (departments, clinicians, and their roles) and involved technical actors (information systems); policies on information exchanges with external systems; information privacy and security; coded terminology; and others.

Patient Identifier Cross-referencing

Patient identifier cross-referencing (PIX) profile specifies matching of patient identifiers from multiple entities participating in information exchange. These patient identifiers can then be used by identity consumer systems to correlate information about a

single patient from sources that know the patient by different identifiers.

Patient Demographics Query

Patient demographics query (PDQ) profile provides ways for multiple distributed applications to query a patient information server for a list of patients based on user-defined search criteria, and retrieve a patient's demographic information directly into the application. IHE maintains PIX and PDQ profiles using HL7 Version 2 (V2) and HL7 Version 3 (V3) as the message formats, and simple object access protocol (SOAP)-based web services for transport.

Basic Patient Privacy Consents

Basic patient privacy consents (BPPC) profile provides a mechanism to record the patient privacy consent(s), a method to mark documents published to Cross-Enterprise Document Sharing (XDS) environment with the patient privacy consent that was used to authorize the publication, and a method for XDS consumers to enforce the privacy consent appropriate to the use. In 2016, IHE will work on the Advanced Patient Privacy Consents (APPC) content profile to address patient choices for information sharing in the transition of care use case.

In addition to reviewing these four IHE standards, the AHIMA Standards Task Force will contribute to the development of the APPC profile.

Help is Wanted

Last year 19 HIM professionals on the AHIMA Standards Task Force served as subject matter experts in developing the AHIMA-IHE white paper. The white paper received about 150 comments during the public comment period. Though the authors feel very confident, the scope of the effort needed to guide the standardization process from the HIM community is truly overwhelming. The task force still needs help from individuals in the following areas of expertise:

1. Information privacy and security
2. Patient identity management
3. Clinical documentation improvement and coding
4. Health information exchanges
5. Data quality and documentation integrity
6. Legal aspects of information management and use

AHIMA invites HIM professionals to join the AHIMA Standards Task Force to help guide the development of interoperable HIT standards and lead the deployment and use of standard-based HIT products in their organizations. Please contact AHIMA's Diana Warner at diana.warner@ahima.org to join the task force.

Acknowledgment

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Notes

[1] Integrating the Healthcare Enterprise. "Health IT Standards for Health Information Management Practices." 2015.

[2] US National Institute of Standardization and Technology. "Technical Evaluation, Testing, and Validation of the Usability of Electronic Health Records: Empirically Based Use Cases for Validating Safety-Enhanced Usability and Guidelines for Standardization." 2015.

[3] Integrating the Healthcare Enterprise. "ITI Technical Framework."

[4] Integrating the Healthcare Enterprise IT Infrastructure Committee. "Template for Cross-Document Sharing (XDS) Affinity Domain Deployment Planning." December 2, 2008.

[5] Integrating the Healthcare Enterprise. "IT Infrastructure Technical Framework Supplement: Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 15 (PDQV3)." August 10, 2010.

[6] Ibid.

[7] Integrating the Healthcare Enterprise. "Patient Care Coordination (PCC) Technical Framework Supplement: Basic Patient Privacy Consents (BPPC) Trial Implementation Version." 2006.

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