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Evaluating HIT Standards

Key Principles to Support Healthcare IT Interoperability in the United States

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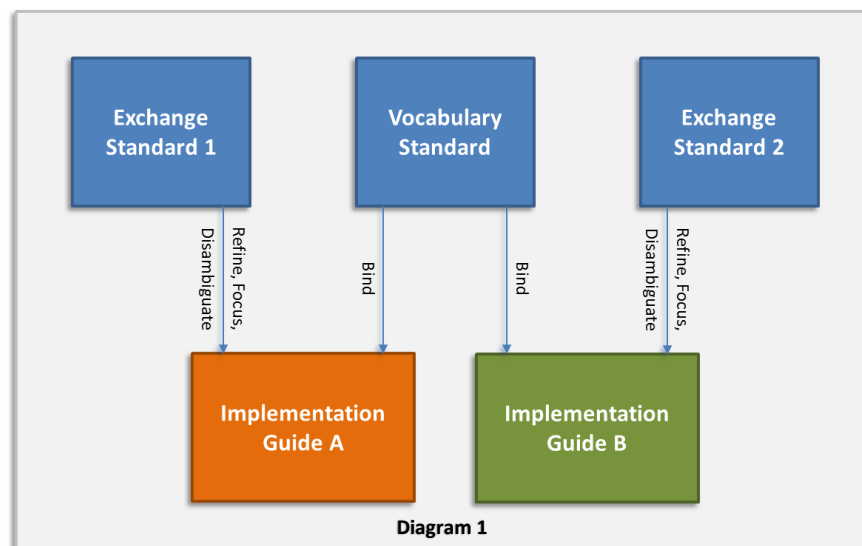
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Introduction

The objective of this paper is to provide a set of principles for the HIMSS Interoperability & Standards (I&S) Committee. These principles are intended to facilitate the Committee's support of particular standards and implementation guides for adoption, as well as recommendations of those that should be considered for development by the industry to improve widespread adoption and deployment of interoperability in health information technology (HIT) systems. The included historical perspective provides further context on how the various standards initiatives are coordinated in the United States (U.S.). The goal of these efforts is to establish consistent, compatible, and usable standards that enable interoperability across the myriad software solutions that support providers, both internally and externally to their organizations.

Definition of Terms

The terms “*standard*” and “*implementation guide*” are frequently used interchangeably, but for purposes of this document they are addressed separately. The following diagram highlights the distinction:



Standards

A standard provides the fundamental definitions for and structures of the data that can be communicated across a wide variety of use cases. Examples of standards include:

- Health Level 7 (HL7) version 2
- HL7 V3 Clinical Document Architecture (CDA)
- American Standards Committee (ASC) X12 5010
- International Health Terminology Standards Development Organization (IHTSDO) Systemized Nomenclature of Medicine (SNOMED)
- Logical Observation Identifiers Names and Codes (LOINC) (maintained by Regenstrief)

Base Standards

Base standards typically attempt to accommodate multiple, highly diverse use cases at an abstract level. The absence of clear implementation guidance that provides consistent, un-ambiguous direction on how to apply a highly flexible base standard to very specific use cases (e.g., laboratory results vs. radiology results using HL7 V2, or discharge summary vs. history and physical documentation using CDA) has allowed for widely varying interpretations of the base standards, thus effectively yielding non-interoperable communications. With increased mandates to use standards from HIPAA¹ (e.g., ASC X12, National Council for Prescription Drug Programs [NCPDP]), Meaningful Use (HL7 V2, HL7 CDA and C-CDA)² and other initiatives, the industry must strive to encourage standards development organizations (SDOs) to ensure that unambiguous implementation level guidance is available to advance the most effective interoperability strategies.

Implementation Guides (IG)

A “*use case*” is a set of activities as experienced from the point of view of the system’s actors, leading to a perceptible outcome for the actors.³ An *implementation guide*, or IG, combines one or more standards into a specific guidance set to address focused use cases, or user stories. In Diagram 1 above, for example, “Implementation Guide A” could be the HL7/Standards & Interoperability (S&I) Framework Laboratory Results Interface IG using HL7 V2, IHTSDO SNOMED, LOINC and other standards that describe how to send test results from a laboratory to an ambulatory care provider. Another example is “Implementation Guide B,” which could be the HL7 Consolidated CDA (C-CDA) IG defining how a family of document types—with re-usable sections based on HL7 V3 CDA in combination with SNOMED and other standards—can be used for transitions of care, clinical summaries and other related use cases.

There are many industry activities and stakeholders working on various IGs. Integrating the Health Enterprise (IHE) Profiles⁴ represent one industry effort focused on ways that IGs can be effectively applied in practice. Each IHE workflow-focused domain builds on existing consensus-based standards and extends these specifications to achieve more efficient information exchange. As a rule, IHE promotes the coordinated use of established base standards such as DICOM, HL7, LOINC, IHTSDO SNOMED and IEEE to address specific clinical needs in patient care delivery. Software systems developed in accordance with the IHE profiles offer developers a carefully documented, reviewed and tested implementation path for base standards supported by industry partners.

Another industry effort is the CAQH Committee on Operating Rules for Information Exchange (CORE)⁵. CORE operating rules enhance interoperability between providers and payers by streamlining eligibility, benefits and claim data transactions by allowing providers to submit a request, using the

¹ Transaction & Code Set Standards. Centers for Medicare & Medicaid Services (CMS). Updated April 17 2013.

<http://www.cms.gov/Regulations-and-Guidance/HIPAA-Administrative-Simplification/TransactionCodeSetsStands/index.html>

² Meaningful Use Approved Test Procedures Version 1.0. National Institute of Standards and Technology (NIST). Updated February 7 2011. http://healthcare.nist.gov/use_testing/finalized_requirements.html

³ *HIMSS Dictionary of Healthcare Information Technology Terms, Acronyms and Organizations, Third Edition*. ©2013 Healthcare Information and Management Systems Society.

⁴ Integrating the Healthcare Enterprise (IHE) Profiles: <http://www.ihe.net/Profiles/>

⁵ CAQH Committee on Operating Rules for Information Exchange (CORE): <http://www.caqh.org/benefits.php>

electronic system of their choice, to obtain a variety of coverage information for any patient and from any participating health plan. Leveraging CORE operating rules, providers will receive more consistent and predictable data, regardless of health plan. Using IGs facilitates the resolution of issues and challenges in an industry-wide, uniform manner, and provides clarity around the implementation and integration of base standards.

Principles

Standards Development Organization (SDO)

The standard or IG should be developed by an organization that addresses as many as possible of the following characteristics:

- a) Assures continuity and efficient update of the standard over time
- b) Uses open, consensus-based standards development processes
- c) Has predictable and timely development, testing, implementation and updating procedures
- d) Has wide professional participation (clinical, administrative and/or informatics stakeholders/users) relevant to the standard
- e) Has balanced, cross-provider/software developer/implementer participation to address what, when and how to interoperate to ensure that appropriate data is included, using practical mechanisms for exchange
- f) Is accredited by the American National Standards Institute (ANSI)
- g) Is a U.S. industry-recognized SDO
- h) May have international SDO recognition

Data Exchange and Vocabulary Standards

- a) Are software-neutral and technologically independent of the computer platforms and transmission protocols
- b) Incorporate flexibility to more easily:
 - i. Adapt to changes in the healthcare infrastructure (such as new services, organizations and provider types) and changes in formation technologies (such as new forms of data capture, knowledge representation and information presentation)
 - ii. Accommodate a variety of use cases consistently
- c) Are consistent with features and characteristics of high data quality including accessibility, accuracy, comprehensiveness, consistency, currency, definition, granularity, precision, relevancy and timeliness.
 - i. As practical implementation experience expands, interpretation of these characteristics will change and evolve
- d) Apply privacy and security considerations appropriately
- e) Use vocabulary consistent with the characteristics and attributes for clinically specific patient medical record information terminologies – examples of these characteristics include:

- i. In-depth and comprehensive coverage of a clinical area
- ii. The ability to map to broader statistical and reimbursement classifications
- iii. Formal and systematic definitions
- iv. Internal consistency and non-redundancy
- v. Capacity to evolve, change and remain usable over time
- f) Enable implementation guides using the standard to refine and/or extend for a specific use case
- g) Support conformance profiles
- h) Are harmonized with existing related standards and are
 - i. Not unnecessarily redundant or duplicative
 - ii. Not conflicting
- i) Are mature with proven industry adoption, implementation and use
- j) Have international acceptance

Implementation Guides

IGs apply one or more standards to specific use cases, and should therefore be:

- a) Focused on specific, well-defined use cases
- b) Precise and unambiguous
 - i. Syntax
 - ii. Semantics/Vocabulary
- c) As simple as possible
- d) Harmonized with related implementation guides
- e) Testable/Verifiable
- f) Mature
 - i. Implemented widely
 - ii. Stable (few published errata)

Mature Standards

A mature standard and/or IG will have successfully gone through the following ten steps:⁶

1. Defined clear implementation guidance that references the Base Standard and accommodates:
 - a) One or more well-defined use cases
 - b) Appropriate core optionality, allowing for local extensions
2. Performed testing (either virtually or in-person) on proposed Draft Standards for Trial Use (DSTU) before it is balloted
3. Published DSTU implementation guidance for public comment and consensus
4. Implemented pilots
5. Published a refinement of the DSTU based on implementation experience
6. Performed testing on proposed normative implementation guidance
7. Published normative implementation guidance for public comment and consensus
8. Established testing tools, beginning with the first DSTU publication, to validate adherence to the standard/IG
9. Achieved stable documentation
 - a) Minor corrections/errata being issued
10. Achieved wide adoption
 - c) Wide install base
 - d) Interoperable implementations with limited variety in interpretations

Not until successful completion of step ten should standards and IGs be included in federal or state rules or regulations. SDOs, providers, software developers and implementers should be supported in moving standards and IGs through this ten-step process until wide adoption is successfully achieved.

Having an established user community consisting of developers, implementers and users (providers, payers, etc.) around related use cases can promote further evolution of maturing specific interoperability use cases. Such a community, through the sharing of best practices and identification of challenges and opportunities for improvements and fixes, can drive further maturation beyond the initial deployment.

⁶ Incorporates best practices and considerations from ONC S&I Framework, IHE, and HL7 processes, as well as HIT-SC “Approved Final Recommendations for Standards Evaluation Criteria,” August 15, 2012.

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APPENDIX A:

Historical Perspective on Healthcare IT Standards Coordination Efforts

ANSI HISPP

SDOs such as HL7, NCPDP and American College of Radiology/National Electrical Manufacturers Association (ACR/NEMA) emerged in the mid-1980s, when the need for interoperability among healthcare information systems was recognized. However, these organizations were competing rather than cooperating, and industry reports in the early 1990s cited the lack of leadership in the standards area. At the same time, the European Committee for Standardization Technical Committee (CEN/TC 251), the European SDO for healthcare, approached the U.S. Government to communicate with U.S. SDOs in the interest of ensuring global compatibility. In 1992, the American National Standards Institute (ANSI) and the Department of Health and Human Services' (HHS) Agency for Healthcare Policy and Research (AHCPR) created the **ANSI Healthcare Informatics Planning Panel (ANSI HISPP)**. The ANSI HISPP brought the various SDOs—such as ACR/NEMA, ASC X12, HL7, IEEE and NCPDP—together and started to coordinate their effort.

A Joint Working Group of six SDOs, led by the Institute of Electrical and Electronics Engineers (IEEE), was created in 1992 to develop a Common Data Model. A Common Data Model document was produced in 1994 based on consensus.⁷

ANSI HISB

ANSI HISPP's success paved the way for the formation of a standards board for the healthcare industry called **ANSI Healthcare Informatics Standards Board (ANSI HISB)** in 1995. ANSI HISB coordinated the development of non-redundant and non-conflicting standards by U.S. SDOs, and represented U.S. interests in the development of international standards. It brought together not only the SDOs but also the end users to jointly address the industry's need, working through four standing committees and multiple ad hoc committees.

HISB had been facilitating cooperation by way of Memorandum of Understanding among SDOs. ASC X12, HL7 and NCPDP used this approach to address conflicts and overlaps. They agreed upon areas of content and others areas such as claims attachment. HISB meetings served as an open forum to discuss these problems and to take the necessary steps. HISB also provided an inventory of healthcare informatics standards for the federal government to help the adoption of standards mandated by HIPAA. At the international level, ANSI HISB represented U.S. interests and provided a unified response to international standards initiatives, ensuring cooperation and harmony with worldwide efforts.

⁷ Lockwood, B.; Appavu, S. "HISB: Standardizing the Standards for Healthcare." ComputerTalk for Health-System Pharmacies. Spring 1998.

ISO TC 215

ANSI HISB's International Development Standing Committee undertook an effort to promote U.S. national standards worldwide and create global healthcare informatics standards, leading to the formation of the **International Standards Organization Technical Committee 215 (ISO TC 215)** for healthcare. In January of 1998, the ISO Technical Management Board established the ISO TC 215 and awarded the Technical Committee Secretariat to the U.S. Organizations including the American Society for Testing and Materials (ASTM), the Healthcare Information and Management Systems Society (HIMSS) and the American Health Information Management Association (AHIMA) have each held this responsibility.

HIPAA and NCVHS

An important segment of the 1996 Health Insurance Portability and Accounting Act (HIPAA) has been the stipulation that all transactions between "covered entities" must adhere to a set of standard codes.⁸ The code sets that were initially specified included:⁹

- International Classification of Diseases, Ninth Edition, Clinical Modification (ICD-9-CM)
- Current Procedural Terminology (CPT)
- Healthcare Common Procedure Coding System (HCPCS)
- Code on Dental Procedures and Nomenclature (CDT)
- National Drug Code (NDC)

In addition, HIPAA stipulated that the National Committee on Vital and Health Statistics (NCVHS) provide advice to the Secretary of HHS regarding "uniform data standards for patient medical information and the electronic exchange of such information."¹⁰ The advice given by the NCVHS was submitted in a report to Secretary Shalala in July 2000.¹¹

The NCVHS report found that: "Major impediments to electronic exchange of patient medical record information are limited interoperability of health information systems, limited comparability of data exchanged among providers, and the need for better quality, accountability, and integrity of data." Lack of complete and comprehensive Patient Medical Record Information (PMRI) standards is a major constraint on the ability of our healthcare delivery system to enhance quality, improve productivity, manage costs and safeguard data.

The NCVHS recommended that the government take a leadership role in addressing these issues by accelerating the development, adoption and coordination of PMRI standards. They believed that significant quality and cost benefits can be achieved in healthcare if clinically specific data are captured once at the point of care, and that all other legitimate data needs are derived from those data. It was the

⁸ Transaction & Code Set Standards. Centers for Medicare & Medicaid Services (CMS). Updated April 17 2013.

<http://www.cms.gov/Regulations-and-Guidance/HIPAA-Administrative-Simplification/TransactionCodeSetsStands/index.html>

⁹ Health Insurance Reform: Standards. Proposed Rules: 45 CFR Part 142 [HCFA-0149-P] RIN 0938-AI58. Department of Health and Human Services. Office of the Secretary. Federal Register Vol. 63, No. 88. Thursday, May 7, 1998.

¹⁰ Health Insurance Portability and Accountability Act (HIPAA) of 1996. Public Law 104-191. 104th Congress.

<https://www.cms.gov/Regulations-and-Guidance/HIPAA-Administrative-Simplification/HIPAAGenInfo/downloads/HIPAALaw.pdf>

¹¹ Uniform Data Standards for Patient Medical Record Information. Report to the Secretary of the U.S. Department of Health and Human Services. National Committee on Vital and Health Statistics (NCVHS). July 6 2000. <http://www.ncvhs.hhs.gov/hipaa000706.pdf>

Committee's expectation that its recommendations, if followed, would result in standards for patient medical record information that would be consistent and compatible with the HIPAA financial and administrative transaction standards, including the claims attachment standards.

The 2000 NCVHS report also noted that: "Existing message format standards intended to achieve interoperability between different information systems have a high degree of optionality and are often not implemented in a standard manner."¹²

ANSI HITSP

On June 21, 2005, the Department of HHS issued several Requests for Proposal (RFPs), including one for the Evaluation of a Standards Harmonization Process for Health Information Technology. This resulted in the creation of the **ANSI Healthcare Information Technology Standards Panel (HITSP)**, which undertook the effort of coordinating and harmonizing standards to help the Department of HHS' initiatives. HIMSS offered significant leadership support to this effort, and the harmonization efforts were prioritized by the American Health Information Community (AHIC). However, HITSP's contract concluded on April 30, 2010.

NwHIN Exchange

The Nationwide Health Information Network (NwHIN) Exchange¹³ operated as an ONC initiative starting in 2007. In order to foster continued growth and advancement, the goal was to transition the Exchange from a federal initiative to an independently sustainable public-private model. In 2012, the non-profit organization Healtheway took over support for the Exchange, which is now called the eHealth Exchange.

The Exchange exists to fulfill an important public mission:

To improve the health and welfare of all Americans through health information exchange that is trusted, that scales, and enhances quality of care and health outcomes by supporting comprehensive longitudinal health records.¹⁴

The success of this effort was dependent upon having a unifying trust framework and a common set of rules that enable information to flow across boundaries. It is the Exchange's intent to provide such a framework, including the ability to exchange with federal agencies and other healthcare stakeholders such as providers and health information organizations (HIOs).

The Exchange delivers value to participants and their technology partners for a variety of reasons. First and foremost, it is more efficient and effective to leverage the shared infrastructure, governance processes and testing from the Exchange, since the alternatives are manual, costly to develop and maintain and are likely limited to one-off approaches.

¹² Uniform Data Standards for Patient Medical Record Information. Report to the Secretary of the U.S. Department of Health and Human Services. National Committee on Vital and Health Statistics (NCVHS). July 6 2000. <http://www.ncvhs.hhs.gov/hipaa000706.pdf>

¹³ Nationwide Health Information Network (NwHIN). Office of the National Coordinator (ONC) for Health Information Technology. U.S. Department of Health and Human Services. <http://www.healthit.gov/policy-researchers-implementers/nationwide-health-information-network-nwhin>

¹⁴ *Ibid.*

The Exchange expanded access to and connectivity among a broad range of organizations, public or private by:

- Building upon an authoritative set of requirements that are proven to work across a broad spectrum of healthcare information exchange (HIE) approaches;
- Providing a credible and trusted benchmark to gauge whether HIE systems are secure and interoperable with other systems and in production (i.e. “Exchange Ready”);
- Enabling Exchange participants to test once and exchange with many, expanding connectivity beyond a participant’s service area, geography or affiliation;
- Facilitating exchange with a critical mass of federal agencies, public and private HIOs, health systems and other governmental entities; and
- Holding participants accountable to the rules, and providing a mechanism for granting and revoking access if non-compliant.



Diagram 2

Electronic Health Record (EHR) Incentive Program

Ten years after the NCVHS report, HHS launched the **Electronic Health Record (EHR) Incentive Program** in order to implement selected provisions of the American Recovery and Reinvestment Act (ARRA) of 2009. Within the EHR Incentive Program, a number of standards for the creation and exchange of PMRI were specified.¹⁵ As a part of Stage 1 Meaningful Use (MU) of this program, the following vocabulary standards were noted:

- CPT 4
- CVX (Codes for Vaccine Administered)
- HCPCS
- ICD 9 CM
- LOINC 2.27
- RxNorm¹⁶ (National Library of Medicine drug name/vocabulary normalization)
- SNOMED CT
- “Any source vocabulary that is included in RxNorm”

As additional PMRI standards have been and are being stipulated for MU stages 2 and 3, the Health Information Technology Policy Committee (HITPC) appears to have become aware of some unintended consequences of the ways in which the push toward EHR adoption has affected provider organizations.

The HITPC understands that EHRs are a powerful tool with the potential to increase clinical efficiency. However, along with the benefits to EHR adoption and implementation, there is also a risk of increasing provider administrative burden. The HITPC recognizes that successful attestation weighs an administrative burden on providers and their staff. For Stage 3, the committee intends to alleviate administrative burden by further aligning the electronic clinical quality measures (eCQMs) logic and value sets with EHR Incentive Program Functional Objectives. For example, care coordination CQMs can be refined or designed de novo to better align with the Summary of Care objective. The goal of industry thought leaders should be not only to mitigate increased burden, but to guide users on leveraging efficient and meaningful use. The HITPC continues to support HHS-wide efforts to align CQMs across quality assessment programs (PQRS, MU, Inpatient Quality Reporting [IQR], etc).¹⁷

In addition to employing standards for content, systems that wish to fully participate in a semantically interoperable environment must also adopt uniform standards for message format. While the health IT industry has been active in formulating such syntactical standards and while HHS has mandated use of a number of such standards, the problems of overlap and optionality that bedevil the content standards space are no less vexing for message format standards.

¹⁵ Medicare and Medicaid Programs: Electronic Health Record Incentive Program. Final Rule: 42 CFR Parts 412, 413, 422 and 495. CMS-0033-F, RIN 0938-AP78. Centers for Medicare and Medicaid Services (CMS). U.S. Department of Health and Human Services.

¹⁶ RxNorm – Unified Medical Language System. U.S. National Library of Medicine. <http://www.nlm.nih.gov/research/umls/rxnorm/>

¹⁷ Request for Comment Regarding the Stage 3 Definition of Meaningful Use of Electronic Health Records (EHRs). U.S. Department of Health and Human Services. Office of the National Coordinator (ONC) for Health Information Technology. HIT Policy Committee. http://www.healthit.gov/sites/default/files/hitpc_stage3_rfc_final.pdf

Joint Initiative Council (JIC)

As the 2005-2007 ISO TC/215 Global HIT Summits with the National HIT Coordinators, industry representatives and clinicians recognized, “HIT standards are not sufficient to develop and deploy EHR, collaboration among Health IT SDOs is needed for interoperability.”¹⁸ In order to address this need, a global standards harmonization initiative called the **Joint Initiative Council (JIC)** was created as a liaison group under ISO/TC 215. The three founding standards organizations—CEN/TC 251, ISO/TC 215 and HL7—signed the JIC into existence on October 11, 2006, in Geneva, Switzerland. Membership to JIC is restricted to international SDOs with a formal relationship to ISO.

JIC’s vision for collaboration, coordination and cooperation consists of harmonizing standards, where a singular set of standards and tests address a singular health business. Its goal is to enable common, timely health informatics standards by addressing and resolving issues of gaps, overlaps and counterproductive standardization efforts. Other standards organizations that have joined JIC include the Clinical Data Interchange Consortium (CDISC), IHTSDO, GS1 (supply and demand chain standards), and Integrating the Healthcare Enterprise (IHE). JIC meetings take place during the ISO/TC 215 meetings and in conjunction with its member events.

JIC’s current projects include EHR Functional Model R2 (HL7), Automatic ID and Data Capture Marketing and Label (GS1), Structured Dose Information for Medical Products (HL7), BRIDG Model (CDISC), Clinical Trial Registration and Results (CDISC), EHR Clinical Research Functional Model (CEN) and Detailed Clinical Models, or DCMs.

ONC Standards & Interoperability (S&I Framework)

The Office of the National Coordinator (ONC) for Health Information Technology within the U.S. Department of Health and Human Services (HHS) has included numerous standards as part of the adoption of meaningful use EHR certification, and as guidance for health information exchange in general. In particular, ONC commenced work on the **Standards and Interoperability (S&I) Framework** in 2011 to provide a community forum for developing standards that would support interoperability in the healthcare environment.

The S&I Framework is an approach adopted by ONC's Office of Standards & Interoperability for enabling harmonized interoperability specifications to support national health outcomes and healthcare priorities, including Meaningful Use and the ongoing efforts to create better care, better population health and cost reduction through delivery improvements. It functions as a forum, where healthcare stakeholders can focus on solving real-world interoperability challenges.

The S&I Framework consists of a collaborative community of participants from the public and private sectors who are focused on providing the tools, services and guidance to facilitate the functional exchange of health information. The S&I Framework uses a set of integrated functions, processes, and tools that enable execution of specific value-creating initiatives. Each S&I initiative tackles a critical interoperability challenge through a rigorous process that typically includes:

¹⁸ Standards Development Organization (SDO) Harmonization. Joint Initiative Council. February 2008.
http://www.jointinitiativecouncil.org/presentations/Standard%20Development%20Organization%20Harmonization_V5.pdf

- Development of clinically-oriented user stories and robust use cases
- Harmonization of interoperability specifications and implementation guidance
- Provision of real-world experience and implementer support through new initiatives, workgroups and pilot projects
- Mechanisms for feedback and testing of implementations, often in conjunction with ONC partners such as the National Institute of Standards and Technology (NIST)

The community of participants has created valuable work products and launched further initiatives that are advancing interoperability across the healthcare industry. Each S&I initiative focuses on a single, narrowly-scoped, broadly-applicable challenge. The S&I Framework community has demonstrated its support and interest in the evolution and refinement of key challenges currently being tackled. Current S&I initiatives include transitions of care, laboratory result interface, provider directories, health queries, digital certificate interoperability, longitudinal coordination of care and public health reporting.

APPENDIX B: Glossary

Acronym / Term	Definition
ACR www.acr.org	American College of Radiology <i>Physician membership organization for radiologists, radiation specialists and physicians.</i>
AHRQ (AHCPR) www.ahrq.gov	Agency for Healthcare Research and Quality <i>Formerly known as the Agency for Health Care Policy and Research (AHCPR). Federal agency within the HHS focused on the national mission to improve the quality, safety, efficiency and effectiveness of healthcare for Americans.</i>
AHIC	American Health Information Community <i>Federal group formed in 2005 to advise the Secretary of the HHS on methods to increase EHR adoption in healthcare facilities. Disbanded in 2008.</i>
AHIMA www.ahima.org	American Health Information Management Association <i>Membership organization for health information management professionals.</i>
ANSI www.ansi.org	American National Standards Institute <i>Membership organization for government agencies, organizations, companies, academic and international bodies, and individuals representing the national voice of the U.S. standards and conformity assessment system.</i>
ARRA www.recovery.gov	American Recovery and Reinvestment Act of 2009 <i>Economic stimulus bill enacted by the 111th U.S. Congress providing \$30 billion for various health information technology investments, including allocations by the Centers for Medicare & Medicaid Services (CMS) to promote physicians and hospital providers to adopt certified EHRs.</i>
ASC X12 www.x12.org	Accredited Standards Committee X12 <i>Membership organization under the ANSI to support business and technical professionals in a cross-industry forum to enhance business processes. Helps to develop and maintain EDI and CICA standards, along with XML schemas.</i>
ASIS www.asisonline.org	American Society for Industrial Security (ASIS International) <i>Founded in 1955 and dedicated to increasing the effectiveness and productivity of security professionals by developing educational programs and materials that address broad security interests, as well as advocacy for the role and value of the security management professions. Now a non-profit organization of security professionals.</i>
ASTM www.astm.org	American Society for Testing and Materials <i>Membership organization under ANSI to support the development of test methods, specifications, guides and practice standards that support industries and governments worldwide.</i>

Acronym / Term	Definition
CAQH www.caqh.org	Council for Affordable Quality Healthcare <i>The Council for Affordable Quality Healthcare is a non-profit alliance of health plans and trade associations, working to simplify healthcare administration through industry collaboration on public-private initiatives.</i>
CCD	Continuity of Care Document <i>Specification that is an XML-based markup standard, developed between HL7 and ASTM, to specify the encoding, structure and semantics of a patient summary clinical document for exchange.</i>
CCR	Continuity of Care Record <i>Standard specification intended to foster and improve continuity of patient care, reduce medical errors and assure at least a minimum standard of health information transportability when a patient is seen by another provider.</i>
CDA	Clinical Document Architecture <i>An HL7 Version 3 standard providing an XML-based document markup standard that specifies the structure and semantics of clinical documents for the purpose of exchange.</i>
C-CDA	Consolidated Clinical Document Architecture <i>HL7 Implementation Guide for CDA[®] Release 2: IHE Health Story Consolidation, DSTU Release 1.1 (US Realm) is a document markup standard that specifies the structure and semantics of "clinical documents" for the purpose of exchange between healthcare providers and patients.</i>
CDT www.cdt.org	Center for Democracy & Technology <i>The CDT's Health Privacy Project takes on key policy questions, including the proper role of notice and consent, the right of patients to access their own health records, identification and authentication, secondary uses, and enforcement mechanisms.</i>
CDISC www.cdisc.org	Clinical Data Interchange Standards Consortium <i>Membership organization open to any organization of any size interested in information system interoperability to improve medical research and related areas of healthcare.</i>
CEN/TC www.cen.eu	European Committee for Standardization <i>Membership is the 27 European Union National Standards Bodies (NSBs), Croatia, the Former Yugoslav Republic of Macedonia, Turkey, and three countries of the European Free Trade Association (Iceland, Norway and Switzerland).</i>

Acronym / Term	Definition
CICA www.x12.org/cica.cfm	Context Inspired Component Architecture <i>ASC X12's message-designed methodology created to help resolve costly, differing and often incompatible XML messages used for business-to-business data exchange.</i>
CORE	Committee on Operating Rules for Information Exchange. <i>CAQH CORE[®] is a multi-stakeholder initiative developing operating rules intended to streamline electronic healthcare administrative data exchange and support interoperability between payers and providers. The operating rules are built on existing standards in attempt to make electronic transactions more predictable and consistent, regardless of the technology.</i>
CPT	Current Procedural Terminology [®] <i>A registered trademark of the American Medical Association (AMA), CPT is the most widely accepted medical nomenclature used to report medical procedures and services under public and private health insurance programs.</i>
CQM	Clinical Quality Measures <i>Tools that measure and track the quality of healthcare services including processes, experiences and outcomes of patient care, as well as observations or treatment that relate to IOM domains of health care quality (e.g., effective, safe, efficient, patient-centered, equitable and timely).</i>
CVX www.cdc.gov/vaccines	Codes for Vaccines Administered <i>CDC immunization codes, required terminology for MU.</i>
DCM	Detailed Clinical Model <i>Information model of a discrete set of precise clinical knowledge which can be used in a variety of contexts. Developed through HL7.</i>
eCQM	Electronic Clinical Quality Measure
EDI	Electronic Data Interchange <i>Collection of standards message formats that allows businesses to exchange data via any electronic messaging service.</i>
EHR	Electronic Health Record <i>Longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting.</i>
EHR Incentive Program www.cms.gov/ehr_incentiveprograms	Medicare and Medicaid EHR Incentive Programs <i>The Centers for Medicare & Medicaid Services (aka, CMS) provides incentive payments to eligible professionals, eligible hospitals and critical access hospitals as they adopt, implement, upgrade or demonstrate meaningful use of certified EHR technology.</i>

Acronym / Term	Definition
eHealth Exchange www.healthewayinc.org	(formerly Nationwide Health Information Network Exchange or NwHIN) <i>The eHealth Exchange began as the ONC Nationwide Health Information Network (NwHIN) in 2007. NwHIN is a set of standards, services and policies that enable secure health information exchange over the Internet. This provides for the exchange of health information across the U.S., between and among various organizations and constituents which is facilitated by nationally established standards for authentication, delivery protocols, security, directories and vocabulary/documents/message standards.</i>
GS1 www.gs1.org	U.S. Global Standards-1 <i>Authorized provider of globally unique GS1 company prefixes for businesses and the design and implementation of supply chain standards and solutions.</i>
HCPCS	Healthcare Common Procedure Coding System <i>Is a procedure classification code complementary with AMA's CPT and is used for inpatient hospital scenarios. It is maintained by the U.S. government.</i>
HHS www.hhs.gov	U.S. Department of Health & Human Services
HIE	Health Information Exchange
HIO	Health Information Exchange Organization
HIMSS www.himss.org	Healthcare Information and Management Systems Society <i>Membership in HIMSS is available to all individuals and organizations that are active and/or interested in the fields of healthcare information and management systems.</i>
HIPAA www.hhs.gov/ocr/privacy	Health Insurance Portability and Accountability Act of 1996 <i>Enforced by the U.S. Office for Civil Rights, HIPAA includes:</i> <ul style="list-style-type: none"> ▪ Privacy Rule protects the privacy of individually identifiable health information ▪ Security Rule sets national standards for the security of electronic protected health information ▪ Breach Notification Rule requires covered entities and business associates to provide notification following a breach of unsecured protected health information ▪ Patient Safety Rule confidentiality provisions which protect identifiable information being used to analyze and improve patient safety
HISB	Healthcare Informatics Standards Board (ANSI)
HISPP	Healthcare Informatics Standards Planning Panel (ANSI)
HIT	Healthcare information technology

Acronym / Term	Definition
HITPC	<p>Health Information Technology Policy Committee</p> <p><i>Makes recommendations to the ONC's National Coordinator for Health IT on a policy framework for the development and adoption of a nationwide health information infrastructure, including standards for the exchange of patient medical information. Created as part of ARRA (2009).</i></p>
HITSP www.hitsp.org	<p>Healthcare Information Technology Standards Panel</p> <p><i>Cooperative partnership between public and private sectors, formed for the purpose of harmonizing and integrating standards that will meet clinical and business needs for sharing information among organizations and systems. HITSP's contract with HHS concluded on April 30, 2010.</i></p>
HL7 www.hl7.org	<p>Health Level 7</p> <p><i>Membership is available to everyone interested in the development and/or use of a cost-effective approach to system connectivity.</i></p>
ICD 9 CM	<p>International Classification of Diseases, 9th Revision, Clinical Modification</p> <p><i>Official system of assigning codes to diagnoses and procedures associated with hospital utilization in the U.S.</i></p>
ICD-10	<p>International Classification of Diseases, 10th Revision, May 1990</p> <p><i>In the U.S. Referenced as ICD-10-CM (Clinical Modification) and ICD-10-PCS (Procedure Coding System) are adaptations of the WHO's ICD-10 standard required to be adopted by U.S. healthcare providers by no later than October 1, 2014. ICD-10 differs from ICD-9 in several ways although the overall content is similar. First, ICD-10 is printed in a three-volume set compared with ICD-9's two-volume set. Second, ICD-10 has alphanumeric categories rather than numeric categories. Third, some chapters have been rearranged, some titles have changed, and conditions have been regrouped. Fourth, ICD-10 has almost twice as many categories as ICD-9. Fifth, some fairly minor changes have been made in the coding rules for mortality.</i></p>
ICD-11	<p>International Classification of Diseases, 11th Revision, expected 2015</p> <p><i>As are ICD-9 and ICD-10, ICD-11 will also be governed by the World Health Organization (WHO). The WHO is currently revising the International Classification of Diseases (ICD) towards the ICD-11. The development is taking place on an internet-based workspace, called iCAT (Collaborative Authoring Tool) Platform.</i></p>
IEEE www.ieee.org	<p>Institute of Electrical & Electronics Engineers, Inc.</p> <p><i>Membership organization for individuals and students who are contributing or working in a technology or engineering field.</i></p>

Acronym / Term	Definition
IHE www.ihe.net	Integrating the Healthcare Enterprise <i>International organization composed of member organizations interested in improving the interoperability of healthcare information systems through the coordinated use of established standards.</i>
IHTSDO www.ihtsdo.org	International Health Terminology Standards Development Organization <i>Membership organization for either agencies of national government or other bodies (such as corporations or regional government agencies) endorsed by an appropriate national government authority within the country they represent.</i>
IOM www.iom.edu	Institute of Medicine of the National Academies <i>An honorific organization, full membership annually elects up to 70 new members and 10 foreign associates for their excellence and professional achievement in a field relevant to the IOM's mission. Members represent the healthcare professions as well as the natural, social and behavioral sciences.</i>
IQR	Hospital Inpatient Quality Reporting Program <i>CMS reimbursement program to incentivize hospitals that successfully report designated quality measures.</i>
ISO www.iso.org	International Organization for Standardization <i>Network of national standards bodies, representing ISO in their country, that develop and publish international standards.</i>
ISO TC	ISO Technical Committee
LOINC www.loinc.org	Logical Observation Identifiers Names and Codes <i>Database and universal standard for identifying medical laboratory observations, including laboratory and other clinical observations. Developed and maintained by the Regenstrief Institute.</i>
MU	Meaningful Use <i>Set of standards, defined by CMS, that govern the use of EHRs and allow eligible providers and hospitals to earn incentive payments by meeting specific criteria.</i>
NCPDP www.ncdp.org	National Council for Prescription Drug Programs <i>Membership organization for producers/providers, payers/processors and general vendors interested in ANSI-accredited standards and guidance for promoting information exchanges related to medications, supplies and services within the healthcare system.</i>
NCVHS www.ncvhs.dhhs.gov	National Committee on Vital and Health Statistics <i>Established by Congress to serve as an advisory body to the Department of Health and Human Services on health data, statistics and national health information policy.</i>

Acronym / Term	Definition
NDC	National Drug Code <i>Universal product identifier for drugs consisting of a unique 3-segment number.</i>
NEMA www.nema.org	National Electrical Manufacturers Association <i>Paired with ACR to develop DICOM (Digital Imaging and Communications in Medicine) standard.</i>
NIST www.nist.gov	National Institute of Standards and Technology <i>Federal agency responsible for advancing measurement science, standards and technology to improve quality of life.</i>
NwHIN	Nationwide Health Information Network (see eHealth Exchange)
ONC www.healthit.gov	Office of the National Coordinator for Health Information Technology <i>Principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and the electronic exchange of health information. Organizationally located within the Office of the Secretary for the U.S. Department of Health and Human Services (HHS).</i>
PMRI	Patient Medical Record Information
PQRS www.cms.gov/PQRS	Physician Quality Reporting System <i>Reporting program that uses a combination of incentive payments and payment adjustments to promote reporting of quality information by eligible professionals.</i>
RFP	Request for Proposal
RxNorm	Pharmacy Vocabulary Standard <i>Provides normalized names for clinical drugs, linked to many of the drug vocabularies commonly used in pharmacy management and drug interaction software.</i>
S&I Framework www.siframework.org	Standards and Interoperability Framework (ONC) <i>Forum where healthcare stakeholders can focus on solving real-world interoperability challenges, empowering them to establish standards, specifications and other implementation guidance that can facilitate effective healthcare information exchange.</i>
SDO	Standards Development Organization
SNOMED	Systemized Nomenclature of Medicine <i>Systematic, computer-processable collection of medical terms to provide codes, terms, synonyms and definitions that cover anatomy, diseases, findings, procedures, etc.</i>

Acronym / Term	Definition
SNOMED CT www.ihtsdo.org/snomed-ct	SNOMED Clinical Terms (Maintained by IHTSDO) <i>Regarded as the most comprehensive multilingual clinical healthcare terminology in the world.</i>
XML	Extensible Markup Language <i>General-purpose markup language for creating special-purpose markup languages. Primary purpose is to facilitate the sharing of data across different systems, particularly systems connected via the Internet.</i>