Minnesota e-Health Standards Guidance
FEBRUARY 2019

Introduction

The Minnesota e-Health Initiative (Initiative) and the Minnesota Department of Health (MDH) developed the Minnesota e-Health Standards Guidance (Standards Guidance) to support the use of e-health standards and advance interoperability. The Standards Guidance purposes are to:

1. Provide an overview of e-health standards, interoperability and the Minnesota e-Health Standards Approach.
2. Direct stakeholders to nationally-recognized e-health standards resources.
3. Share Minnesota-specific e-health standards recommendations and resources.

The Standards Guidance and its purposes meet the requirements laid out under Minnesota Statute §62J.495 for MDH, with guidance from the Initiative, to monitor and recommend e-health standards. This includes e-health standards for the collection, use, and sharing of electronic health information to meet the needs of 1) individuals, families, and caregivers; 2) research and policy; 3) community and public health; and 4) providers, care teams, and services to advance health equity and support health and wellbeing.

The Standards Guidance is designed to inform stakeholders of the Minnesota e-Health Standards Approach (Part I) and then direct stakeholders to nationally-recognized e-health standards resources (Part II) and provide Minnesota recommendations and resources for e-health standards (Part III). Two key terms used the Standards Guidance are:

▪ *E-health standards* are common and repeated rules, conditions, guidelines, or characteristics[1] that define how to collect, use, and share electronic health information. Different categories of e-health standards (Figure 1) define the language and data types and the format, structure, transport, security and functionality.[2] A set of e-health standards is required for a single interoperability need such as sending a referral to a specialist or a prescription to a pharmacy.

▪ *Interoperability* is the ability of a system to exchange electronic health information with and use electronic health information from other systems using a set of e-health standards without special effort on the part of the user.[3]

---

[1] Derived from International Organization for Standardization. Standards. Accessed December 8, 2018. https://www.iso.org/standards.html
[2] Derived from Health Level Seven International. Introduction to HL7 Standards. Accessed December 8, 2018. http://www.hl7.org/implement/standards/index.cfm?ref=nav
[3] Derived from The Office of the National Coordinator for Health Information Technology. Connect Health and Care for the Nation. FINAL Version 1.0. Accessed December 8, 2018. https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide-interoperability-roadmap-final-version-1.0.pdf

Interoperability means that individuals, communities, and providers are able to collect, use, and share bi-directional electronic information in a way that is appropriate, secure, timely and reliable to improve the health and wellness of individuals and communities, advance health equity, support decision-making, and lower health costs[4]. A specific interoperability need typically requires a set of e-health standards from numerous categories, with accompanying implementation specifications. Figure 1 highlights the common e-health standards categories and provides an example of e-health standards needed for bi-directional exchange between a provider and immunization registry.

Figure 1. Categories of e-Health Standards for Interoperability[5]

Categories	Functions	Minnesota Immunization Example
Semantics (vocabulary & code sets)	The meaning of the information is universally understood	The codes used for immunization message include CVX codes, which indicate the product, used in a vaccination and MVX, which indicate the manufacturer of a vaccine.
Syntax (format, content, & structure)	The information is structured in the appropriate format	HL7 v2.5.1 indicates the structure of the immunization message.
Transport (hardware, software, data transmission & networks)	The information moves from point A to point B	SOAP web services is a transport protocol for exchanging the immunization message between the health provider and public health.
Security	The information is securely accessed and moved	HTTPS protocol to provide bi-directional encryption of communications.
Process & Workflow	The information collection, use and sharing is integrated into processes and workflows and all partners understand the processes and workflows.	The workflow and processes of both the health provider and public health are understood to assure that up-to-date immunization forecasts are used.
Services	Provides additional automated functionality to use and share information.	Immunization clinical decision support is an automated process that determines the recommended immunizations needed for a patient[6].

[4]Derived from The Office of the National Coordinator for Health Information Technology. Connect Health and Care for the Nation. FINAL Version 1.0. Accessed December 8, 2018. https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide-interoperability-roadmap-final-version-1.0.pdf

[5] Derived from The Office of the National Coordinator for Health Information Technology. Connect Health and Care for the Nation. FINAL Version 1.0. Accessed December 8, 2018. https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide-interoperability-roadmap-final-version-1.0.pdf

[6]Centers for Disease Control and Prevention. Immunization Information System (IIS). Clinical Decision Support for Immunization (CDSi). Accessed November 14, 2018. https://www.cdc.gov/vaccines/programs/iis/cdsi.html

Guidance

The Standards Guidance is broken into three parts:

- Part I: Minnesota e-Health Standards Approach
- Part II: Nationally-Recognized e-Health Standards Resources
- Part III: Minnesota e-Health Standards Recommendations and Resources

Part I: Minnesota e-Health Standards Approach

Approach Overview

The Minnesota e-Health Standards Approach (Approach) assures Minnesota's involvement in the development, adoption, and use of e-health standards. The Approach supports MDH's responsibility under Minnesota Statute §62J.495 to monitor and recommend health data standards. It is led by the Initiative, through the Standards and Interoperability Workgroup or public coordinated responses to provide feedback on federal definitions, criteria and/or proposed regulations relating to e-health standards. The Office of Health Information Technology facilitates the work.

The Approach has four steps:

1. **Monitor and identify e-health standards and interoperability needs and opportunities** at the community, state, and national level for the collection, use, and sharing of health information including for the purposes of clinical, public health, and research.

2. **Leverage and align** with national and federal work, including the Interoperability Standards Advisory (ISA) and standards-development organizations.

3. **Provide recommendations and guidance** to the community, Minnesota Commissioner of Health, and national and federal partners for collective action to address e-health standards and interoperability needs.

4. **Identify, provide, and share** e-health standards and interoperability tools, education and resources that address needs, leverage opportunities, and support workforce development.

The Initiative and MDH continue to support the use of e-health standards to advance interoperability through updating and using the Standards Guidance and this approach. To participate in this or other work of the Initiative contact mn.ehealth@state.mn.us.

Part II: Nationally-Recognized e-Health Standards Resources

Three key resources to find nationally-recognized e-health standards key to interoperability are listed below.

Interoperability Standards Advisory (ISA)

The ISA is a catalog of standards and implementation specifications for health, public health and research that support interoperability. It includes information on e-health standards including the standard process maturity, implementation maturity, adoption level, federally required, cost, and test tool available are listed. Any limitations, dependencies, and preconditions for consideration, applicable value sets and starter sets, and applicable security patterns for consideration are also included. The ISA is updated annually by the Office of the National Coordinator at https://www.healthit.gov/isa

Common Clinical Data Set (CCDS)

CCDS is a required element of the 2015 Edition certification for electronic health records for the Meaningful Use program; EHRs are required to be able to transmit CCDS via open Application Programming Interface (API). An API is a set of programming protocols for accessing a software application online. The CCDS is to facilitate greater interoperability and enable health information exchange by focusing on representation of clinical data during exchange. The CCDS is at https://www.federalregister.gov/documents/2015/10/16/2015-25597/2015-edition-health-information-technology-health-it-certification-criteria-2015-edition-base.

Draft U.S. Core Data for Interoperability (USCDI)

The Draft USCDI aims to support the goals set forth in the 21st Century Cures Act by expanding upon the CCDS to specify a minimum common set of data classes that are required for interoperable exchange. The USCDI is only in draft form but provides a glimpse into the future direction of securely exchanging electronic health information by including both the current USCDI data classes as wells as candidate and emerging classes under consideration. In addition, it provides a brief description of each factor and the related standard, tool, or measure used. The Draft USCDI is at https://www.healthit.gov/sites/default/files/draft-uscdi.pdf.

Part III: Minnesota e-Health Standards Recommendations and Resources

The following recommendations and resources are not meant to supersede the nationally-recognized standards but are complementary and address specific needs identified in Minnesota.

Nursing Terminology

The Initiative and MDH recommend the use of standardized nursing terminology in health and health care settings. The ISA also identifies the interoperability need for nursing including nursing assessments, interventions, outcomes, and patient problems.

Public Health Reporting for Incentive Programs

Certain MDH programs are ready to receive public health reporting electronically for incentive programs such as Promoting Interoperability and the Merit-based Incentive Payment System (MIPS).

Administrative Standards

Administrative standards streamline and accelerate the flow of routine administrative transactions that are essential to meet accountable care and health transformation goals. These include financial transactions such as claims and remittance advices, as well as authorization requests, insurance and benefits verifications, and others that are needed for billing and payment, planning and evaluation, and for improving care coordination and the patient care experience. Administrative standards, also known as Minnesota Uniform Companion Guides that have been adopted as state rules, are found at: https://www.health.state.mn.us/facilities/ehealth/auc/guides/index.html.

Factors that Influence Health (Social Determinants of Health)

The Initiative and MDH have examined e-health standards relating to health equity, specifically factors that influence health, since 2014. Nationally there has been increased recognition that factor such as housing, income and food security, exposure to violence, access to transportation, and other issues have a great impact on a person's health. An overview of the e-health community's work to compile the factors that influence health and the resources to identify the nationally-recognized e-health standards is found at https://www.health.state.mn.us/facilities/ehealth/publications/docs/healthequity.pdf.

Minnesota Department of Health
PO Box 64882
St. Paul, MN 55164-0882
651-201-5979
mn.ehealth@state.mn.us
https://www.health.state.mn.us/facilities/ehealth/

2/28/2019

To obtain this information in a different format, call: 651-201-5979 Printed on recycled paper.