Immunization Information System Functional Standards Version 4.2 Resource Guide

This document lists primary resources associated with the IIS Functional Standards v 4.1. The resources were created collaboratively and vetted with the immunization information systems (IIS) community unless otherwise noted. These resources may be useful to inform efforts to create or enhance IIS functionality related to the Functional Standards.

Resources Related to the Functional Standards

Formal guidance does not currently exist for all Functional Standards. The table below categorizes available guidance as either introductory or advanced/technical. Note that the resource list is not exhaustive, and individual IIS needs and solutions may vary.

The American Immunization Registry Association (AIRA) Resource Repository Key Words listed below will help locate additional content related to each Functional Standard in the AIRA Resource Repository. The AIRA Repository contains valuable resources for the IIS community, IIS vendors, health care providers, electronic health record (EHR) vendors, policy makers, funders, and others interested in IISs. AIRA Repository Search Tips describe the many ways to search and filter in the repository. Additional resources may be found in the Public Health Informatics Institute Resource Catalogue

Functional Standard	Primary Resources	AIRA Repository Key Words
1.0 The IIS contains complete and timely demographic and immunization data for children, adolescents, and adults residing or immunized within its jurisdiction.	**Introductory** • Fundamentals of IIS: Data Quality – no-cost, interactive training that requires setting up an account with the Public Health Informatics Institute (PHII) • Data Quality Assurance in Immunization Information Systems – mini guide • Data Quality Incoming/Ongoing Validation: Basic Level **Advanced/Technical** • HL7 Version 2.5.1 Implementation Guide for Immunization Messaging, Release 1.5 • HL7 Version 2.5.1 Implementation Guide for Immunization Messaging (Release 1.5) – Addendum • Data Quality Assurance in Immunization Information Systems – full guide • Guidance for HL7 ACK Messages to Support Interoperability • AIRA Data Validation Guide – for the IIS Onboarding Process • Data Quality Incoming/Ongoing Validation: Complete Level • Measures and Tests for Assessment Data at Rest • Data at Rest Technical Resources	• Data quality assurance

Functional Standard	Primary Resources	AIRA Repository Key Words
2.0 The IIS identifies, prevents, and resolves duplicated and fragmented patient records using an automated process.	**Introductory** • [Consolidating Demographic Records and Vaccination Event Records](#) – mini guide **Advanced/Technical** • [Consolidating Demographic Records and Vaccination Event Records](#) – full guide • [Immunization Information Systems Patient-Level De-Duplication Best Practices](#) • [The Unique Records Portfolio](#)	• Deduplication • Consolidation
3.0 The IIS identifies, prevents, and resolves duplicate vaccination events using an automated process.	**Introductory** • [Consolidating Demographic Records and Vaccination Event Records](#) – mini guide • [Vaccination Level De-duplication in Immunization Information Systems](#) – mini guide **Advanced/Technical** • [Consolidating Demographic Records and Vaccination Event Records](#) – full guide • [Vaccination Level Deduplication in Immunization Information Systems](#) – full guide	• Deduplication • Consolidation
4.0 The IIS implements written and approved confidentiality policies that protect the privacy of individuals whose data are contained in the system.	**Advanced/Technical** • [AIRA Confidentiality and Privacy: Considerations for IIS](#)	• Confidentiality • Privacy
5.0 The IIS implements comprehensive account management policies consistent with industry security standards.	**Advanced/Technical** • [Security Guidance Considerations for Immunization Information Systems](#)	• Security
6.0 The IIS is physically and digitally secured in accordance with industry standards for protected health information, security, encryption, uptime, and disaster recovery.	**Advanced/Technical** • [Security Guidance Considerations for Immunization Information Systems](#)	• Security
7.0 The IIS supports IIS users who access and use the IIS functions and submit or access IIS data.	**Introductory** • [Training Resources for IIS Trainers](#)	• Training

Centers for Disease Control and Prevention, Immunization Information Systems Support Branch

Functional Standard	Primary Resources	AIRA Repository Key Words
8.0 The IIS exchanges data with health information systems in accordance with current interoperability standards endorsed by CDC for message content, format, and transport.	Introductory • Fundamentals of IIS: Interoperability – no-cost, interactive training that requires setting up an account with PHII • Fundamentals of IIS: HL7 Basics – no-cost, interactive training that requires setting up an account with PHII • Transport 101 – video introducing SOAP web services as recommended transport for HL7 • SOAP WSDL 101 – video introducing SOAP WSDL • National Institute of Standards and Technology (NIST) Immunization Test Suite – video demonstrating how to test an example SOAP server • Improving Immunization Information Sharing through Unified Adoption of a Transport Standard Advanced/Technical • HL7 Version 2.5.1 Implementation Guide for Immunization Messaging • HL7 Version 2.5.1 Implementation Guide for Immunization Messaging (Release 1.5) -- Addendum • EHR-IIS Interoperability Enhancement Project Transport Layer Protocol Recommendation Formal Specification • Guidance for HL7 ACK Messages to Support Interoperability • Foundational Guidance for Minimum Functionality to Improve Visibility and Access to Information from Acknowledgement Messages • AIRA Guidance for HL7 RSP Messages to Support Interoperability • AIRA Data Validation Guide – for the IIS Onboarding Process • Measures and Tests for Assessment Message Submission and Acknowledgement • Measures and Tests for Assessment Query and Response • IIS Assessment Measures and Tests Message Transport • National Institute of Standards and Technology (NIST) Immunization Test Suite – NIST website featuring testing for SOAP and HL7 • IIS Functional Guide Query and Response Volume 8.17.2017	• Data exchange • Interoperability • Transport • Data transport • HL7

Functional Standard	Primary Resources	AIRA Repository Key Words
9.0 The IIS ensures and promotes user access to immunization records for clinical decision-making.	**Introductory** • [Presentations on Provider IIS Participation](#) **Advanced/Technical** • [AIRA Confidentiality and Privacy: Considerations for IIS](#) • [Security Guidance Considerations for Immunization Information Systems](#)	• Record access • Provider participation
10.0 The IIS forecasts pediatric, adolescent, and adult immunizations in a manner consistent with Advisory Committee on Immunization Practices (ACIP) recommendations.	**Introductory** • [Clinical Decision Support for Immunization (CDSi) Mini Guide](#) • [CDSi Training Materials](#) • [CDSi Resources Easing the Process of Updating CDS Engines](#) – infographic • [Introduction to the CDSi Project](#) – video • [The Basics of CDSi Evaluation and Forecasting](#) – video • [The Basics of the CDSi Logic Specification](#) – video **Advanced/Technical** • [Clinical Decision Support for Immunization (CDSi): Logic Specifications for ACIP Recommendations, version 4.3](#) • [CDSi Test Cases – Healthy Childhood and Adult, version 4.30 – Excel](#) • [CDSi Test Cases – Underlying Conditions, version 4.4](#) • [CDSi Supporting Data, version 4.42](#) • [IIS Test Cases Assessment Aggregate Status Report – Clinical Decision Support](#)	• Forecast • Clinical decision support
11.0 The IIS manages patient status at the provider organization and jurisdiction levels.	**Introductory** • [Management of Patient Active/Inactive Status in Immunization Information Systems: Replacement of 2005 Guidelines](#) – mini guide **Advanced/Technical** • [Management of Patient Active/Inactive Status in Immunization Information Systems](#) – full guide	• Patient status

Functional Standard	Primary Resources	AIRA Repository Key Words
12.0 The IIS supports vaccine product recall activities.	**Introductory** • [Inventory Management Operations of Immunization Information Systems (IIS)](#) – mini guide • [Reminder/Recall In Immunization Information Systems](#) – mini guide **Advanced/Technical** • [Immunization Information System Inventory Management Operations](#) – full guide • [Reminder/Recall in Immunization Information Systems](#) – full guide	• Inventory
13.0 The IIS supports reporting and investigation of vaccine adverse events.	**Advanced/Technical** • [IIS-VAERS Collaboration for Vaccine Adverse Events Reporting](#)	• Adverse events • VAERS
14.0 The IIS supports public health response during disease outbreaks.	**Introductory** • [Presentations on IIS and Outbreak Control](#)	• Outbreak
15.0 The IIS supports immunization-related efforts in school settings.	**Introductory** • [Presentations on IIS and Schools](#)	• School health
16.0 The IIS supports immunization-related efforts in childcare settings.	**Introductory** • [Presentations on IIS and Childcare](#)	• Childcare
17.0 The IIS supports immunization program activities during a public health emergency according to the jurisdiction's public health emergency plan.	**Introductory** • [Presentations on IIS and Emergency Preparedness Response](#) • [Presentations on IIS and Pandemic Response](#)	• Preparedness • Pandemic

Functional Standard	Primary Resources	AIRA Repository Key Words
18.0 The IIS provides predefined and ad hoc assessment and coverage reports that users can generate without assistance from the IIS.	**Introductory** • [Analytic Guide for Assessing Vaccination Coverage Using an IIS](#) • [Practical Examples of IIS Population-Based Coverage Assessments](#) **Advanced/Technical** • [Comparing and Communicating Vaccination Coverage Estimates from Immunization Information Systems, the National Immunization Survey, and Related Assessments](#) • [AFIX-IIS Integration: Operational and Technical Guide - Phase 1](#) • [AFIX-IIS Integration: Operational and Technical Guide - Phase 2](#) • [Preparing for Vaccination Coverage Assessments: A VFC Provider's Guide to Success](#)	• AFIX • Coverage • Rates
19.0 The IIS supports reminder and recall activities.	**Introductory** • [Reminder/Recall In Immunization Information Systems](#) – mini guide **Advanced/Technical** • [Reminder/Recall in Immunization Information Systems](#) – full guide	• Reminder • Recall
20.0 The IIS provides immunization records to individuals with appropriate authentication.	**Introductory** • [Presentations on Consumer Access](#) **Advanced/Technical** • [AIRA Confidentiality and Privacy: Considerations for IIS](#)	• Access • Authorize • Consumer Access
21.0 The IIS ensures stakeholders have appropriate access to the data in the IIS for public and population health purposes.	**Introductory** • [Practical Examples of IIS Population-Based Coverage Assessments](#) • [A Systematic Review of Barriers to Data Sharing in Public Health](#) – journal article **Advanced/Technical** • [AIRA Confidentiality and Privacy: Considerations for IIS](#) • [Security Guidance Considerations for Immunization Information Systems](#) • [The Community Guide - Vaccination](#)	• Stakeholder access

Functional Standard	Primary Resources	AIRA Repository Key Words
22.0 The IIS reliably exchanges information electronically with IISs in other jurisdictions consistent with the current CDC-endorsed HL7 Implementation Guide.	**Introductory** • [Interoperability for IIS](#) – no-cost, interactive training that requires setting up an account with PHII • [HL7 Basics for IIS](#) – no-cost, interactive training that requires setting up an account with PHII • [Transport 101](#) – video introducing SOAP web services as recommended transport for HL7 **Advanced/Technical** • [HL7 Version 2.5.1 Implementation Guide for Immunization Messaging](#) • [HL7 Version 2.5.1 Implementation Guide for Immunization Messaging (Release 1.5) -- Addendum](#) • [Guidance for HL7 ACK Messages to Support Interoperability](#) • [AIRA Guidance for HL7 RSP Messages to Support Interoperability](#) • [AIRA Data Validation Guide – for the IIS Onboarding Process](#) • [Immunization Gateway Information Sheet](#) • [Public Health IIS Interjurisdictional Memorandum of Understanding (Fillable Form)](#)	• Data exchange • Interoperability • Transport • Data transport • HL7
23.0 The IIS supports vaccine management and quality assurance functions for VFC and state and local vaccine programs.	**Introductory** • [IIS Collaboration with VFC and Grantee Immunization Programs](#) – mini guide **Advanced/Technical** • [Immunization Information System Collaboration with Vaccines for Children Program and Grantee Immunization Programs](#) – full guide • [Presentations on IIS Support for Various VFC, State and Local Vaccine Programs](#)	• Vaccines for Children

Functional Standard	Primary Resources	AIRA Repository Key Words
24.0 The IIS supports data exchange with the national Vaccine Tracking System (VTrckS).	**Introductory** • Vaccine Tracking System • VTrckS Training Library – online resource for VTrckS ExIS stakeholders that requires setting up an account with CDC. Request access by sending a message to VTrckSExIS@cdc.gov. **Advanced/Technical** • VTrckS ExIS Community – online resource for VTrckS ExIS stakeholders that requires setting up an account with CDC. Request access by sending a message to VTrckSExIS@cdc.gov. Note: Additional resources are available in the VTrckS training library. Contact the immunization program in your jurisdiction for more information.	• VTrckS
25.0 The IIS supports provider site level vaccine inventory management and reconciliation according to VFC and state and local immunization program requirements.	**Introductory** • Inventory Management Operations of Immunization Information Systems (IIS) – mini guide • Decrementing Inventory via Electronic Data Exchange – mini guide **Advanced/Technical** • Immunization Information System Inventory Management Operations – full guide	• Inventory
26.0 The IIS provides data or produces reports for VFC and state and local immunization programs.	**Introductory** • IIS Collaboration with VFC and Grantee Immunization Programs – mini guide **Advanced/Technical** • Immunization Information System Collaboration with Vaccines for Children Program and Grantee Immunization Programs – full guide	• Vaccines for Children

General Resources

- CDC Immunization Information Systems web page   https://www.cdc.gov/vaccines/programs/iis/index.html

- CDC IIS Publications Searchable Database   https://www2a.cdc.gov/vaccines/IIS/IISPubs/IISPubsMain.asp

- CDC Immunization Information System Annual Report (IISAR)   https://www.cdc.gov/vaccines/programs/iis/annual-report-iisar/index.html

- American Immunization Registry Association   http://www.immregistries.org/

- Public Health Informatics Institute   https://www.phii.org/

- Contact the CDC Immunization Information Systems Support Branch   iisinfo@cdc.gov