



## Background and Context

Interoperability is a core function for Immunization Information Systems (IIS). The ability to seamlessly capture and exchange data is fundamental to the maintenance and use of consolidated records. Standardized interoperability is critical for IIS interfaces with Electronic Health Records (EHRs) as well as IIS-IIS exchange. Although there are many aspects to interoperability, message transport, or how messages get from system A to system B, is an important building block for standardized data exchange.

In 2011, CDC convened an EHR-IIS Interoperability Expert Panel that focused on selecting a transport layer standard. The panel consisted of 41 industry experts representing the Office of the National Coordinator (ONC), the CDC Public Health Informatics and Technology Program Office (PHITPO), the American Immunization Registry Association (AIRA), the Electronic Health Record Association (EHRA), the Indian Health Service (IHS), IIS vendors, EHR vendors, and IIS programs.<sup>1</sup> The panel recommended SOAP Web Services as the standard<sup>2</sup>, and CDC developed a common Web Services Definition Language (WSDL) to allow for easier IIS and EHR adoption.

In 2016, AIRA convened the Measurement for Assessment and Certification Advisory Workgroup (MACAW) to develop and propose measures for the measurement stages of IIS Assessment and Validation, beginning with the first phase of message transport. These measures will be shared with the broader AIRA community and approved by the AIRA Board of Directors to ensure broad community input and agreement.

## Functional Standards and Operational Guidance Statements

The use of standardized CDS tools are referenced throughout the newly developed 2018-2022 IIS Functional Standards<sup>3</sup> and Operational Guidance Statements (OGS). The revised IIS FS were developed by CDC's IIS Support Branch (IISB), through a consensus-based process involving input from a variety of IIS managers and technical experts from across the U.S. They are intended to reflect the functionality an IIS should strive to attain to fully support program and stakeholder immunization-related goals. The OGS provide further guidance to the IIS community about how to achieve the FS and to inform the development of measures for achievement. The following FS and OGS are included in the MACAW measures and tests defined in this document.

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<sup>1</sup> <http://www.cdc.gov/vaccines/programs/iis/interop-proj/ehr.html>

<sup>2</sup> <http://www.cdc.gov/vaccines/programs/iis/interop-proj/downloads/ehr-interop-trans-layer-tech-recs.pdf>

<sup>3</sup> <https://www.cdc.gov/vaccines/programs/iis/func-stds.html>

**FS 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.

**OGS 8.1:** The IIS supports the Simple Object Access Protocol (SOAP) standard Interface, Web Services Definition Language (WSDL), or other transport solutions as endorsed by CDC.

## Approved Assessment Measures

The assessment measures for transport were approved in May 2016 and will be used for validation. For more information on the assessment measures, please see the Transport Assessment document on the AIRA website.<sup>4</sup>

## Validation Stage

The *Immunization Information System (IIS) Measurement and Improvement: Testing and Discovery, Assessment and Validation Overview*<sup>5</sup> document describes the validation stage in detail and should be referenced for more information. At the highest level, the Validation stage uses the same (or a subset of) measures and tests which have been developed, vetted, and approved by the IIS community and AIRA Board for IIS Assessment. No new measures are introduced at Validation that have not already been measured in IIS Assessment.

## Validation Levels

Transport will contain two Validation Levels (Basic and Complete). The following table defines the requirements for both Basic and Complete levels of validation.

Assessment Measure	Basic Level	Complete Level
1 - The IIS supports the Connectivity Test Operation as defined in the SOAP Standard Interface 1.2 specification, Web Services Definition Language (WSDL), as endorsed by CDC.	X	X
2 - The IIS supports the Submit Single Message Operation as defined in the SOAP Standard Interface 1.2 specification, Web Services Definition Language (WSDL), as endorsed by CDC.	X	X
3 - The IIS supports the Security Fault as defined in the SOAP Standard Interface 1.2 specification, Web Services Definition Language (WSDL), as endorsed by CDC.		X

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<sup>4</sup> [http://repository.immregistries.org/files/resources/59394fd9c1c47/iis\\_assessment\\_measures\\_and\\_tests\\_-\\_transport\\_-\\_final.pdf](http://repository.immregistries.org/files/resources/59394fd9c1c47/iis_assessment_measures_and_tests_-_transport_-_final.pdf)

<sup>5</sup> [http://www.immregistries.org/initiatives/measurement/IIS\\_Measurement\\_and\\_Improvement\\_-\\_Validation\\_Overview\\_11-2017\\_Final.pdf](http://www.immregistries.org/initiatives/measurement/IIS_Measurement_and_Improvement_-_Validation_Overview_11-2017_Final.pdf)

## Validation Statuses

Validation Statuses are assigned based on the assessment outcomes for the measures of interest (e.g., Fully Meets, Deviates, Does Not Meet).

### Basic Level Requirements

Validation Status	Requirements
	The IIS must Fully Meet Measure 1 (Connectivity Test) and Measure 2 (Submit Single Message).
	Minor differences will not exist at the Basic Level for Transport Validation. See Complete Level below for Minor Differences.
	The IIS fails to meet the requirements for Validated and Minor Differences.
	The IIS has communicated willingness to participate, but is not able to be tested at this time.
	The IIS has chosen not to participate.

## Complete Level Requirements

Validation Status	Requirements
	<p>The IIS must Fully Meet Measure 1 (Connectivity Test), Measure 2 (Submit Single Message), and Measure 3 (Security Fault).</p>
	<p>The IIS must Fully Meet Measure 1 (Connectivity Test), Measure 2 (Submit Single Message), and Deviate in Measure 3 (Security Fault).</p>
	<p>The IIS fails to meet the requirements for Validated and Minor Differences.</p>
	<p>The IIS has communicated willingness to participate, but is not able to be tested at this time.</p>
	<p>The IIS has chosen not to participate.</p>