



AIRA

AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION

IIS Assessment

Transport

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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.¹ The panel recommended SOAP Web Services as the standard², 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 IIS Assessment, beginning with message Transport. These measures will be shared with the AIRA Board of Directors and the broader AIRA community 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 Standards³ and Operational Guidance Statements (OGS). The revised IIS FS were developed by the 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.

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.

¹ <https://www.cdc.gov/vaccines/programs/iis/technical-guidance/soap/services.html>

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

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

Approved Measures

Message transport is a straightforward area of interoperability that can be assessed with three measures.

- 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.
- 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.
- 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.

Approved Tests

There are three approved tests – one under each measure - to assess IIS alignment. These independent tests will be conducted as part of the Interoperability Testing Project:

- 1a) The IIS shall implement the Connectivity Test Operation
- 2a) The IIS shall implement the Submit Single Message Operation
- 3a) The IIS shall have the ability to throw a Security Fault

The following test cases and outcomes are proposed to validate alignment with this measure:

Test Case	Test Outcomes
1a) Perform a Connectivity Test request to an IIS	A successful test is indicated if the IIS responds with any of the following: <ul style="list-style-type: none">• IIS responds with a conformant Connectivity Test response• IIS responds with a conformant Unsupported Operation fault
2a) Perform a Submit Single Message request to an IIS with all of the following: <ul style="list-style-type: none">• Proper credentials as specified by the IIS• One HL7 message containing a basic VXU message	A successful test is indicated if the IIS responds with a conformant submit single message response. Acceptance or rejection of the HL7 message is not relevant for passing this test.
3a) Perform a Submit Single Message request to an IIS with all of the following: <ul style="list-style-type: none">• Incorrect credentials• Basic VXU message	A successful test is indicated if the IIS responds with a conformant Security Fault.