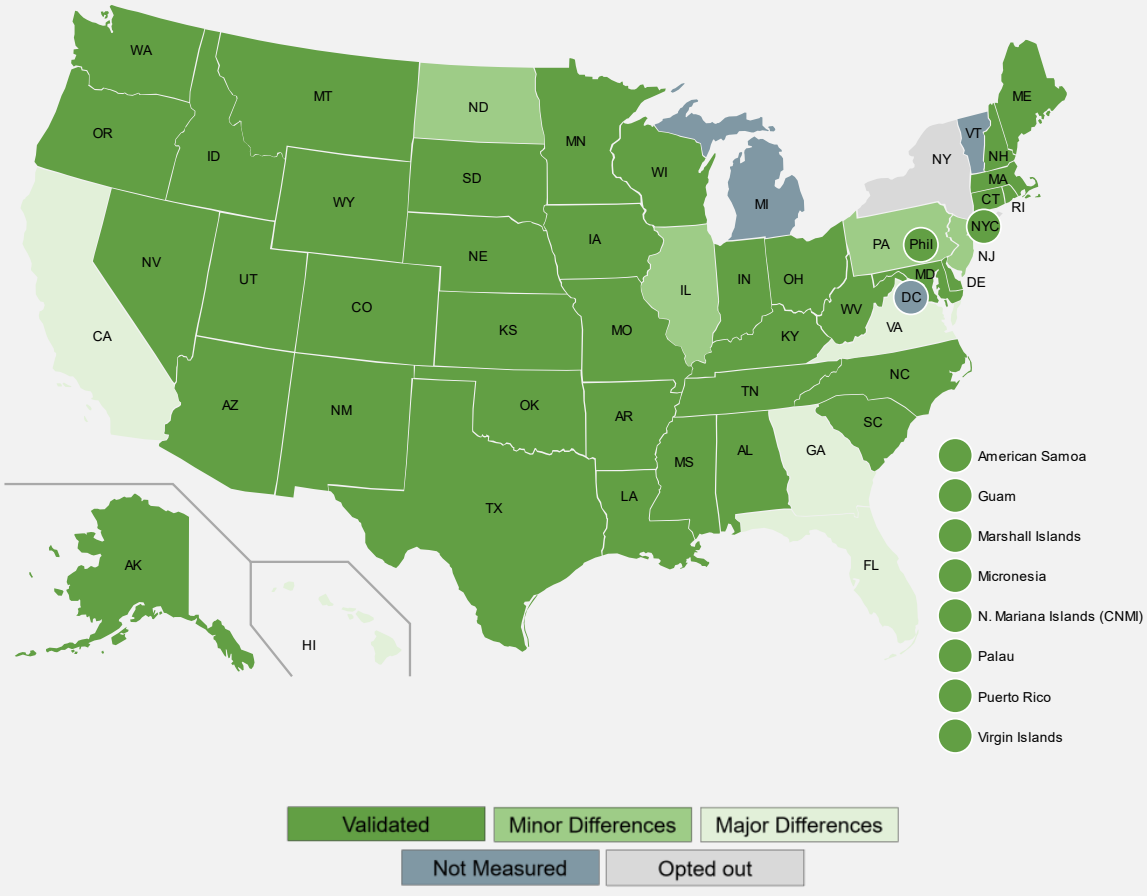
TRANSPORT VALIDATION

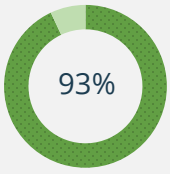
Complete Level

2023

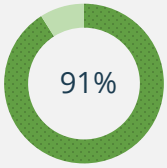
AIRA
AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

M&I
MEASUREMENT & IMPROVEMENT





57 of 61 (93%) IIS had a CDC WSDL available and were measured.



52 of 57 (91%) connected IIS were Validated or Validated with Minor Differences at the complete level for Transport.

The American Immunization Registry Association (AIRA) launched its community-driven immunization information system (IIS) Measurement and Improvement (M&I) Initiative in mid-2015, with the dual goals of providing IIS with information to align with IIS Functional Standards and developing a summary of IIS community alignment progress with best practices and standards. This report contains the results of IIS that have been measured within Validation, the final stage of the M&I process.

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Introduction

Measurement and Improvement

The American Immunization Registry Association (AIRA) launched its community-driven immunization information system (IIS) Measurement and Improvement (M&I) Initiative in mid-2015. The M&I Initiative provides IIS with information and guidance to align with the IIS Functional Standards. These standards are a set of specifications that describe the operations, data quality, and technology needed by IIS to support immunization programs, vaccination providers, and other immunization stakeholders.

M&I connects AIRA testing processes with IIS preproduction (or test) systems and/or analyzes de-identified data then shares results through the Aggregate Analysis Reporting Tool (AART). AIRA continues to test with a growing number of IIS interfaces, with over 90% of IIS programs currently participating. The initiative is demonstrating significant improvements in interoperability between IIS and electronic health record (EHR) systems across the community, as well as improvements in standards-based functionality.

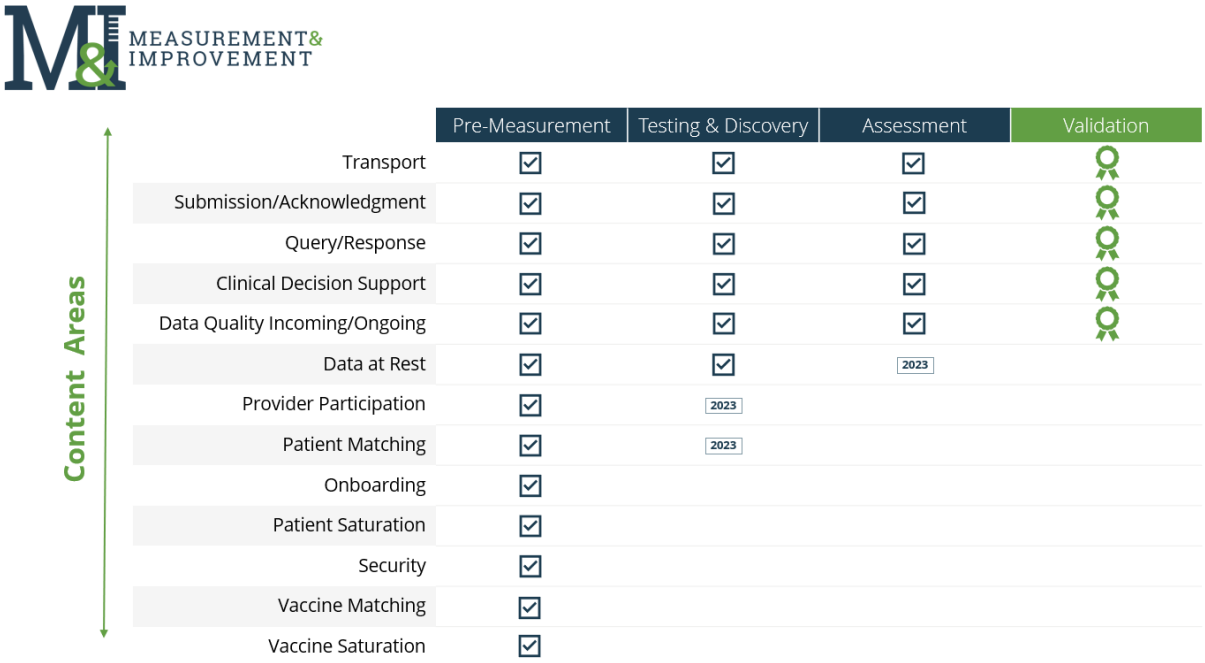
M&I is a three-stage process for IIS to measure their alignment with current standards:

- Testing and Discovery gathers preliminary information on community alignment with standards.
- IIS Assessment involves more formal testing to measure individual IIS using IIS community-selected measures and tests.
- Validation is a summary stage to acknowledge and share results for IIS that are progressing toward or achieving alignment with community-selected measures and tests.

Each content area for measuring IIS functionality and capability progresses through each stage. M&I stages and content areas are developed by the Measurement for Assessment and Certification Advisory Workgroup (MACAW), a panel of IIS subject matter experts.

M&I's third and final stage, Validation, uses the same measures and tests, or a subset thereof, that have been developed, vetted, and approved by the IIS community for IIS Assessment, the second stage of M&I. Validation is measured at two levels: basic and complete. No new measures or tests are introduced in the Validation stage that are not already measured and visible in the Assessment stage. An overview is available that details the M&I Initiative, its content areas, and associated stages of measurement.

The following table presents an overview of M&I content areas and their respective progress across M&I stages.



Transport

Interoperability is a core function for IIS. 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, the Centers for Disease Control and Prevention (CDC) convened an EHR-IIS Interoperability Expert Panel that recommended SOAP (Simple Object Access Protocol) Web Services as the IIS Transport standard, and CDC developed a common Web Services Description Language (WSDL) to facilitate and enable easier IIS and EHR adoption.

Methods

Measures and tests are based on the CDC's IIS Functional Standards. All measures and tests are developed by MACAW and informed by the IIS community. Transport Validation measures were approved in December 2017. Visit the AIRA repository for more detailed information about Transport measures and tests.

For Transport, the Functional Standards and operational guidance statements referenced include:

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 Description Language (WSDL), or other transport solutions as endorsed by CDC.

AIRA technical staff are responsible for implementing and conducting all M&I testing efforts. Current test methodology involves connecting with IIS preproduction systems through a web services interface, submitting test messages, and analyzing results. AIRA partners with NIST (the National Institute of Standards and Technology) to develop conformance test tools to support this initiative.

Transport Validation reports are updated twice a year, and an IIS can achieve Validation status during either half of the year. Once achieved, Validation is considered "active" for the calendar year. Validation will be retested and renewed in the first quarter of each subsequent calendar year.

This report provides results for the IIS participating in measurement for the **complete** level of **Transport Validation**; results for the **basic** level can be found here. Summary information is presented for all measured IIS; individual results are available to authorized users in AART.

Measures

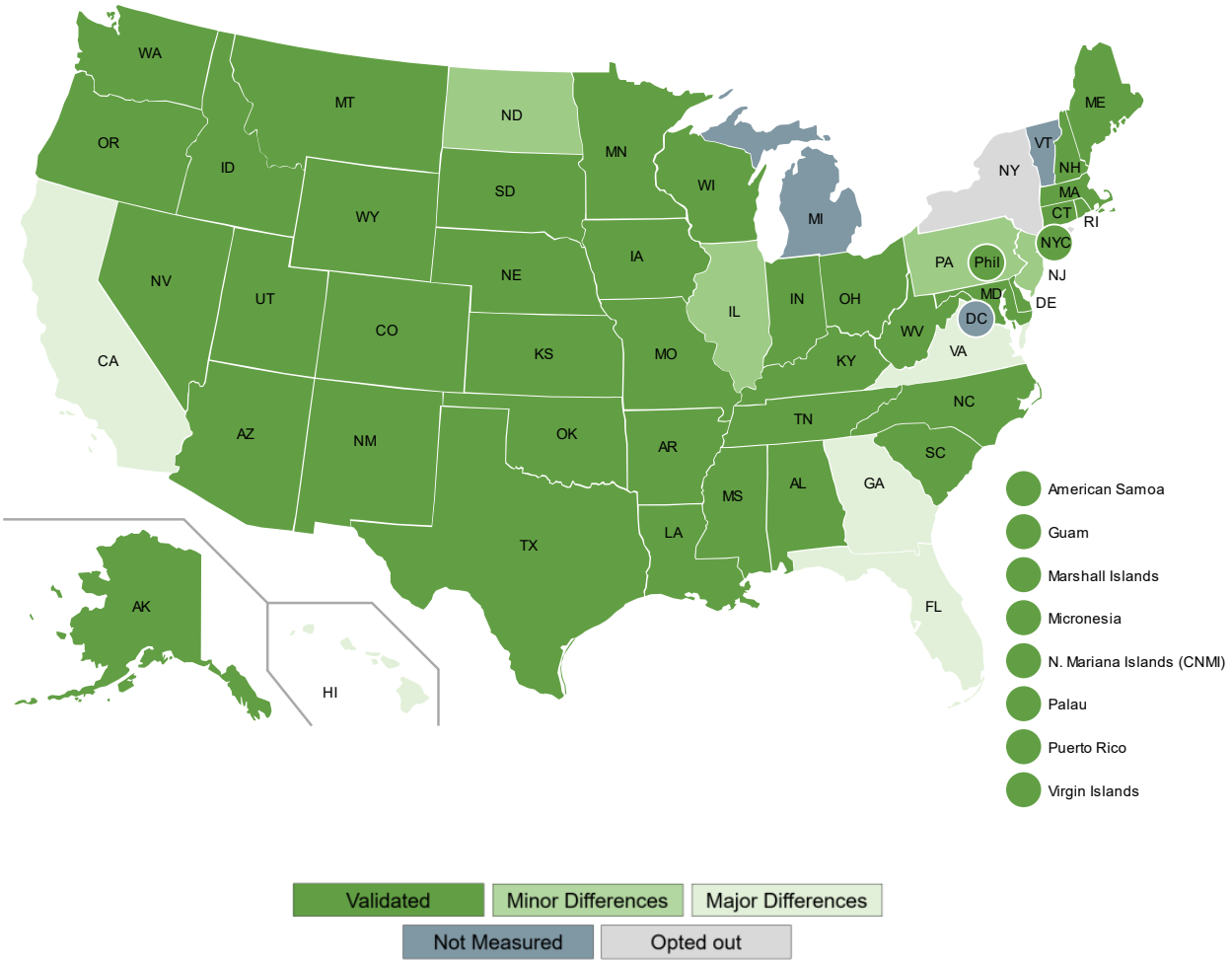
The **complete** level of Transport Validation contains three measures:

1. The IIS supports the connectivity test operation as defined in the SOAP Standard Interface 1.2 specification, Web Services Description 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 Description 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 Description Language (WSDL), as endorsed by CDC.

Results

Below are results for Transport Validation for 2023. Unless an IIS declares otherwise, the functionality tested in preproduction is presumed to be available to end users in production.

Map: Transport Validation, complete level 2023



The 61[1] IIS participating[2] in AIRA's M&I Initiative were encouraged to be formally measured in Transport Validation. Of the 61 IIS, **57 (93%)** had a CDC WSDL available and were

[1] Note that the denominator for M&I participation decreased from 62 to 61 in Q2 2022, due to San Diego IIS's merge with California's state IIS.

[2] Includes all 50 states, American Samoa, the Commonwealth of the Northern Mariana Islands, the District of Columbia, the Federated States of Micronesia, Guam, New York City, Philadelphia, Puerto Rico, the Republic of the Marshall Islands, the Republic of Palau, and the Virgin Islands.

measured. Of those 57 IIS connected and measured, **52 (91%)** were **Validated or Validated with Minor Differences** at the **complete** level for Transport. Another five IIS were measured but displayed major differences from the standard. Three additional IIS were not able to be measured at this time, while one opted not to be measured in Transport Validation.

Below are results for Transport Validation at the complete level for 2023 in tabular form.

Table: Transport Validation, complete level 2023

Validation Status and Definition	IIS
Validated: The IIS meets Measure 1 (connectivity test), Measure 2 (submit single message), and Measure 3 (security fault).	Alabama, Alaska, American Samoa, Arizona, Arkansas, Colorado, Connecticut, Delaware, Guam, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Marshall Islands, Maryland, Massachusetts, Micronesia, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York City, North Carolina, N. Mariana Islands (CNMI), Ohio, Oklahoma, Oregon, Palau, Philadelphia, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virgin Islands, Washington, West Virginia, Wisconsin, Wyoming
Validated with Minor Differences: The IIS meets Measure 1 (connectivity test) and Measure 2 (submit single message) and Deviates in Measure 3 (security fault).	Illinois, New Jersey, North Dakota, Pennsylvania
Major Differences: The IIS fails to meet the requirements for Validated or Validated with Minor Differences.	California, Florida, Georgia, Hawaii, Virginia
Not Measured: The IIS was not able to be tested at this time.	District of Columbia, Michigan, Vermont

Opted Out: The IIS has chosen not to be measured.	New York state

Conclusion

Published Validation reports offer transparency into the progress IIS are making to become aligned with community-driven standards. Participating IIS have demonstrated notable progress, as 91% (52) of the 57 IIS measured at the complete level for Transport achieved Validated or Validated with Minor Differences statuses**.** AIRA staff are also available to provide technical assistance to IIS programs and vendors as requested.

Please visit AIRA's website for more background or other information on the Measurement and Improvement Initiative. Please direct questions and/or comments via AIRA's online technical assistance form.

Appendix A: Glossary of Terms and Acronyms

AART: The Aggregate Analysis Reporting Tool, an application used to display and share results from the Measurement and Improvement process.

Assessment Stage: A more formal testing step to measure IIS using IIS community-selected measures and tests, to share those results for quality improvement, and to provide technical assistance to accelerate improvement. This is the second of three stages.

Basic Level: A level of Validation measurement that includes only essential measures to functionally meet this content area.

Complete Level: A level of Validation measurement that includes conformance to all measures approved for Validation.

Content Area: A category for measuring IIS functionality and capability within a specific functional area, made up of distinct measures and tests. Measures and tests will become more formalized as they progress into different stages.

MACAW: Measurement for Assessment and Certification Advisory Workgroup.

Major Differences Status: The IIS cannot support the measures because of additional requirements that conflict with the national standard; the IIS must make significant changes in one or more measures to align with standards.

Measure: A metric developed to measure how well an IIS aligns with IIS Functional Standards/operational guidance statements or another recognized standard.

Stage: A distinct period of testing in the Measurement and Improvement process.

Testing and Discovery Stage: A step in testing IIS to gather preliminary and general information on community alignment with standards. Testing and Discovery is the first of all the stages.

Validated Status: The IIS has achieved full alignment with community-selected measures.

Validated with Minor Differences Status: The IIS has achieved full alignment with community-selected measures except for differences that (1) are allowed by the standard (e.g., constraints) or (2) are meeting requirements of local policy/law that do not conflict with standard requirements.

Validation Stage: A summary step to acknowledge IIS that are progressing toward or achieving alignment with community-selected measures and tests. A Validation designation

is automatically achieved when an IIS meets the designated measures and tests in a specific content area (e.g., Transport, Submission/Acknowledgment, Query/Response, etc.).