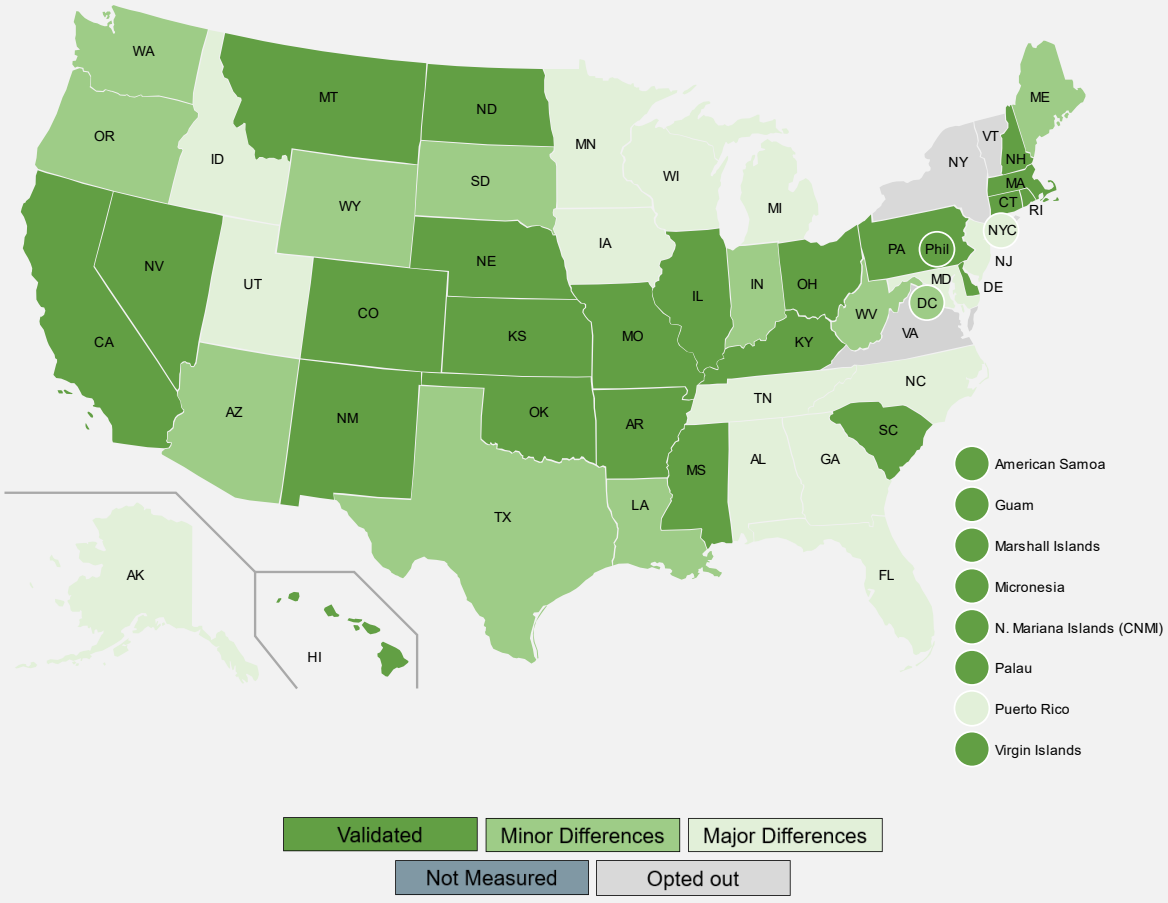
SUBMISSION & ACKNOWLEDGMENT VALIDATION

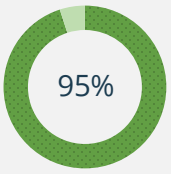
Complete Level

2026

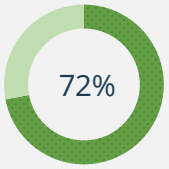
AIRA
AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

M&I
MEASUREMENT & IMPROVEMENT





58 of 61 (95%) IIS were connected to the testing process and measured.



42 of 58 (72%) connected IIS were Validated or Validated with Minor Differences at the complete level for Submission/ Acknowledgment (passed all 16 measures).

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

Overview: The measurement process for Submission & Acknowledgment (VXU/ACK) uses the Standards & Interoperability Testing Tools (SITT) Immunization Test Suite. This tool provides consistent conformance-based results for all measured IIS. In addition, the technical requirements for data submission and acknowledgment are documented in the HL7 Version 2.5.1: Implementation Guide for Immunization Messaging, Release 1.5 and addendum. This is referred to as the National IG.

Messaging standards have been used in the IIS community for over twenty years and are increasingly important as Electronic Health Records (EHR)-IIS interoperability becomes more essential in health care. To create complete and accurate records, IIS need data from most immunizers in their area, sent through standard reporting methods Per the National IG, a VXU message sends patient and vaccination data from an EHR to an IIS, while an ACK message is the IIS response that confirms whether the VXU was received and processed correctly.

Background: Submission & Acknowledgment (VXU/ACK) moved into the Measurement and Improvement (M&I) stage of Validation in 2018. Validation testing occurs quarterly. VXU/ACK Validation Summary reports are updated twice a year, and an IIS can achieve either Basic or Complete Validation during either half of the year. Once achieved, Validation is considered active for the calendar year. This report contains the Complete Validation results from Quarter 3, 2026 (July through September).

Measures: Measurement for Assessment and Certification Workgroup (MACAW), the advisory body for M&I, approved measures and tests for VXU/ACK Validation in June 2021. The detailed measures and tests document is located on the AIRA repository. Measures and tests are based on the IIS Functional Standards v5.0. VXU/ACK measures and tests are specifically based off the following:

- **Functional Standard B4.0**: The IIS validates patient demographic and vaccination data.
- **Guidance Statement B4.2**: The IIS monitors data quality within the IIS in accordance with policies and procedures.
- **Functional Standard C5.0**: Manage interfaces for exchange and integration of data electronically between the IIS and other information systems in accordance with federal and jurisdictional standards.
- **Guidance Statement C5.1**: The IIS exchanges data in accordance with current interoperability standards endorsed by CDC for message content, format, and transport.

Testing Method: To evaluate the ability of IIS to process a VXU, or vaccine update, and respond using an ACK, or acknowledgment, AIRA conducts a series of tests using conformant HL7 messages that are sent to IIS pre-production systems.
Each measure is assessed using test cases that were reviewed and agreed upon by the IIS community. Each measure has at least one test case but may have more as needed. In total, 31 test cases were developed, reviewed, and approved across the 16 measures. Measures 1–11 focus on Submission, 12–13 focus on Acknowledgment (ACK), 14 focuses on timeliness, and 15-16 focus on National Drug Code (NDC) acceptance. Test cases were developed to isolate the test case to the measure; expectations for a test case should be few, not many; and focus on proper behavior based on standards.

Results: This report provides results for the **complete** level of VXU/ACK 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. IIS can achieve the following **complete** level statuses for VXU/ACK:

- **Validated**: The IIS meets Measures 1–16.
- **Validated with Minor Difference:** The IIS deviates in one or more measures
- **Major Differences:** The IIS does not meet one or more measures
- **Not Measured:** The IIS was not able to be tested at this time.
- **Opted Out:** The IIS has chosen not to be measured.

Results

Below are the results for the complete level of Submission & Acknowledgment Validation from Quarter 3, 2026. Unless an IIS declares otherwise, the functionality tested in preproduction is presumed to be available to end users in production.

The 61[1] IIS participating[2] in AIRA's M&I Initiative were encouraged to be formally measured in Submission & Acknowledgment Validation. Of the 61 IIS, **58 (95%)** were connected to the testing process and measured. Of those measured, **42 (72%) Validated** or **Validated with Minor Differences** at the complete level for Submission & Acknowledgment. Another 16 IIS were measured but displayed major differences with the standard. One IIS was not able

[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.

to be measured in Submission & Acknowledgment Validation this quarter and two IIS opted not to be measured.

Below are the results for the complete level of Submission & Acknowledgment Validation from Quarter 3, 2026 in tabular form.

Table: Submission & Acknowledgment Validation, complete level Quarter 3, 2026

Validation Status and Definition	IIS
Validated: The IIS meets Measures 1–16.	American Samoa, Arkansas, California, Colorado, Connecticut, Delaware, Guam, Hawaii, Illinois, Kansas, Kentucky, Marshall Islands, Massachusetts, Micronesia, Mississippi, Missouri, Montana, N. Mariana Islands, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Ohio, Oklahoma, Palau, Pennsylvania, Philadelphia, Rhode Island, South Carolina, US Virgin Islands
Validated with Minor Differences: The IIS deviates in one or more measures.	Arizona, District of Columbia, Indiana, Louisiana, Maine, Oregon, South Dakota, Texas, Washington, West Virginia, Wyoming
Major Differences: The IIS does not meet one or more measures.	Alabama, Alaska, Florida, Georgia, Idaho, Iowa, Maryland, Michigan, Minnesota, New Jersey, New York City, North Carolina, Puerto Rico, Tennessee, Utah, Wisconsin
Not Measured: The IIS is not able to be tested at this time.	Virginia
Opted Out: The IIS has chosen not to be measured.	New York (State), Vermont

Conclusion

The IIS community continues to work towards full conformance with the IIS Functional Standards, with ongoing efforts to enhance functionality and align with community-driven standards. While results may vary due to evolving recommendations, standards updates,

or differences in system implementation, the long-term trend is expected to show steady progress toward greater alignment across the IIS community.

Published Validation reports provide transparency into this progress, offering insights into how IIS are advancing toward meeting these shared standards. AIRA staff are available to provide technical assistance to IIS programs and vendors as needed.

For more information on the Measurement and Improvement (M&I) Initiative, please visit AIRA's website. Questions and comments can be submitted via AIRA's Technical Assistance Request form.

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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.).

Appendix B: Measures/Methods – Additional Information

The **complete** level of Submission & Acknowledgment Validation contains 16 measures[3]:

1. The IIS processes an administered vaccine for a patient.
2. The IIS processes a historical vaccine for a patient.
3. The IIS processes the submission of a full immunization record for a patient.
4. The IIS processes an update to a previously submitted vaccination event.
5. The IIS processes a delete to a previously submitted vaccination event.
6. The IIS processes a submission where the patient does not give consent to share data (i.e., patient data are protected).
7. The IIS processes a refusal of a vaccination.
8. The IIS processes an adverse event.
9. The IIS processes an observation about a patient that specifies a contraindication or immunity to a vaccine-preventable disease.
10. The IIS processes messages in accordance with the National IG.
11. The IIS processes both complete and incomplete/partially administered doses.
12. The IIS responds to a correctly formatted message with no errors.
13. The IIS responds to a submission that has an error.
14. The IIS responds to a submission with an ACK within five seconds or less for 95% of the records submitted.
15. The IIS processes an administered vaccine using the preferred NDC format.
16. The IIS processes an administered vaccine using alternative NDC formats.

[3] Measures 15 and 16 were moved into complete Validation in Q1 2021.