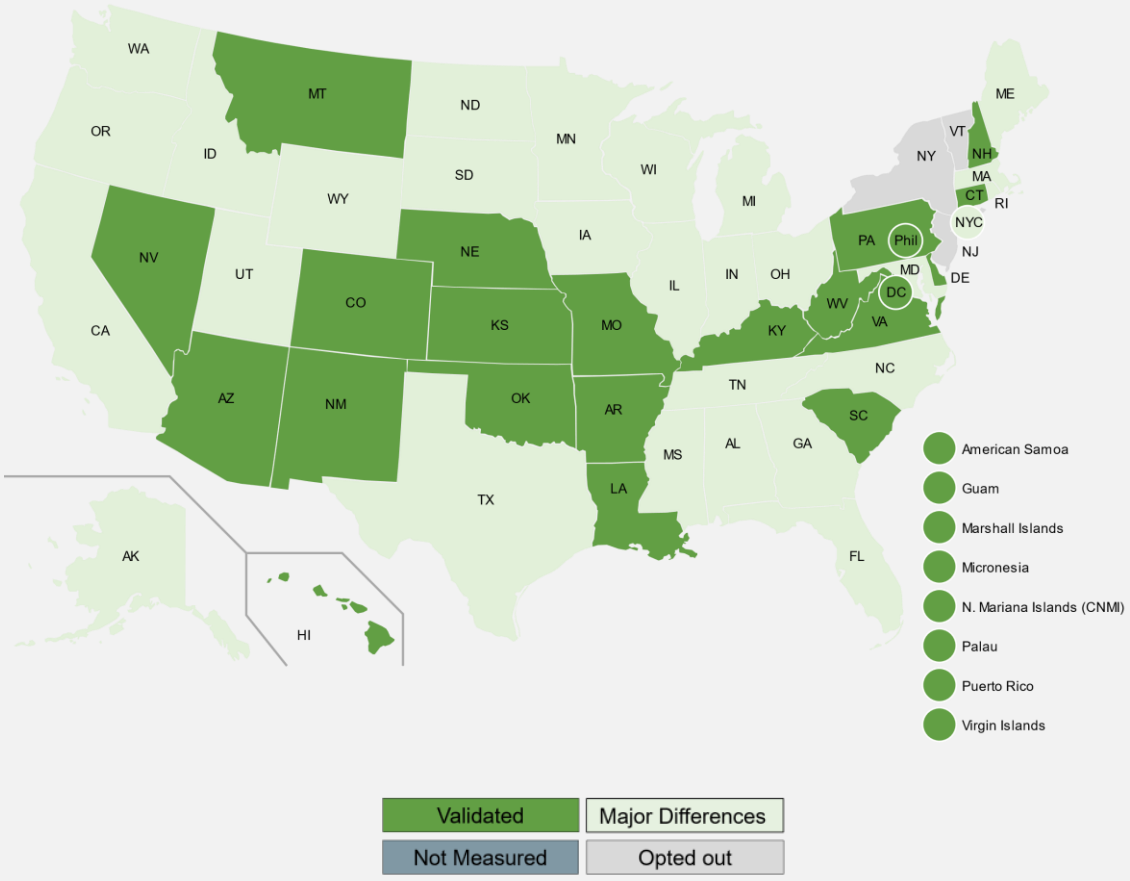
CLINICAL DECISION SUPPORT VALIDATION

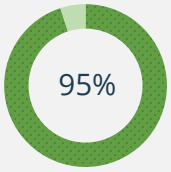
Complete Level

2026

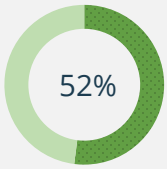
AIRA
AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

M&I
MEASUREMENT & IMPROVEMENT





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



30 of 58 (52%) connected IIS were Validated at the complete level for Clinical Decision Support.

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 Clinical Decision Support (CDS) uses the National Institute of Standards and Technology (NIST) Immunization Test Suite Validation Tool. This tool provides consistent conformance-based results for all measured IIS. In addition, the technical requirements for CDS 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.

Immunization Information Systems (IIS) help health care providers determine which vaccines a patient needs by using clinical decision support (CDS) tools. These tools follow recommendations from the Advisory Committee on Immunization Practices (ACIP), which updates vaccine guidelines throughout the year. To make sure these tools give consistent recommendations, the CDC's Immunization Information Systems Support Branch (IISSB) created the Clinical Decision Support for Immunization (CDSi) Project. This project develops standard tools for each vaccine-preventable disease based on the latest ACIP guidelines.

Background: CDS moved into the Measurement and Improvement (M&I) stage of Validation in 2018. Validation testing occurs in the first quarter of each calendar year. Transport 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 1, 2026 (January through March).

Measures: Measurement for Assessment and Certification Workgroup (MACAW), the advisory body for M&I, approved measures and tests for CDS in February 2020. The detailed measures and tests document is located on the AIRA repository. Measures and tests are based on the IIS Functional Standards v5.0. CDS measures and tests are specifically based off the following:

- **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.
- **Functional Standard D6.0**: The IIS supports pediatric, adolescent, and adult immunization forecasts consistent with Advisory Committee on Immunization Practices (ACIP) recommendations.
- **Guidance Statement D6.1**: The IIS establishes and maintains Clinical Decision Support (CDS) functionality consistent with ACIP recommendations.

- **Guidance Statement D6.2**: The IIS establishes and maintains Clinical Decision Support functionality in alignment with CDSi resources published on the CDC website.
- **Functional Standard E7.0**: The IIS ensures authorized users have access to patient demographic and vaccination data based on user roles and permissions.
- **Guidance Statement E7.5**: The IIS supports authorized IIS partners' and providers' appropriate access to data in the IIS for public and population health purposes (e.g. childcare, schools, college, health plans, clinics).

Testing Method: To assist in validating IIS responses, AART utilizes the NIST Forecasting for Immunization Test Suite (FITS). FITS checks whether the IIS provides accurate evaluated immunization histories and forecasts, updates CDS logic in a timely manner, and uses status indicators consistent with ACIP guidelines.

Results: This report provides results for the **complete** level of CDS 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 CDS:

- **Validated**: The IIS meets Measures 1-12.
- **Validated with Minor Difference:** The IIS deviates in one or more measures
- **Major Differences:** The IIS does not meet one or more measures specified above.
- **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 CDS Validation from Quarter 1, 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 CDS Validation. Of the 61 IIS, **58 (95%)** were **connected** to the testing process and measured. Of those measured, **30 (52%)** were **Validated** at the complete level for CDS.

[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.

Another 28 IIS were measured but displayed major differences. Three opted to not to be measured in CDS Validation.

Below are results for the complete level of CDS Validation from Quarter 1, 2026 in tabular form.

Table: Clinical Decision Support Validation, complete level Quarter 1, 2026

Validation Status and Definition	IIS
Validated: The IIS meets Measures 1–12.	American Samoa, Arizona, Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Guam, Hawaii, Kansas, Kentucky, Louisiana, Marshall Islands, Micronesia, Missouri, Montana, N. Mariana Islands, Nebraska, Nevada, New Hampshire, New Mexico, Oklahoma, Palau, Pennsylvania, Philadelphia, Puerto Rico, South Carolina, US Virgin Islands, Virginia, West Virginia
Major Differences: The IIS does not meet one or more measures specified above.	Alabama, Alaska, California, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New York City, North Carolina, North Dakota, Ohio, Oregon, Rhode Island, South Dakota, Tennessee, Texas, Utah, Washington, Wisconsin, Wyoming
Opted Out: The IIS has chosen not to be measured.	New Jersey, 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 Clinical Decision Support Validation contains all 12 measures.

Evaluation status

Definition: The determination if the vaccine event "counted" (e.g., valid, not valid).

1. The IIS HL7 interface returns an evaluation status (e.g., dose validity) for each vaccination event.
2. The evaluation status returned by the IIS matches the CDC CDSi expected value for routine age-based pediatric recommendations.
3. The evaluation status returned by the IIS matches the CDC CDSi expected value for routine age-based adolescent recommendations.
4. The evaluation status returned by the IIS matches the CDC CDSi expected value for routine age-based adult recommendations.

Earliest date

Definition: The date at which point the patient could receive the next dose if the patient is likely not to return or has other reasons to accelerate the schedule more quickly than the recommended date.

5. The IIS HL7 interface returns an earliest date for each forecasted dose.
6. The earliest date returned by the IIS matches the CDC CDSi expected value for routine age-based pediatric recommendations.
7. The earliest date returned by the IIS matches the CDC CDSi expected value for routine age-based adolescent recommendations.
8. The earliest date returned by the IIS matches the CDC CDSi expected value for routine age-based adult recommendations.

Recommended date

Definition: The date at which point the patient should receive the next dose.

9. The IIS HL7 interface returns a recommended date for each forecasted dose.
10. The recommended date returned by the IIS matches the CDC CDSi expected value for routine age-based pediatric recommendations.
11. The recommended date returned by the IIS matches the CDC CDSi expected value for routine age-based adolescent recommendations.
12. The recommended date returned by the IIS matches the CDC CDSi expected value for routine age-based adult recommendations.