Advancing IIS Together

Updates on Branch Strategies for Success in an Interconnected Era

Warren Williams
IISSB Branch Chief
August, 14 2018
Advancing IIS Together: Strategies for Success in an Interconnected Era

- IIS success has been built on a strong foundation of partnerships and collaboration
- National interoperability initiatives and limited IIS resources make it even more important for IISs to function as a cohesive national network with high data quality and completeness
- IISSB supporting initiatives to encourage use of common approaches, resources, standards, and best practices
Current IIS Strategic Plan
Enhance IIS Performance

**Why is this important?**

IISs are increasingly viewed as one national network of systems, rather than a collection of independent systems. The success of each IIS depends, in part, on the successes of the IIS community as a whole. Addressing performance disparities will ensure all IISs contain robust functionalities and high data quality.

**How is this being addressed?**

- **Targeted Technical Assistance**
  - Improving provider participation
  - Interoperability (CDC, AIRA)
  - Systems migration (PHII)

- **IIS Dashboard**
  - Intuitive, user-friendly way to look at IISAR data
  - Organized according to Functional Standards
Number and percentage of Vaccines for Children program provider sites enrolled and participating* in an Immunization Information System (IIS), by year — IIS Annual Report, United States, 2013–2017

* Participation is defined as having submitted information to the IIS about administering ≥1 vaccine dose in the last 6 months of the preceding calendar year. Provider sites must be enrolled in an IIS to participate in the IIS.

The figure above is a combination line and bar graph showing the number and percentage of Vaccines for Children program provider sites enrolled and participating in an Immunization Information System, by year, in the United States during 2013–2017.
Percentage point differences between National Immunization Survey (NIS)-Child and Immunization Information Systems (IISs) for combined 7-vaccine series* completion — IIS Annual Report, United States, 2013–2017

* ≥4 doses of diphtheria and tetanus toxoids and acellular pertussis vaccine; ≥3 doses of poliovirus vaccine; ≥1 doses of measles-containing vaccine;Haemophilus influenzae type B vaccine full series; ≥3 doses of hepatitis B vaccine; ≥1 dose of varicella vaccine; and ≥4 doses of pneumococcal conjugate vaccine.

**The 2017 year uses 2017 IISAR data (numerator for the IIS coverage estimate) and 2016 Census data (denominators for the IIS coverage estimate) and 2016 NIS-Child data for the comparison. When the NIS-Child and US Census are updated, results could change.
Percentage point differences between National Immunization Survey (NIS)-Child and Immunization Information Systems (IISs) for combined 7-vaccine series* completion — IIS Annual Report, United States, 2016

* ≥4 doses of diphtheria and tetanus toxoids and acellular pertussis vaccine; ≥3 doses of poliovirus vaccine; ≥1 doses of measles-containing vaccine; *Haemophilus influenzae* type B vaccine full series; ≥3 doses of hepatitis B vaccine; ≥1 dose of varicella vaccine; and ≥4 doses of pneumococcal conjugate vaccine.

The figure above is a map showing percentage point differences between National Immunization Survey-Child and Immunization Information Systems for combined 7-vaccine series completion in the United States during 2016.
Percentage point differences between National Immunization Survey (NIS)-Child and Immunization Information Systems (IISs) for combined 7-vaccine series* completion — IIS Annual Report, United States, 2017

The figure above is a map showing percentage point differences between National Immunization Survey-Child and Immunization Information Systems for combined 7-vaccine series completion in the United States during 2017.

* ≥4 doses of diphtheria and tetanus toxoids and acellular pertussis vaccine; ≥3 doses of poliovirus vaccine; ≥1 doses of measles-containing vaccine; *Haemophilus influenzae* type B vaccine full series; ≥3 doses of hepatitis B vaccine; ≥1 dose of varicella vaccine; and ≥4 doses of pneumococcal conjugate vaccine.

The 2017 year uses 2017 IISAR data (numerator for the IIS coverage estimate) and 2016 Census data (denominators for the IIS coverage estimate) and 2016 NIS-Child data for the comparison. When the NIS-Child and US Census are updated, results could change.
IIS Dashboard – Tracking Progress across IISs

Immunization Information Systems (IIS) Dashboard
(Test Awardee) Individual Awardee Progress Report

Query Parameters

- Selected FS/OGS Group: Coverage Estimates
- Targets Displayed: All Targets
- Timeframe: 2017

For resources to learn about and meet the IIS Functional Standards, refer to the IIS Functional Standards Resource Guide.
To change report parameters, click the "Change Query Parameters" button. Refer to the IIS Dashboard User Manual for detailed instructions.

Legend

- Targets not achieved
- Targets achieved
- N/A Exempt

Functional Standards / Measures

<table>
<thead>
<tr>
<th>Functional Standards / Measures</th>
<th>Year: 2017</th>
<th>2017 Target Achieved</th>
<th>2017 Target</th>
<th>% Awardees Meeting Target in 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 Percentage of children born and residing in the IIS’s jurisdiction in the last year that had a record established in the IIS within 60 days of birth.</td>
<td>98.1%</td>
<td>85%</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>1.1.2 Percentage of children born and residing in the IIS’s jurisdiction in the last year that had a record established in the IIS within 45 days of birth.</td>
<td>95.8%</td>
<td>85%</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>1.1.3 Percentage of children born and residing in the IIS’s jurisdiction in the last year that had a record established in the IIS within 30 days of birth.</td>
<td>95.2%</td>
<td>100%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>1.1.4 Percentage of children that were born in the calendar year that reside in the IIS’s jurisdiction that have a demographic record in the IIS.</td>
<td>100.2%</td>
<td>85%</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>1.2.1 The IIS identifies records created from vital records.</td>
<td>Yes</td>
<td>Yes</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>1.3.1 Difference between IIS coverage estimate for children aged 18-35 months who received the 7-vaccine series and the respective NIS coverage estimate.</td>
<td>Exempt</td>
<td>N/A</td>
<td>N/A</td>
<td>85%</td>
</tr>
<tr>
<td>1.3.2 Difference between IIS coverage estimate for adolescents aged 13-17 years who received Td/Tdap and the respective NIS Teen coverage estimate.</td>
<td>Exempt</td>
<td>N/A</td>
<td>N/A</td>
<td>65%</td>
</tr>
</tbody>
</table>
Promote Adherence to IIS Standards

Why is this important?
The US is moving toward increased standardization across a broad spectrum of health IT systems nationwide. The ability of IISs to demonstrate adherence to national standards increases the credibility and value of IISs, contributes to improved program sustainability, and advances performance.

How is this being addressed?
- AIRA onboarding best practices guidance
- MIROW refresh
- Balloted HL7 implementation guide
- AIRA Assessment and Validation
- NIST Immunization Test Suite
MIROW Refresh: Collaboration for Best Practices for Common Business Processes

- MIROW embarked on a journey to improve usefulness and readability of best practice guides for the IIS community
  - Strategic planning session of the MIROW Steering Committee in August of 2017, Denver, CO
- Re-packaging of the 2015 Patient Active/Inactive Status guide as a pilot project
- Development of a common vocabulary across MIROW guides
- New topic under development: Business continuity of IIS operations and processes
HL7 Implementation Guide Balloting Process: Strengthen Guide through Collaborative Process

First Round Ballot
- IG current version started ballot process in May 2018
- Comments received during first ballot period discussed with SISC and HL7 Public Health Work Group
- Substantial changes incorporated into current working draft of the IG

Second Round Ballot
- Revised IG will be re-balloted during Sept 2018 HL7 ballot period

Comment Reconciliation and Document Revisions
- Comments received during first ballot period discussed with SISC and HL7 Public Health Work Group
- Substantial changes incorporated into current working draft of the IG

Document Revisions
- Any necessary changes will be incorporated into the IG
- Proceed to publish document

Standard for Trial Use Period
- 1-2 year period to collect comments and suggestions for future versions of IG

Sign-up to submit comments during second round ballot now open

Past

Future
AIRA IIS Measurement and Improvement Initiative: Transport Assessment and Validation
NIST Immunization Test Suite

- Phase-by-phase testing
- Start simple and progress
- Independent—can enter at any stage
- **Phase 4 (ONC 2015 Certification Test Plan)**
- Multiple levels within a phase
- Detailed test cases and associated data
Example of Connecting the Dots To Reach a Goal: Improving Adherence to Transport Standards

- NIST Immunization Test Suite
- IIS Functional Standards
- Transport measures developed by AIRA Assessment and Validation Project
- Goal: Improved adherence to standard

Quarterly measurement of adherence to standard
Influence and Monitor the Health IT Environment

Why is this important?
Organizations and federal agencies set standards, policies and strategies at the national level that impact interoperability and use of immunization data and functions. CDC engages these stakeholders to ensure that these activities align with IIS priorities and support high quality immunization services and ultimately improve immunization delivery.

How is this being addressed?
- 2D bar code adoption
- Immunization Integration Program
- Monitoring policy environment
- National Health IT Week
2D Barcode Vaccine Initiative Timeline

Number of 2D Barcoded Vaccine Presentations (Vial/Syringe), US Market

- AAP, CDC, FDA, GS1 US and vaccine manufacturers barcode meetings
- CDC Feasibility Study: Impact of Transition to 2D Barcodes on vaccine unit-of-use
- FDA barcode rule change allows 2D barcodes on vaccine unit-of-use

Timeline:
- 2011-2013: CDC 2D Barcode Pilot
- 2013-2015: CDC 2D Adoption Pilot
- 2015-2016: CDC 2D Scalability Pilot

(out of 98 presentations known as of 6/18/18)
Immunization Integration Program

- Voluntary testing program which recognizes EHRs for priority immunization-related capabilities that align with clinical workflows
- Six EHR products have been recognized, which together represent more than 25% of the EHR market
- Parlayed testing method developed to support immunization community to ONC EHR certification testing method
- Program provides value for IIS community by:
  - Provide a forum for IIS community and EHR community to communicate and solve problems
  - Identify and clarify standards ambiguities
  - Improve data quality and timeliness
Health IT Environment: 21st Century Cures Health IT Provisions and Supporting Initiatives

- Health Information Technology Advisory Cmte.
- Trusted Exchange Framework & Common Agreement
- US Core Data for Interoperability
- Prevent Information Blocking
- Reduce Provider Burden
- Digital Provider Index
- EHR Exchange w/Certified Registries
- Support HIEs
- GAO Studies: Patient Access, Patient Matching
National Health IT Week – Share Your Story

- National Health IT Week is **October 8-12, 2018**
- Share IIS success stories about improving the provider experience and population health to a national health IT audience
  - Query and response
  - Electronic data exchanges
  - 2D Vaccine barcodes
  - Electronic vaccine ordering and inventory control
  - Data quality improvement strategies
- Blog posts on NHITW website
- Cross promotion of activities with #IHeartHIT

**Get Involved**

More information and post stories: [https://www.healthitweek.org/](https://www.healthitweek.org/)

Help writing your story: Email Paula Soper at pqs6@cdc.gov
Sustain the IIS Community

Why is this important?
Sustainability of IISs nationwide depends on identifying new ways to reduce costs and use existing resources effectively.

How is this being addressed?

▪ Shared and Centralized Services
  • Vaccine Code Set Management Service
  • Interoperability Configuration and Provider Onboarding Service Center
  • Onboarding Governance
Vaccine Code Set Management Service

- Ability to access vaccine code set content via direct download, such as web services
- Ability to subscribe to desired content packages and get notification of updates to packages
- Continued production and distribution of reports on CDC website
- Streamlined content curation and maintenance process
Looking Forward
The Branch is conducting an IIS vendor industry analysis

The purpose of the industry analysis is to provide the Branch with IIS vendor firsthand perspectives, as well as improved awareness of the drivers in the market that may influence vendor activities and decisions.

The industry analysis is an independent assessment, and has an external group directly asking a sample group of vendors for feedback around four main research areas:

- **Industry Trends**: How are Health IT trends and other external factors influencing IIS vendors support for the IIS program mission?
- **Technology**: What do vendors perceive as the most pressing software and hardware challenges and enhancement needs?
- **Customer Relationships**: How can vendor, awardee, and CDC interactions and relationships be improved?
- **Contracts Challenges**: How do vendors perceive the current IIS contracting experience, and how could it be improved?

The development of the industry analysis report is currently in progress. CDC will work to communicate relevant findings and next steps to the IIS community, as appropriate.
2019 Draft IPOM Functions

- D1a. Advance immunization information system (IIS) capabilities by implementing the CDC IIS Functional Standards to support public health objectives among children aged 0-18 years. The CDC IIS Functional Standards include IIS functions that can support immunization programs to meet required activities in other sections of the IPOM.

- D1b. Use IIS standards and best practices (e.g., HL7 Implementation Guide, Modeling of Immunization Registry Operations Workgroup [MIROW]) to implement new functionality and improve existing functionality.

- D1c. Participate in objective, independent assessments of IIS functionality and data quality (e.g., AIRA’s Measurement and Improvement Initiative, NIS-IIS Match), and implement system and program improvements based on assessment results.

- D1d. Complete the IIS annual report and collaborate with CDC to participate in quality control activities to verify results.
Interconnected Priorities and Strategies for Success

- Progress of IISs nationally is dependent on progress of IISs individually
- IISSB portfolio of initiatives and investments continues to be built on interconnected strategies to support IIS success across strategic priorities
- Factors internal and external to the IIS community continue to require collaboration and standardization so IISs are prepared to thrive in interconnected health IT environment
Interconnected Success: The Human Factor

We cannot accomplish all that we need to do without working together.

- Bill Richardson
“Everything is interconnected.”

- Marcus Tullius Cicero