



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION

AART User Group

Mini-Series

March 25, 2020

4:00 PM ET

Agenda

- Welcome
 - Mentimeter: How it works! Poll: who is attending?
 - Goals & Background
 - Reminder: Register for AART
- HL7 Assessment and Discovery Reports



Polling



- We are using Mentimeter to capture your feedback and ideas on plans for future meetings
 - In future sessions, we will use Mentimeter to capture questions and poll the group in real-time to guide the discussion and make sessions interactive
1. Take out your smartphone
 2. Using your browser, go here: www.menti.com, enter code **81 00 61**



Goals

1) Increase the use of AART to:

- ✓ identify areas for improvement,
- ✓ prioritize IIS enhancements,
- ✓ test new IIS functionality,
- ✓ and reflect on accomplishments.

2) Support your use of AART by convening a group of engaged users to share and learn from one another



Background and Review

AART is... the Aggregate Analysis Reporting Tool

AART was developed to visualize and compile the testing results and information on community-driven measures and tests related to Functional Standards

Did you know...

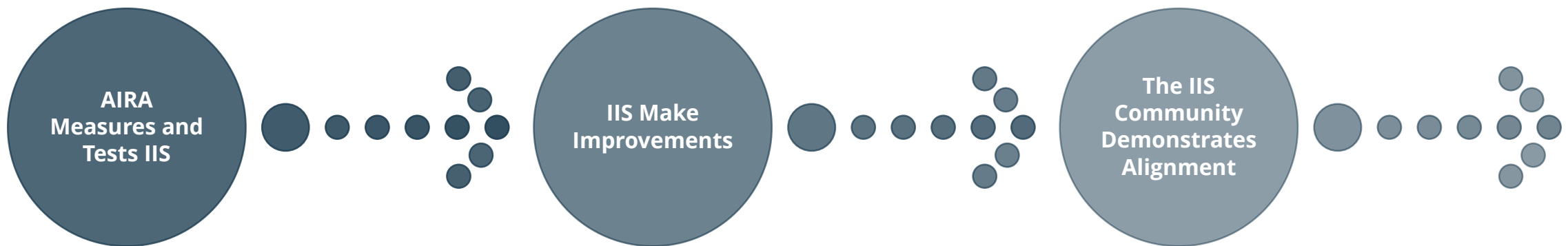
1. AART has been testing with IIS since 2015
2. There are over 6 million test cases in AART
3. You can view test results for your peer IIS at the content area level, and at the test case level



Measurement and Improvement Initiative – What Is it?

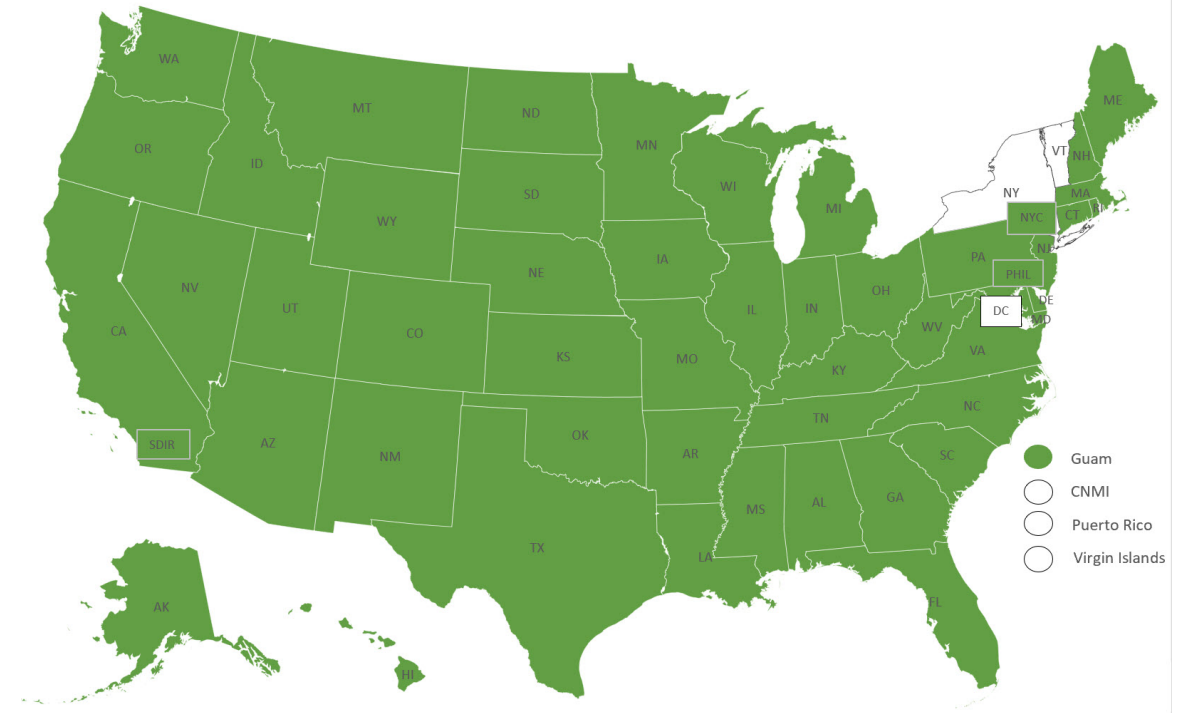


- The IIS Measurement and Improvement (M&I) Initiative began in 2015 as an effort to:
 - Test IIS alignment with standards
 - Provide IIS with information and assistance to improve



Thank You For Engaging With Us!

- Participation is strong and results are being reviewed and acted upon
- Partners are publicly recognizing improvements in standardization across IIS
- We are seeing progress in all areas of quarterly measurement



AART Clinics

- In person, @ AIRA National Meeting
 - ✓ Sign up soon for your spot for AIRA 2020
- Virtually, via online meeting tools
- Request a clinic or follow up clinic anytime!

Announcements and Welcome!

Welcome to the new AART dashboard! A brief summary video of recent changes to AART can be found [here](#). Click [here](#) for more details. The dashboard below allows you to quickly navigate to the results for each of the stages of Measurement. Hover over text to see links to results below.

AIRA Sandbox Dashboard

Assessment



Validation

Transport



Q3 2019

Submission and
Acknowledgement



Q3 2019

Query and Response



Q3 2019

CDS



Q2 2019

[See Discovery Reports](#)

Transport - Complete



2019



Validated

Submission and Ack
Basic



2019



Validated

Query and Response
Basic



2019



Major Differences



AART User Group Mini-Series



Goals

1) Increase the use of AART to:

- ✓ identify areas for improvement,
- ✓ prioritize IIS enhancements,
- ✓ test new IIS functionality,
- ✓ and reflect on accomplishments.

2) Support your use of AART by convening a group of engaged users to share and learn from one another



AART User Group Mini-Series

Session 1: Introduction to Series, polling for future topics

Completed

Session 2: HL7 Discovery & Assessment Reports **Today!**

Session 3: Clinical Decision Support

Session 4: User Experience – HL7 Assessment

Session 5: User Experience – Clinical Decision Support

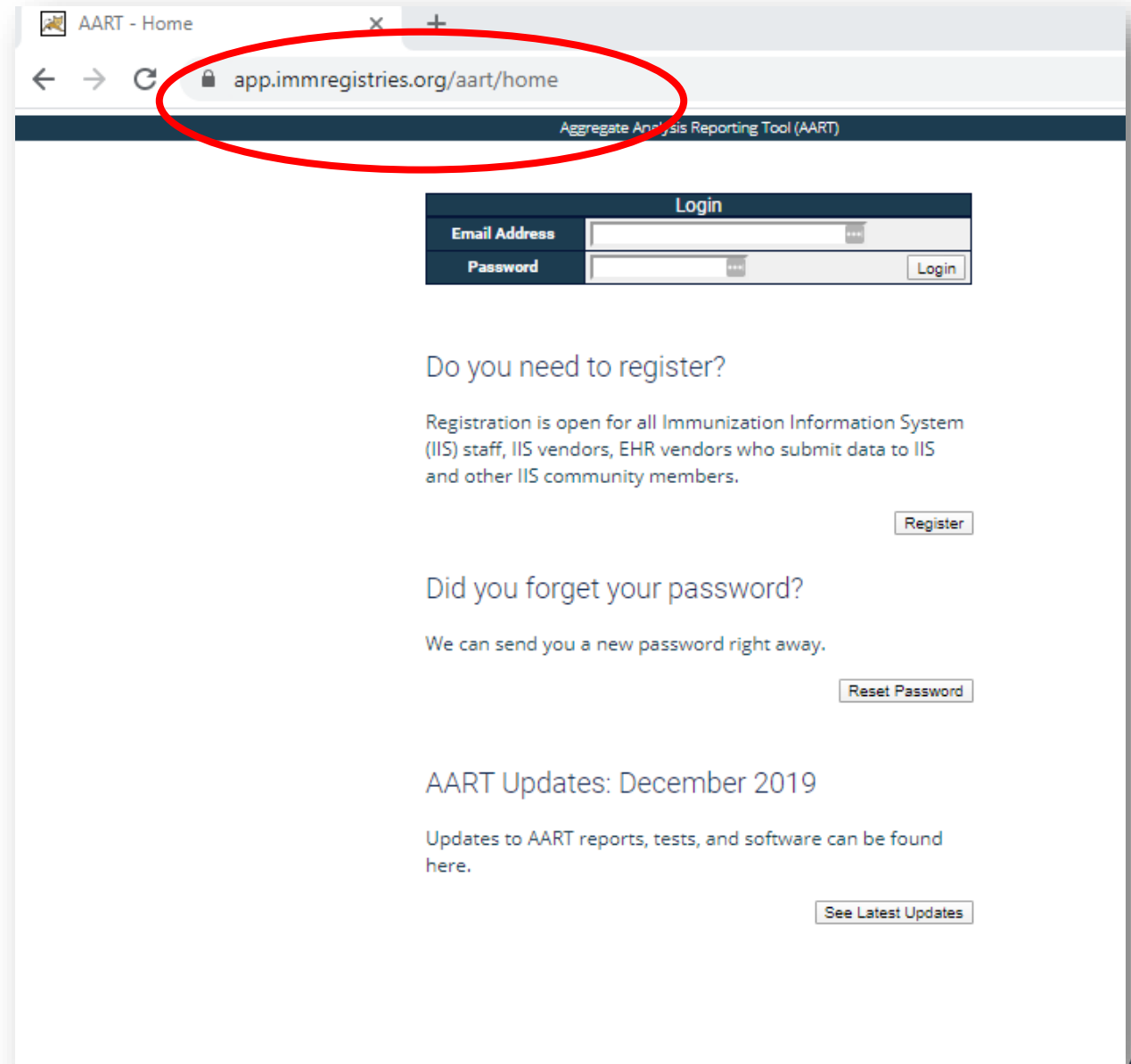
Session 6: *topic TBD*



AART Registration

- AART login page
- Register here
 - Forgot your password
- AART Updates

Reminder! If you haven't registered yet you can do that today!



HL7 Discovery & Assessment Reports

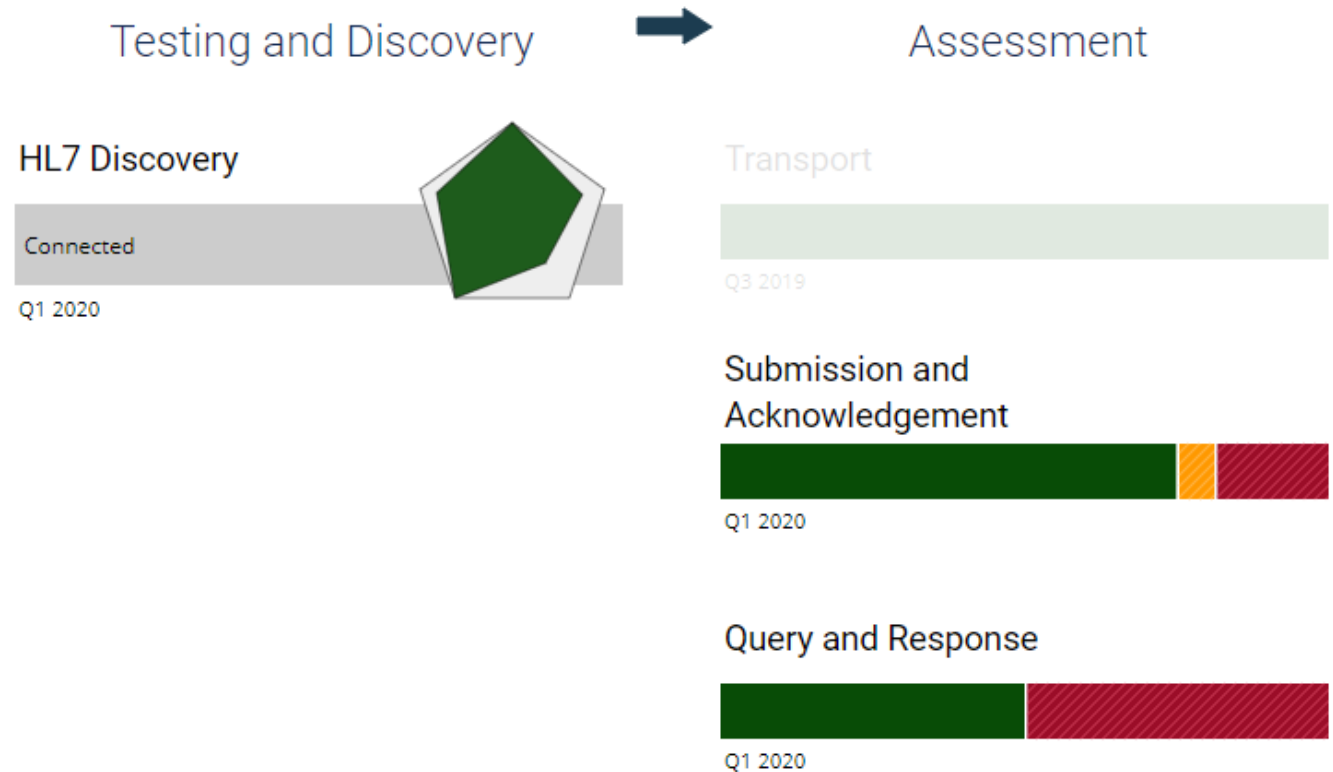
Nathan Bunker



HL7 Discovery & Assessment Reports

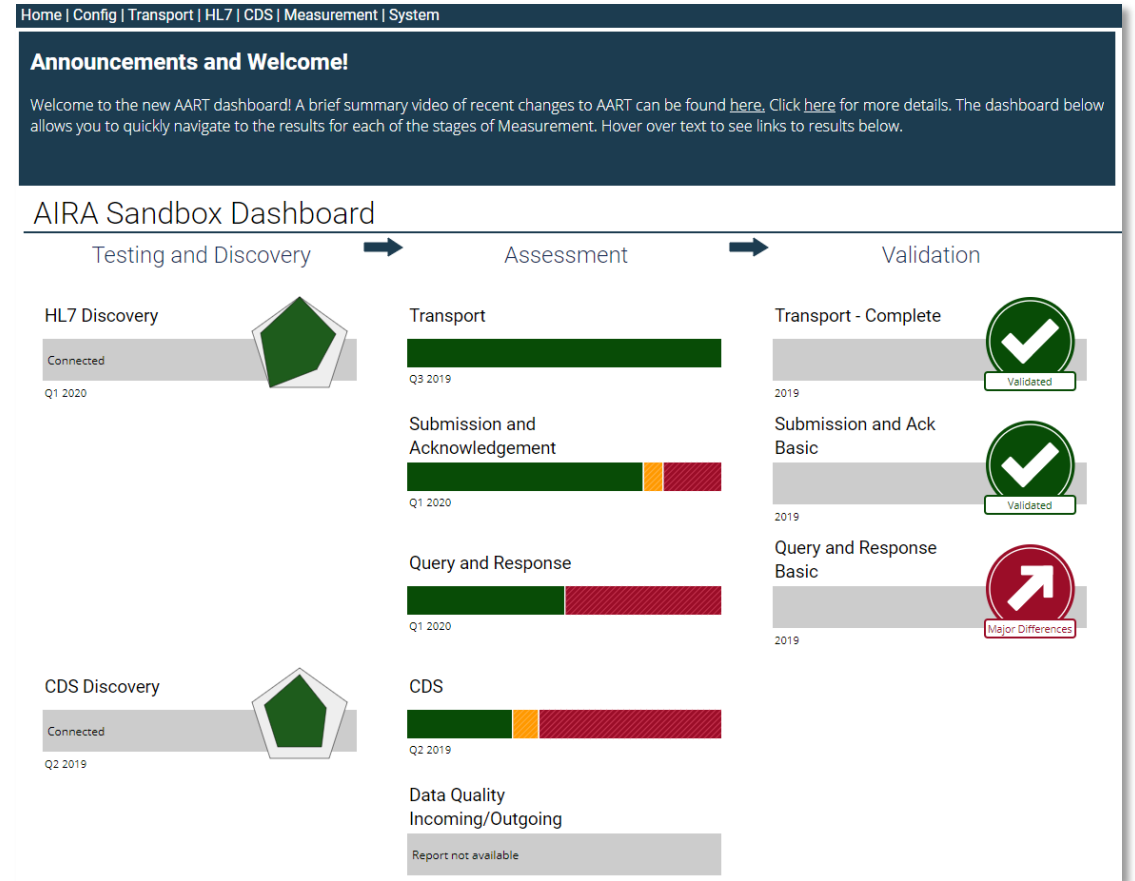
- Topics for today

- Submission and Acknowledgement Assessment
- Query and Response Assessment
- HL7 Discovery



AIRA Sandbox

- AIRA Sandbox
 - IIS HL7 demonstration system
 - Fully supports HL7 functions
- Configured to:
 - Require all VXU's to have at least one vaccination or refusal
 - Require patient address
 - Return query responses with mistakes in HL7 format



Navigating Assessment Reports

- Click for more detail
 - Report provides a summary
 - Drill down for more information
- AART is like an onion:
 - Report Dashboard
 - Assessment Report
 - Measure Detail
 - Test Detail
 - HL7 Detail



Navigating Assessment Reports

Meets

Congratulations, this measure or test has been met.

Deviates
From
Standard

Measure or test expectation has been met.
But there are local requirements to consider.

Does Not
Meet

Measure or test expectations were not met.
IIS may have small or large changes needed.



Navigating Assessment Reports

Assessment
Report

AIRA Sandbox Dashboard

Assessment

Transport



Q3 2019

Submission and Acknowledgement

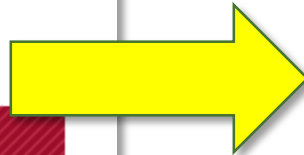


Q1 2020

Query and Response



Q1 2020



AIRA Sandbox

Prepared for AIRA Sandbox

IIS Assessment Connectivity Details

IIS	AIRA Sandbox
Created By	Nathan Bunker
Published Date	03/24/2020
Run Date	03/24/2020 Request New Report
Report Status	Released

Background

In 2015, AIRA launched an Interoperability Testing Project to determine compatibility between current Immunization Information Systems (IIS) and the common standards. The project is heavily informed by IIS Functional Standards Statements. The testing process connects with IIS directly and submits data to development platforms.



Navigating Assessment Reports

The following words were carefully chosen and defined to mean the following within each measure:

- **Processes:** This means the IIS reads the incoming message and makes appropriate decisions (e.g., de-duplicates, stores, queries, rejects, etc.) based on the information in the incoming message and previously known information already in the IIS.
- **Responds:** This means the IIS returns a final resolution, or outcome, of processing the message with a conformant HL7 message.

Measure	Measure Title	Result
1	The IIS processes an administered vaccine for a patient.	Meets
2	The IIS processes a historical vaccine for a patient.	Meets
3	The IIS processes the submission of a full immunization record for a patient.	Meets
4	The IIS processes an update to a previously submitted vaccination event.	Meets
5	The IIS processes a delete to a previously submitted vaccination event.	Meets
6	The IIS processes a submission where the patient does not give consent (i.e., patient data is protected) to share data.	Meets
7	The IIS processes a refusal of a vaccination.	Meets
8	The IIS processes an adverse event.	Does Not Meet
9	The IIS processes an observation about a patient which results in a contraindication or immunity to a vaccine preventable disease.	Does Not Meet
10	The IIS processes messages in accordance with the HL7 2.5.1, release 1.5 guide.	Deviates From Standard
11	The IIS processes both complete and incomplete/partially administered doses.	Meets
12	The IIS responds to a correctly formatted message with no errors.	Meets
13	The IIS responds to a submission that has an error.	Does Not Meet
14	The IIS responds to a submission with an ACK within 5 seconds or less for 95% of the records submitted.	Meets
15	IIS supports NDC 11-digit with hyphens	Meets
16	IIS supports alternative NDC formats	Meets

List of Measures

9: The IIS processes an observation about a patient which results in a contraindication or immunity to a vaccine preventable disease.

Purpose

The processing of an observation about a patient which may result in a contraindication or immunity is a CDC Endorsed Data Element for IIS to collect. This information can be used to contraindicate or prevent unnecessary future vaccinations. The information can also be useful information for physicians through query/response. The ACK from the IIS will be reviewed for acceptance of the submitted message, but conformance to the ACK standard is not part of this measurement. Other measures address ACK conformance.

Functional Standards

This measure is supported by the following version 4.0 functional standards:

- **Functional Standard 1.6:** The IIS assures the receipt, processing, and storage of demographic and vaccination data elements as endorsed by CDC.
 - **Note:** This only measures the "receipt and process" portion of this Functional Standard. The "store" portion is measured leveraging query and response.
- **Functional Standard 8.2:** The IIS receives submissions and returns acknowledgements consistent with the current CDC-endorsed HL7 Implementation Guide.

Test Outcome

Measure was not met because the expectations of one or more of the Test Cases was not met.

Test Case Results		
Test Case	Test Case Title	Result
9.1	Message will contain a contraindication	Does Not Meet
9.2	Message will contain a History of Disease as Evidence of Immunity	Does Not Meet
9.3	Message will contain a Serology Test as Evidence of Immunity	Does Not Meet

List of Tests



Navigating Assessment Reports

9.1: Message will contain a contraindication

Test Case Description

- A message will be submitted containing an observation about a patient. The message will be populated to meet conformance of the National IG with population of all R and RE usage segments and fields. The observation will be a value from PHVS_VaccinationContraindication_IIS (OID: 2.16.840.1.114222.4.11.3288) using LOINC 30945-0. The observation will have an effective date using LOINC 30946-8.

Test Case Expectation

- The IIS responds with an ACK indicating it has accepted the message. The ACK should not indicate the observation was ignored or otherwise not successfully accepted by the IIS.

Test Outcome

The IIS did not accept this message. This means the IIS does not meet the standard for this measure.

Results Does Not Meet

Actual Request (Not Accepted)

Copy Text MS

```
MSH|^~\&|||||20200323102500-0600||VXU^V04^VXU_V04|2w45-SA.9.1.1|P|2.5.1|||ER|AL|||Z23^CDCPHINVS
PID|1||L2025958^AIRA^MR||LincolnAIRA^Guan-yinAIRA^Floy^L|KartwoIdAIRA^KaitlynnAIRA^M|19940312|F||2106-3^White^Ct
PD1|1|||02^Reminder/Recall - any method^HL70215|N|20200323||A|20200323|20200323
NK1|1|LincolnAIRA^KartwoIdAIRA^Marion^L|MTN^Mother^HL70063|1481 Kuttan Cir^GM Tech Center^MI^48557^USA^P|^PRN^PH^816
ORC|RE|9999^AIRA|
RXA|0|1|20200323|998^No Vaccine Administered^CVX|999|||||||||NA|A
OBX|1|CE|30945-0^Vaccination contraindication^LN|1|77386006^Patient Currently Pregnant^SCT|||||F|||20200323
OBX|2|DT|30946-8^Vaccination contraindication effective date^LN|1|20160605|||||F|||20200323
```

Actual Response

Copy Text MS

```
MSH|^~\&||IIS Sandbox v0.2.12|||20200324015322-0600||ACK^V04^ACK|1585079602913129|P|2.5.1|||NE|NE|||Z23^CDCPHINVS
MSA|AE|2w45-SA.9.1.1
ERR||101^Required field missing^HL70357|E|||Patient vaccination history cannot be accepted without at least one administ
```

See Test Details

Test
Detail

This update message includes patient information that is being sent to the IIS for inclusion in the registry. The expect

Description	Message will contain a contraindication		
Test Case Number	SA.9.1.1	Test Type	Update
Test Position	152		
Expected	Accept	Actual	AE
Accepted	No	Result	Fail

Submit Feedback

Update Message Submitted

```
MSH|^~\&|||||20200323102500-0600||VXU^V04^VXU_V04|2w45-SA.9.1.1|P|2.5.1|||ER|AL|||Z22^CDCPHINVS
PID|1||L2025958^AIRA^MR||LincolnAIRA^Guan-yinAIRA^Floy^L|KartwoIdAIRA^KaitlynnAIRA^M|19940312|F||2106-3^Wh
PD1|1|||02^Reminder/Recall - any method^HL70215|N|20200323||A|20200323|20200323
NK1|1|LincolnAIRA^KartwoIdAIRA^Marion^L|MTN^Mother^HL70063|1481 Kuttan Cir^GM Tech Center^MI^48557^USA^P|^PRN^PH^
ORC|RE|9999^AIRA|
RXA|0|1|20200323|998^No Vaccine Administered^CVX|999|||||||||NA|A
OBX|1|CE|30945-0^Vaccination contraindication^LN|1|77386006^Patient Currently Pregnant^SCT|||||F|||20200323
OBX|2|DT|30946-8^Vaccination contraindication effective date^LN|1|20160605|||||F|||20200323
```

NOT Accepted by IIS

```
MSH|^~\&||IIS Sandbox v0.2.12|||20200324015322-0600||ACK^V04^ACK|1585079602913129|P|2.5.1|||NE|NE|||Z23^CDCPHINVS
MSA|AE|2w45-SA.9.1.1
ERR||101^Required field missing^HL70357|E|||Patient vaccination history cannot be accepted without at least one adm
```

Testing Log

```
EVALUATING TEST RUN
+ Assert Result = Accept
+ Test Type = VXU
Analyzing acknowledgement
Ack Type = DEFAULT
Using default rules to determine if accepted
Ack code is AE, so message may or may not have been accepted
Found at least one ERR segment with ERR-4 = 'E'. This message was not accepted.
Negative acknowledgement detected
Preparing to save test message
Test run status is FINISHED
+ Test run position: 152
+ Is test type query: false
+ Related test message: SA.9.1.1-Q
Saving test message to database
```

HL7 Detail



Navigating Assessment Reports

Compare

AIRA Sandbox

Report Details History My Peers

Prepared for AIRA Sandbox

IIS Assessment Connectivity Details

IIS	AIRA Sandbox
Created By	Nathan Dunker

Test Case Results		
Test Case	Test Case Title	Result
1.1	Administered Vaccine is submitted to the IIS - Fully Populated	Meets

Compare

Compare with My Peers

Compare



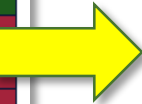
Submission & Acknowledgement Assessment



Submission & Acknowledgement Assessment

- Begin at list of measures
- Focus on “Does Not Meet”
 - Often a minor change can bring these into “Meets”
- Review “Deviates from Standard”
 - Ensure local requirements are accurate and necessary

Measure	Measure Title	Result
1	The IIS processes an administered vaccine for a patient.	Meets
2	The IIS processes a historical vaccine for a patient.	Meets
3	The IIS processes the submission of a full immunization record for a patient.	Meets
4	The IIS processes an update to a previously submitted vaccination event.	Meets
5	The IIS processes a delete to a previously submitted vaccination event.	Meets
6	The IIS processes a submission where the patient does not give consent (i.e., patient data is protected) to share data.	Meets
7	The IIS processes a refusal of a vaccination.	Meets
8	The IIS processes an adverse event.	Does Not Meet
9	The IIS processes an observation about a patient which results in a contraindication or immunity to a vaccine preventable disease.	Does Not Meet
10	The IIS processes messages in accordance with the HL7 2.5.1, release 1.5 guide.	Deviates From Standard
11	The IIS processes both complete and incomplete/partially administered doses.	Meets
12	The IIS responds to a correctly formatted message with no errors.	Meets
13	The IIS responds to a submission that has an error.	Does Not Meet
14	The IIS responds to a submission with an ACK within 5 seconds or less for 95% of the records submitted.	Meets
15	IIS supports NDC 11-digit with hyphens	Meets
16	IIS supports alternative NDC formats	Meets



8: The IIS processes an adverse event.

Purpose

The processing of an adverse event related to a vaccination event is a CDC Endorsed Data Element for IIS to collect. This information can be used to contraindicate future vaccinations and inform physicians through query/response. The ACK from the IIS will be reviewed for acceptance of the submitted message, but conformance to the ACK standard is not part of this measurement. Other measures address ACK conformance.

Functional Standards

This measure is supported by the following version 4.0 functional standards:

- **Functional Standard 1.6:** The IIS assures the receipt, processing, and storage of demographic and vaccination data elements as endorsed by CDC.
 - **Note:** This only measures the "receipt and process" portion of this Functional Standard. The "store" portion is measured leveraging query and response.
- **Functional Standard 8.2:** The IIS receives submissions and returns acknowledgements consistent with the current CDC-endorsed HL7 Implementation Guide.

Test Outcome

Measure was not met because the expectations of the Test Case was not met.

Test Case Results		
Test Case	Test Case Title	Result
8.1	Two Messages - Vaccination Event followed by an Adverse Event	Does Not Meet



8.1: Two Messages - Vaccination Event followed by an Adverse Event

Test Case Description

- Two messages will be submitted. The first will be a vaccination event. The second will be an adverse event close in time (i.e., same day, next day) to the vaccination event. Both messages will be populated to meet conformance of the National IG with population of all R and RE usage segments and fields. The adverse event will be a value from PHVS_VaccinationReaction_IIS (OID: 2.16.840.1.114222.4.11.3289).

Test Case Expectation

- The IIS responds with an ACK for each message indicating it has accepted each message. The ACK for the second message should not indicate the adverse event was ignored or otherwise not successfully accepted by the IIS.

Test Outcome

The second test message was not accepted, the first message could not be updated.

Results	Does Not Meet
---------	---------------



Actual Request (Not Accepted)

Copy Text

MS

```
MSH|^~\&|||||20200323102500-0600||VXU^V04^VXU_V04|2w45-SA.8.1.2|P|2.5.1|||ER|AL|||||Z22^CDCPHINVS  
PID|1||T47K25941^^^AIRA^MR||GrahamAIRA^ShelleyAIRA^Crystal^^^^L|AppanooseAIRA^DrewAIRA^^^^^M|20160312|F||2106-3^White^CDCF  
PD1|||||||02^Reminder/Recall - any method^HL70215|N|20200323|||A|20200323|20200323  
NK1|1|GrahamAIRA^AppanooseAIRA^Marion^^^^L|MTH^Mother^HL70063|1549 Verbranden PL^^GR^MI^49507^USA^P|^PRN^PH^^^616^4144375  
ORC|RE||9999^AIRA|  
RXA|0|1|20170323||998^No Vaccine Administered^CVX|999|||||||||||NA|A  
OBX|1|CE|31044-1^Reaction^LN|1|39579001^Anaphylaxis^SCT|||||F|||20170323|
```

Actual Response

Copy Text

MS

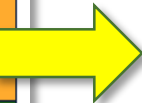
```
MSH|^~\&||IIS Sandbox v0.2.12|||20200324015322-0600||ACK^V04^ACK|1585079602826124|P|2.5.1|||NE|NE|||||Z23^CDCPHINVS  
MSA|AE|2w45-SA.8.1.2  
ERR|||101^Required field missing^HL70357|E|||Patient vaccination history cannot be accepted without at least one administ
```



Submission & Acknowledgement Assessment

- Begin at list of measures
- Focus on “Does Not Meet”
 - Often a minor change can bring these into “Meets”
- Review “Deviates from Standard”
 - Ensure local requirements are accurate and necessary

Measure	Measure Title	Result
1	The IIS processes an administered vaccine for a patient.	Meets
2	The IIS processes a historical vaccine for a patient.	Meets
3	The IIS processes the submission of a full immunization record for a patient.	Meets
4	The IIS processes an update to a previously submitted vaccination event.	Meets
5	The IIS processes a delete to a previously submitted vaccination event.	Meets
6	The IIS processes a submission where the patient does not give consent (i.e., patient data is protected) to share data.	Meets
7	The IIS processes a refusal of a vaccination.	Meets
8	The IIS processes an adverse event.	Does Not Meet
9	The IIS processes an observation about a patient which results in a contraindication or immunity to a vaccine preventable disease.	Does Not Meet
10	The IIS processes messages in accordance with the HL7 2.5.1, release 1.5 guide.	Deviates From Standard
11	The IIS processes both complete and incomplete/partially administered doses.	Meets
12	The IIS responds to a correctly formatted message with no errors.	Meets
13	The IIS responds to a submission that has an error.	Does Not Meet
14	The IIS responds to a submission with an ACK within 5 seconds or less for 95% of the records submitted.	Meets
15	IIS supports NDC 11-digit with hyphens	Meets
16	IIS supports alternative NDC formats	Meets



10: The IIS processes messages in accordance with the HL7 2.5.1, release 1.5 guide.

Purpose

Release 1.5 of the HL7 2.5.1 implementation guide specifies the core requirements of an HL7 message across various vaccine-related information that can be submitted. The purpose of this measure is to measure IIS ability to accept messages when only the minimally required information is supplied. The ACK from the IIS will be reviewed for acceptance of the submitted message, but conformance to the ACK standard is not part of this measurement. Other measures address ACK conformance.

Functional Standards

This measure is supported by the following version 4.0 functional standards:

- **Functional Standard 1.6:** The IIS assures the receipt, processing, and storage of demographic and vaccination data elements as endorsed by CDC.
 - **Note:** This only measures the "receipt and process" portion of this Functional Standard. The "store" portion is measured leveraging query and response.
- **Functional Standard 8.2:** The IIS receives submissions and returns acknowledgements consistent with the current CDC-endorsed HL7 Implementation Guide.



Test Outcome

Measure conforms to expectations because all Test Cases conform to expectations.

Test Case Results		
Test Case	Test Case Title	Result
10.1	Message will contain a minimally populated message with 1 administered dose	Deviates From Standard
10.2	Message will contain a minimally populated message with 1 historical dose	Deviates From Standard
10.3	Message will contain a minimally populated message with 1 refusal	Deviates From Standard
10.4	Message will contain a minimally populated message with one adverse event	Deviates From Standard
10.5	Message will contain a minimally populated message with 1 observation	Deviates From Standard



10.1: Message will contain a minimally populated message with 1 administered dose

Test Case Description

- The message will contain all R usage segments and fields. RE and O usage segments and fields will not be populated. The message will contain 1 administered dose.

Test Case Expectation

- The IIS responds with an ACK indicating it has accepted the message. The ACK should not indicate the immunization was ignored or otherwise not successfully accepted by the IIS.

Test Outcome

The IIS accepted the message but only if it custom changes were made to the message. This means the IIS deviates from the standard for this measure.

Results

Deviates From Standard



Actual Request (Not Accepted)

No Address

Copy Text

MS

```
MSH|^~\&|||20200323102500-0600||VXU^V04^VXU_V04|2w45-SA.10.1.1|P|2.5.1|||AL||||Z22^CDCPHINVS  
PID|1||K82D25640^^^AIRA^MR||MurphyAIRA^ZosimaAIRA^^^^L||20160312|F  
ORC|RE||BK82D25640.1^AIRA  
RXA|0|1|20200323||94^MMRV^CVX|0.5|mL^milliliters^UCUM||00^Administered^NIP001||||Q3110HZ||MSD^Merck and Co^MVX|||A  
OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible - Medicaid/Medicaid Managed Care^HL700  
OBX|2|CE|69764-9^Document Type^LN|2|253088698300013411190815^MMRV Vaccine VIS^cdcgs1vis||||F  
OBX|3|DT|29769-7^Date Vis Presented^LN|2|20200323||||F
```

Actual Response

Copy Text

MS

```
MSH|^~\&||IIS Sandbox v0.2.12||20200324015320-0600||ACK^V04^ACK|158507960009241|P|2.5.1|||NE|NE||||Z23^CDCPHINVS  
MSA|AE|2w45-SA.10.1.1  
ERR||PID^11|101^Required field missing^HL70357|E|||Patient address is required but it was not sent|
```



The original assessment test message (which is shown above) was not accepted, but after custom/local modification based on requirements for this IIS the message was accepted.

Actual Request after Transformation (Accepted)

MSH|^~\&|||20200323102500-0600||VXU^V04^VXU_V04|2W45-SA.10.1.1-D|P|2.5.1|||ER|||Z22^CDCPHINVS
PID|1||W48K25642^^^AIRA^MR||ProvidenceAIRA^DanaeAIRA^^^^L||20160312|F||202 Wexford Ave^^Kincheloe^MI^49788|
ORC|RE||BW48K25642.1^AIRA
RXA|0|1|20200323||94^MMRV^CVX|0.5|mL^milliliters^UCUM||00^Administered^NIP001||||Q3110HZ||MSD^Merck and Co^MVX|||A
OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible - Medicaid/Medicaid Managed Care^HL700
OBX|2|CE|69764-9^Document Type^LN|2|253088698300013411190815^MMRV Vaccine VIS^cdcgs1vis||||F
OBX|3|DT|29769-7^Date Vis Presented^LN|2|20200323||||F

Address Added

Copy Text

MS

Actual Response after Transformation

MSH|^~\&||IIS Sandbox v0.2.12||20200324015320-0600||ACK^V04^ACK|158507960012442|P|2.5.1|||NE|NE|||Z23^CDCPHINVS
MSA|AA|2W45-SA.10.1.1-D

Copy Text

MS



Submission & Ack Assessment

- Any specific measures you would like clarification or discussion on?

Measure	Measure Title	Result
1	The IIS processes an administered vaccine for a patient.	Meets
2	The IIS processes a historical vaccine for a patient.	Meets
3	The IIS processes the submission of a full immunization record for a patient.	Meets
4	The IIS processes an update to a previously submitted vaccination event.	Meets
5	The IIS processes a delete to a previously submitted vaccination event.	Meets
6	The IIS processes a submission where the patient does not give consent (i.e., patient data is protected) to share data.	Meets
7	The IIS processes a refusal of a vaccination.	Meets
8	The IIS processes an adverse event.	Does Not Meet
9	The IIS processes an observation about a patient which results in a contraindication or immunity to a vaccine preventable disease.	Does Not Meet
10	The IIS processes messages in accordance with the HL7 2.5.1, release 1.5 guide.	Deviates From Standard
11	The IIS processes both complete and incomplete/partially administered doses.	Meets
12	The IIS responds to a correctly formatted message with no errors.	Meets
13	The IIS responds to a submission that has an error.	Does Not Meet
14	The IIS responds to a submission with an ACK within 5 seconds or less for 95% of the records submitted.	Meets
15	IIS supports NDC 11-digit with hyphens	Meets
16	IIS supports alternative NDC formats	Meets



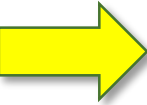
Query & Response Assessment



Query & Response Assessment

- Begin at list of measures
- Focus on “Does Not Meet”
 - Often a minor change can bring these into “Meets”
- Review “Deviates from Standard”
 - Ensure local requirements are accurate and necessary

Measure	Measure Title	Result
1	The IIS processes a query requesting a patient's immunization record.	Meets
2	The IIS processes a query requesting a patient's evaluated immunization record and forecast.	Meets
3	The IIS responds to a query for a known patient (one-to-one match).	Does Not Meet
4	The IIS responds to a query for a patient that is not in the IIS.	Does Not Meet
5	The IIS responds to a query that results in multiple possible patients.	Does Not Meet
6	The IIS responds to a query that has a significant error that cannot be accepted.	Does Not Meet
7	The IIS responds to a query for a known patient and returns known CDC Endorsed Data Elements.	Meets
8	The IIS responds to a query with an RSP within 5 seconds or less for 95% of the queries submitted.	Meets



3: The IIS responds to a query for a known patient (one-to-one match).

Purpose

The purpose of this measure is to validate an IIS is able to respond with a conformant response (RSP) message when exactly one patient is found.

Functional Standards

This measure is supported by the following version 4.0 functional standards:

- **Functional Standard 8.3:** The IIS receives queries from, and sends responses to, health information systems consistent with the current CDC-endorsed HL7 Implementation Guide.

Test Outcome

Measure was not met because the expectations of one or more of the Test Cases was not met.

Test Case Results		
Test Case	Test Case Title	Result
3.1	Validate Complete Immunization History Response (Z32).	Does Not Meet
3.2	Validate Evaluated Immunization History and Forecast Response (Z42).	Does Not Meet



3.1: Validate Complete Immunization History Response (Z32).

Test Case Description

- Two messages will be submitted to the IIS. The first will be a submission (VXU) message followed by a query (QBP) for the patient submitted in the VXU. The submission (VXU) message will be populated to meet conformance of the National IG with population of all R and RE usage segments and fields including two historical vaccination events. The query (QBP) will be submitted with identical demographics and MRN. The query will be the Complete Immunization Record profile (Z34).

Test Case Expectation

- **VXU Message:** The IIS responds with an ACK indicating it has accepted the message.
- **QBP Message:** The IIS responds with a conformant complete immunization record response profile (RSP Z32 profile). The data itself (e.g., Name, DOB, gender, etc.) will not be validated. Only that the response returned conforms to the expectations of the National IG.

Test Outcome

IIS accepted update message and query response was returned but NIST indicated that the response does NOT conform to current standards.

Results Does Not Meet



```

OBX|52|CE|30956-7^Vaccine type^LN|16|85^HepA^CVX|||||F
OBX|53|CE|59783-1^Status in series^LN|16|O^O^99106|||||F
OBX|54|DT|30981-5^Earliest date^LN|16|20170312|||||F
OBX|55|DT|30980-7^Recommended date^LN|16|20170312|||||F
OBX|56|DT|59778-1^Latest date^LN|16|20180312|||||F
OBX|57|CE|30956-7^Vaccine type^LN|17|88^Influenza^CVX|||||F
OBX|58|CE|59783-1^Status in series^LN|17|O^O^99106|||||F
OBX|59|DT|30981-5^Earliest date^LN|17|20190701|||||F
OBX|60|DT|30980-7^Recommended date^LN|17|20190801|||||F
OBX|61|DT|59778-1^Latest date^LN|17|20191201|||||F
OBX|62|CE|30956-7^Vaccine type^LN|18|108^Meningococcal^CVX|||||F
OBX|63|CE|59783-1^Status in series^LN|18|L^L^99106|||||F
OBX|64|DT|30981-5^Earliest date^LN|18|20160507|||||F
OBX|65|DT|30980-7^Recommended date^LN|18|20270312|||||F
OBX|66|DT|59778-1^Latest date^LN|18|20290312|||||F
OBX|67|CE|30956-7^Vaccine type^LN|19|137^HPV^CVX|||||F
OBX|68|CE|59783-1^Status in series^LN|19|L^L^99106|||||F
OBX|69|DT|30981-5^Earliest date^LN|19|20250312|||||F
OBX|70|DT|30980-7^Recommended date^LN|19|20270312|||||F
OBX|71|DT|59778-1^Latest date^LN|19|20290312|||||F
OBX|72|CE|30956-7^Vaccine type^LN|20|121^HerpesZoster^CVX|||||F
OBX|73|CE|59783-1^Status in series^LN|20|L^L^99106|||||F
OBX|74|DT|30981-5^Earliest date^LN|20|20660312|||||F
OBX|75|DT|30980-7^Recommended date^LN|20|20660312|||||F
OBX|76|DT|59778-1^Latest date^LN|20|20670312|||||F
OBX|77|CE|30956-7^Vaccine type^LN|21|187^RZV (Shingrix)^CVX|||||F
OBX|78|CE|59783-1^Status in series^LN|21|L^L^99106|||||F
OBX|79|DT|30981-5^Earliest date^LN|21|20660312|||||F
OBX|80|DT|30980-7^Recommended date^LN|21|20660312|||||F
OBX|81|DT|59778-1^Latest date^LN|21|20670312|||||F
OBX|82|CE|30956-7^Vaccine type^LN|22|122^Rotavirus^CVX|||||F
OBX|83|CE|59783-1^Status in series^LN|22|F^F^99106|||||F
OBX|84|CE|30956-7^Vaccine type^LN|23|03^MMR^CVX|||||F
OBX|85|CE|59783-1^Status in series^LN|23|C^C^99106|||||F
OBX|86|CE|30956-7^Vaccine type^LN|24|21^Varicella^CVX|||||F
OBX|87|CE|59783-1^Status in series^LN|24|C^C^99106|||||F

```

See Test Details



The National Institute of Standards and Technology (NIST) provides a service for verifying the conformance of immunization messages to software. For a complete list of all errors, warnings, and assertions please use NIST's tool. For the sake of brevity this section only reports

Response Does NOT Meet NIST Standards

The response was validated against the NIST validator for immunization messages and problems were found. Please review carefully. [Back](#)

NIST 2015 Validation of Response

Location	Result	Type	Description
MSH[1]-4[1].1	error	LENGTH	The length of Component MSH-4.1 (Namespace ID) must be within the range [1, 20].
ORC[1]-2[1].2	error	LENGTH	The length of Component ORC-2.2 (Namespace ID) must be within the range [1, 20].
ORC[3]-3[1].1	error		IZ-45 - If RXA-20 is valued "NA" or "RE" then ORC-3.1 SHALL be valued "9999".
PID[1]-11[1].7	error	R_USAGE	The required Component PID-11.7 (Address Type) is missing
RXA[1]-9[1].1	error		IZ-47 - If RXA-20 (Completion Status) is not valued or the value of RXA-20 (Completion Status) is not one



Copy Text MS

```
MSH|^~\&||IIS Sandbox Lime Bilberry Blackberry v0.2.12|||20200324020744-0600||RSP^K11^RSP_K11|15850804640635732|P|2.5.1|||
MSA|AA|1M4t-QA.3.1.2
QAK|37374859|OK|Z34^Request a Complete Immunization History^CDCPHINVS
QPD|Z34^Request Immunization History^CDCPHINVS|37374859|R82B20^^^AIRA^MR|NemahaAIRA^PrimroseAIRA^Premila^^^L|CulbersonAIF
PID|1||AMYNG9ESG2QL^^^IIS^SR~R82B20^^^AIRA^MR||NemahaAIRA^PrimroseAIRA^Premila^^^L|CulbersonAIRA^^^^^^M|20160312|F|||1556
NK1|1|NemahaAIRA^CulbersonAIRA^^^^^L|MTH^Mother^HL70063
ORC|RE|BR82B20.1^AART Florence Lime Bilberry Blackberry|34730^IIS
RXA|0|1|20170323||94^MMRV^CVX|999.0|mL^milliliters^UCUM||01^Historical information - source unspecified^NIP001|||||||
OBX|1|CE|20056.7^vaccine type^UM|1|06006^CVX|||||
```

[https://hl7v2-iz-r1.5-
testing.nist.gov/iztool/](https://hl7v2-iz-r1.5-testing.nist.gov/iztool/)



https://hl7v2-iz-r1.5-testing.nist.gov

hl7v2-iz-r1.5-testing.nist.gov/iztool/#/home

AppsBunker Brother ToursBunker Family TourGoogle TranslateOutlook Web AppUberConferencePTBunker TrackerInterestWorkOther bookmarks

NIST Immunization Test Suite1.9.8

Home

1 SOAP Envelope

2 SOAP Connectivity

3 ☒ HL7 Context-free

4 ☐ HL7 Context-based

Documentation

About

Hello Guest

Welcome to the NIST Immunization Test Suite!

Supporting

The NIST Immunization Test Suite supports a broad range of testing in support of the Immunization Community, including transport, messaging (content), and functional.

- CDC SOAP Validation
- HL7 V2.5.1 Immunization Message Implementation Guide Release 1.5
- EHR and IIS Functional Capabilities (2016)
- 2015 **ONC Health IT**

2015 ONC Health IT Certification

Start ONC Testing

The NIST Immunization Test Suite is a test tool used for certifying ONC 2015 Edition Health IT Modules. The NIST capability used for ONC Certification can be accessed by navigating to the ONC 2015 Test Plan via the HL7 Context-based option. The ONC 2015 Test Plan is used to certify Modules for the 170.315(f)(1) Transmission to Immunization Registries ONC criterion.

Have a Question?

A Google Group ([HL7v2 Immunization Testing](#)) has been established for discussion/questions about the Implementation Guide, testing tool, and testing issues. No membership is required. A Google account is required for posting. **Note:** The same Google Group is being used for submitting questions/comments related to the 2014 and 2015 Editions of the NIST Certification Test Tool and general

Supported Browsers

The following browsers are supported:

- Chrome (Recommended)
- Firefox (Recommended)
- Safari
- IE 9+

SOAP

Envelope

SOAP

Connectivity

HL7

Context-free

HL7

Context-based



NIST Immunization Test Suite 1.9.8

Home 1 SOAP Envelope 2 SOAP Connectivity 3 HL7 Context-free 4 HL7 Context-based Documentation About Hello Guest

Test Execution

Profile Group Type: Public Profile Groups: Immunization 2.5.1 IG Release 1.5

Profiles

Immunization 2.5.1 IG R

- ☒ 1.VXU-Z22
- ☒ 2.ACK-Z23
- ☒ 3.QBP-Z34
- ☒ 4.QBP-Z44
- ☒ 5.RSP-Z31
- ☒ 6.RSP-Z32
- ☒ 7.RSP-Z33
- ☒ 8.RSP-Z42

Profile: 6.RSP-Z32

Validation Report Profile Viewer ValueSets

Message Tree

- MSH[1]:Message Header R[1,1]
- MSA[1]:Message Acknowledgment R[1,1]
- QAK[1]:Query Acknowledgment R[1,1]
- QPD[1]:Query Parameter Definition R[1,1]
- PID[1]:Patient Identification R[1,1]
- NK1[1]:Next of Kin / Associated Parties RE[0,*]
- ORC[1]:Common Order R[1,1]
- RXA[1]:Pharmacy/Treatment Administration R[1,1]
- OBX[1]:Observation/Result R[1,1]
- OBX[2]:Observation/Result R[1,1]
- OBX[3]:Observation/Result R[1,1]
- OBX[4]:Observation/Result R[1,1]
- OBX[5]:Observation/Result R[1,1]
- OBX[6]:Observation/Result R[1,1]

Message Content

4s Validate Load Example Browse Download Clear

```
1 MSH ^~\&||IIS Sandbox Lime Bilberry Blackberry v0.2.12||202003240207.
2 MSA AA|1M4t-QA.3.1.2
3 QAK 37374859|OK|Z34^Request a Complete Immunization History^CDCPHINVS
4 QPD Z34^Request Immunization History^CDCPHINVS|37374859|R82B20^AIRA
5 PID 1|AMYN9ESG2QL^AIRA^SR~R82B20^AIRA^MR|NemahaAIRA^PrimroseAIR.
6 NK1 1|NemahaAIRA^CulbersonAIRA^L|MTH^Mother^HL70063
7 ORC RE|BR82B20.1^AART Florence Lime Bilberry Blackberry|34730^IIS
8 RXA 0|1|20170323|94^MMRV^CVX|999.0|ml^milliliters^UCUM|01^Historica
9 OBX 1|CE|30956-7^Vaccine type^LN|1|06^06^CVX|F
10 OBX 2|CE|59781-5^Dose validity^LN|1|Y^Y^99107|F
11 OBX 3|CE|30956-7^Vaccine type^LN|2|05^05^CVX|F
12 OBX 4|CE|59781-5^Dose validity^LN|2|Y^Y^99107|F
13 OBX 5|CE|30956-7^Vaccine type^LN|3|07^07^CVX|F
14 OBX 6|CE|59781-5^Dose validity^LN|3|Y^Y^99107|F
15 OBX 7|CE|30956-7^Vaccine type^LN|4|21^21^CVX|F
16 OBX 8|CE|59781-5^Dose validity^LN|4|Y^Y^99107|F
17 ORC RE|BR82B20.2^AART Florence Lime Bilberry Blackberry|34731^IIS
18 RXA 0|1|20190323|94^MMRV^CVX|999.0|ml^milliliters^UCUM|01^Historica
19 OBX 9|CE|30956-7^Vaccine type^LN|5|06^06^CVX|F
20 OBX 10|CE|59781-5^Dose validity^LN|5|Y^Y^99107|F
21 OBX 11|CE|30956-7^Vaccine type^LN|6|05^05^CVX|F
22 OBX 12|CE|59781-5^Dose validity^LN|6|Y^Y^99107|F
```

https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/cf

hl7v2-iz-r1.5-testing.nist.gov/iztool/#/cf

Apps Bunker Brother Tours Bunker Family Tour Google Translate Outlook Web App UberConference PT Bunker Tracker Interest Work Other bookmarks

- OBX[8]: Observation/Result R[1,1]
- ORC[2]: Common Order R[1,1]
- RXA[2]: Pharmacy/Treatment Administration R[1,1]
- OBX[9]: Observation/Result R[1,1]
- OBX[10]: Observation/Result R[1,1]
- OBX[11]: Observation/Result R[1,1]
- OBX[12]: Observation/Result R[1,1]
- OBX[13]: Observation/Result R[1,1]
- OBX[14]: Observation/Result R[1,1]
- OBX[15]: Observation/Result R[1,1]
- OBX[16]: Observation/Result R[1,1]
- ORC[3]: Common Order R[1,1]
- RXA[3]: Pharmacy/Treatment Administration R[1,1]
- OBX[17]: Observation/Result R[1,1]
- OBX[18]: Observation/Result R[1,1]
- OBX[19]: Observation/Result R[1,1]
- OBX[20]: Observation/Result R[1,1]
- OBX[21]: Observation/Result R[1,1]
- OBX[22]: Observation/Result R[1,1]
- OBX[23]: Observation/Result R[1,1]
- OBX[24]: Observation/Result R[1,1]
- OBX[25]: Observation/Result R[1,1]

☒ Message Validation Result [Help](#) [Remove Duplicates](#) [Report](#)

7 Errors **120** Warnings **19** Alerts

7 All **3** Constraint Failure **3** Length **1** R-Usage

☐ Highlight All

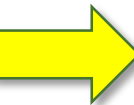
Path	Description	Line #
RXA[1]-9[1].1	IZ-47 - If RXA-20 (Completion Status) is not valued or the value of RXA-20 (Completion Status) is not one of List Values: 'CP','PA' then RXA-9.1 (Identifier) SHALL NOT be valued.	8
RXA[2]-9[1].1	IZ-47 - If RXA-20 (Completion Status) is not valued or the value of RXA-20 (Completion Status) is not one of List Values: 'CP','PA' then RXA-9.1 (Identifier) SHALL NOT be valued.	18
ORC[3]-3[1].1	IZ-45 - If RXA-20 is valued "NA" or "RE" then ORC.3.1 SHALL be valued "9999".	27
ORC[1]-2[1].2	The length of Component ORC-2.2 (Namespace ID) must be within the range [1, 20]. Value = 'AART Florence Lime Bilberry Blackberry'	7
ORC[2]-2[1].2	The length of Component ORC-2.2 (Namespace ID) must be within the range [1, 20]. Value = 'AART Florence Lime Bilberry Blackberry'	17



Query & Response Assessment

- Begin at list of measures
- Focus on “Does Not Meet”
 - Often a minor change can bring these into “Meets”
- Review “Deviates from Standard”
 - Ensure local requirements are accurate and necessary

Measure	Measure Title	Result
1	The IIS processes a query requesting a patient's immunization record.	Meets
2	The IIS processes a query requesting a patient's evaluated immunization record and forecast.	Meets
3	The IIS responds to a query for a known patient (one-to-one match).	Does Not Meet
4	The IIS responds to a query for a patient that is not in the IIS.	Does Not Meet
5	The IIS responds to a query that results in multiple possible patients.	Does Not Meet
6	The IIS responds to a query that has a significant error that cannot be accepted.	Does Not Meet
7	The IIS responds to a query for a known patient and returns known CDC Endorsed Data Elements.	Meets
8	The IIS responds to a query with an RSP within 5 seconds or less for 95% of the queries submitted.	Meets



5: The IIS responds to a query that results in multiple possible patients.

Purpose

The purpose of this measure is to validate an IIS is able to respond with a conformant response (RSP) message when multiple possible patients are found.

Functional Standards

This measure is supported by the following version 4.0 functional standards:

- **Functional Standard 8.3:** The IIS receives queries from, and sends responses to, health information systems consistent with the current CDC-endorsed HL7 Implementation Guide.

Special Note

Measure 5 is not being assessed at this time. To properly assess Measure 5 an intentional duplicate patient must be created in the IIS. To date, the AIRA Measurement and Improvement project has been unable to create this duplicate consistently across all participants leading to varied results and false negatives. To maintain comparability across IIS, this measure is not counted or scored, but the concept may be revisited in the future.



Query & Response Assessment

- Any measures that you would like to have clarification or discussion on?

Measure	Measure Title	Result
1	The IIS processes a query requesting a patient's immunization record.	Meets
2	The IIS processes a query requesting a patient's evaluated immunization record and forecast.	Meets
3	The IIS responds to a query for a known patient (one-to-one match).	Does Not Meet
4	The IIS responds to a query for a patient that is not in the IIS.	Does Not Meet
5	The IIS responds to a query that results in multiple possible patients.	Does Not Meet
6	The IIS responds to a query that has a significant error that cannot be accepted.	Does Not Meet
7	The IIS responds to a query for a known patient and returns known CDC Endorsed Data Elements.	Meets
8	The IIS responds to a query with an RSP within 5 seconds or less for 95% of the queries submitted.	Meets



HL7 Discovery



HL7 Discovery

- Discovery report is hidden by default
 - Click link at the bottom of dashboard

AIRA Sandbox Dashboard

Assessment



Validation

Transport



Q3 2019

Submission and Acknowledgement



Q1 2020

Query and Response



Q1 2020

CDS



Q2 2019

Data Quality Incoming/Outgoing



Report not available

Transport - Complete



Validated

2019

Submission and Ack Basic



Validated

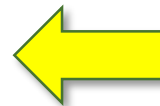
2019

Query and Response Basic



Major Differences

2019



[See Discovery Reports](#)



AIRA Sandbox Dashboard

Testing and Discovery



Assessment



Validation

HL7 Discovery

Connected

Q1 2020



Transport

Q3 2019

Submission and Acknowledgement

Q1 2020

Query and Response

Q1 2020

CDS Discovery

Connected

Q2 2019



CDS

Q2 2019

Data Quality Incoming/Outgoing

Report not available

Transport - Complete

2019



Validated

Submission and Ack Basic

2019



Validated

Query and Response Basic

2019



Major Differences



AIRA Sandbox

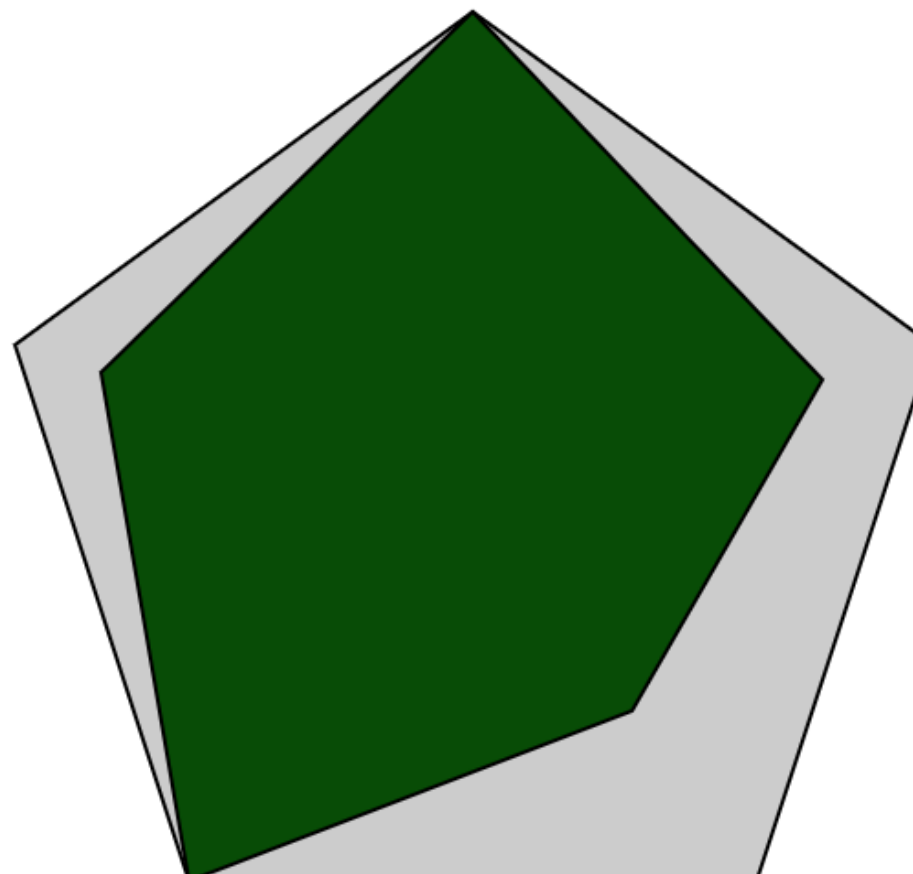
03/24/2020

Tools & Standards		
CDC Guide	NIST Test Suite	IIS Guide

ACKs Conform 100%	Good Messages Accepted 100%	Bad Messages Rejected 100%	Good Data Stored 100%	Bad Data Not Stored 100%
Confidence				

4 Ways
To Improve
HL7 Interface

NIST 2014 VXU Accepted 100%	Update Functionality
NIST 2015 VXU Accepted 100%	
Sensitive 100%	
Coded Values 100%	
Tolerant 100%	
EHR Examples 0%	
Performance 100%	



NIST 2015 QBP Supported 100%	Query Functionality
Data is Available 100%	
Deduplication Engaged 100%	
CDC Endorsed Data Elements 100%	
CDC Coded Values 100%	
Performance 100%	
Performance 100%	

Update Conformance	
No Modifications 100%	ACKs Conform 100%

Query Conformance	
Responses Conform 100%	CDC WSDL Conforms 100%

AART v2.0



AIRA Sandbox

03/24/2020

Tools & Standards		
CDC Guide	NIST Test Suite	IIS Guide

ACKs Conform 100%	Good Messages Accepted 100%	Bad Messages Rejected 100%	Good Data Stored 100%	Bad Data Not Stored 100%
----------------------	--------------------------------	-------------------------------	--------------------------	-----------------------------

4 Ways
To Improve
HL7 Interface

NIST 2014 VXU Accepted 100%
NIST 2015 VXU Accepted 100%
Sensitive 100%
Coded Values 100%
Tolerant 100%
EHR Examples 0%
Performance 100%
Update

Query Conformance: Responses Conform [PDF](#) [Close](#)

Overview **Details** Improve Calculation History Comparison

Conformance Problems Found

Count	Description
1288	The length of Component MSH-4.1 (Namespace ID) must be within the range [1, 20].
1258	The required Component PID-11.7 (Address Type) is missing
1233	The length of Component ORC-2.2 (Namespace ID) must be within the range [1, 20].
1228	IZ-47 - If RXA-20 (Completion Status) is not valued or the value of RXA-20 (Completion Status) is not one of List Values: 'CP','PA' then RXA-9.1 (Identifier) SHALL NOT be valued.
1203	IZ-45 - If RXA-20 is valued "NA" or "RE" then ORC-3.1 SHALL be valued "9999".
589	The value at location Component RXA-5.1 (Identifier) is not member of the value set CVX
583	Field RXA-5 (Administered Code) must be in the cardinality range of [1, 1]
31	The required Component QPD-8.7 (Address Type) is missing
30	The required Field RXA-9 (Administration Notes) is missing. The element is required based on the condition predicate evaluation: If the value of RXA-20 (Completion Status) is one of List Values: 'CP','PA'.
26	The required Field RXA-6 (Administered Amount) is missing
24	The required Component RXA-5.3 (Name of Coding System) is missing
24	Not a valid segment definition
23	The value at location Component RXR-1.1 (Identifier) is not member of the value set NOT

NIST 2015 QBP Supported 100%
Data is Available 100%
Deduplication Engaged 100%
CDC Endorsed Data Elements 100%
CDC Coded Values 100%
Performance 100%
Conformance

No Modifications 100%	ACKs Conform 100%
--------------------------	----------------------

Responses Conform 100%	CDC WSDL Conforms 100%
---------------------------	---------------------------



AIRA Sandbox

03/24/2020

undefined

Close

Overview Data **HL7** Conformance Preparation History Comparison

Submit Feedback

Update

Copy Text

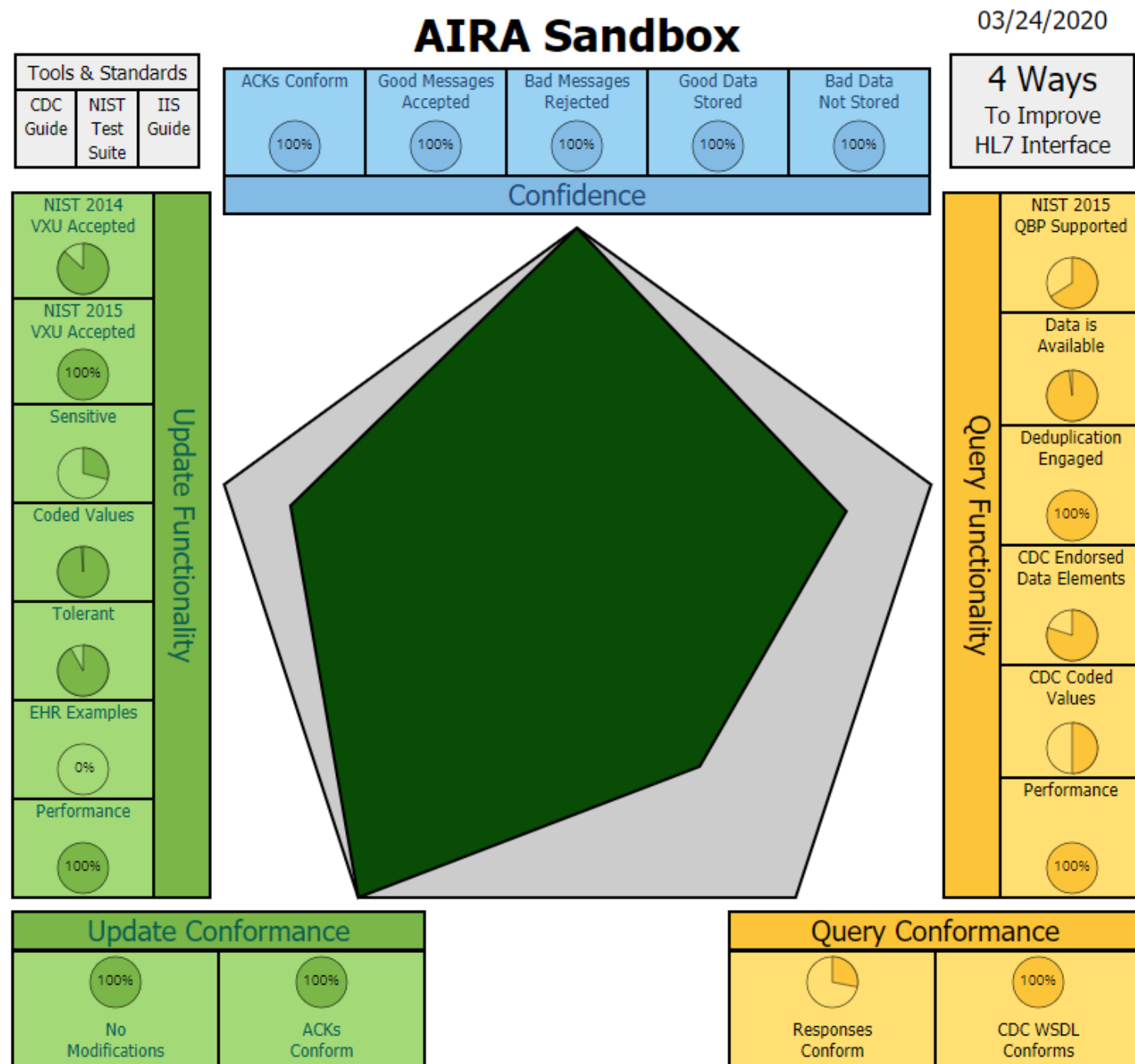
MS

```
MSH|^~\&|||||VXU^V04^VXU_V04|2vL8-GM-1.1|P|2.5.1|||ER|AL|||||Z22^CDCPHINVS
PID|1||Q54M25345^^^NIST-MPI-1^MR||HenryAIRA^ZelipeAIRA^Calvine^^^^L|KananenAIRA^^^^^^M|20200113|M||1002-5^American Indian or Alaska
PD1|||||||02^Reminder/recall - any method^HL70215|N|20200323|||A|20200113|20200323
NK1|1|HenryAIRA^KananenAIRA^Elizabeth^^^^L|MTH^Mother^HL70063|1851 Afdekkings Pl^^Saginaw^MI^48607^USA^P|^PRN^PH^^^989^6992562
NK1|2|HenryAIRA^WatmoughAIRA^William^^^^L|FTH^Father^HL70063|1851 Afdekkings Pl^^Saginaw^MI^48607^USA^P|^PRN^CP^^^989^6992562
ORC|RE|AQ54M25345.1^NIST-AA-IZ-2|BQ54M25345.1^NIST-AA-IZ-2|||||7824^Jackson^Lily^Suzanne^^^^^NIST-PI-1^L^^^PRN||654^Thomas^Wilma
RXA|0|1|20200323||49281-0560-05^Pentacel^NDC|0.5|mL^mL^UCUM||00^New Record^NIP001|7824^Jackson^Lily^Suzanne^^^^^NIST-PI-1^L^^^PRN|^
RXR|C28161^Intramuscular^NCIT|RT^Right Thigh^HL70163
OBX|1|CE|30963-3^Vaccine Funding Source^LN|1|VXC50^Public^CDCPHINVS|||||F|||20200323
OBX|2|CE|64994-7^Vaccine Funding Program Eligibility^LN|2|V04^VFC Eligible - American Indian/Alaska Native^HL70064|||||F|||20200:
OBX|3|CE|69764-9^Document Type^LN|3|253088698300017211160720^Polio VIS^cdcgs1vis|||||F|||20200323
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RXA|0|1|20200323||00006-4047-20^RotaTeg^NDC|2.0|mL^mL^UCUM||00^New Record^NIP001|7824^Jackson^Lily^Suzanne^^^^^NIST-PI-1^L^^^PRN|^
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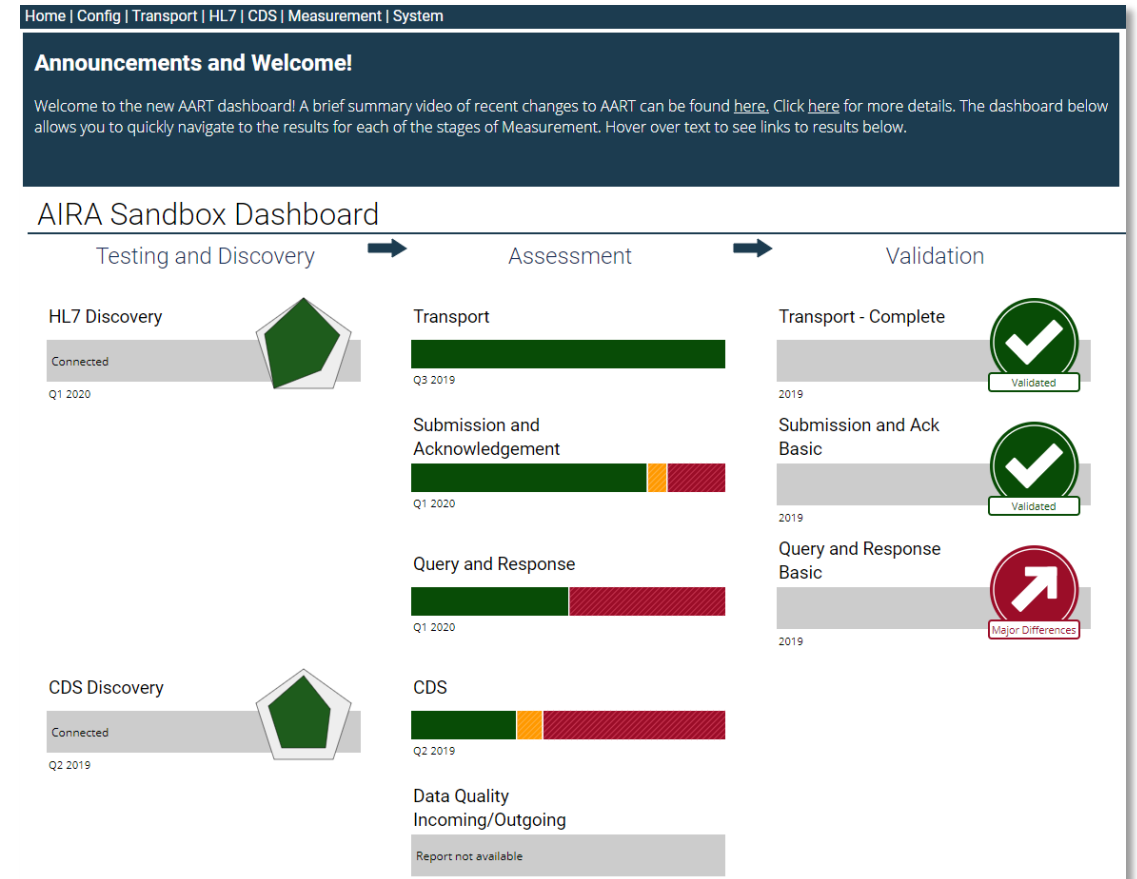
HL7 Discovery

- Any of these areas that you would like to see clarification or discussion on?



AIRA Sandbox Recommendations

- AIRA Sandbox
 - IIS HL7 demonstration system
 - Fully supports HL7 functions
- Fixes needed:
 - Look at policy to accept VXU's with other non-administration information
 - Review business need for address
 - Fix format of query responses



Join Us Next Month!

- Wednesday, April 22
 - 4:00 – 5:00 pm, ET



Contact Information

If you have any questions or comments:

- Nathan Bunker nbunker@immregistries.org

Thank you!

