

American Immunization Registry Association (AIRA)
National Meeting 2016

Measuring IIS Progress
Highlighting Success and Identifying Gaps

Laura Pabst, MPH, Acting Deputy Branch Chief,
Immunization Information Systems Support (IISSB)
National Center for Immunization and Respiratory Diseases (NCIRD),
Centers for Disease Control and Prevention (CDC)

Tuesday, April 5, 2016
3:15PM – 5:00PM



Immunization Information Systems
Strategy Initiative





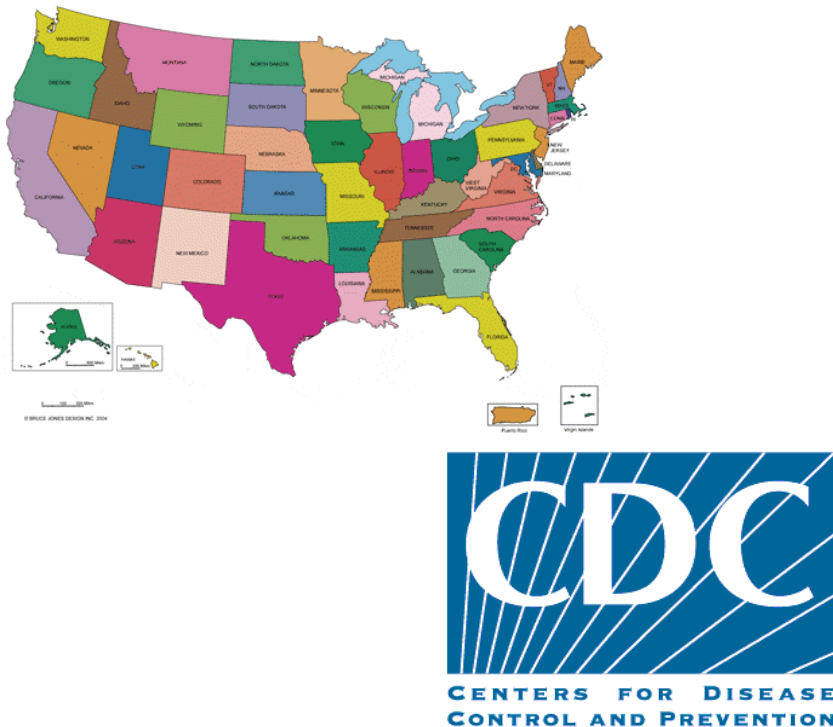


Why Assess IIS Progress: *Internal Perspective*

There are internal program forces and external forces that drive the need for performance monitoring.

Internal Program

State/Local Immunization Programs & CDC



Internal Forces

- Demonstrate capacities, highlight successes and build confidence in IIS
- Identify system and program limitations
 - Prioritize resources to support IIS
 - Identify opportunities for training and/or technical assistance



Why Assess IIS Progress: *External Perspective*

There is increased interest in and use of IIS by stakeholders with cross-jurisdictional requirements.

Stakeholder Examples

**CMS/ONC
Meaningful Use**

**EHR vendors &
Pharmacies**

**Health
Exchange
Networks**

External Forces

- Require adherence to standards and improved performance across all programs
- Increased funding to support IIS requires ability to demonstrate return on investment

Success of the IIS community depends on the success of ALL programs!





What Do We Need to Assess?

Depends on the stakeholder and what they value about IIS

Highlight three examples



The information collected at all three levels (National, Immunization Program, and IIS) should be consistent and build upon each other.



What Do We Need to Assess:

National Level

IIS Metrics Blue Ribbon Panel

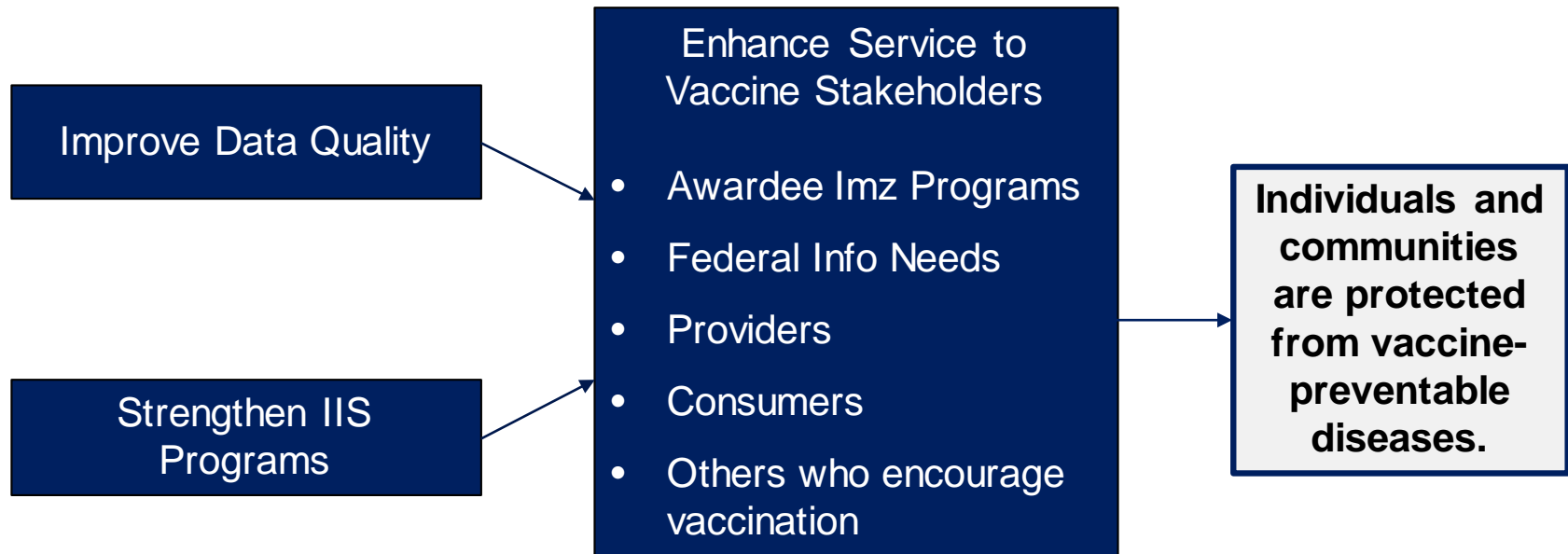
- Convened in November 2014
- Public Health Informatics Institute (PHII) hosted and facilitated
- Representatives from the IIS Executive Board, AIRA, AIM, and CDC
- Goal: Develop desired outcomes and metrics for the IIS community and the IIS Strategic Plan.
- Panel recommended 6 desired outcomes and 15 associated metrics to measure success across the IIS community



What Do We Need to Assess:

National Level (Continued)

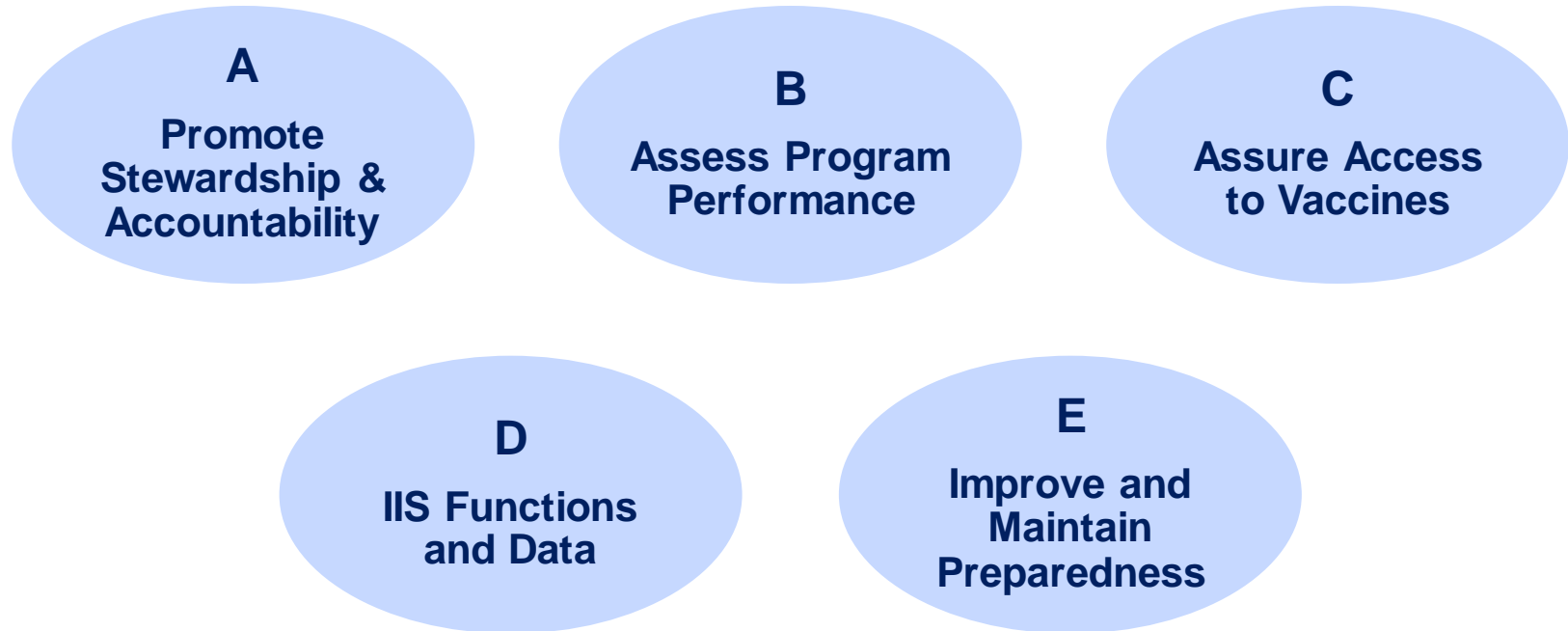
- Based on the outputs of the IIS Metrics Blue Ribbon Panel, NCIRD is further refining the desired outcomes and metrics, and is building mechanisms for data collection.
 - Current model:





What Do We Need to Assess: *Immunization Program Level*

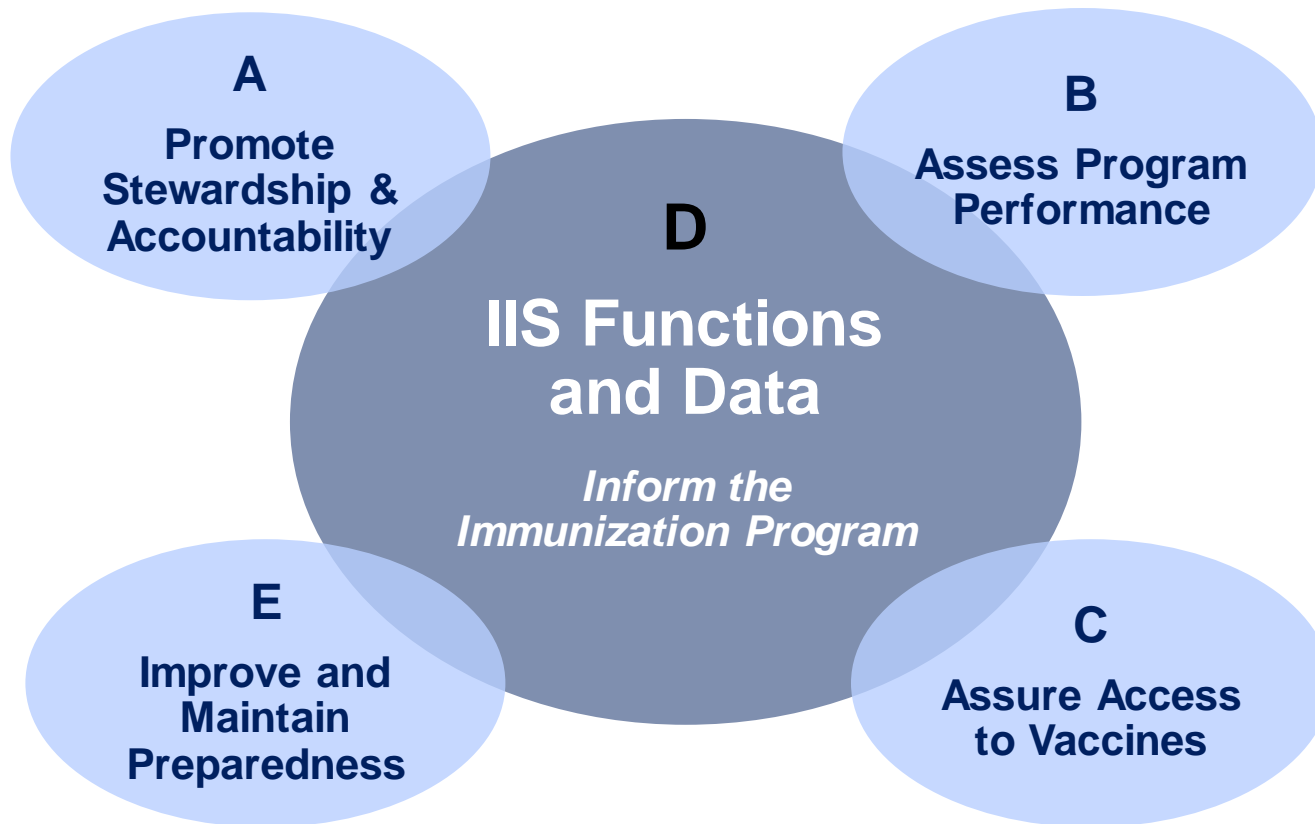
Immunization Program Operations Manual (IPOM)





What Do We Need to Assess: *Immunization Program Level (Continued)*

Immunization Program Operations Manual (IPOM)





What Do We Need to Assess:

IIS Level

Programmatic Goals



Functional Standards

PGs: High-level goal statements that organize the Functional Standards

PG 1: Support the delivery of clinical immunization services at the point of immunization administration, regardless of setting.

FSs: Identify operational, programmatic, and technical capabilities that all IIS should achieve

FS 1.1: The IIS provides individual immunization records accessible to authorized users at the point and time where immunization services are being delivered.



What Do We Need to Assess:

IIS Level (Continued)

Programmatic Goals



Functional Standards



Operational Guidance
Statements



Metrics / Targets

PGs: High-level goal statements that organize the Functional Standards

FSs: Identify operational, programmatic, and technical capabilities that all IIS should achieve

OGSs: Provide more granular guidance to programs to define how to achieve the FSs.

Metrics: Describe what will be measured to define success.

Targets: Define level of achievement to be met to be successful.



What Do We Need to Assess:

IIS Level (Continued)

Programmatic Goals



Functional Standards



Operational Guidance
Statements



Metrics / Targets

EXAMPLE:

PG 1: Support the delivery of clinical immunization services at the point of immunization administration, regardless of setting.

FS 1.1: The IIS provides individual immunization records accessible to authorized users at the point and time where immunization services are being delivered.

OGS 1.1.2.2*: IIS accepts QBP (query by parameter) and returns RSP (respond to QBP message)

Metric*: IIS did send an RSP message using HL7 2.5.1 in production in the past year (IISAR Q10d)

Target*: Yes

* Indicates draft statement

Making It Practical How Do We Use The Information?

IIS Business Plans

- CDC prioritized Operational Guidance Statements to highlight Foundational Areas and focus efforts
- Used to support IIS Business Plan guidance

TEST AWARDEE: Interim IIS Business Plan Guidance for 2016

TEST AWARDEE – AwesomeIIS

IIS Software Vendor: **Acme IIS Solutions, LTD.**

IIS Status: **Operational**

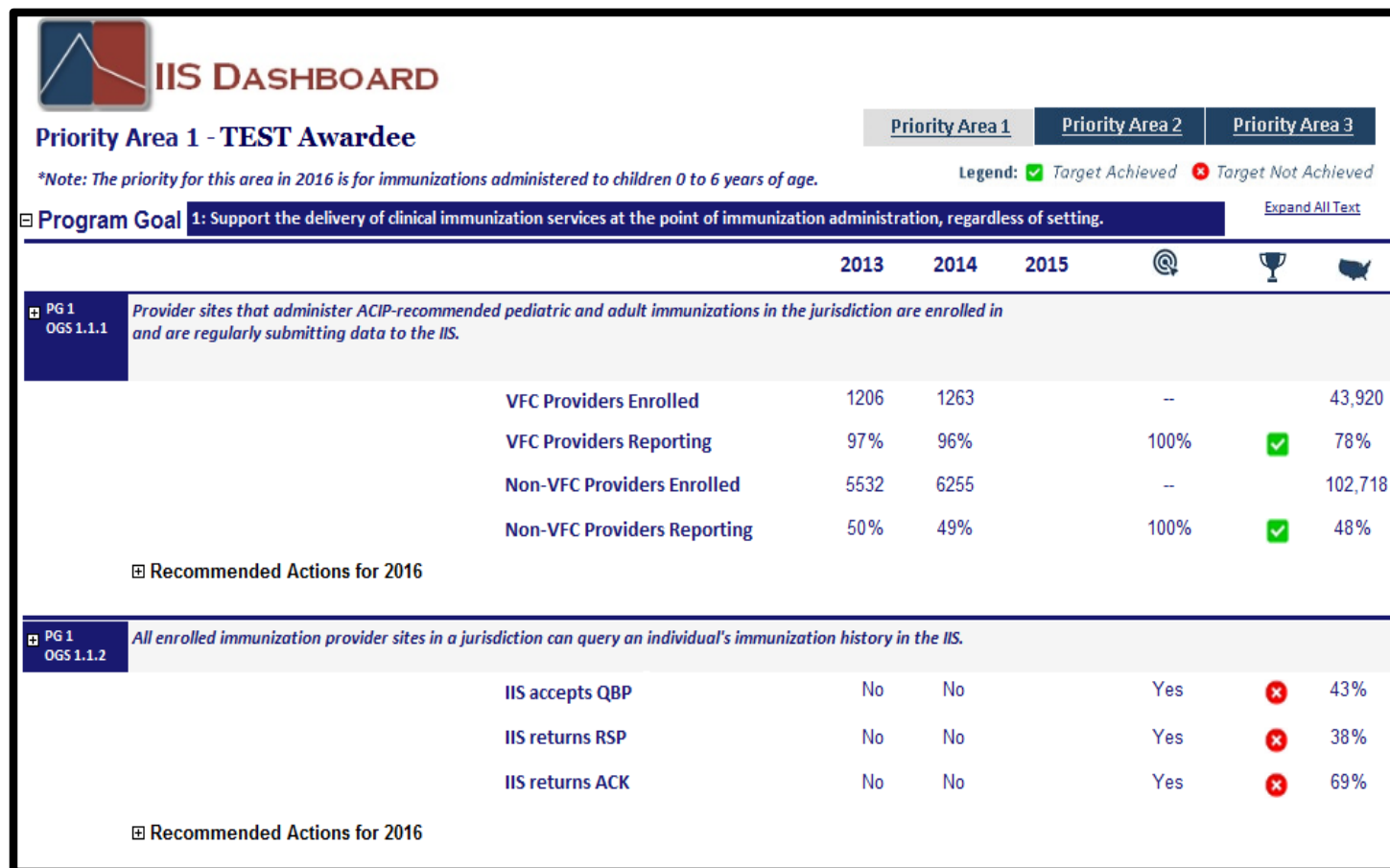
Program Goal 1: Support the delivery of clinical immunization services at the point of immunization administration, regardless of setting.

Operational Guidance Statements and Recommended Actions		Status								
1.1.1	<p>Provider sites that administer ACIP-recommended pediatric and adult immunizations in the jurisdiction are enrolled in and are regularly submitting data to the IIS.</p> <p>Note: The focus for 2016 is for immunizations administered to children 0 to 6 years of age.</p>	<p>IISAR 2014 values reported were as follows:</p> <table><tr><td>VFC Enrolled:</td><td>1873</td></tr><tr><td>VFC Reporting:</td><td>97.7%</td></tr><tr><td>Non-VFC Enrolled:</td><td>11941</td></tr><tr><td>Non-VFC Reporting:</td><td>86.0%</td></tr></table>	VFC Enrolled:	1873	VFC Reporting:	97.7%	Non-VFC Enrolled:	11941	Non-VFC Reporting:	86.0%
VFC Enrolled:	1873									
VFC Reporting:	97.7%									
Non-VFC Enrolled:	11941									
Non-VFC Reporting:	86.0%									
<p>Recommended Actions for 2016</p> <ul style="list-style-type: none">• Follow the MIROW Data Quality Assurance in Immunization Information Systems: Selected Aspects guide to identify providers active in the IIS that should be inactivated.• Identify and enroll pediatric immunizers in the jurisdiction not currently enrolled in the IIS. Note: Both VFC and non-VFC providers should be targeted for enrollment.• Ensure that all enrolled pediatric providers are regularly submitting data to the IIS.										

Making It Practical How Do We Use The Information?

IIS Dashboard

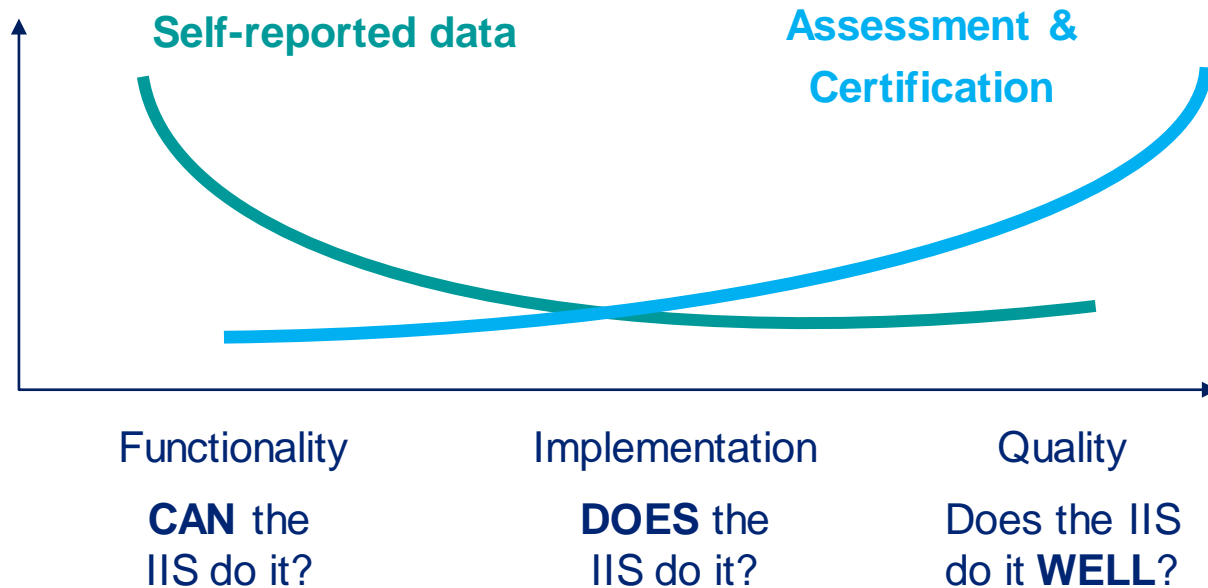
- CDC is developing an IIS Dashboard to visualize progress in achieving the Functional Standards / Operational Guidance Statements





How Do We Assess Progress?

- Historical methods of measurement have primarily relied on self-reported information
 - IIS Annual Report (IISAR) & other surveys
- Movement toward third-party assessment driven by AIRA's Assessment & Certification Initiative.



AIRA's Assessment and Certification Initiative

Why Assess: Internal & External Forces

- Demonstrate capacities, highlight successes and build confidence in IIS
- Identify system and program limitations
 - Prioritize resources to support IIS
 - Identify opportunities for training and/or technical assistance
- Require standardization and improved performance across all programs
- Increased funding to support IIS requires ability to demonstrate return on investment

Impact of Assessment & Certification

- Improves credibility & demonstrates alignment with our standards
- Identify gaps in resources, training and technical assistance opportunities
- Assessment findings may influence priorities within and outside your programs to implement changes
 - CDC is available to assist with this
- Increases ability to meet stakeholder needs

AIRA's Assessment and Certification Initiative (Continued)

Why Assess: Internal Forces

- Demonstrate capacities, highlight successes and build confidence in IIS
- Identify system and program limitations
 - Prioritize resources to support IIS
 - Identify opportunities for training and/or technical assistance

Why Assess: External Forces

- Require standardization and improved performance across all programs
- Increased funding to support IIS requires ability to demonstrate return on investment

Assessment and certification helps us address these needs better

Success requires EVERY IIS to participate in the process!

Questions?

Contact Information

Laura Pabst, MPH

Immunization Information Systems Support (IISSB)
National Center for Immunization and Respiratory Diseases (NCIRD),
Centers for Disease Control and Prevention (CDC)

LPabst@cdc.gov



IIS Assessment and Interoperability Testing Update



Mary Beth Kurilo, AIRA Policy and Planning Director
AIRA 2016 National Meeting
April 5, 2016

Overview of this Session

Provide an update to community on progress of Testing and Discovery

- Participation
- Early Findings

Share the work of the Community Groups advising the IIS Assessment Process

Map out a clear path for where we go next

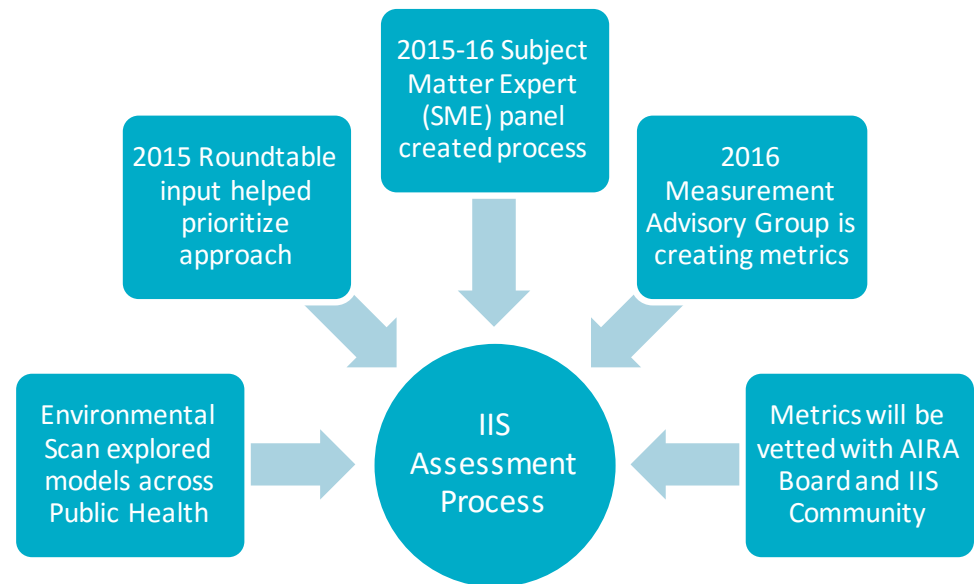


The Goal of IIS Assessment

To develop a community-driven, independent measurement process to assess and support IIS alignment with standards and best practices

A Value of IIS Assessment:

To create multiple channels for community input/ feedback



A Core Theme in IIS Measurement

Test-Driven Development:

- Ideally requires definition of tests first, then software development to meet tests
- Also useful in driving enhancements
- Benefits:
 - Becomes a way to “see the end from the beginning”
 - Helps ensure expectations and final product line up early
 - Elevates testing from a one-time event to an established process



Key Aspect:

Focus on high priority areas first, based on business need, business value

- Address areas where lack of alignment with standards is problematic

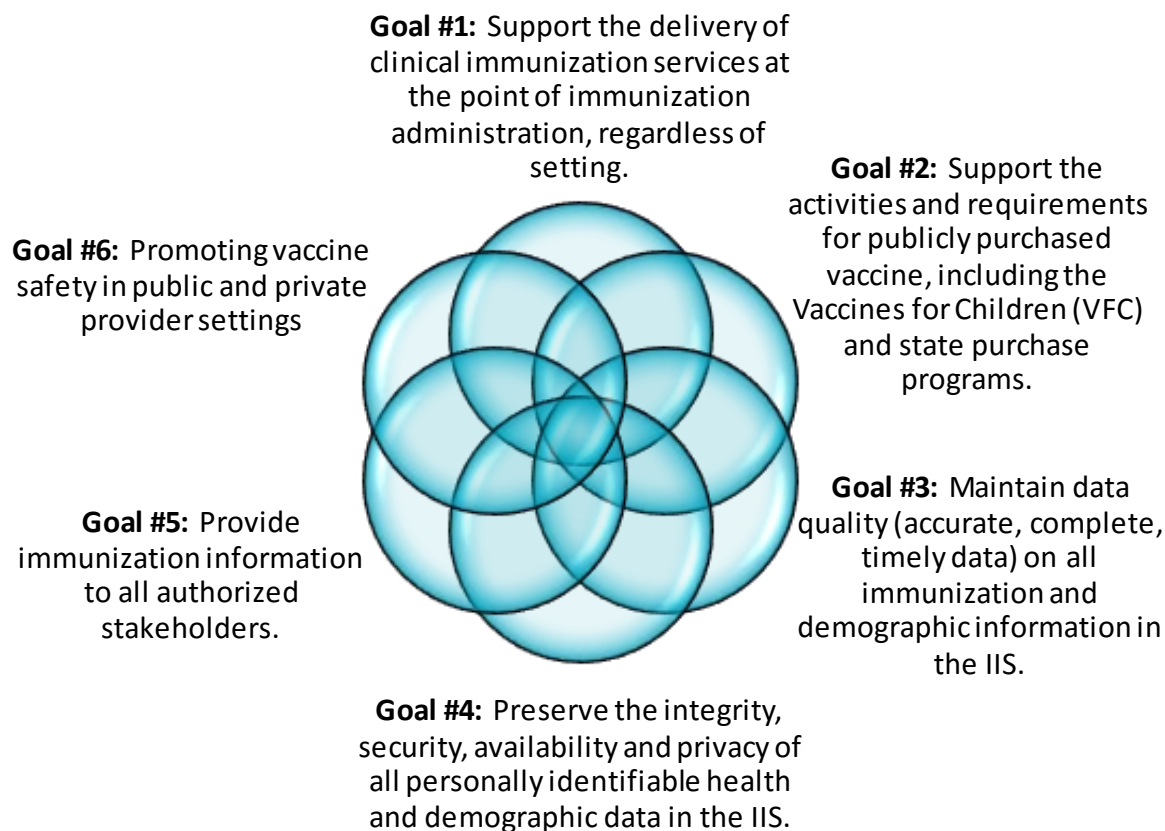
CULTIVATING COMMUNITY
ESTABLISHING STANDARDS
SUPPORTING IMPLEMENTATION

National Meeting
SEATTLE, WA
APRIL 5-7

2016

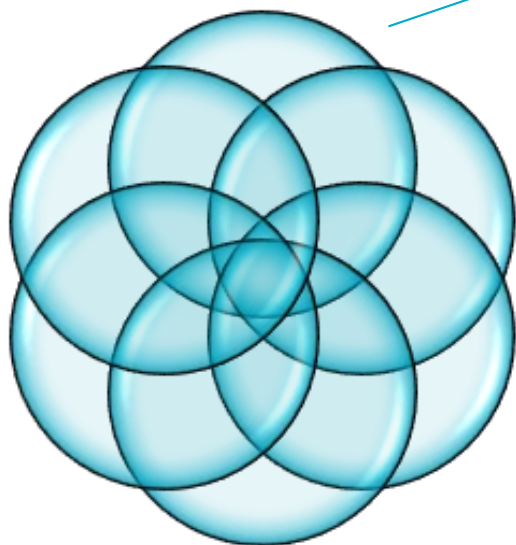


Overarching Functional Standards



Example: Goal → Functional Standard → OGS → Measure → Test

Goal #1: Support the delivery of clinical immunization services at the point of immunization administration, regardless of setting



Functional Standard 1.4: When the IIS receives queries from other health information systems, it can generate an automatic response in accordance with interoperability standards endorsed by CDC for message content/format and transport.

Operational Guidance Statement 1.4.8: IIS supports the SOAP Standard Interface, Web Services Definition Language (WSDL), as endorsed by CDC. (See Transport Layer Protocol Recommendation)

Potential Measure: The IIS can be messaged by an EHR via SOAP/Web Services, independent of the semantics of HL7

Potential Test: Conduct a “Submit Single Message” operation to carry an HL7 v2.x message



Building a Process – Assessment/Certification Planning

SME Panel Convened: August 2015 – February 2016

- Charge:
 - To glean process components from Environmental Scan and Roundtable Feedback that would help us chart a course for IIS Measurement
 - To advise on make-up of Measurement Advisory Workgroup
 - To determine triggers for evaluating future move toward Certification



Implementing a Process – Assessment/Certification Planning

Measurement for Assessment and Certification Advisory Workgroup (MACAW) Convened: March 2016 - ongoing

- Charge:
 - To continue developing process for Assessment/Certification
 - To oversee the development and testing of metrics
 - To review and provide input on communications to IIS community
 - To evaluate triggers and answer outstanding questions about potential move toward external-facing Certification

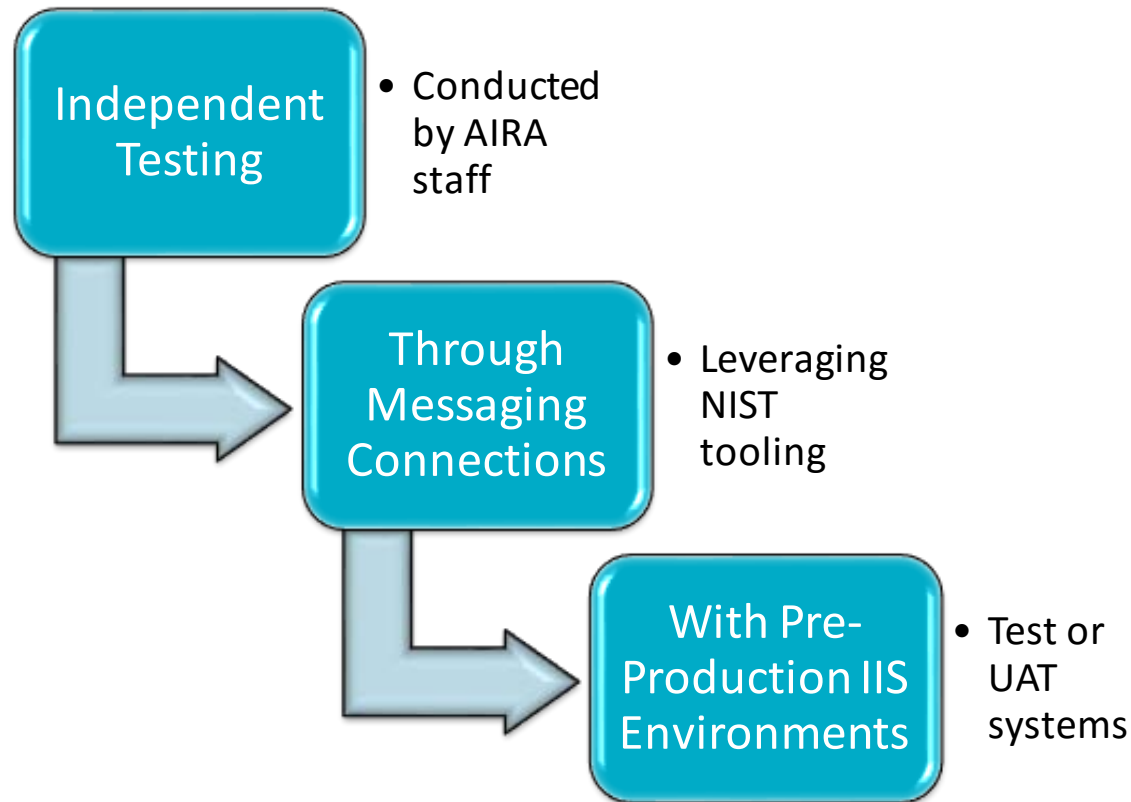
CULTIVATING COMMUNITY
ESTABLISHING STANDARDS
SUPPORTING IMPLEMENTATION

National Meeting
SEATTLE, WA
APRIL 5-7

2016



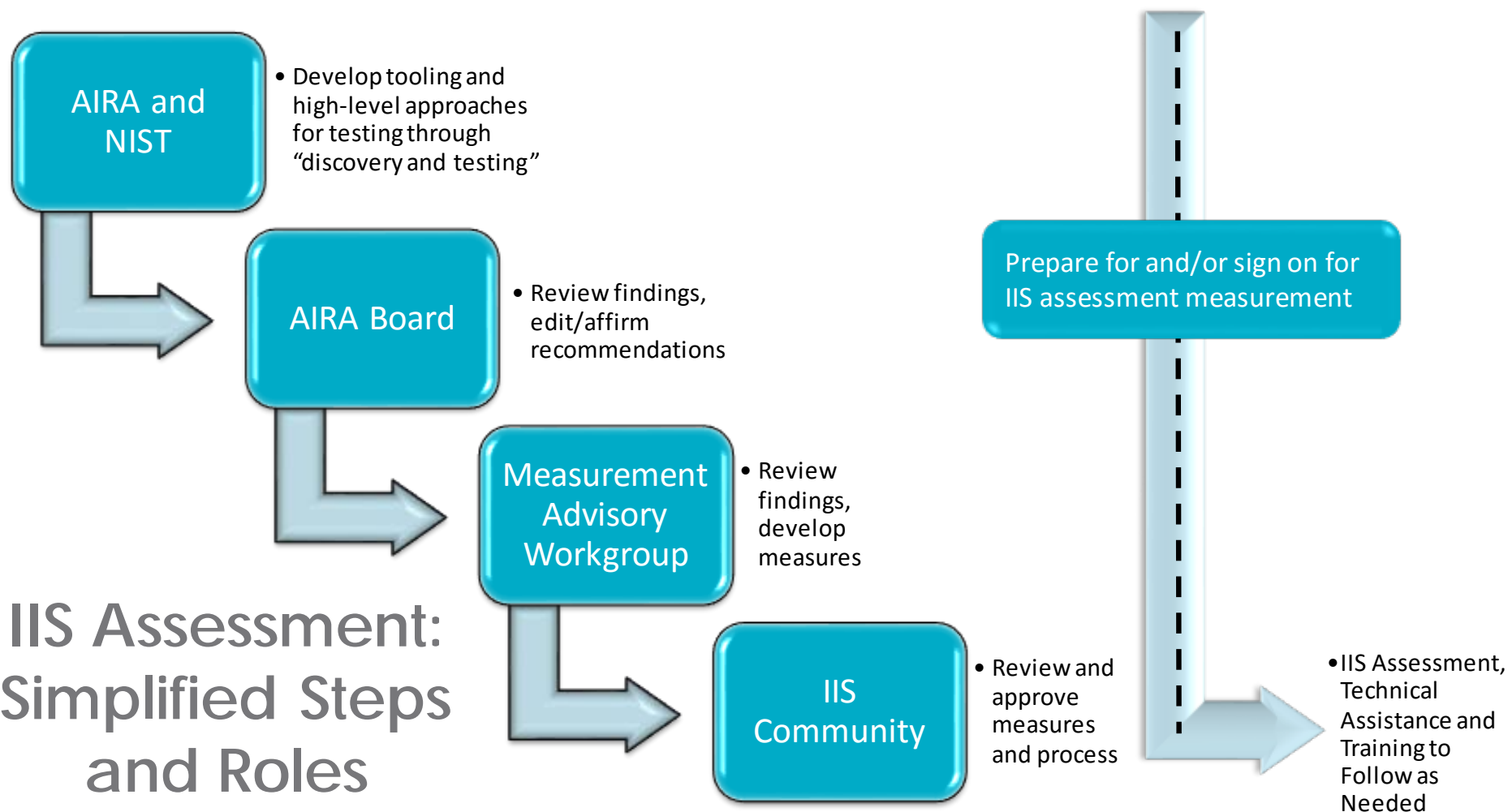
Current Approach



A Quick Overview of Incremental, Rolling Approach

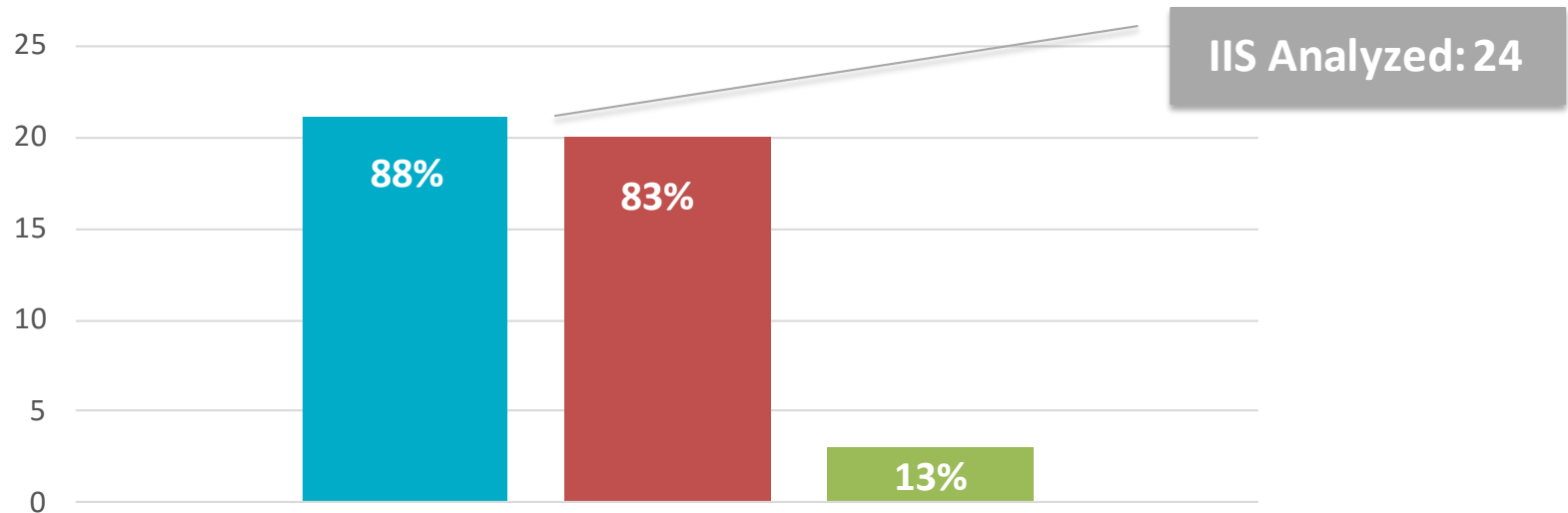
Stages	Phases	Measure (example only)	Tests (example only)
<ul style="list-style-type: none"> • Testing and Discovery • IIS Assessment • IIS Certification (future) 	<ul style="list-style-type: none"> • Transport • Message Content: VXU/ACK • Message Content: QBP/RSP • Many more... 	<ul style="list-style-type: none"> • Implement SOAP/WS and the CDC WSDL as one transport method 	<ul style="list-style-type: none"> • Connectivity test • Submit Single Message test • Security Fault test







Preliminary: Transport Conformance



Number Tested for Conformance with SOAP/WS and CDC WSDL: 24

- Conform to the Connectivity "Ping" Test
- Conform to the Submit Single Message Test
- Conform to the Security Fault



We've Found a Significant Amount of Local Variation

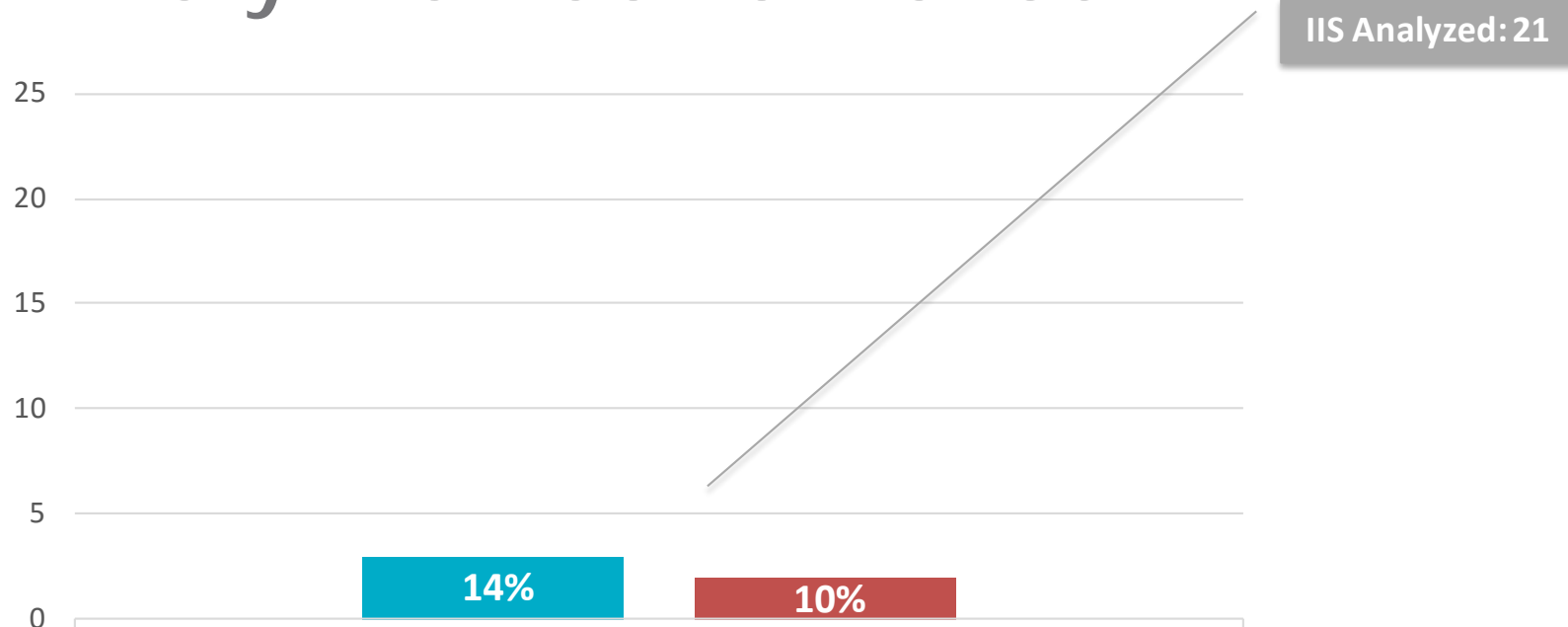
CULTIVATING COMMUNITY
ESTABLISHING STANDARDS
SUPPORTING IMPLEMENTATION

National Meeting
SEATTLE, WA
APRIL 5-7

2016



Preliminary: ACK Conformance



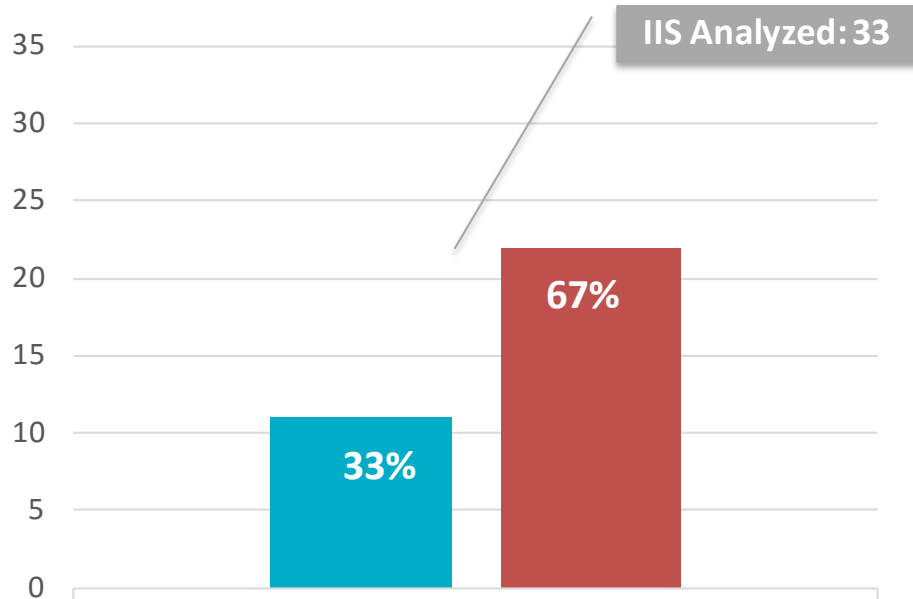
Number Tested for Conformance with ACK Guidance: 21

- Conform to the National IG
- Provided Actionable Information



Preliminary: VXU Conformance

2013 Status Check Project

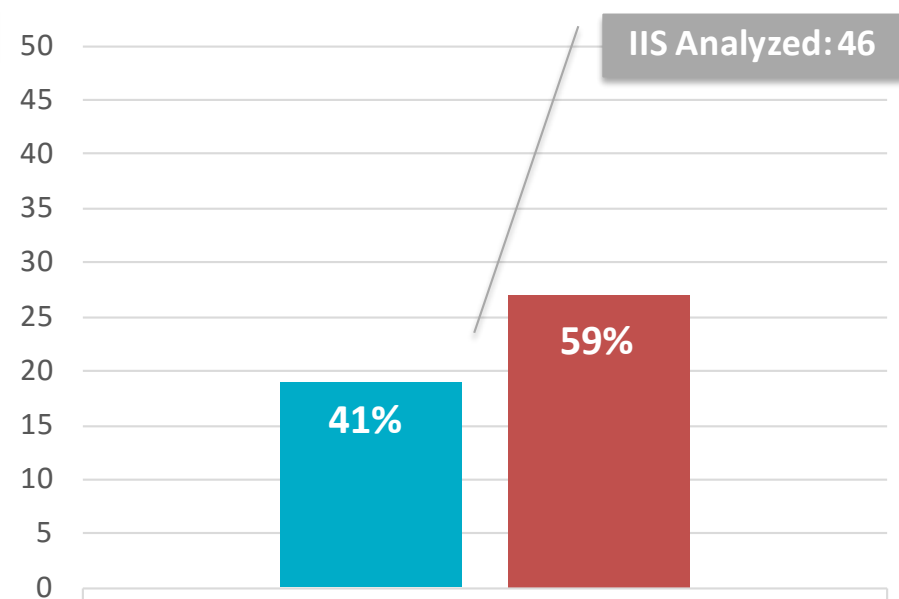


Number Tested for Conformance with VXU: 33

■ Accepted without Local Modifications

■ Required Local Modifications

2015 Status Check Project



Number Tested for Conformance with VXU: 46

■ Accepted without Local Modifications

■ Required Local Modifications

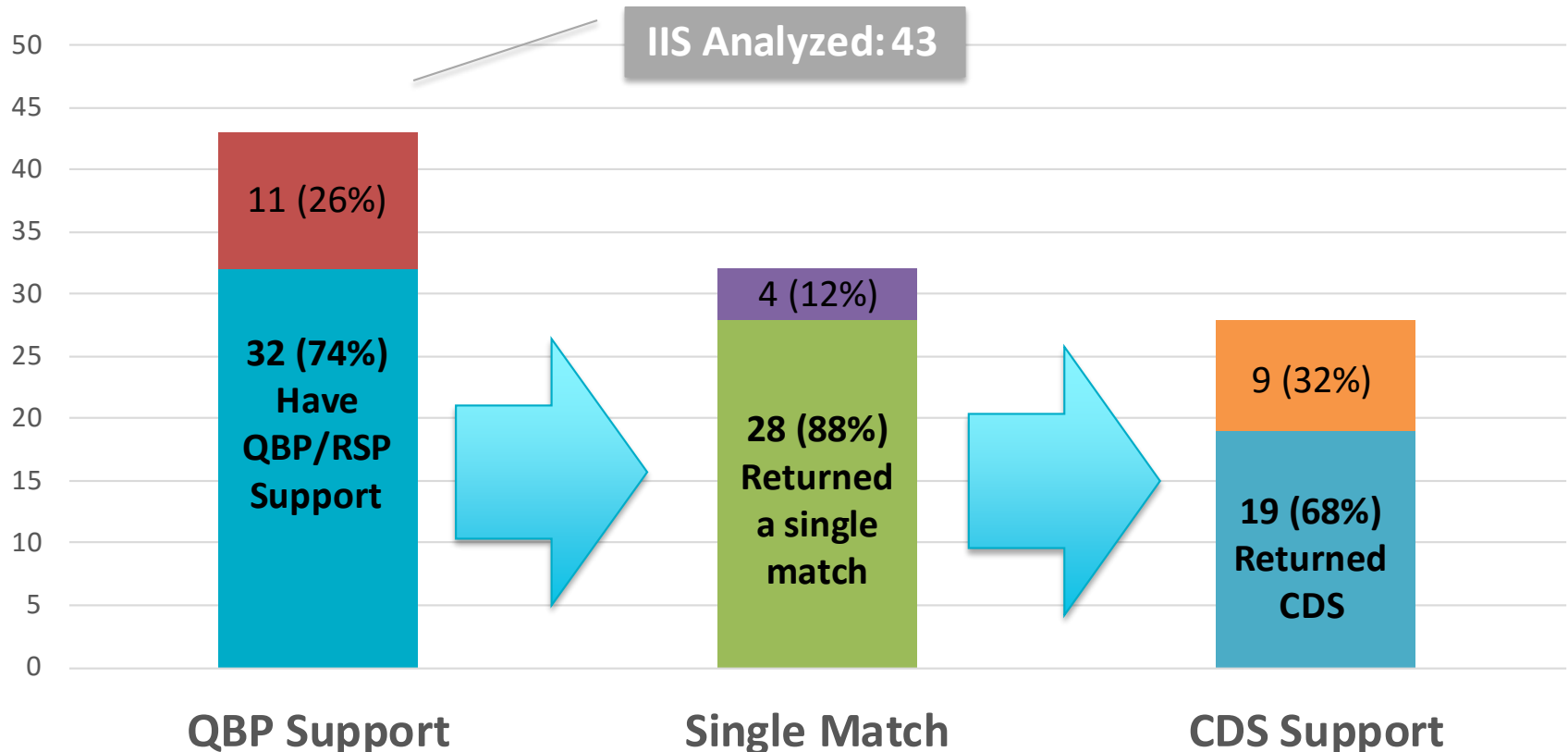
CULTIVATING COMMUNITY
ESTABLISHING STANDARDS
SUPPORTING IMPLEMENTATION

National Meeting
SEATTLE, WA
APRIL 5-7

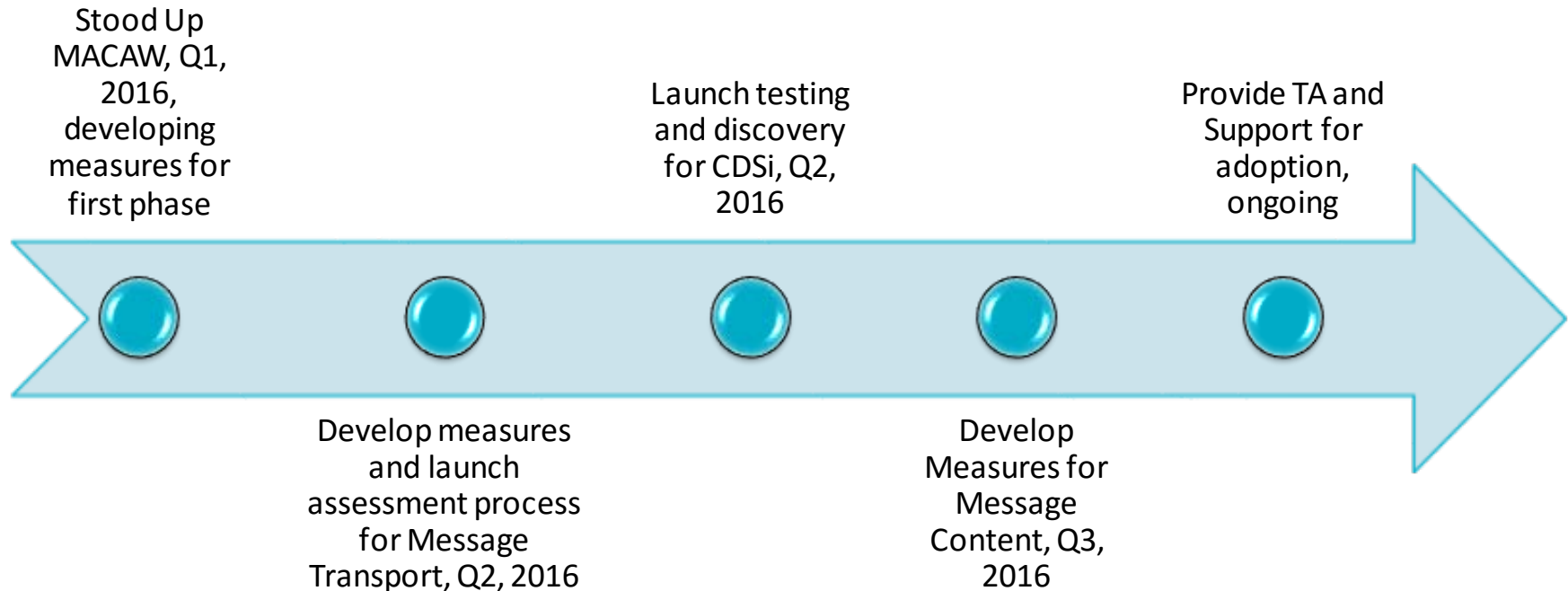
2016



Preliminary: QBP/RSP Support



High-Level Timeline – Immediate Next Steps



Testing Approaches

Pre-production message testing approach is now set up and in place, and can get us far:

- ✓ Message Transport
 - SOAP/WS
 - CDC WSDL
- ✓ Message Content
 - VXU/ACK
 - QBP/RSP
- ✓ Clinical Decision Support
 - Childhood Specifications
 - Adult Specifications

Future approaches are being explored:



Data extract for independent analysis?



Locally installed data quality assessment module?



Remotely-administered online assessment?



Sharing documented results of self-administered measurement?

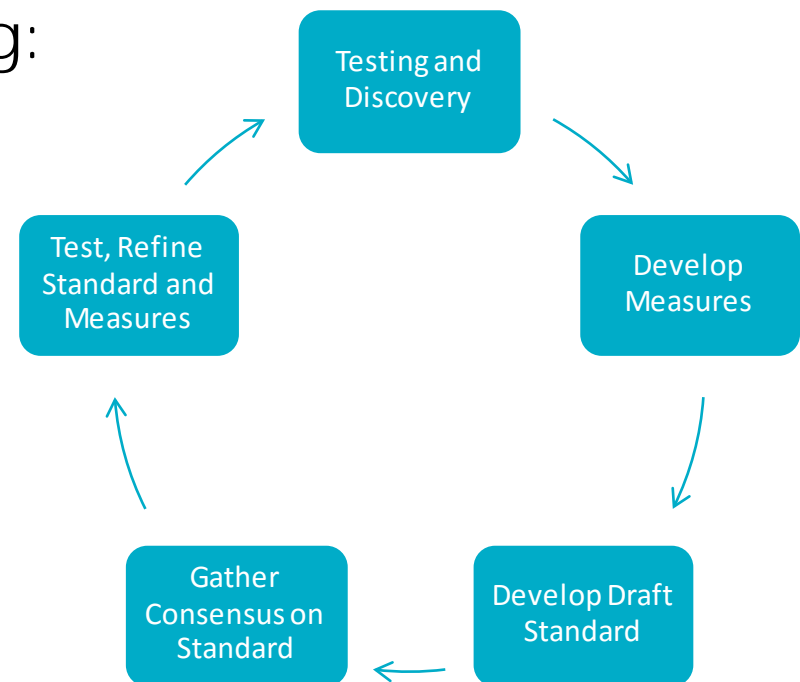


Developing Measures

Some measures are very prescriptive (e.g., SOAP/WS)

Some will be more challenging:

- Deduplication
- Data Quality
- Population Capture
- Coverage



Interoperability Discovery Testing: Testing Tools – First Pass

Overall Score: 82%

How to read this section...

Report Section	Score	Problem	Working
Interoperability	100%		Excellent
Coded Values	100%		Excellent
Local Requirement Implementation	85%		Well
National Compatibility	0%	Problem	
Tolerance	100%		Excellent
EHR Examples	63%		Poor
Performance	100%		Excellent
Acknowledgment Conformance	0%	Problem	

Local Requirement Implementation

How to read this section...

Field	Description	Usage	Detected	Status	Field Present	Field Absent
MSH-7	Date/time of message	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-7.1	- Year	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-7.2	- Month	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-7.3	- Day	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-7.4	- Hour	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-7.5	- Minute	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-7.6	- seconds	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-9.2	- Trigger Event	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-9.3	- Message Structure	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-10	Message control ID	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-11	Processing ID	R	R*	Inconsistent	Expected Response details	Unexpected Response details
MSH-12	HL7 Version ID	R	R*	Inconsistent	Expected Response details	Unexpected Response details
PID-3.5	- Identifier Type Code	R	R*	Inconsistent	Expected Response details	Unexpected Response details
PID-3 MRN	Patient ID - MRN	[R]	R*	Inconsistent	Expected Response details	Unexpected Response details
PID-4	Alternate Patient ID - 00106	X	X*	Inconsistent	Unexpected Response details	Expected Response details
PID-5.7	- Name Type Code	[R]	R*	Inconsistent	Expected Response details	Unexpected Response details

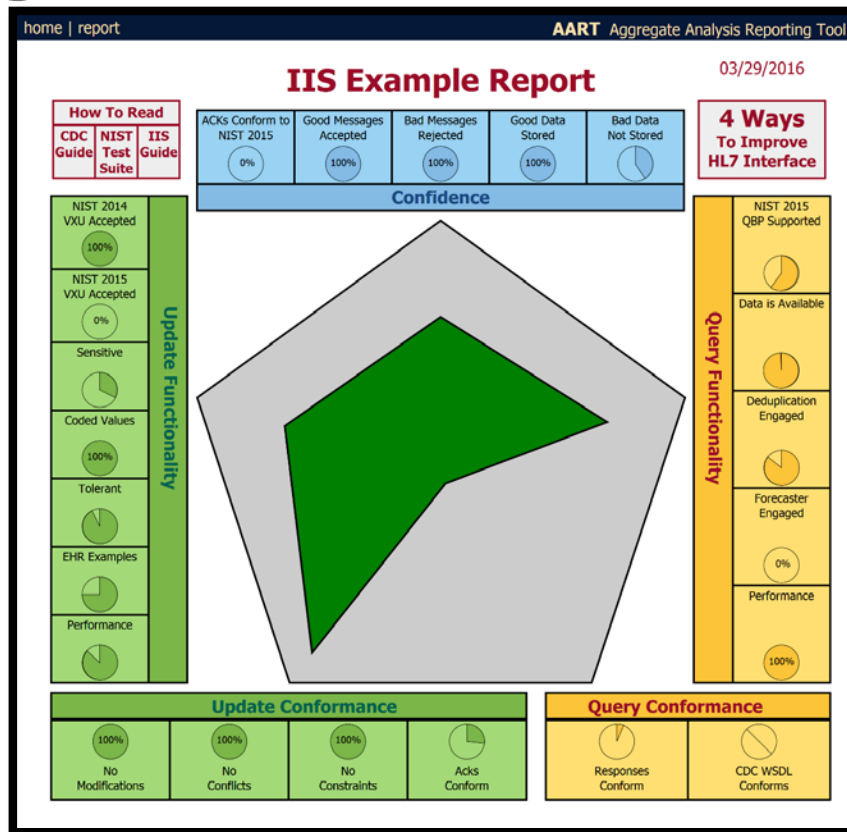
CULTIVATING COMMUNITY
ESTABLISHING STANDARDS
SUPPORTING IMPLEMENTATION

National Meeting
SEATTLE, WA
APRIL 5-7

2016



Interoperability Discovery Testing: Testing Tools – New and Improved



Access
Available
Next
Week!

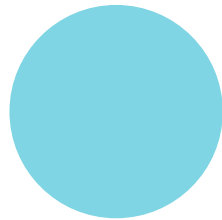
CULTIVATING COMMUNITY
ESTABLISHING STANDARDS
SUPPORTING IMPLEMENTATION

National Meeting
SEATTLE, WA
APRIL 5-7

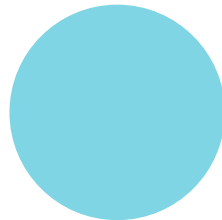
2016



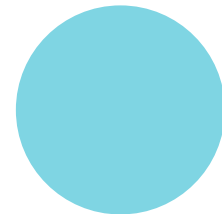
Where Can You Share Your Thoughts and Learn More about IIS Assessment?



Facilitated Roundtables, Wednesday Morning,
8am, Grand Ballroom 2, 4th floor



Breakout Session on AART, Wednesday,
11am-12pm, Whidbey Conference Room



AIRA Table for discussions about AART,
Wednesday, Grand Ballroom Foyer, 4th floor



What are the next steps for each IIS?

- ✓ If your program is not participating in testing and discovery – come on board!
- ✓ If you are participating – review the information coming out of the testing and discovery stage
 - Information on signing up for AART will be emailed to you
- ✓ Be early adopters for each phase of IIS Assessment
 - Share your thoughts!
- ✓ Most importantly – prioritize implementation of needed changes
 - You are not alone! AIRA, CDC, and others will help!



Acknowledgements

AIRA Board of Directors

IIS Assessment SME Panel

Mike Bin, Washington

Danielle Hall, Maine

LaTreace Harris, IIS Support Branch, CDC

Dina Hoefer, New York State

Aras Islam, Philadelphia

Laura Pabst, IIS Support Branch, CDC

Loren Rodgers, IIS Support Branch, CDC

Bob Swanson, Michigan

Measurement Advisory Workgroup

Brandy Alstadter, STC

Aaron Bieringer, Minnesota

Dana Goodloe, Arizona

Amy Groom, IHS

LaTreace Harris, IIS Support Branch, CDC

Michelle Hood, Nebraska

Jane Lammers, Nevada

Amy Metroka, NYC

Wendy Nye, Michigan

Laura Pabst, IIS Support Branch, CDC

Eric Schuh, HPE

Kevin Snow, Envision

Partners at NIST

Partners at CDC

CULTIVATING COMMUNITY
ESTABLISHING STANDARDS
SUPPORTING IMPLEMENTATION

National Meeting
SEATTLE, WA
APRIL 5-7

2016



In Closing

The future depends entirely on what each of us does every day; a movement is only people moving.

Gloria Steinem



Questions/Discussion?

Thank you!

Contact Information:

Mary Beth Kurilo, AIRA Policy and Planning Director

mbkurilo@immregistries.org

202-552-0197

