



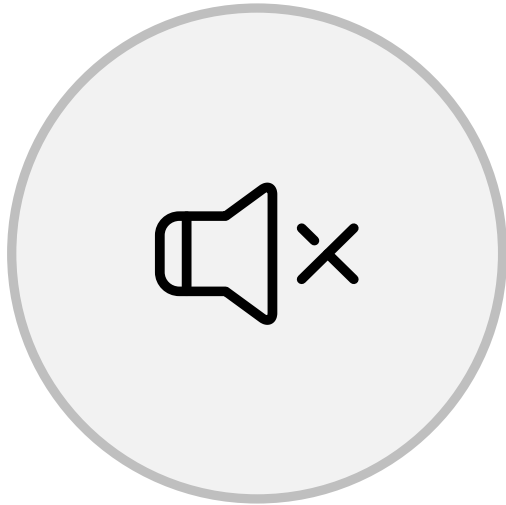
AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



Town Hall on Proposed Measures for Incoming/Ongoing Data, CDS Assessment Thresholds, and CDS Validation

January 9, 2020
3:30pm-4:30pm ET

Welcome



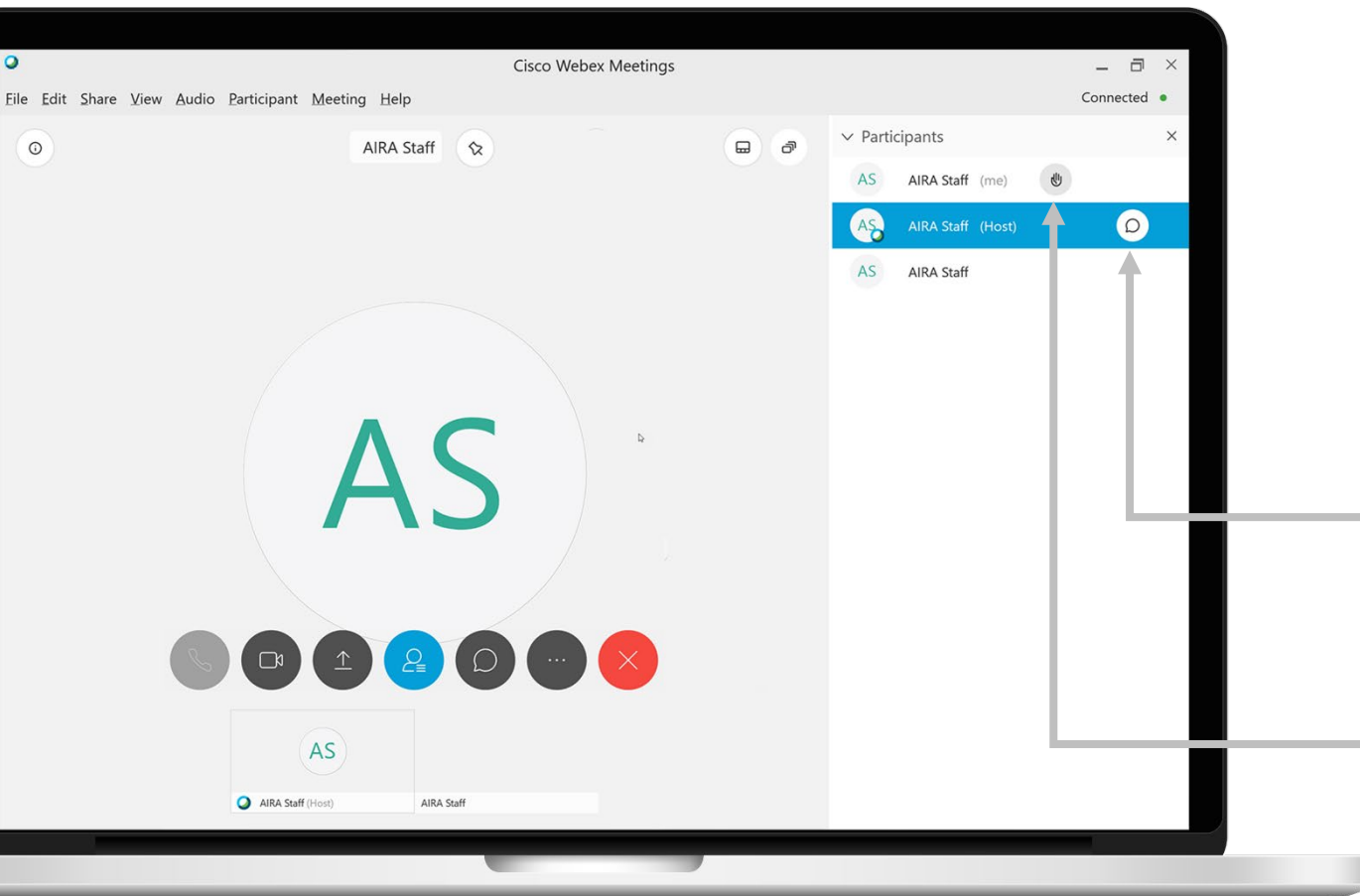
All phone lines
are muted



This meeting is being recorded
and will be posted on the
AIRA repository

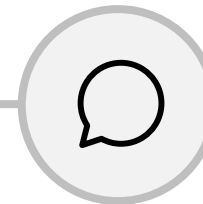


Welcome

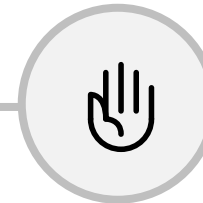


• How do I ask a question?

- There will be time allotted for Q&A following the presentation, to unmute your line **press *6**
- Via WebEx:



Select the chat icon next to the host and type question into the chat box.



Select the hand icon next to your name and you will be called on.



Agenda



Welcome – Wendy Nye, Co-Chair, MACAW



Background and Context – Wendy Nye, Co-Chair, MACAW



Incoming/Ongoing Measures and Tests – Eric Larson, AIRA



Clinical Decision Support (CDS) Assessment Thresholds and Validation – Eric Larson, AIRA



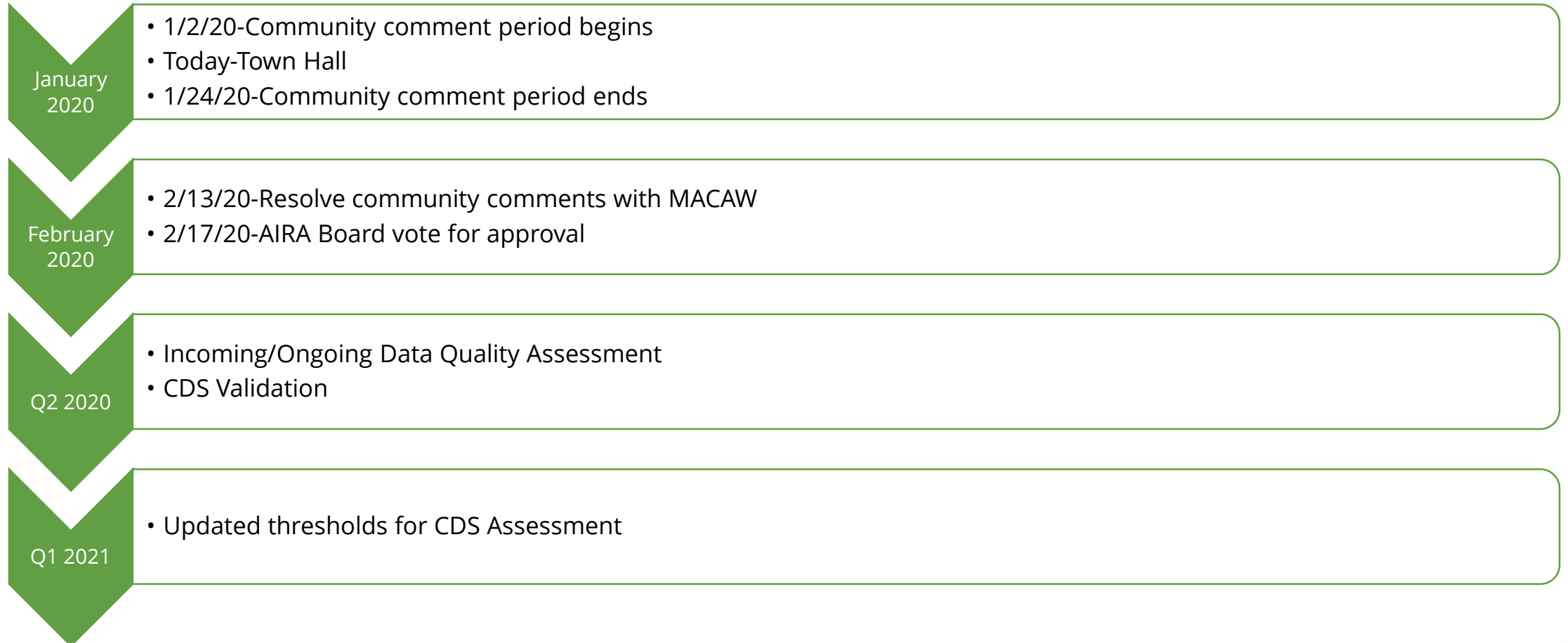
Questions/Discussion/Open Forum – All



Wrap Up – Wendy Nye, Co-Chair, MACAW



Timeline



Background and Context

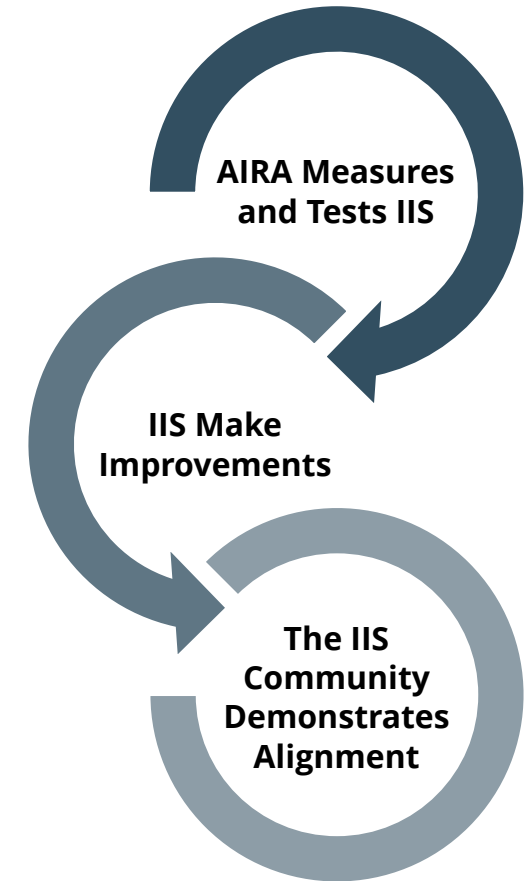
Wendy Nye



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
- All testing is conducted by AIRA staff, in large part through:
 - Connecting with test or pre-production systems
 - Submitting test messages
 - Analyzing returned messages



Who is Supporting This Process Along with AIRA?

MACAW

The Measurement for Assessment and Certification Advisory Workgroup, made up of IIS, Immunization Program Managers and Vendors

CDC

Centers for Disease Control and Prevention, our funders, supporters, and collaborators

NIST

National Institute of Standards and Technology, who collaborate with AIRA to develop tooling to support measurement

IIS and Imm Programs

IIS and Immunization Programs do the heavy lifting of analysis, planning, funding and implementation

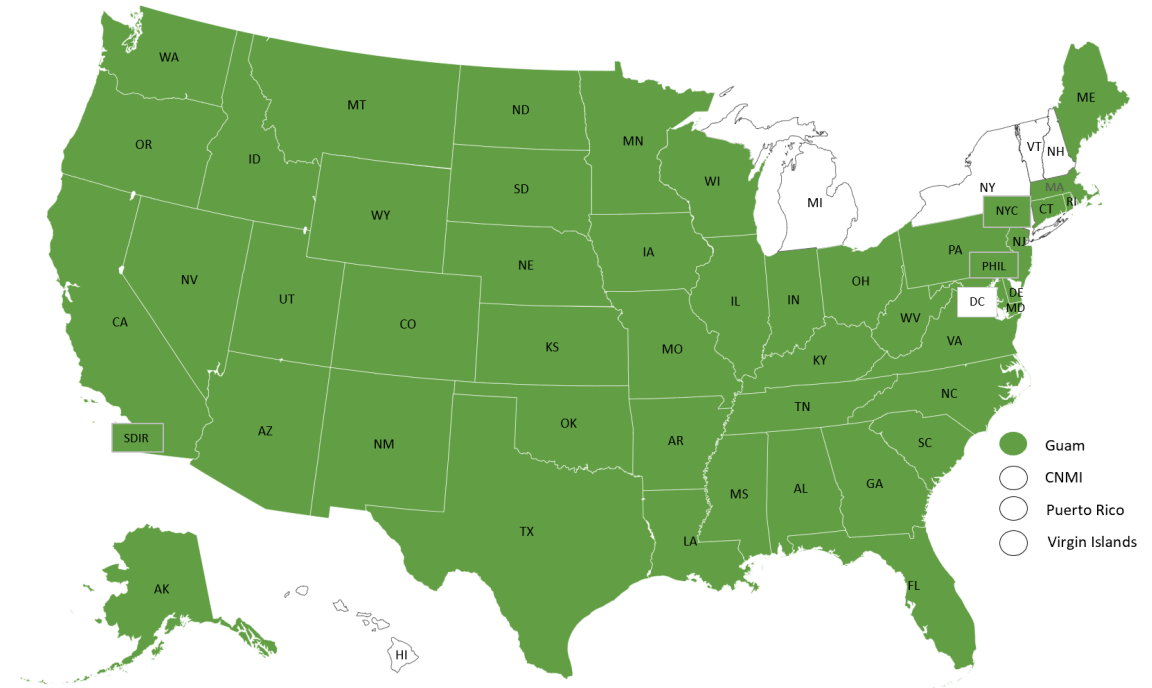
IIS Vendors

IIS Vendors support IIS and Immunization Programs in planning and implementation

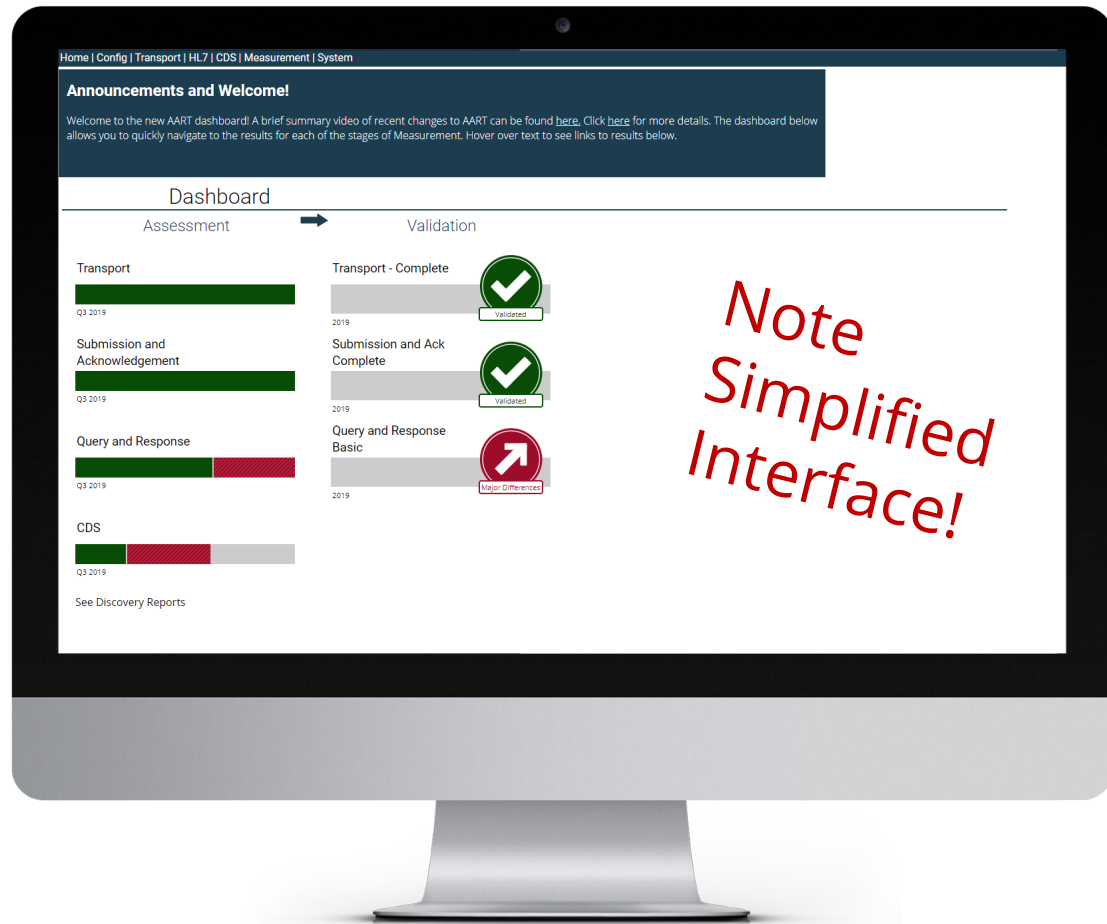


Thank You For Engaging With Us!

- 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



The AART Dashboard – Your Gateway To Data



Click to drill down to:

- Measure results and information
- Test case outcomes – expected and actual
- Historical perspectives
- Results from your peers who have shared their data and information



A Quick Reminder of the M&I Measure Development and Approval Process

Measures Created

MACAW Prioritizes,
Discusses and
Develops Measures



Measures Shared

Measures are Shared
with IIS Community
For Review and Input



**We Are
Here!**

Measures Refined, Updated

Comments are
Compiled, Measures
Updated, MACAW
Recommends Final
Measures to AIRA
Board



Measures Voted Upon

AIRA Board Votes
On Approval of
Measures



Content Area

Transport

**Submission /
Acknowledgment**

Query / Response

CDS

Data Quality

1

Testing & Discovery

Testing & Discovery

Testing & Discovery

Testing & Discovery

Testing & Discovery

2

Assessment

Assessment

Assessment

Assessment

3

Validation

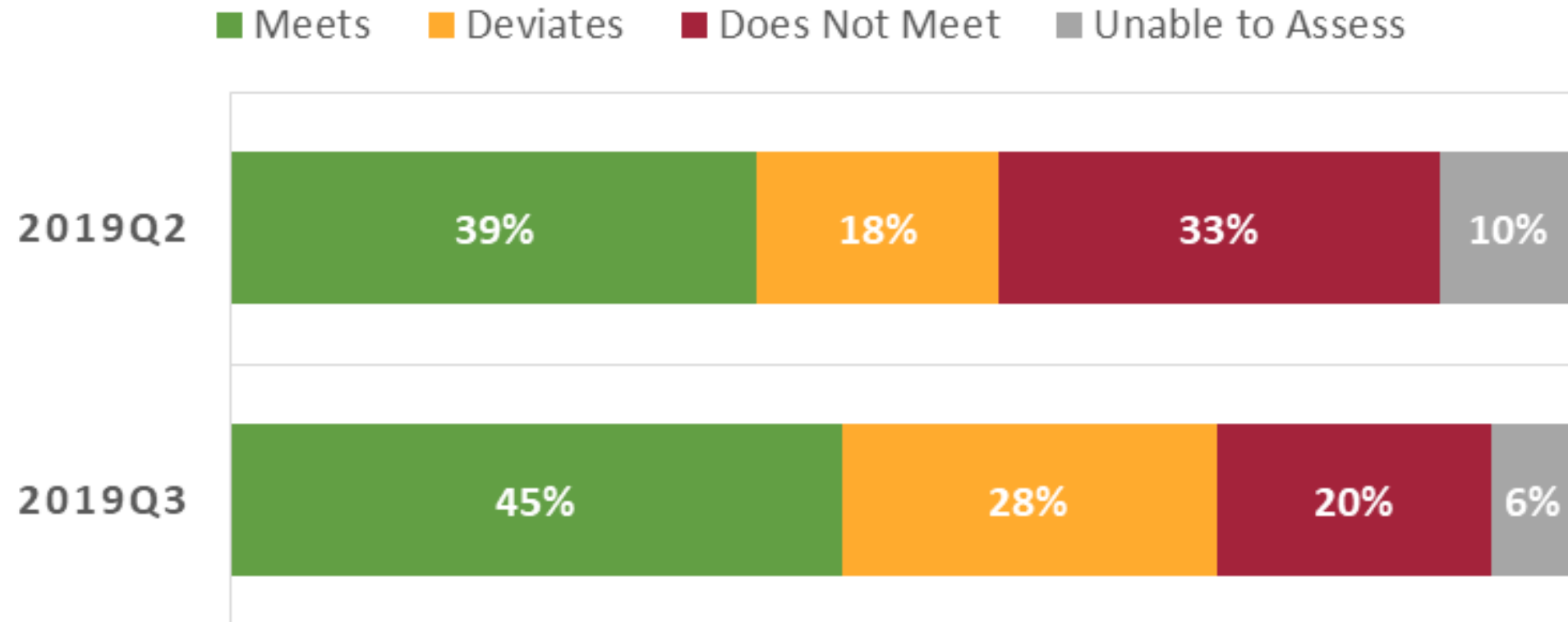
Validation

Validation

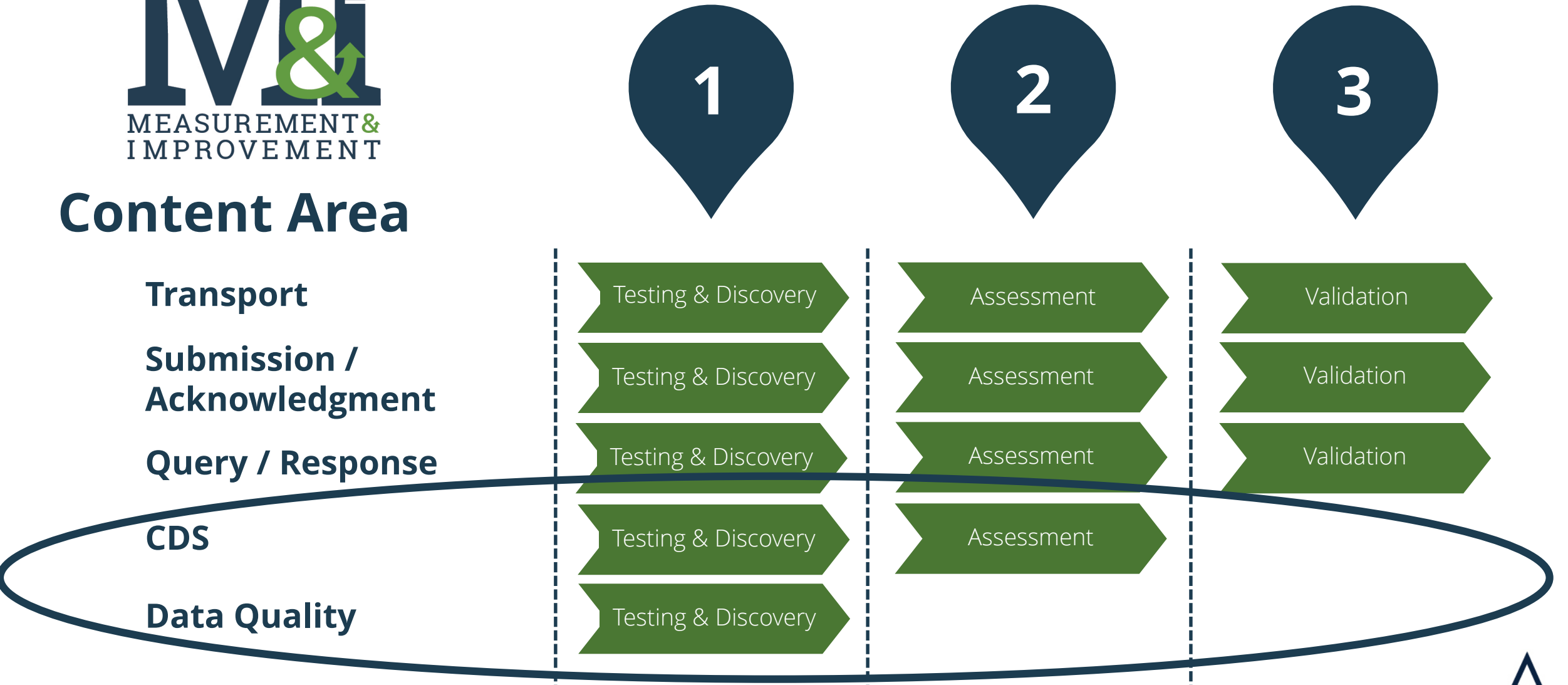


We're Seeing Quick Improvements!

CDS Data Improvement Within One Quarter:



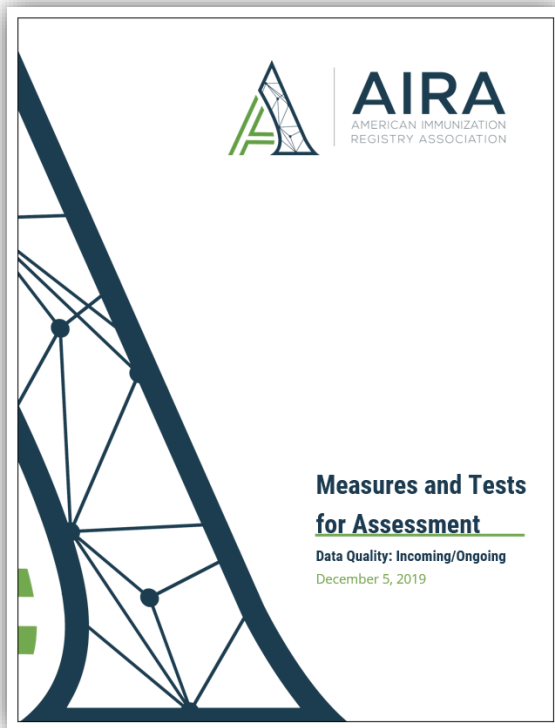
Content Area



Measures that Make Up Assessment Content Areas

Transport		<ul style="list-style-type: none">• 3 Measures
Submission/ ACK		<ul style="list-style-type: none">• 16 Measures – Includes 2 New Measures for NDC
Query/ Response		<ul style="list-style-type: none">• 8 Measures
CDS		<ul style="list-style-type: none">• 12 Measures
Data Quality		<ul style="list-style-type: none">• Incoming/Ongoing Data – 29 New Measures• Data at Rest - #TBD





Incoming/Ongoing Data Quality

New Content Area

Eric Larson

Content Area

Transport

**Submission /
Acknowledgment**

Query / Response

CDS

**Data Quality -
Incoming/ongoing**

1

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Validation



Incoming/Ongoing Data Quality

In Incoming/Ongoing Data we are ensuring that IIS can detect if trading partners (e.g., EHRs, pharmacies, etc.) are sending poor data



The Incoming and Ongoing Data Content Area Isn't Entirely New...



Incoming/Ongoing Data Quality Scope

- In Scope

- The IIS's ability to detect data quality issues on a per message basis
- The IIS's ability to retain and return vaccination events from submission to query without changing the meaning

- Out of Scope

- Data quality monitoring of multiple messages (e.g., percentage of records submitted with phone number)
- Patient or vaccine matching/deduplication algorithms
- Address hygiene/cleansing



Measure Breakdown

- CDC Endorsed Data Elements
 - 16 Measures for patient demographic data elements
 - 10 Measures for vaccination event data elements
- Additional Aspects of Data Quality
 - 3 Measures to ensure IIS retain and return vaccination events from submission to query without changing the meaning



Data Element Data Quality

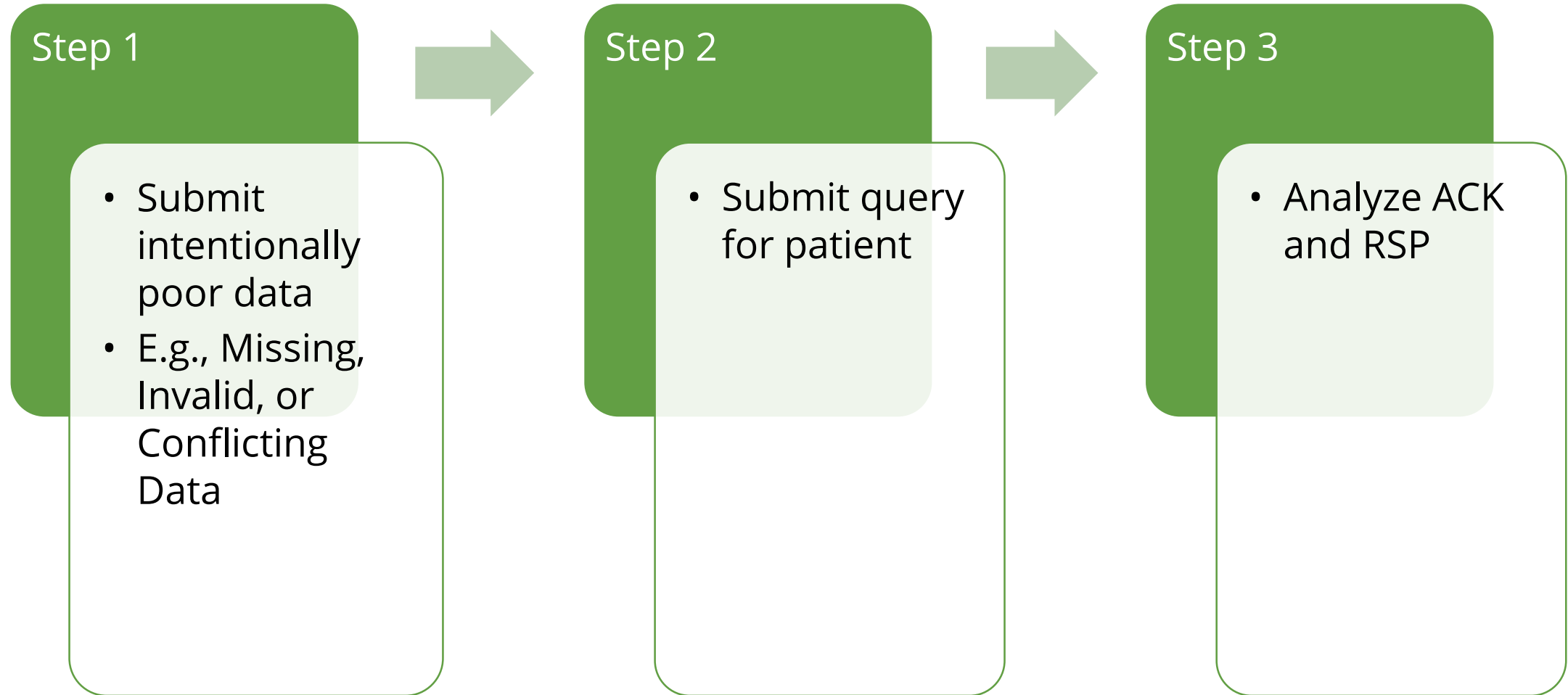
Example Measure

- The IIS detects data quality issues with the date of birth

Test Case	Expectation
DOB is missing	IIS detects data quality issue
DOB is in the future	IIS detects data quality issue
DOB is after vaccination date	IIS detects data quality issue
DOB is invalid (e.g., "yesterday")	IIS detects data quality issue



Measuring Data Element Data Quality



Data Element Data Quality Issues

- **Missing data:** These tests intentionally omit a data element and submit the record to the IIS.
 - e.g., The IIS detects the first name is empty
- **Invalid data:** These tests intentionally submit an illogical value and submit the record to the IIS.
 - e.g., The IIS detects the phone number has an invalid value of “no phone”
- **Conflicting data:** These tests intentionally submit HL7 messages per the HL7 Implementation guide, but the data within the message is illogical when compared against other data elements
 - e.g., The IIS detects the vaccination date is before the birth date



Patient Demographic Data Elements

- Patient name: first
- Patient name: last
- Patient date of birth
- Patient gender
- Patient ID
- Patient ID type
- Race
- Ethnicity
- Patient multiple birth indicator
- Patient birth order
- Patient address: zip code
- Patient address: state
- Patient address: country
- Patient telephone number
- Patient telephone number type
- Patient status indicator – provider level
- Responsible person name: first
- Responsible person name: last
- Responsible person relationship to patient



Vaccination Event Data Elements

- Vaccination administration date
- Vaccine product
- Vaccine manufacturer
- Vaccination event record type
- Vaccine expiration date
- Vaccine funding source
- Dose level eligibility
- Vaccine event ID
- Contraindications/precautions
- Contraindication/precaution observation date
- Exemptions/refusals
- Exemption/refusal date



Additional Aspects of Data Quality

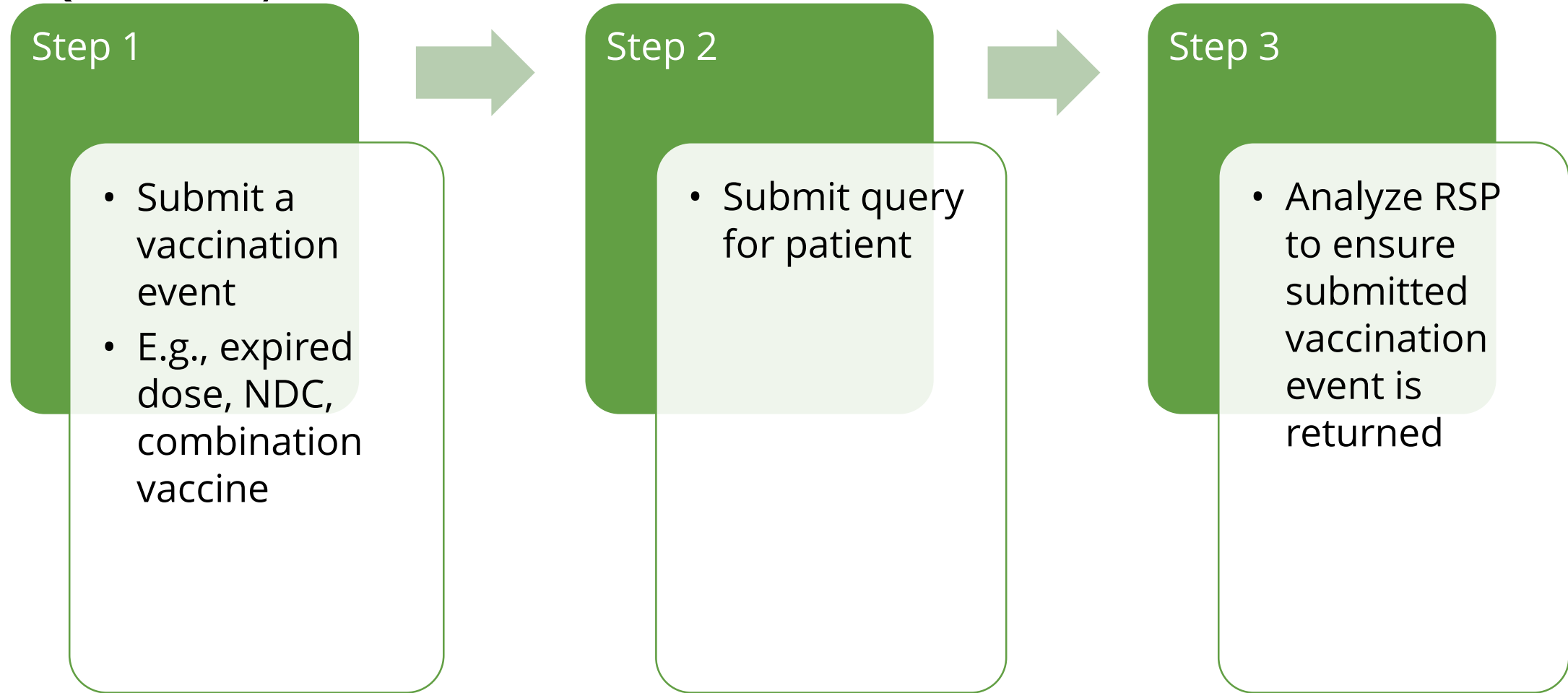
Example Measure

- The IIS returns critical information about a previously submitted vaccination event.

Test Case	Expectation
Submit vaccination event representing an expired dose was administered.	IIS returns the expired administration which includes the expiration date in the RSP.



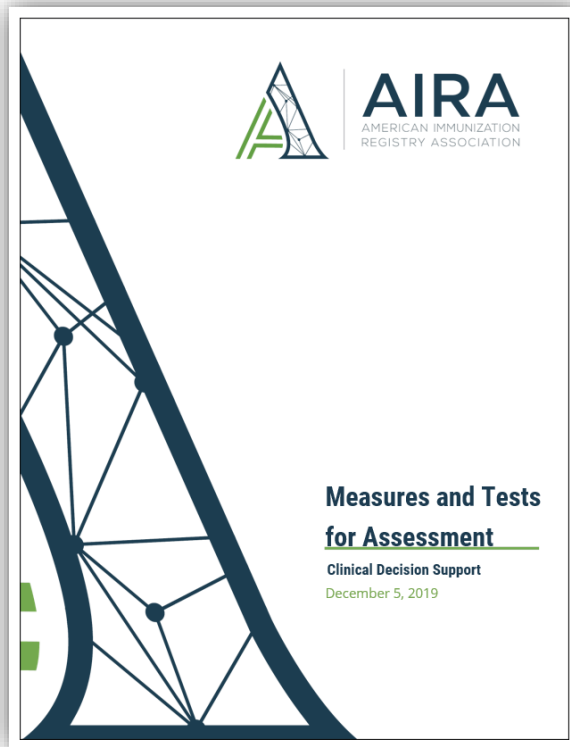
Measuring Additional Aspects of Data Quality



Additional Aspects

- IIS has the ability to map between coding systems (NDC to CVX)
- IIS returns critical information about a previously submitted vaccination event
- IIS returns the consolidated immunization history following an update





CDS Assessment

Updated Thresholds

Content Area

Transport

**Submission /
Acknowledgment**

Query / Response

CDS

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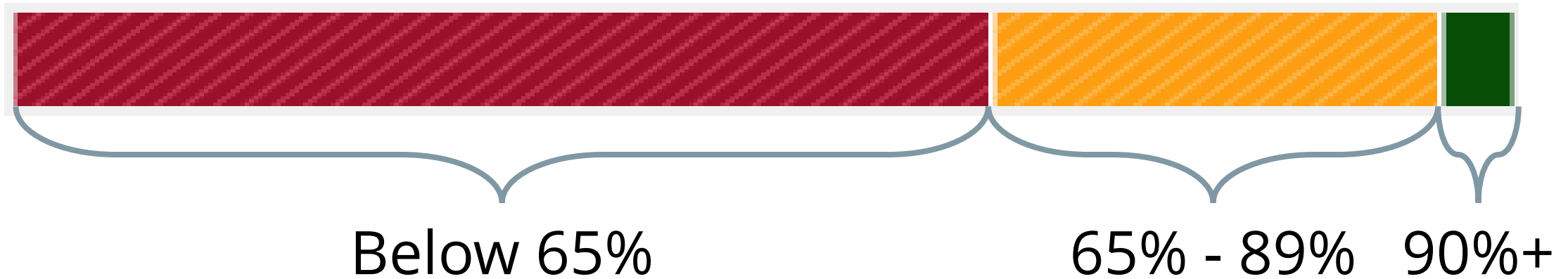
Validation

Validation

Validation



Current CDS Assessment Thresholds

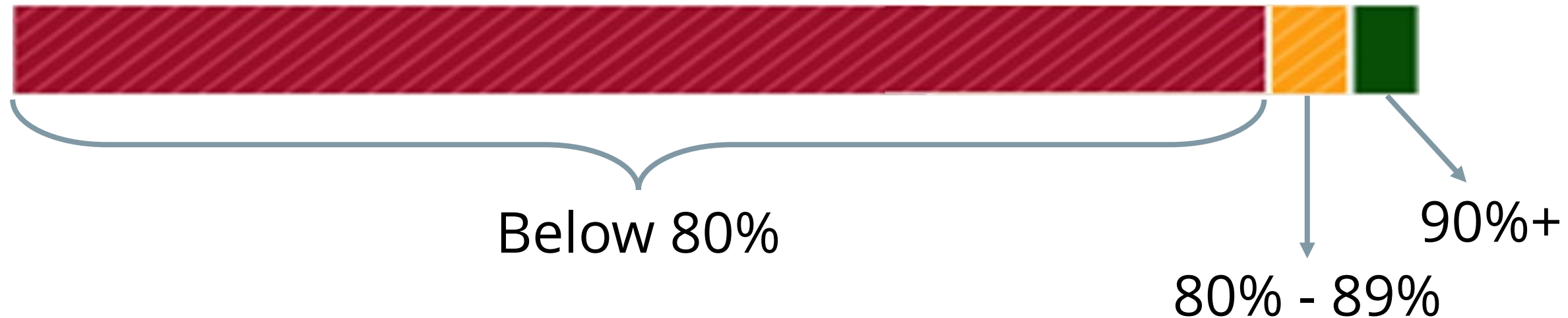


From CDS Assessment Measures Document - Appendix B

The expectation is thresholds will raise ... within 1 to 2 years as the community better aligns their CDSi algorithms with ACIP.



MACAW Recommends



- Starting in **Q1 of 2021**, the lower end of Deviates (yellow bar) will move up from 65% to 80%
- All other thresholds will remain as is



Reasons for Recommendation

Reasons to keep Meets at 90%

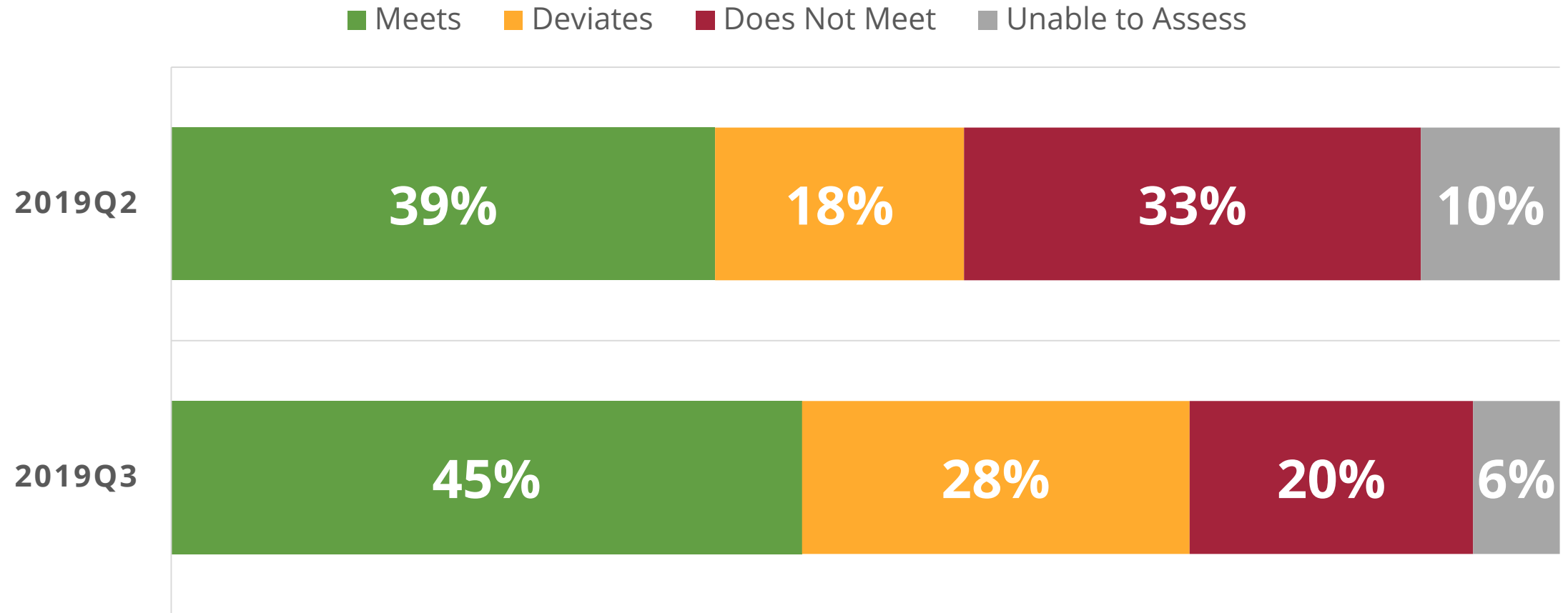
- **Denominator Challenges**
 - New or changed tests cases are removed for a single quarter
 - IIS merge vaccines and these test cases are removed from scoring to avoid false negatives
- **IIS may be ahead of CDSi test cases**
 - IIS may have the correct answer and CDSi may not have published updates yet This results in false negatives
- **Programs may have local policies**
 - At 90%, we can accommodate a couple local policies, but prevent endless “local policies”

Reasons to move Deviates up to 80%

- **After 1 quarter, IIS took action**
 - The second quarter of measurement saw positive movement; raising the bar will help ensure priority remains a focus on such a critical piece of IIS functionality.
- **Optics of 65%**
 - Ultimately, the community needs to be well above 65%. At present, an IIS can pass 65% of test cases and be assessed as Deviates

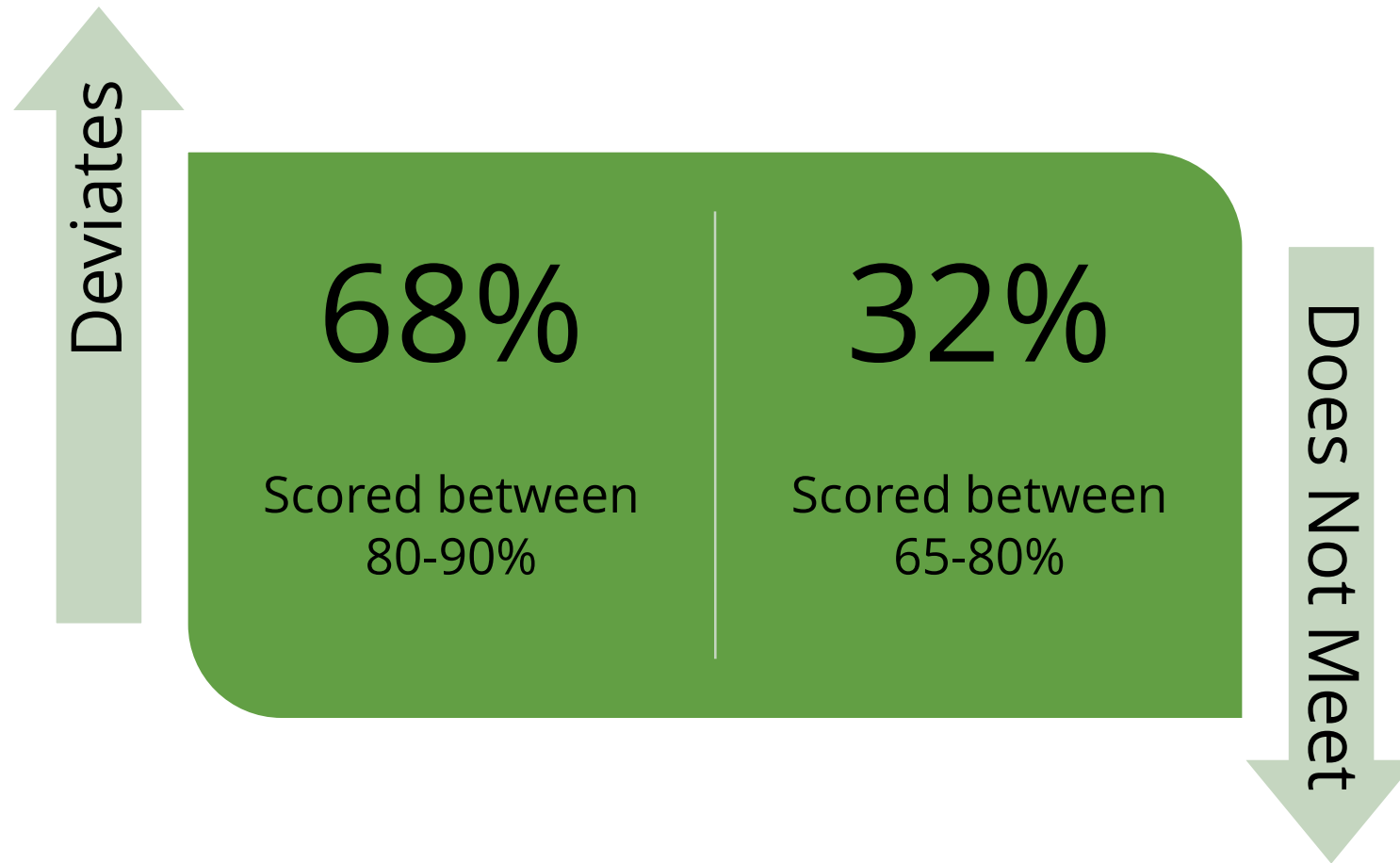


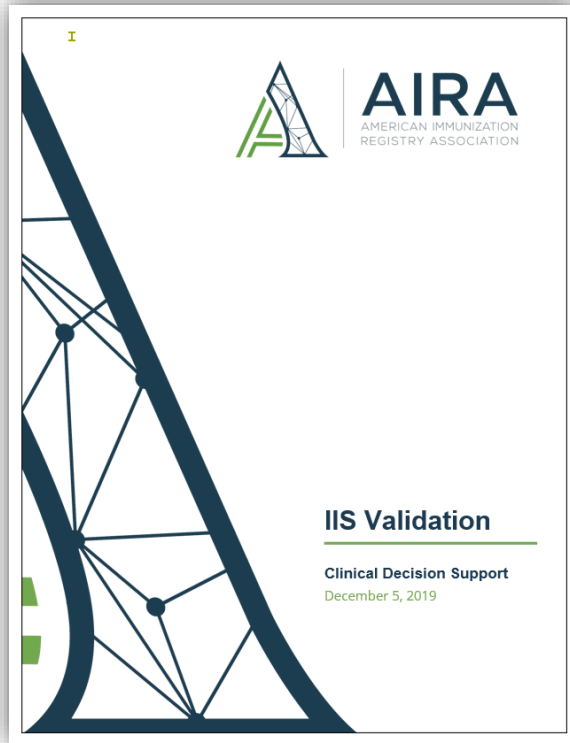
Measure Outcomes by Quarter



What's the Impact of This Change?

Based on Q4 2019 Preliminary Data





CDS Validation

Content Area

Transport

**Submission /
Acknowledgment**

Query / Response

CDS

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Validation



CDS Validation, Built from Assessment Measures

CDS Concept	Assessment Measure
Evaluation Status <i>Did the dose count?</i>	1) Supports Concept
	2) Pediatric Accuracy (0-6 years)
	3) Adolescent Accuracy (7-18 years)
	4) Adult Accuracy (19 years+)
Earliest Date <i>When could the next dose be given?</i>	5) Supports Concept
	6) Pediatric Accuracy (0-6 years)
	7) Adolescent Accuracy (7-18 years)
	8) Adult Accuracy (19 years+)
Recommended Date <i>When should the next dose be given?</i>	9) Supports Concept
	10) Pediatric Accuracy (0-6 years)
	11) Adolescent Accuracy (7-18 years)
	12) Adult Accuracy (19 years+)



Validation Levels

Validation has two levels

- **Basic Level:** A level of Validation measurement that includes only essential measures to functionally meet the content area.
- **Complete Level:** A level of Validation measurement that includes conformance to all measures approved for Validation.



Validation Levels

- Measures are used to define Basic and Complete Validation.

- For Example
in Query /
Response:

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


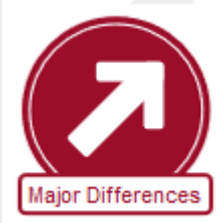




MACAW Recommends

CDS Concept	Assessment Measure	Basic Validation	Complete Validation
Evaluation Status <i>Did the dose count?</i>	1) Supports Concept		X
	2) Pediatric Accuracy (0-6 years)		X
	3) Adolescent Accuracy (7-18 years)		X
	4) Adult Accuracy (19 years+)		X
Earliest Date <i>When could the next dose be given?</i>	5) Supports Concept	X	X
	6) Pediatric Accuracy (0-6 years)	X	X
	7) Adolescent Accuracy (7-18 years)	X	X
	8) Adult Accuracy (19 years+)	X	X
Recommended Date <i>When should the next dose be given?</i>	9) Supports Concept	X	X
	10) Pediatric Accuracy (0-6 years)	X	X
	11) Adolescent Accuracy (7-18 years)	X	X
	12) Adult Accuracy (19 years+)	X	X



Validation Outcomes

Validation Status	Requirements
	The IIS Meets all measures.
	The IIS fails to meet the requirements for Validated.
	The IIS has communicated the willingness to be measured, but is not able to be tested at this time.
	The IIS has chosen not to be measured.



Questions/Discussion

Open Forum

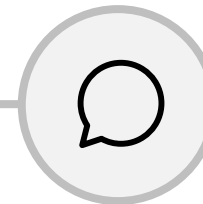
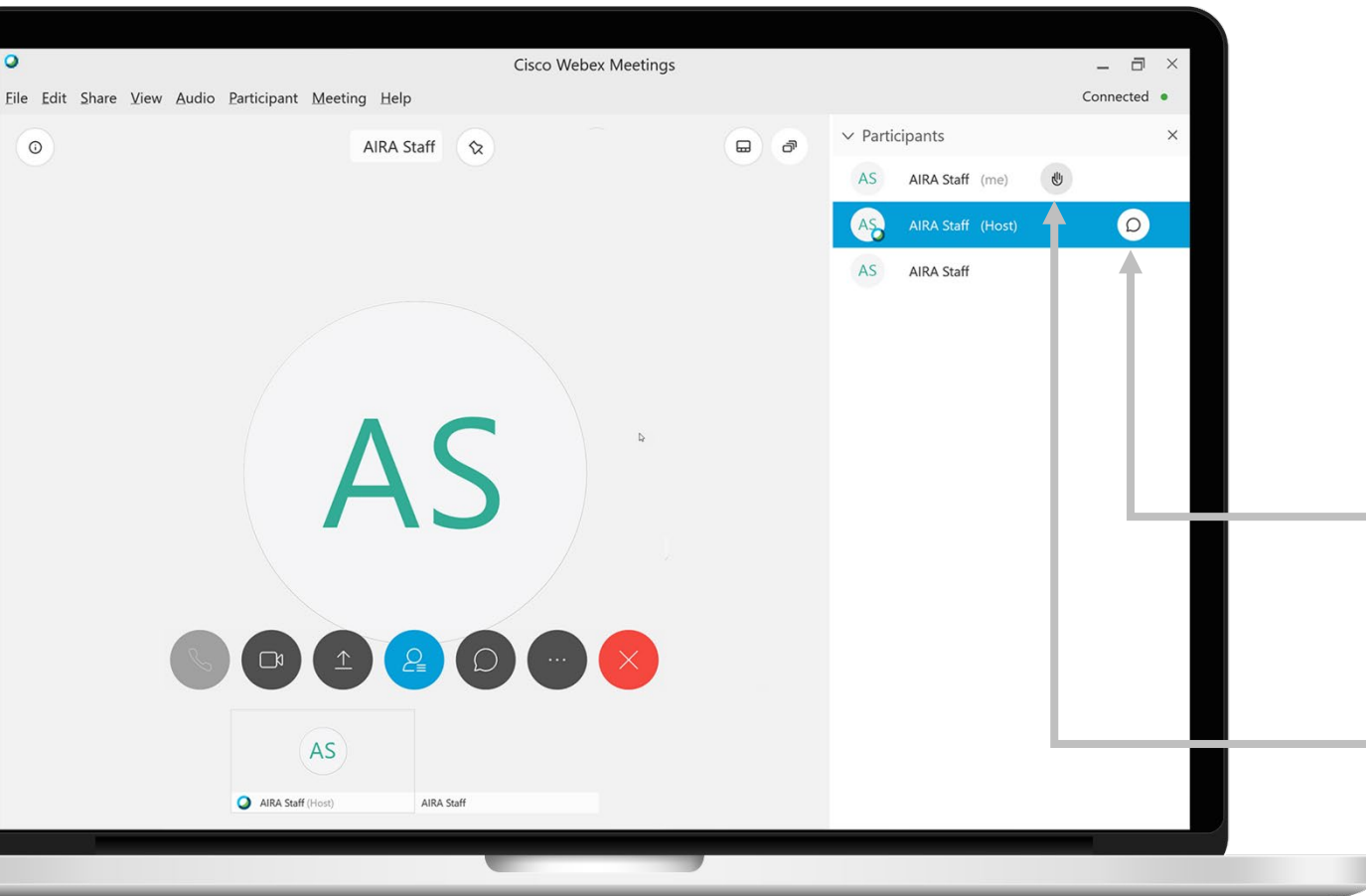
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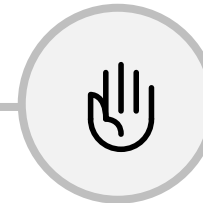
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Wrap Up/Next Steps

Wendy Nye

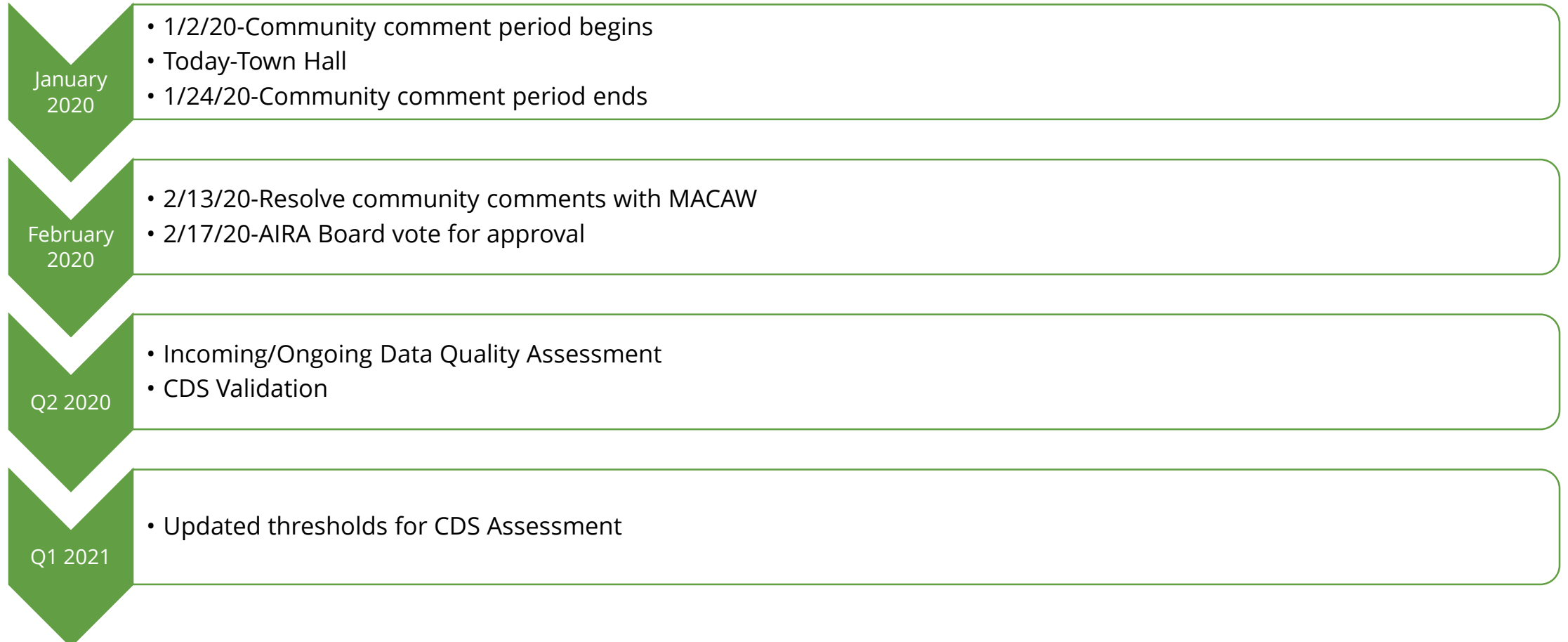


Community Review Needed

- **Incoming/Ongoing Measures and Tests (17 pages)** - This document describes the Assessment scope, method, and the measures and tests for the new Incoming/Ongoing Data Quality content area.
- **CDS Assessment Measures and Tests (only highlighted text)** - The only sections within this document that have been updated since the last Town Hall are highlighted and are related to the proposal to increase CDS thresholds starting in January 2021.
- **CDS Validation Measures and Tests (4 pages)** - This document describes the measures associated with basic and complete Validation levels for CDS. This document also has updated CDS threshold information.



Timeline



Thank you for joining us, for your input, and for your continued improvement work!

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Eric Larson: elarson@immregistries.org