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AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

IIS Measurement and Improvement: Connecting Immunization Information Systems (IIS) with EHRs to Reduce Burden and Improve Care

HIMSS Spring I&HIE Community Roundtable
April 10, 2019

What AIRA does

Purpose

Promote the development, implementation and interoperability of Immunization Information Systems

Collaborate

Provide a way to work collaboratively to develop standards, best practices, strategies and provide education about IIS

Measurement & Improvement

Identify the key aspects of an IIS that can be evaluated and measured
Provide technical assistance to IIS programs to foster improvement

Support

Support IIS and immunization programs through education, targeted assistance, and advocacy

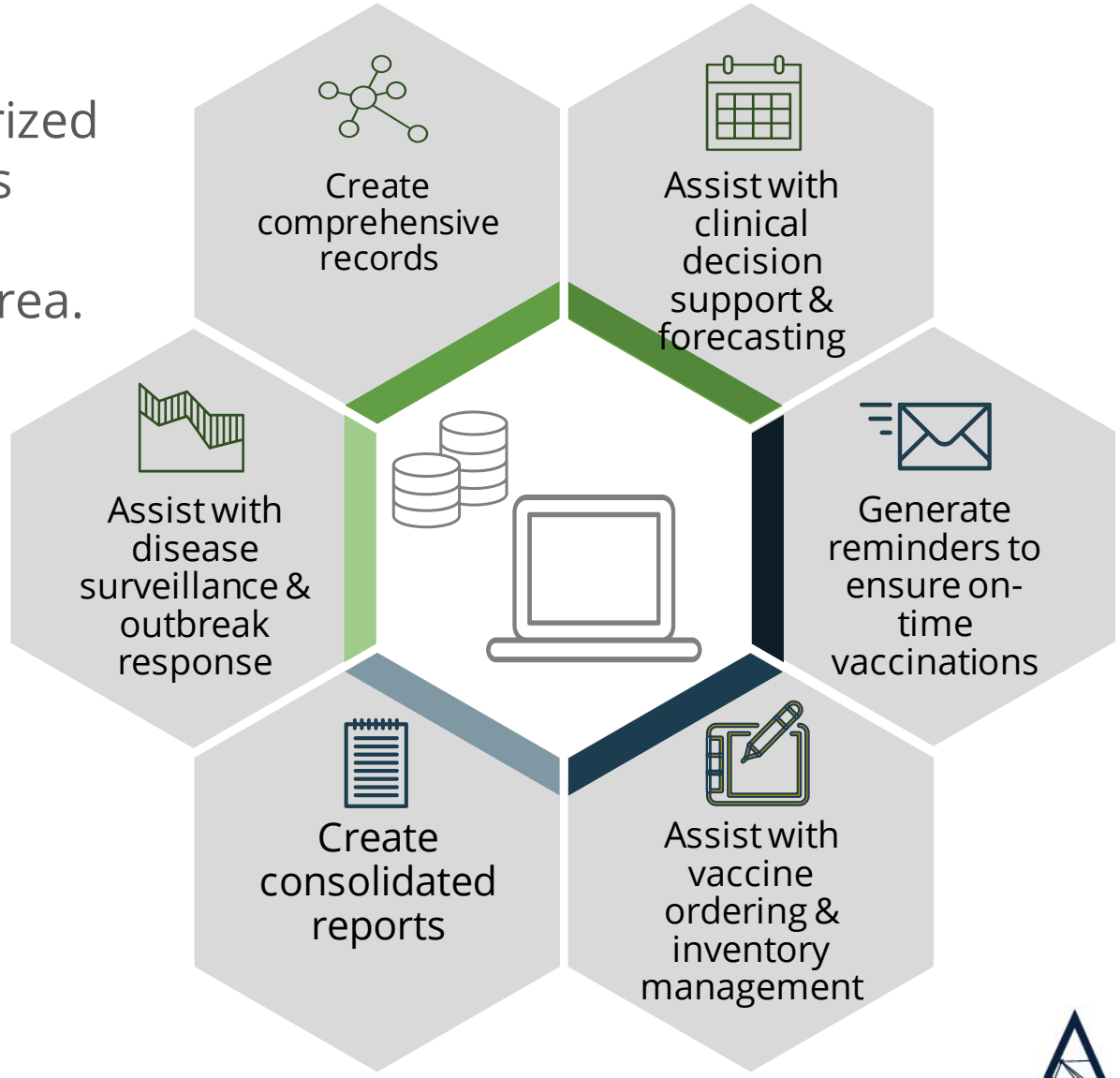
What are Immunization Information Systems (IIS)?

Hint – they are immunization registries, but so much more

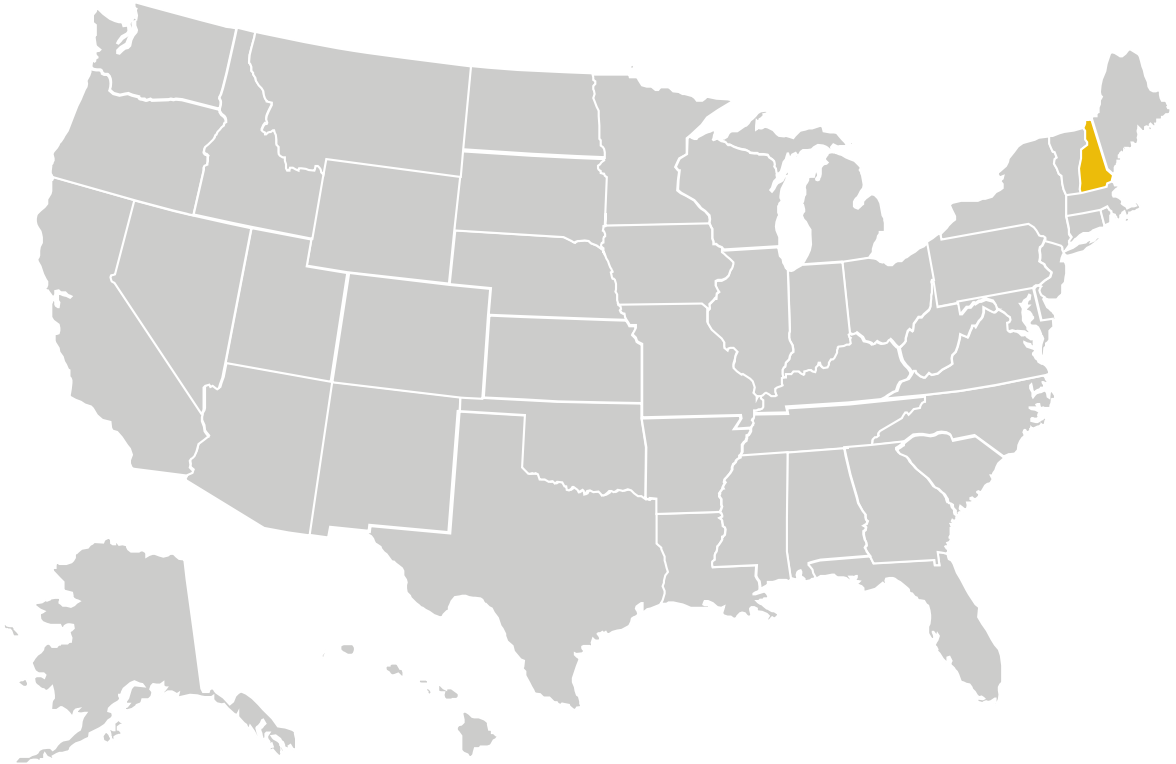
IIS…

are confidential, population-based, computerized databases that record all immunization doses administered by participating providers to persons residing within a given geopolitical area.

- Confidential
- Population-based
- Identify pockets of need
- Exchange data with multiple providers
- Assist schools & child care providers
- Help improve vaccination rates & Reduce vaccine-preventable disease



Where are IIS located?



All but one state operate an IIS

IIS are also in:

- New York City
- Philadelphia
- San Antonio
- Washington D.C.
- San Diego
- Imperial County
- San Joaquin County (RIDE)

- American Samoa
- Guam
- Marshall Islands
- Micronesia
- North Mariana Islands
- Palau
- Puerto Rico
- U.S. Virgin Islands

IIS…Capture the vaccination status of the population

Children <6

Percentage of children <6 participating in an IIS in the United States - 2017

Adolescents 11-17

Percentage of adolescents 11-17 participating in an IIS in the United States - 2017

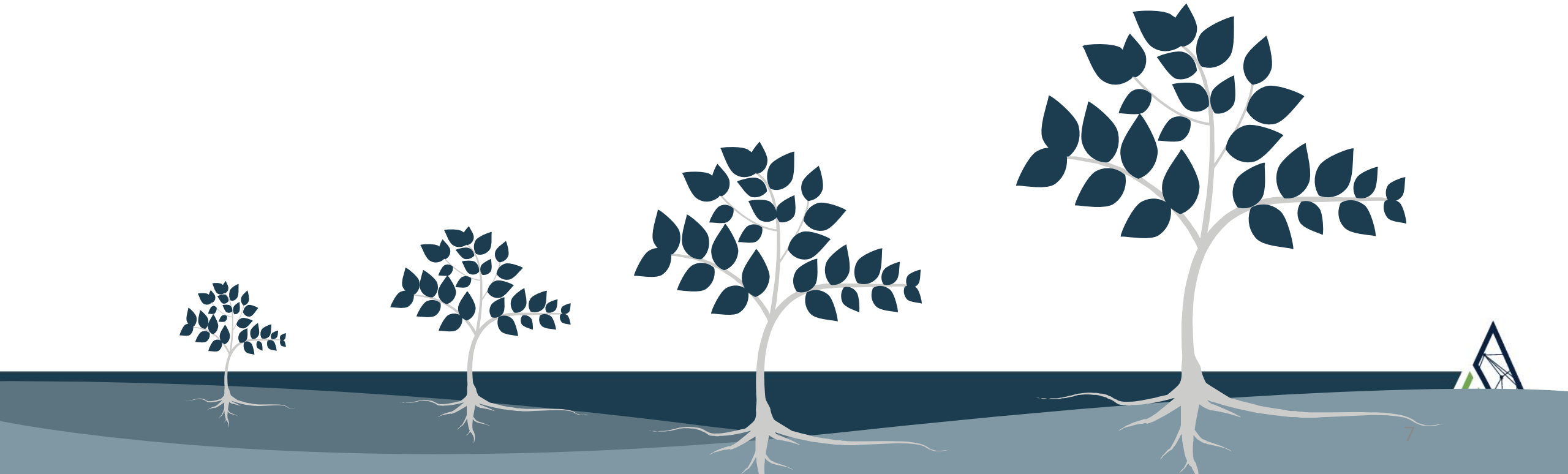
Adults

Percentage of adults greater than or equal to 19 years of age participating in an IIS in the United States - 2017

IISAR https://www.cdc.gov/vaccines/programs/iis/annual-report-iisar/rates-maps-table.html

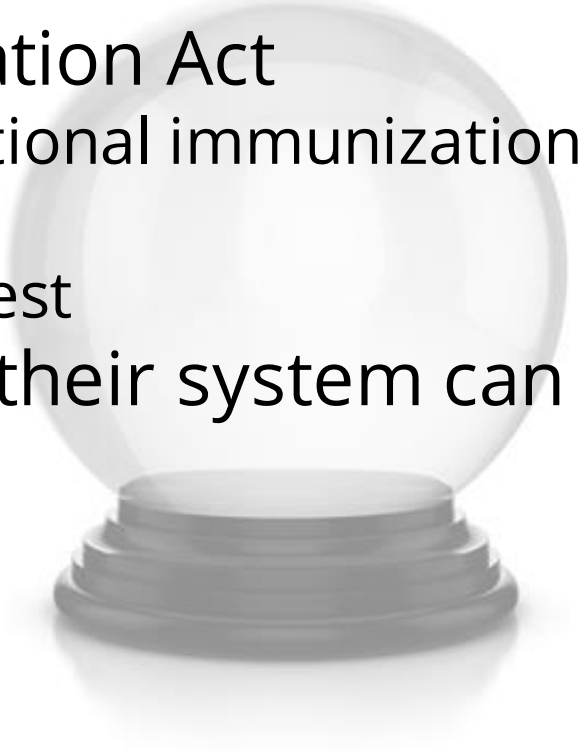
Maturity

- Each system operates independently
- Newest IIS is planning to launch in late 2019
- Oldest have been in existence for 30+ years



Why isn't there a national registry?

- 1993: Congress rejected national IIS provisions in the Comprehensive Child Health Immunization Act
  - As introduced, it would have created a national immunization registry
  - Derailed amid a firestorm of political protest
- 10th Amendment – states dictate what their system can and cannot do



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Measurement and Improvement

M&I
MEASUREMENT & IMPROVEMENT

Value of IIS Measurement and Improvement

- Increases IIS function and helps streamline data in/data out operations
- Providers/end users can trust the data they use for clinical decision support
- Public and private health partners (Medicaid, Accountable Care Organizations, EHR hubs, etc.) can be confident in data used population-based assessment
- M&I helps the IIS community prioritize and accelerate essential improvements together

MEASUREMENT & IMPROVEMENT

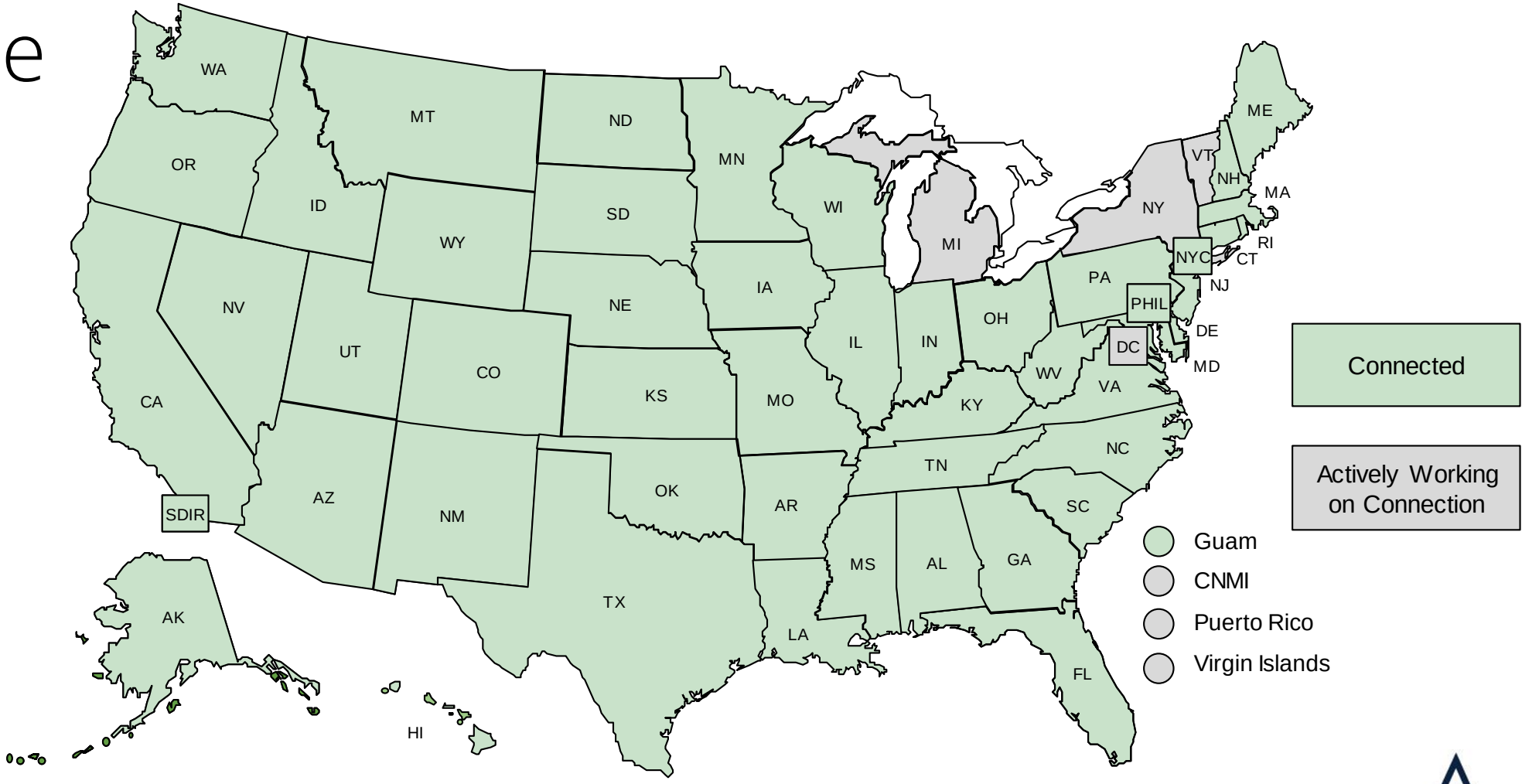
Content Area

	1	2	3
Transport	Testing & Discovery	Assessment	Validation
Submission / Acknowledgement	Testing & Discovery	Assessment	Validation
Query / Response	Testing & Discovery	Assessment	Validation
CDS	Testing & Discovery	Assessment	
Data Quality	Testing & Discovery		

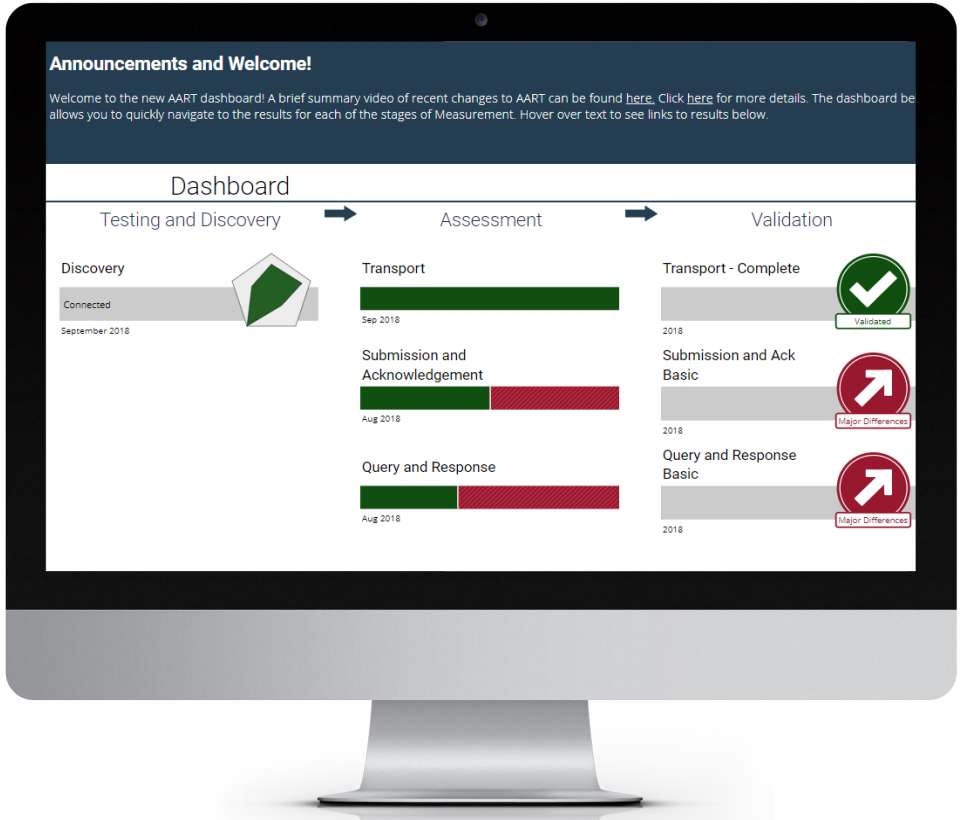
Measurement and Improvement: Validation

Validation is a public-facing summary stage to acknowledge IIS that are progressing toward or achieving alignment with community-selected measures.

Great Participation Nationwide



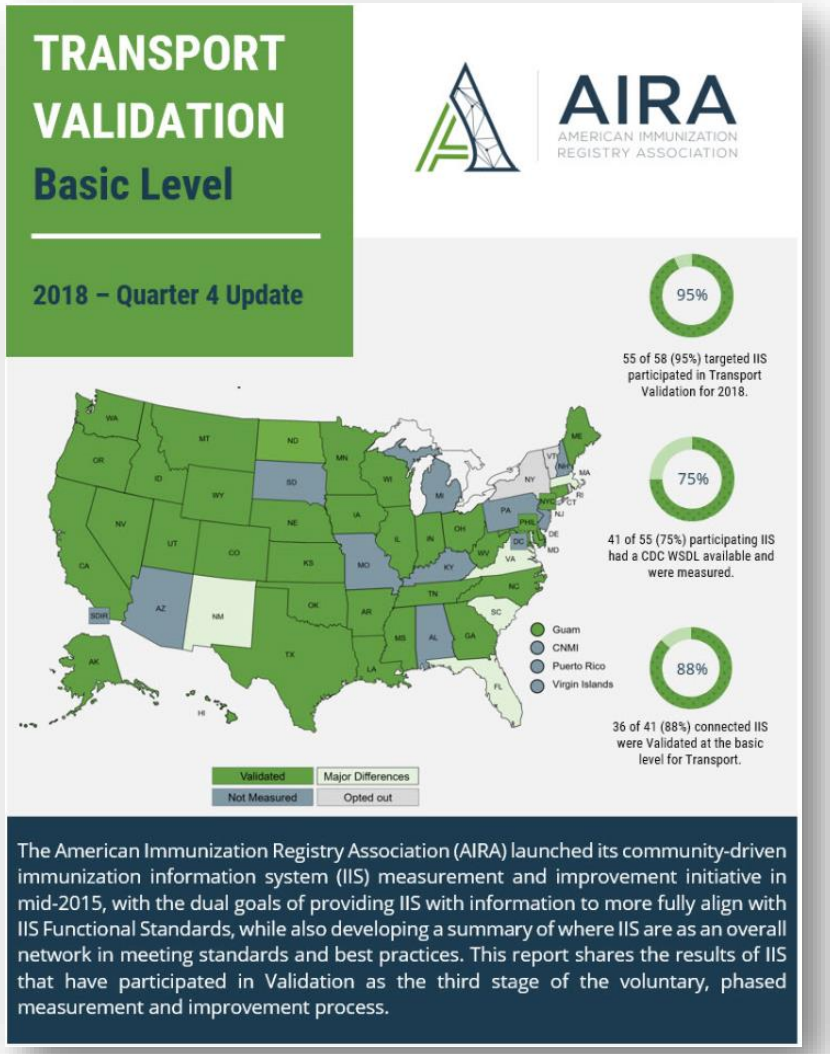
Aggregate Analysis Reporting Tool (AART)



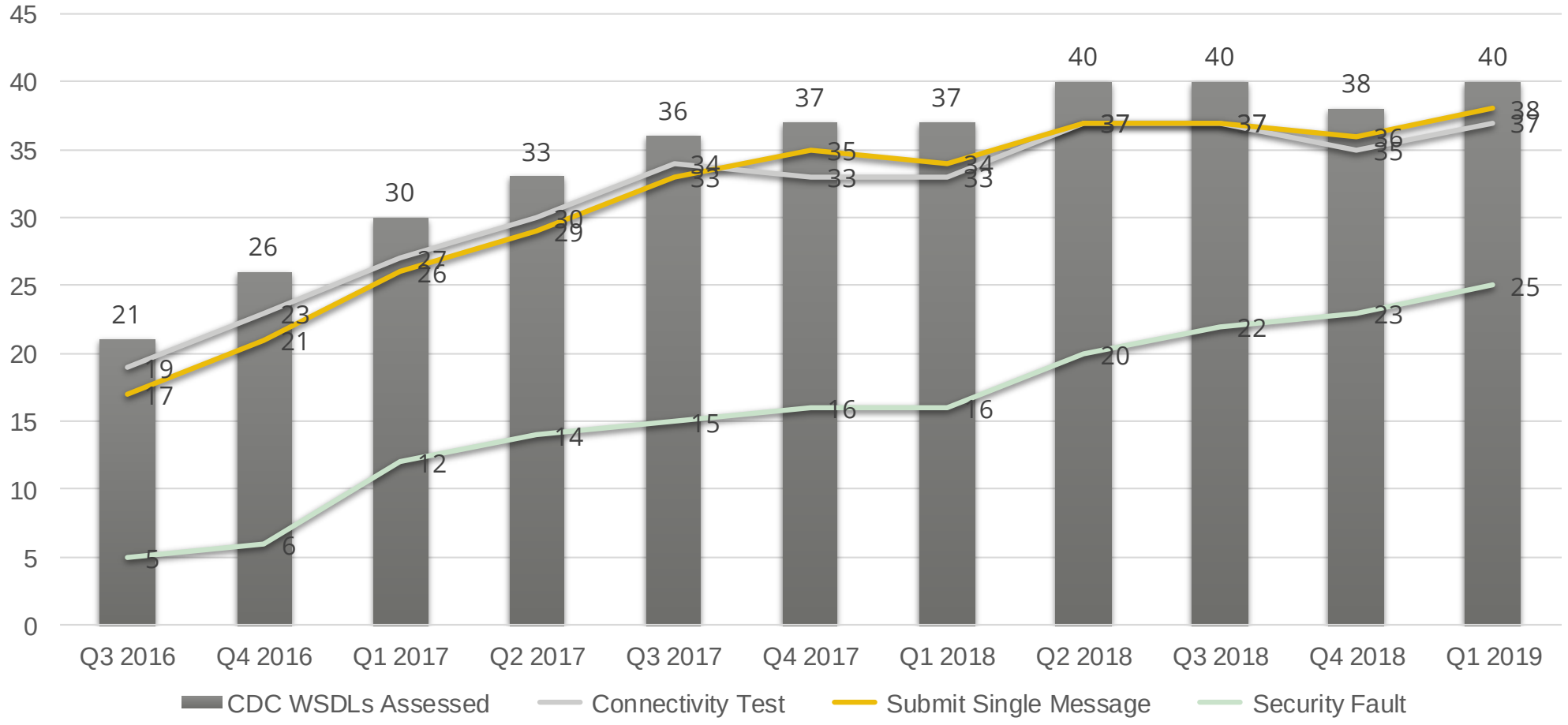
- AIRA Developed Measurement Tool
- Testing is performed on a regular basis
- Each IIS has a Dashboard of their individual results
- Quarterly National Aggregate Reports are developed and published

Nationwide Validation Reports – Now Available

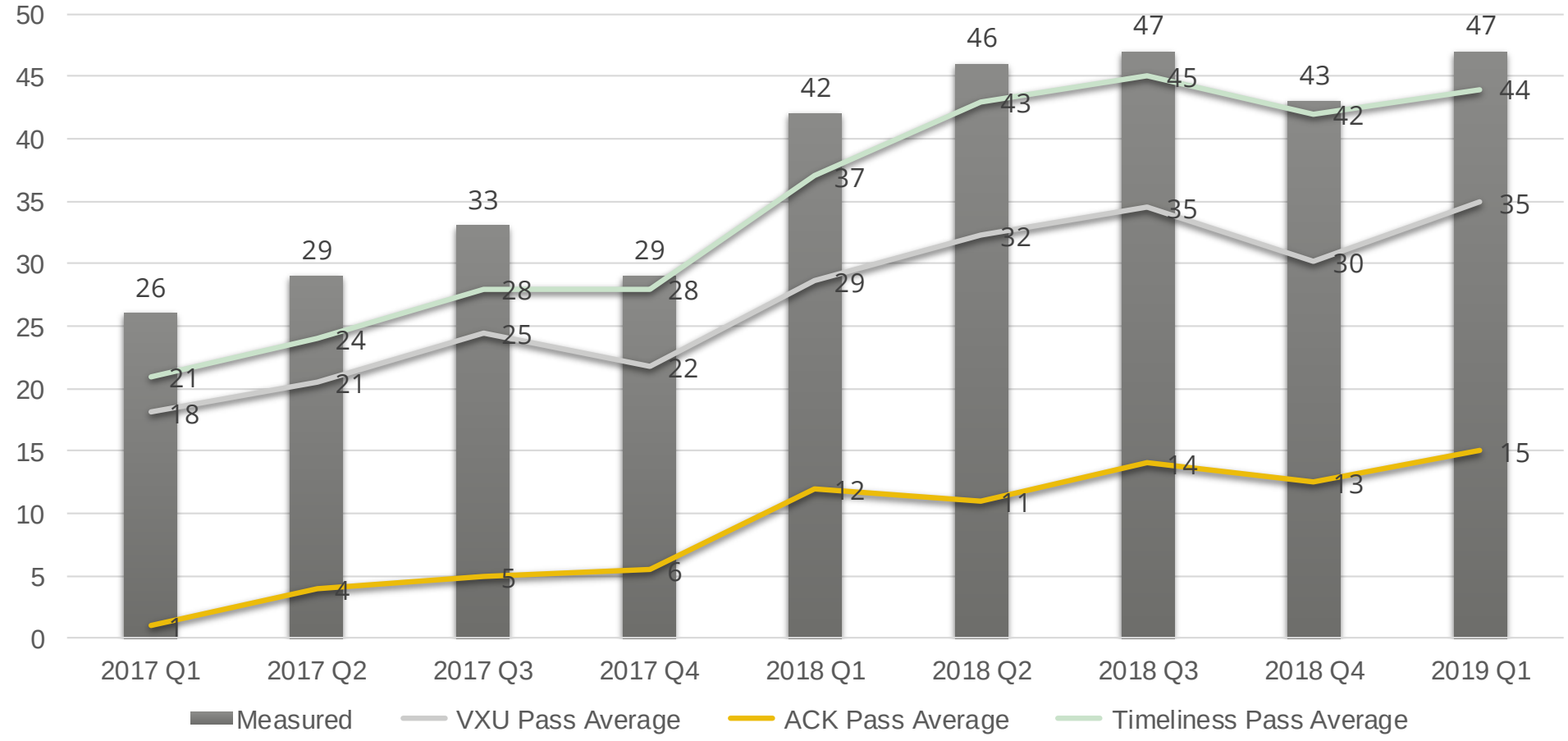
- Gradations of “validated with minor differences” and “major differences” to better demonstrate incremental progress.
- Quarterly identified maps with gradations and footnotes that clarify policy differences.



Assessment Results: Transport



Assessment Results: Submission and Acknowledgement



Query and Response – Huge Value

"The Minnesota IIS saves us time. With the click of a button, we can compare the EHR and IIS records. We rely on the Minnesota IIS to make sure that our immunizations are given correctly."

Query

Response

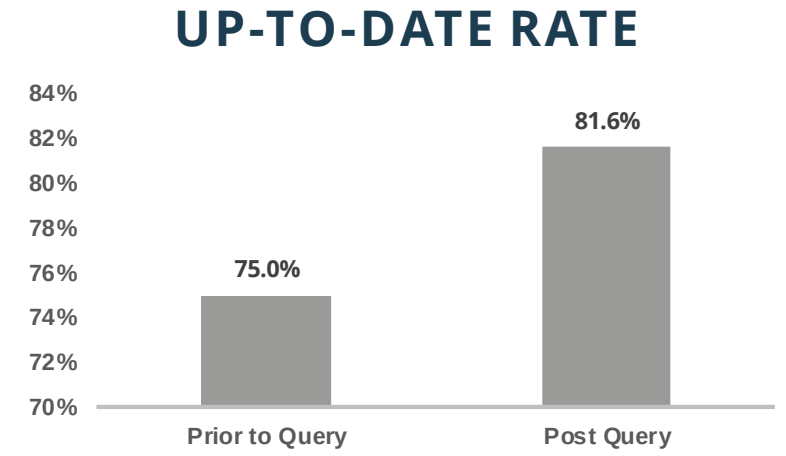
Drilling Down on EHR-IIS Query – Why Is It Important?

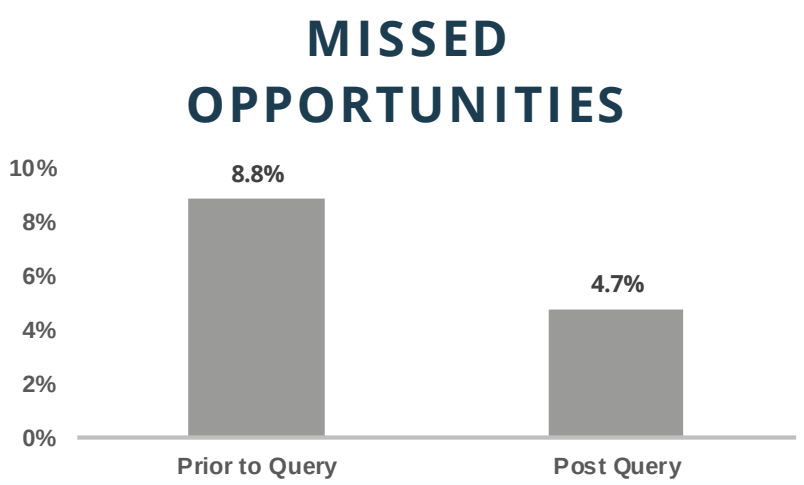
- EHR-IIS query is available in the majority of IIS jurisdictions nationwide
- Results demonstrate progress toward standardization and adoption of query
- Coupled with EHR adoption of certified technology, **this will speed up onboarding and interoperability substantially**

"Our best defense against missed immunization opportunities is the ability to conduct an Immunization Query. Our bi-directional interface with our state immunization database has put accurate immunization history and the current CDC recommendations based on that history at our clinicians fingertips."

Drilling Down on EHR-IIS Query – Why Is It Important?

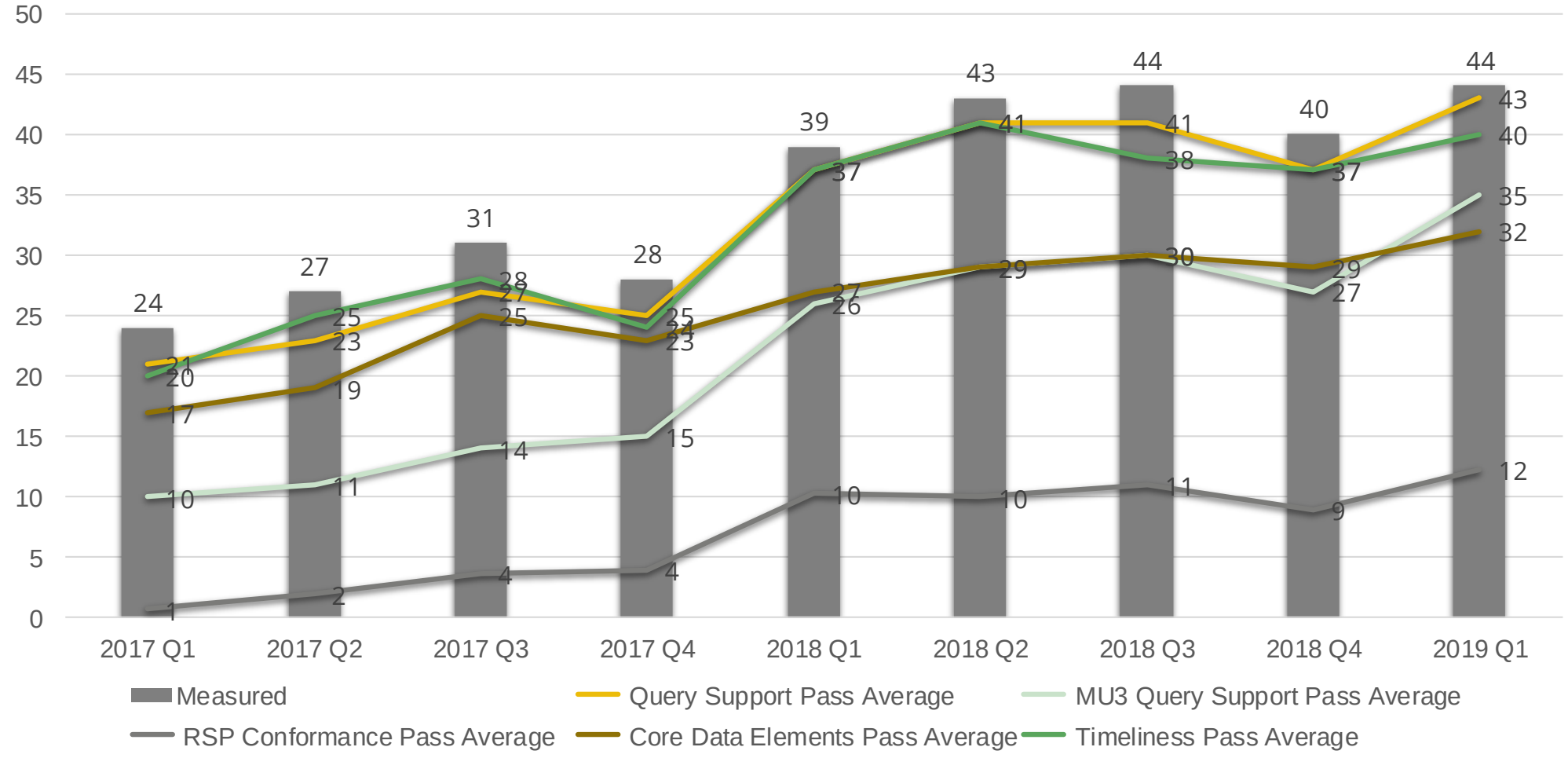
A 2016 study in the journal Pediatrics demonstrated an **increase in up-to-date status** and a **decrease in missed opportunities** following implementation of query





Stockwell et al., Pediatrics, 2016

Assessment Results: Query and Response



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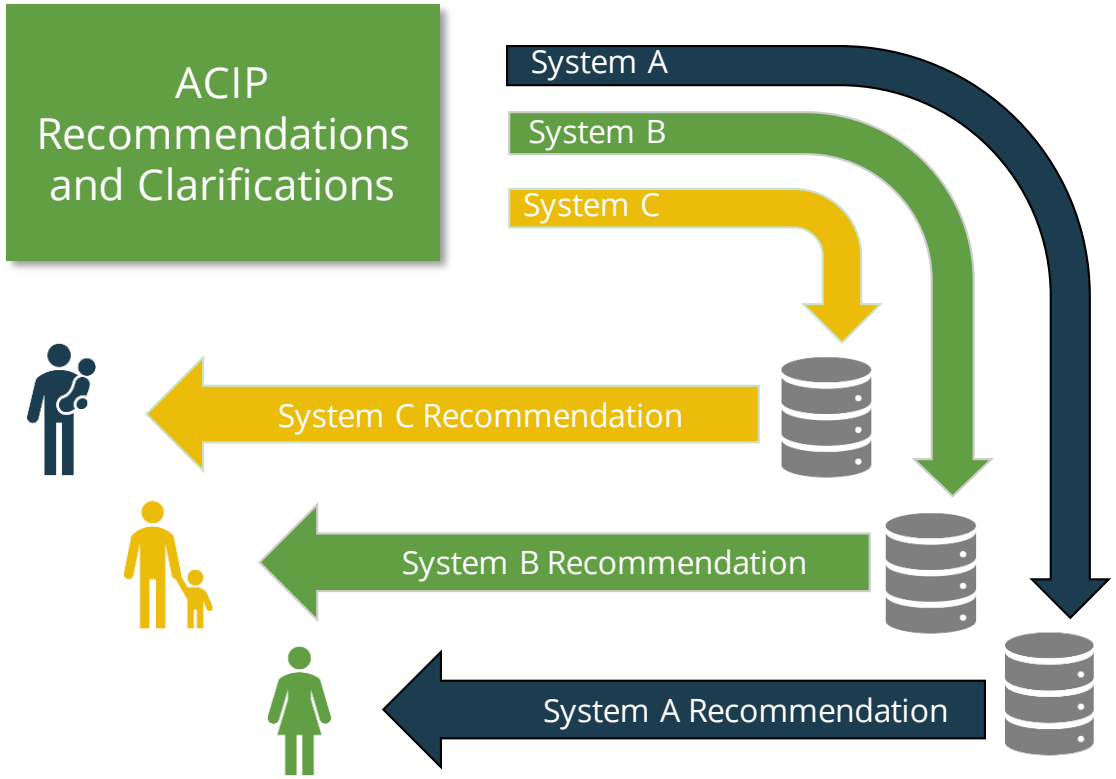
Clinical Decision Support

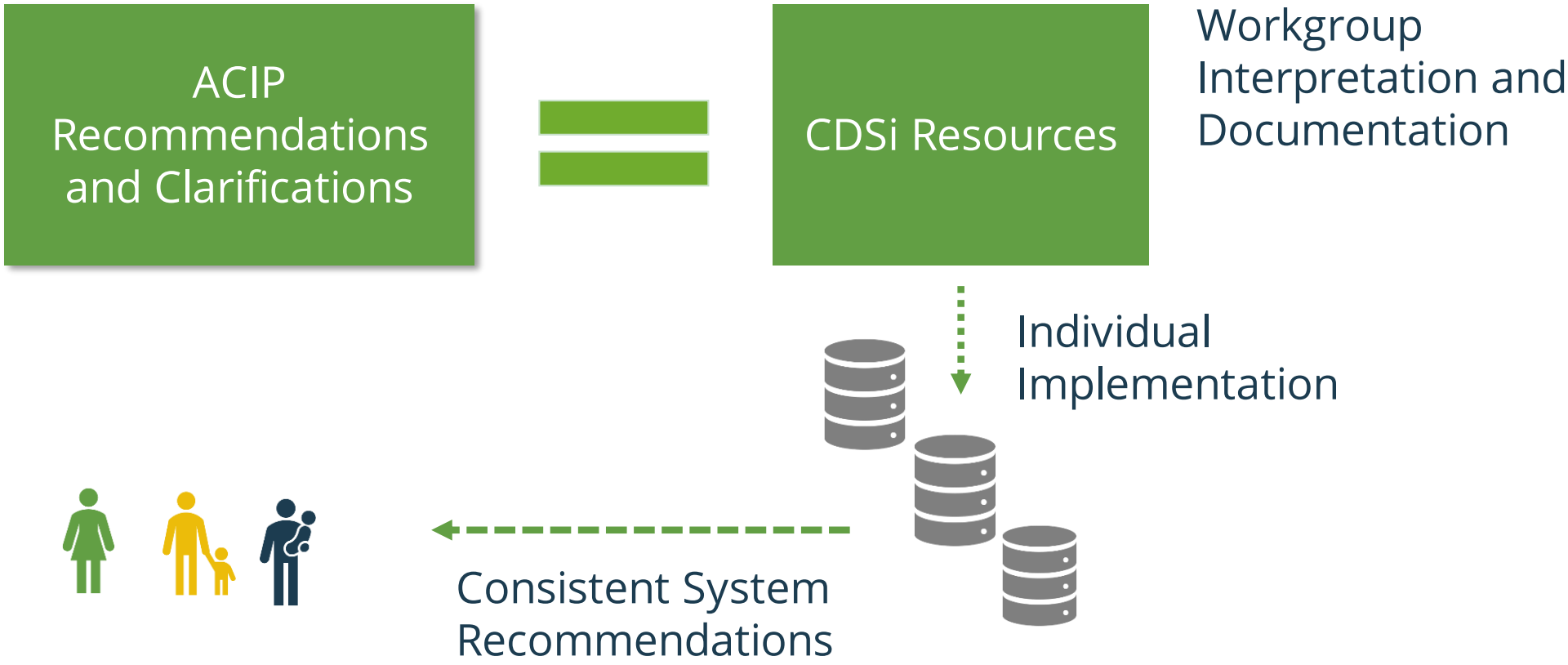
Before CDSi



Individual Interpretation And Implementation

https://www.cdc.gov/vaccines/programs/iis/cdsi.html

With CDSi

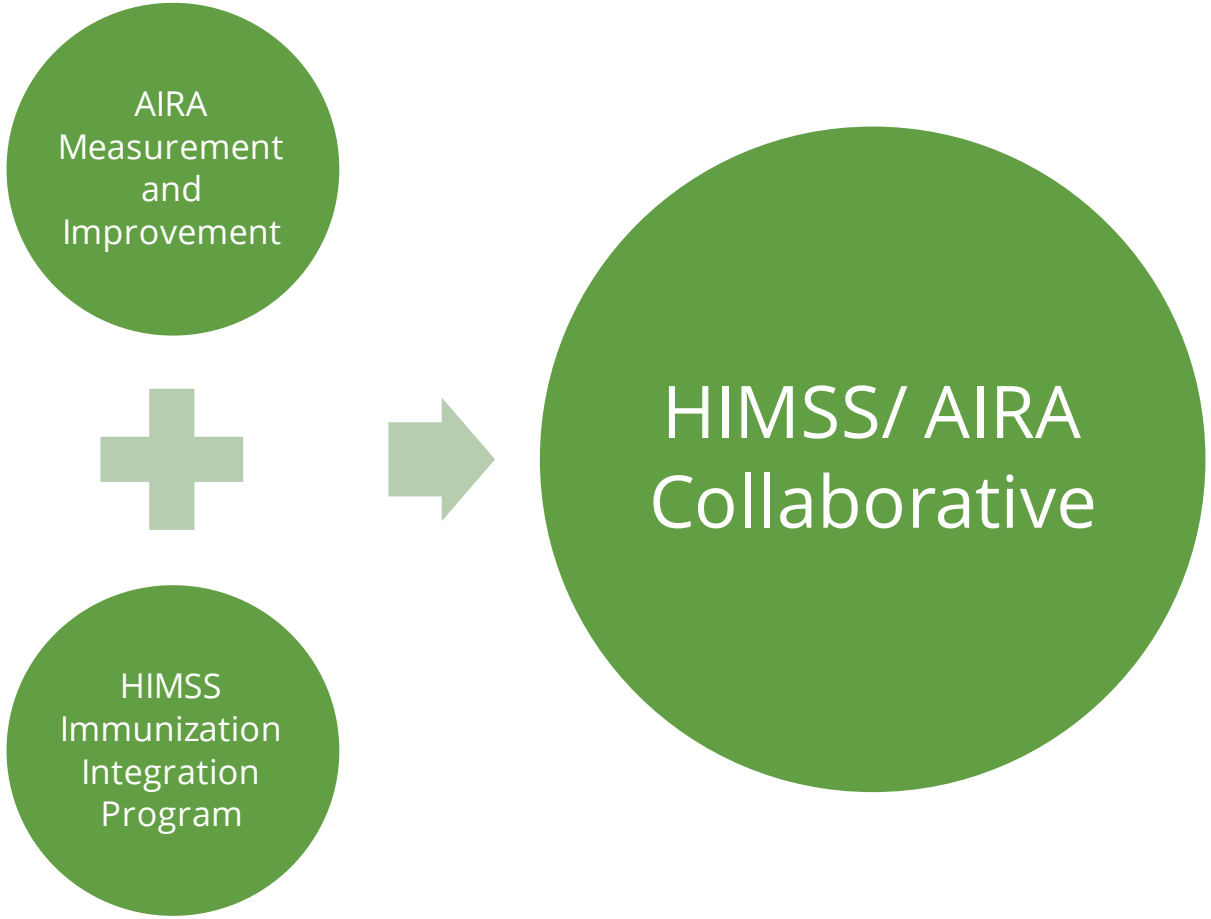


https://www.cdc.gov/vaccines/programs/iis/cdsi.html

CDS Measures

CDS Concept	Supports	Accuracy
Evaluation Status *Did the dose count?*		Pediatric Adolescent Adult
Earliest Date *When could the next dose be given?*		Pediatric Adolescent Adult
Recommended Date *When should the next dose be given?*		Pediatric Adolescent Adult

HIMSS/AIRA Collaborative



For more information:
ImmunizationCollaborative@himss.org

Goals of the HIMSS/AIRA Collaborative

- Improve immunization management, workflow, standards, usability and data sharing practices
- Harmonize communications to achieve structured data sharing to support clinical care and public health
- Enable collaboration between organizations that can implement necessary changes (in EHRs or IIS, and/or in the standards that support them)
- Build on the work of the HIMSS Immunization Integration Program

In Summary

Standardization activities have directly improved interoperability with EHRs and IIS, as well as improved the quality of data within IIS

This has strengthened IIS as important analytic tools that support a wealth of population health needs

Providers can access these data seamlessly through EHR query at the point of care, supporting clinical decisions, ensuring appropriate immunization, and lowering burden

Acknowledgements

- Thank you to:
  - The AIRA Measurement for Assessment and Certification Advisory Workgroup (MACAW) Members for their work in recommending concepts and measures
  - The AIRA Board of Directors for approval of measures and oversight of the process
  - All IIS and EHRs for doing the hard work to implement and improve interoperability and functionality

Thank You!

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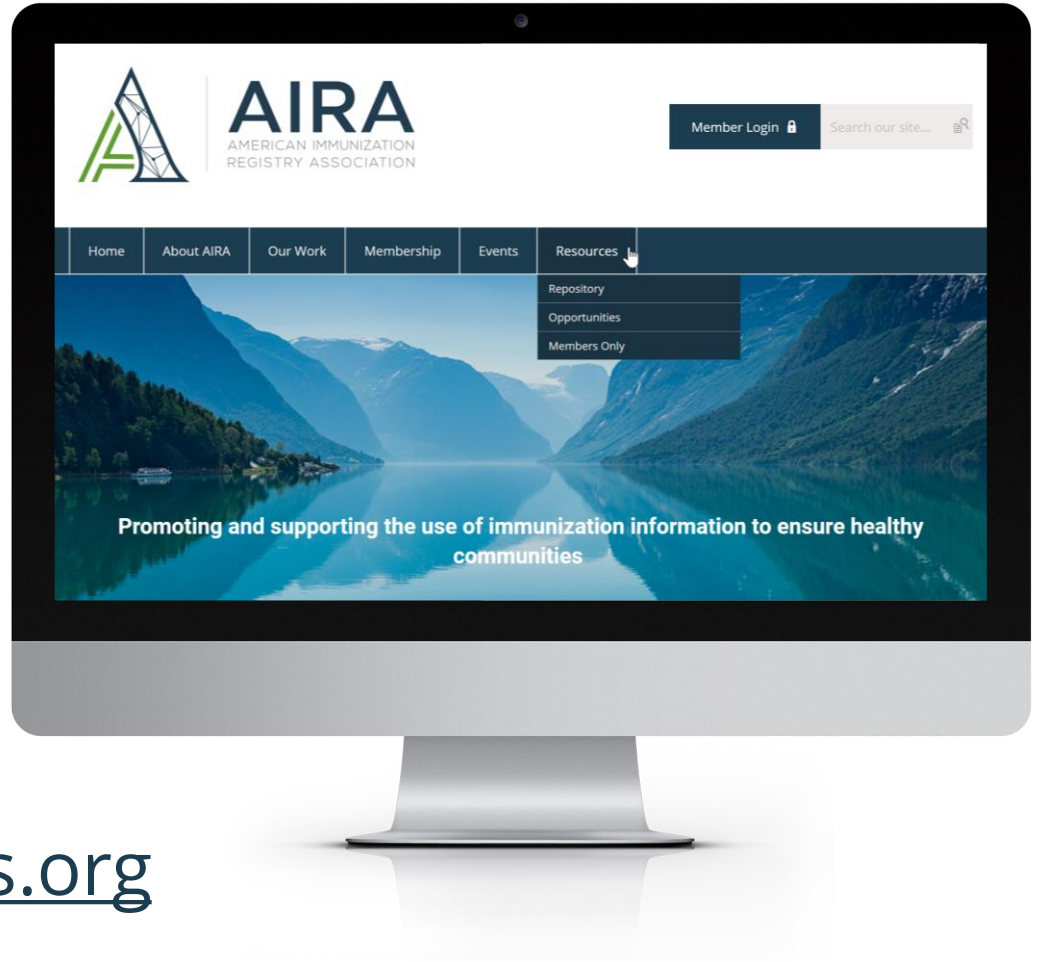
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