Advancing IIS Success through Targeted Technical Assistance

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1

Objectives

- Increase awareness of the types of technical assistance (TA) services AIRA offers

- Demonstrate the tangible impact of AIRA's TA efforts through real-world examples and outcomes from the last five years of engagement

- Equip attendees with the pathways needed to engage with AIRA's TA offerings

Speaker Introduction

Strategic Success Souffle

Prepping time __Since 2007__   Cooking time __20 mins__   Yields __5__

~eeeeeeee~ Ingredients ~eeeeeeee~

1 cup of public health savvy
2 tablespoons of operations magic
A dash of dry humor
Bake at 375F for 16 years

What AIRA Does

Promote the development, implementation, and interoperability of Immunization Information Systems (IIS).

Collaboratively develop and promote standards, best practice strategies, and education through committees and workgroups.

Support IIS and the broader health IT community through partnership building, education, and advocacy.

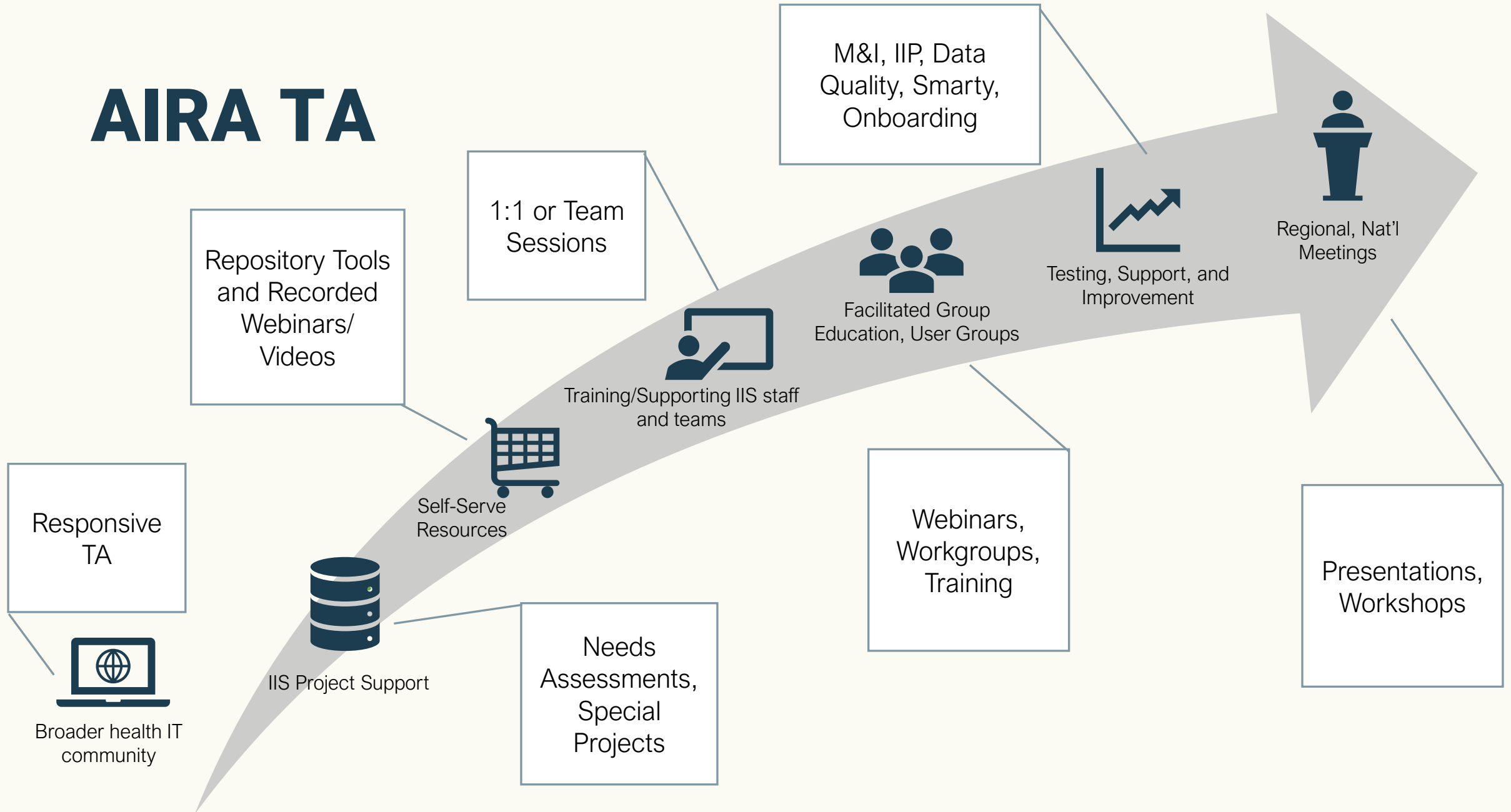Provide technical assistance to foster learning and improvement.

Why Technical Assistance Matters

Meets evolving needs

Builds workforce capacity and leadership

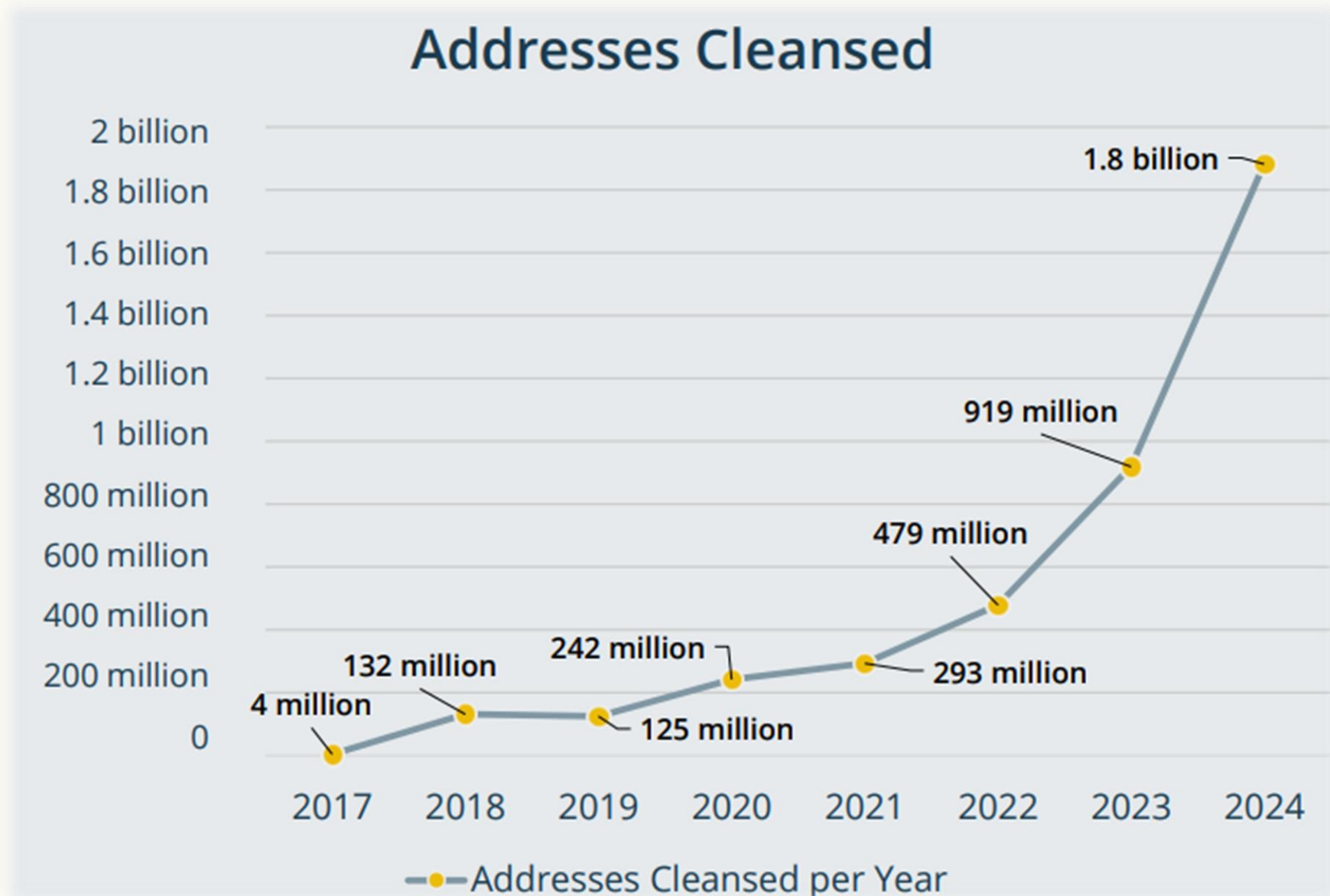Drives system improvements and consistency

AIRA TA

Responsive TA

Broader health IT community

Repository Tools and Recorded Webinars/ Videos

Self-Serve Resources

IIS Project Support

Needs Assessments, Special Projects

1:1 or Team Sessions

Training/Supporting IIS staff and teams

M&I, IIP, Data Quality, Smarty, Onboarding

Facilitated Group Education, User Groups

Webinars, Workgroups, Training

Testing, Support, and Improvement

Regional, Nat'l Meetings

Presentations, Workshops

Impact: 2019-2024

Smarty

Addresses Cleansed

- 2017: 4 million
- 2018: 132 million
- 2019: 125 million
- 2020: 242 million
- 2021: 293 million
- 2022: 479 million
- 2023: 919 million
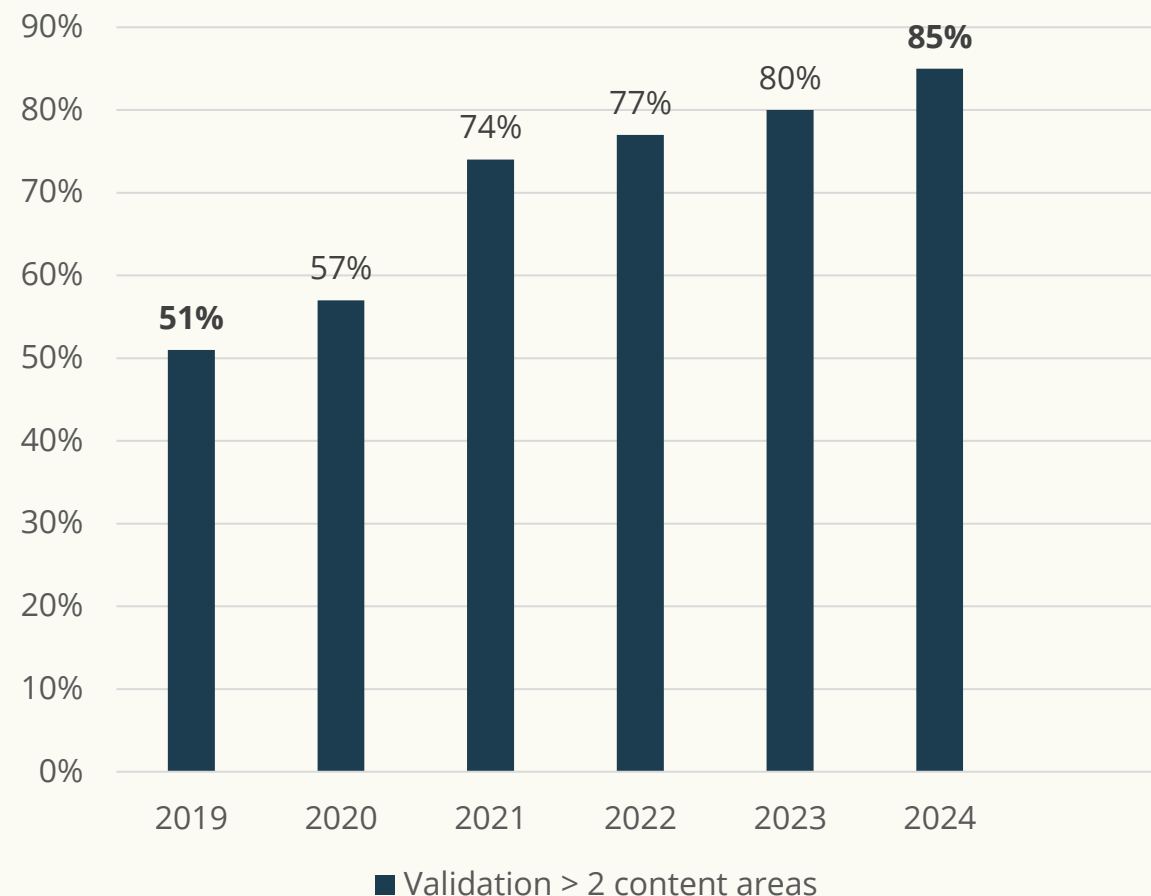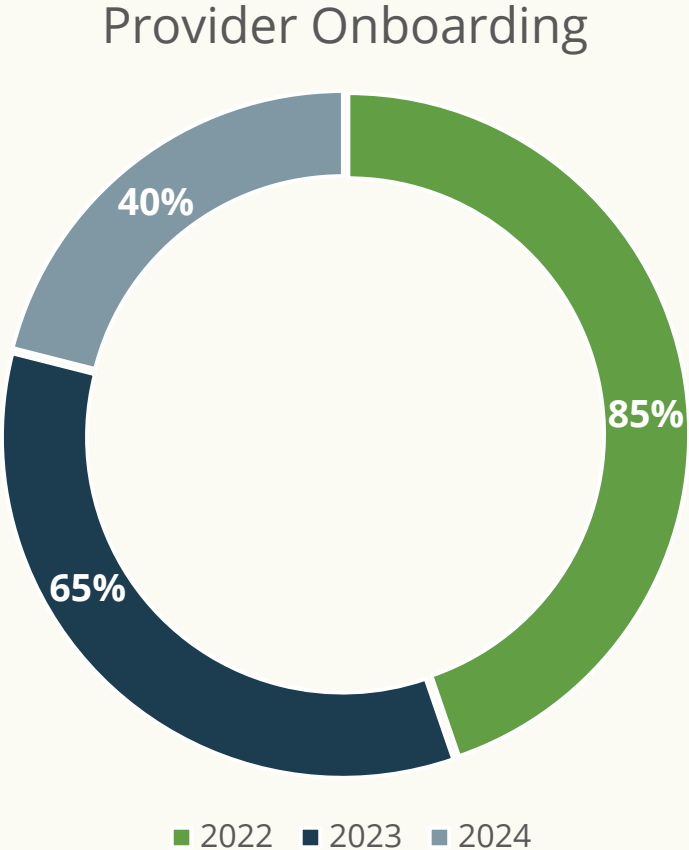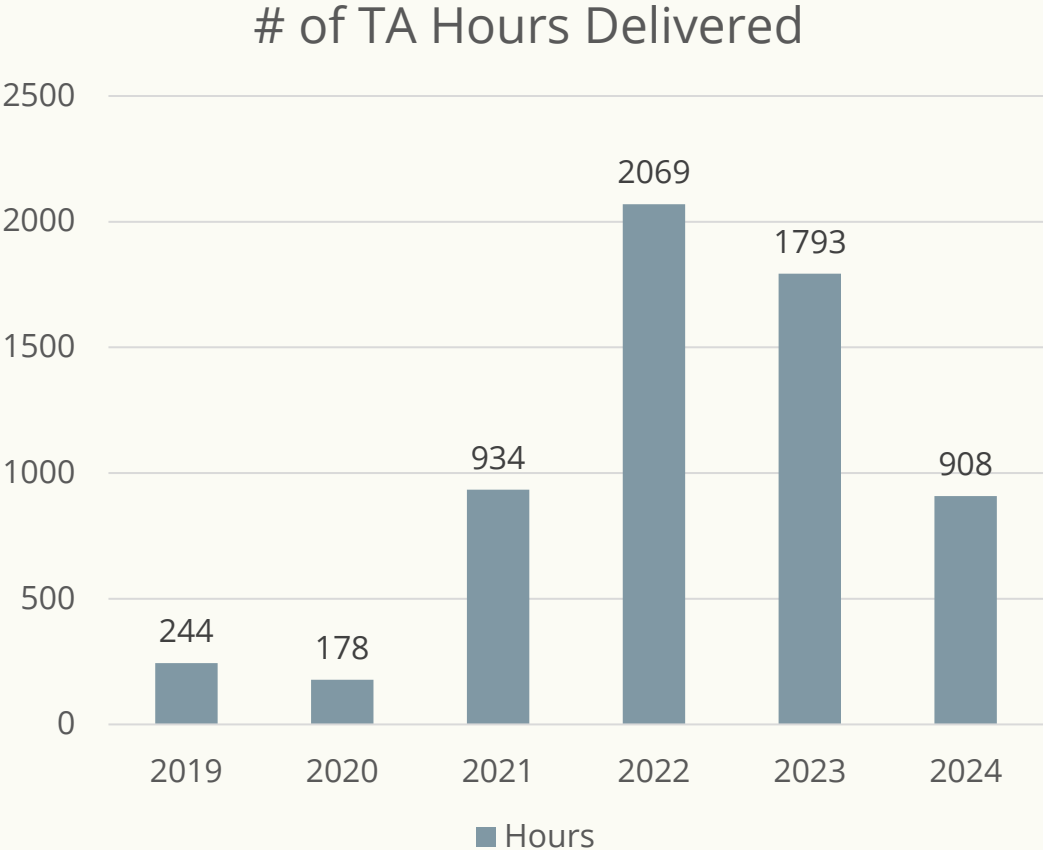- 2024: 1.8 billion

Addresses Cleansed per Year

IIS can achieve Validation in the five following content areas:

1. HL7 Transport
2. HL7 Submission/Acknowledgment
3. HL7 Query/Response
4. Clinical Decision Support
5. Data Quality Incoming/Ongoing
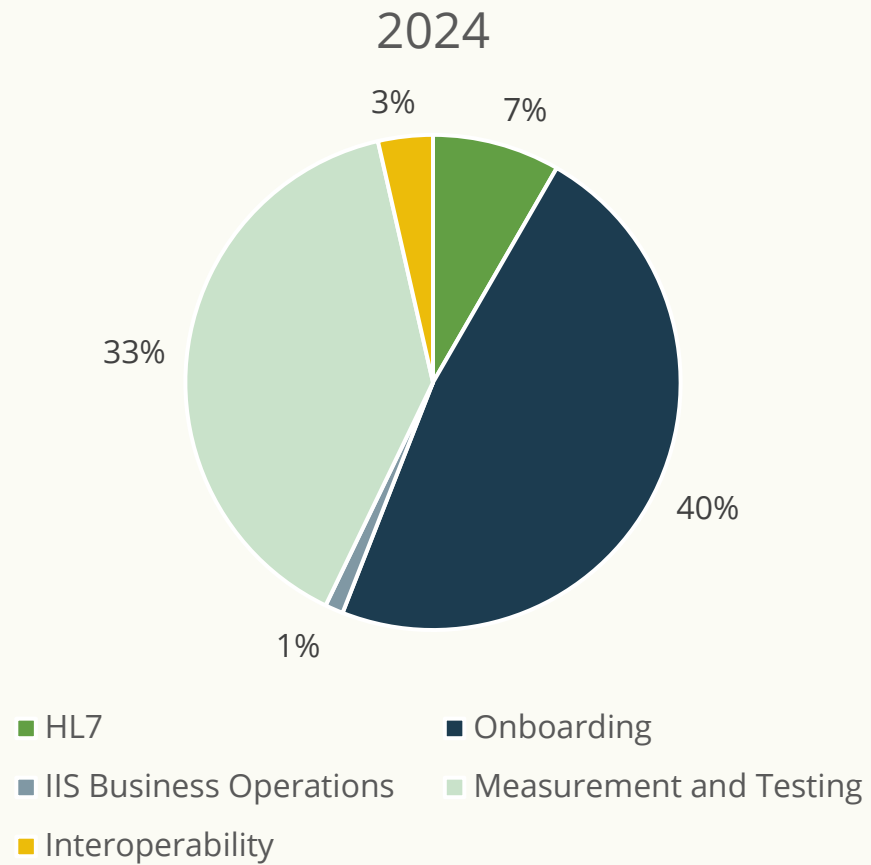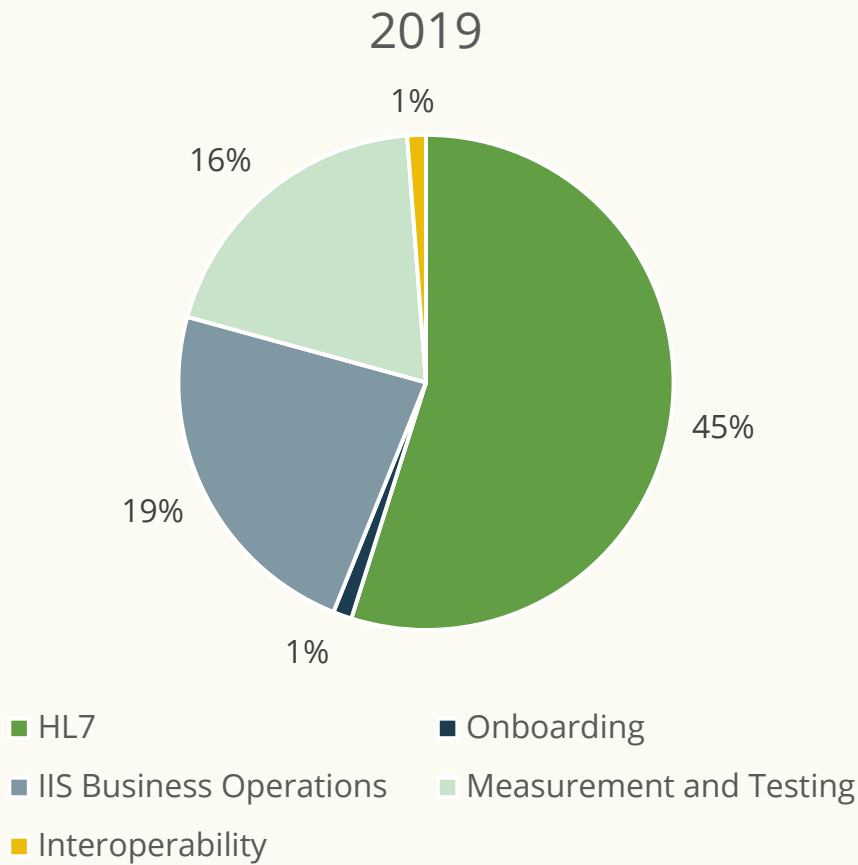
% of IIS Validated in ≥ 2 M&I content areas

Validation > 2 content areas

2019: 51%
2020: 57%
2021: 74%
2022: 77%
2023: 80%
2024: 85%

TA Hours Delivered

of TA Hours Delivered

Bar chart showing number of TA hours delivered:
- 2019: 244
- 2020: 178
- 2021: 934
- 2022: 2069
- 2023: 1793
- 2024: 908

Legend: Hours

Provider Onboarding

Donut chart:
- 2022: 85%
- 2023: 65%
- 2024: 40%

Legend: 2022, 2023, 2024

Topics Over Time

2019

- ■ HL7 — 45%
- ■ Onboarding — 1%
- ■ IIS Business Operations — 19%
- ■ Measurement and Testing — 16%
- ■ Interoperability — 1%

2024

- ■ HL7 — 7%
- ■ Onboarding — 40%
- ■ IIS Business Operations — 1%
- ■ Measurement and Testing — 33%
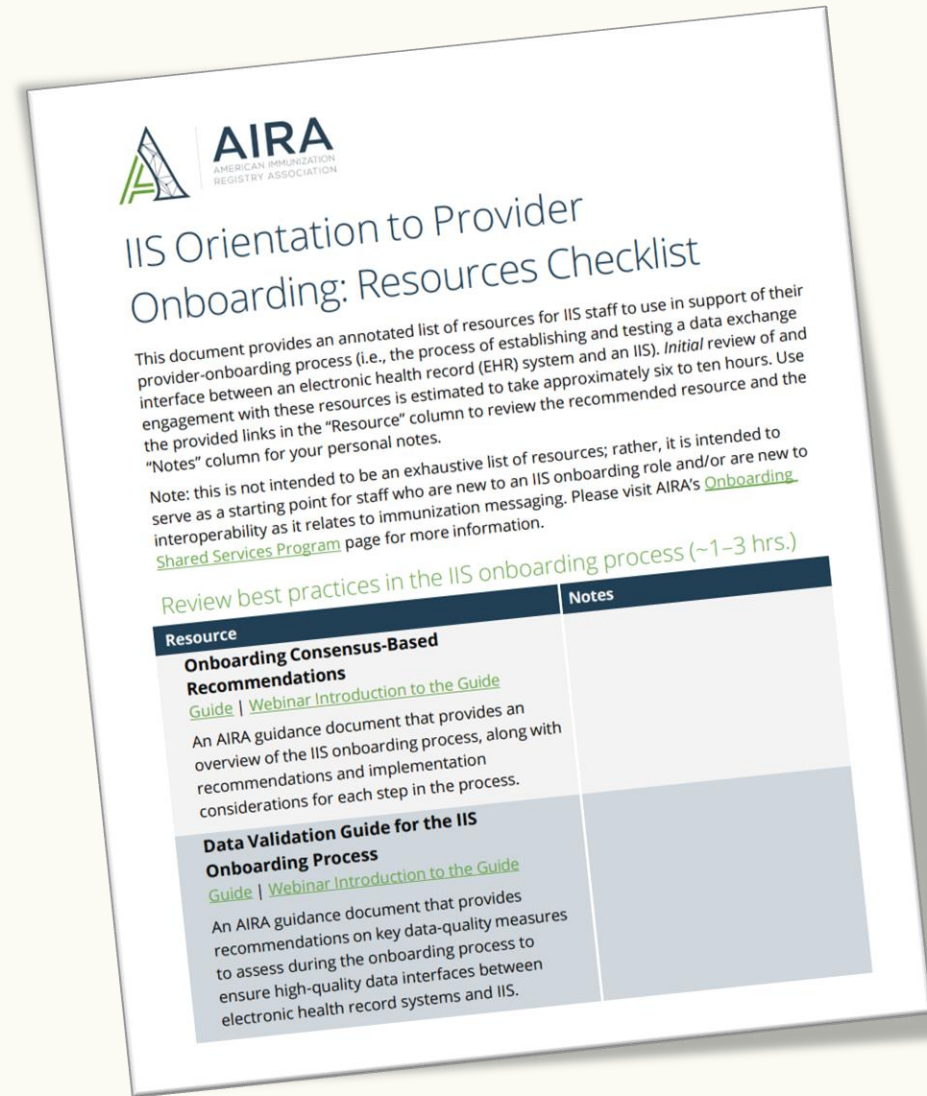- ■ Interoperability — 3%

Success Story

Onboarding Shared Services

The Challenge

- Wide variability among jurisdictional onboarding approaches.
- Backlog in EHR-IIS interfaces.
- Surge in provider onboarding in 2020-2021.

ONBOARDING CONSENSUS-BASED RECOMMENDATIONS

NOVEMBER 2018

AIRA
AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

Tools

Customizable Onboarding Templates

- Readiness Checklist

- Registration Form

- Questionnaire

- Onboarding Guide

- Onboarding and Interface Project Tracking Tool

- Standard Operating Procedure

- Roles and Responsibilities (RASCI)

Provider Organization Onboarding for IIS Course Impacts

2022
86 course participants

2023
129 course participants

2024
108 course participants

97%
would recommend this course to a colleague in an onboarding role

"This course was great! I wish I would have had something like this when I began working with onboarding 7 years ago. Even with my experience I learned a lot and love attending these classes. The person running the classes did an outstanding job."

IIS Participant

Success Story

Enhancing Immunization Data Quality

Background

Case Study

Immunization Integration
Program (IIP)

HIMSS   DRUMMOND

AIRA   CDC

ORACLE
Health

Proof of Concept

- ACK message analysis ~12K
- No data rejections but 20% had errors.
- Common errors
  - Unit of measure (76%)
  - Vaccine Information Statements (11%)
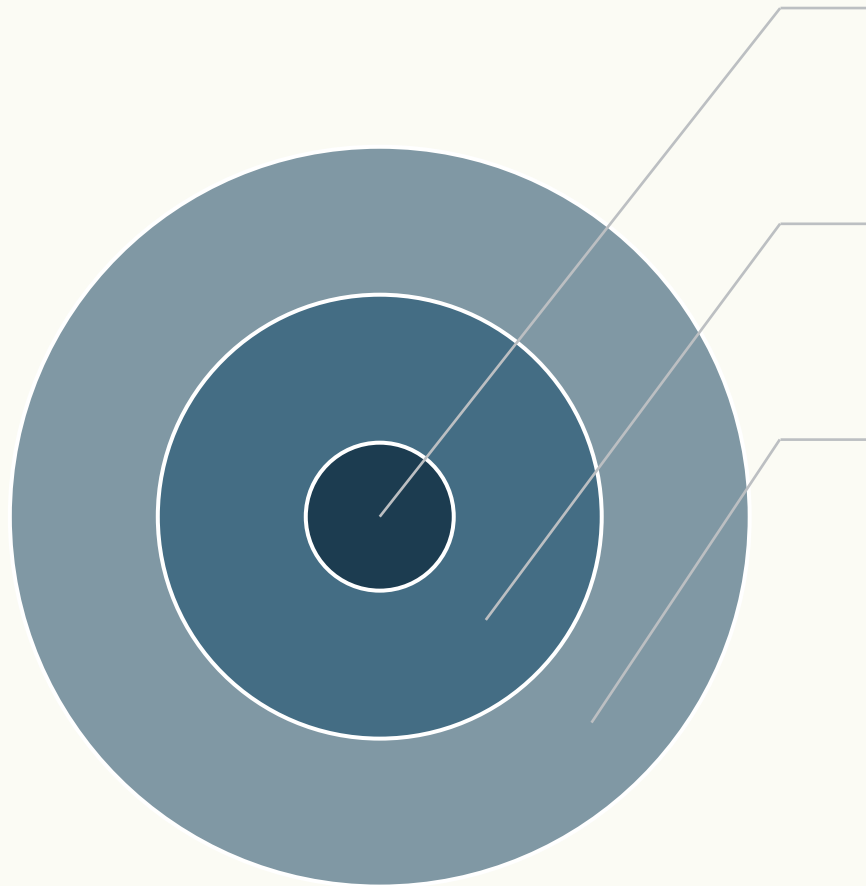 - Other configuration errors (6%)

Case Study Expansion

- Identify pilot health care sites in different jurisdictions to explore further

High volumes of vaccination update messages (VXUs) and elevated error or warning rates.

Outcomes

Interface Configuration Updates

- Standardized email address and phone formats to prevent inconsistent registration entries
- Default values for critical fields
- Logic adjustment for newborns

Process Improvements

- Making race and ethnicity fields mandatory during outpatient registration

Training Sessions

- Vaccine inventory management
- Data entry practices

California
61% reduction in error and warning rates.

Maryland
57% reduction in error and warning rates.

Long-Term Impact

Immunization Integration Program (IIP)
Training Resources for Vaccine Data Entry Users

This guide lists training resources that promote best practices for data validation in the EHR prior to submission to the IIS.

The resources shown below are divided into three categories of users:

- Registration: These resources are targeted to support users who enter patient demographic information upon registration.
- Vaccine Administrators: These resources are targeted to support users who enter information about the vaccine and the patient encounter.
- Informatics/IT Team: These resources are targeted to users who support the organization's EHR, workflows, and administration.

Please note that the following resources are offered as suggestions and may contain guidance that differs from your organization's policies and practices. The IIP is not responsible for maintaining the content contained within the resources. For more information about the IIP, please contact us at iip@himss.org.

Resources for Data Validation during Patient Registration

Resource, Hyperlink, Description	Source
ONC's Health IT Play Book: Registrar Play Book	ONC
What's the big deal about patient demographic data?: https://www.healthit.gov/playbook/registrar/chapter-1/	
General Best Practices for Capturing Patient Demographic Data: https://www.healthit.gov/playbook/registrar/chapter-2/	
Best Practices for Data Capture by Data Attribute: https://www.healthit.gov/playbook/registrar/chapter-3/	

Three chapters in the Registrar Play Book contain best practices and strategies to capture patient demographic data. The resources include general do's and don'ts, scenario-based training videos, and strategies for building patient relationships.

Resources for Data Validation During Vaccine Patient Encounter

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IIP Collaborative – Top Five Strategies for Improving Immunization Data Quality at the Point of Care

THE CHALLENGE

Ideally, information about administered immunizations flows seamlessly to jurisdictional immunization information systems (IIS), but sometimes, data errors can cause information to be rejected. Validating immunization data for completeness and accuracy before submission to an IIS facilitates successful submission and reduces the amount of rejected data that must be investigated, fixed, and resubmitted. Here are five key strategies and related resources to support improving your immunization data quality and reducing rejections.

1. Understand your immunization acknowledgment messages.

Reviewing your error data can help identify common errors. Understanding common errors may help inform EHR configurations and workflows to prevent those errors.
- IIP Aggregate Immunization Acknowledgment Message Reports Guidance
- Do You Know Where Your ACK Messages Are? Assessing and Correcting Fatal Errors from Vaccine Submissions to a State Immunization Registry
- AIRA Discovery Session: Data Quality Improvement Success Story: Collaborating through the Immunization Integration Program

2. Start the conversation about IIS data requirements and business rules.

Ask your IIS if they have a list of potential errors and recommendations for reducing or preventing these errors from occurring.
- Contact your jurisdiction's IIS

3. Leverage your system's configurability.

Have discussions with your clinical care team, administrative staff, and vendor partner on how best to implement business rules.
- DQA Business Rules and Principles

4. Provide training resources to improve immunization data entry and validation.

Errors introduced when documenting patient and vaccine information can cause the immunization record to be rejected by IIS. This guide lists the key training resources that promote best practices for data validation in the EHR prior to submission to the IIS.
- Training Resources for Vaccine Data Entry Users

5. Incorporate vaccine 2D barcoding into immunization administration and inventory documentation processes.

Manual documentation of immunization data can introduce errors which result in immunization records being rejected by the IIS. 2D barcode adoption can improve your data quality, provide cost savings, and reduce rejections.
- CDC resources on vaccine 2D barcodes
- CDC Vaccine 2D Barcode Scanning Implementation Toolkit

Immunization Integration Program (IIP)
Data Entry Error Guide Template

About this template
This template is intended for use by immunization information systems (IIS) to develop a short list of errors, and ways to avoid them, that may occur when users enter data into their organization's electronic health record/health information technology (EHR/health IT) system(s) that interface with an IIS. In addition to a jurisdiction's implementation guide, this list is shared with provider organizations with, or working to achieve, an interface to an IIS.

This data entry error guide may describe HL7 v2 message content requirements, such as business rules, that are not captured well in a local implementation guide which may be focused on message structure. For example, the date of January 1, 2023, is a valid date. However, if the patient's date of birth is January 1, 2023, and their vaccination date is December 1, 2022, this combination is not valid as a patient cannot be vaccinated before birth. This could indicate an error when recording the patient's date of birth, vaccination date, or both.

Many of the issues listed in the template are found within Data Quality Assurance Principles and Business Rules Spreadsheet created by the American Immunization Registry Association's (AIRA) Modeling of Immunization Registry Operations Workgroup (MIROW).

How to use this template
1. The error data generated in this template comes from a battery of test cases sent to the IIS' pre-production system. These test cases mimic errors that could be seen when users enter data into a source system.
   - The following AART Test Groups were used to generate this template:
     - Bad Messages
     - Data Quality
     - Coded Values
2. Replace the yellow highlighted text with your jurisdictional information as indicated. Remove the yellow highlight formatting.
3. Deduplicate any errors from the AIRA provided template derived from AART. For example, AART uses two test cases to check and see if a patient has an identifier. There's no reason to repeat this information. For example, AART test cases K.01.06 and DQMQE0116 check for the same thing but are found within different test sections.
4. Keep this document short, no more than five pages.
5. Tailor your IIS' report to display from most to least frequently occurring issues.
6. Tailor your IIS' report to your implementation's requirements and most common issues. For example, how does your system request sex, race, or ethnicity be mapped or what characters may be included in a name? Update Table 1 to reflect your IIS requirements. Does your IIS permit demographic updates only? If not, remove the "demographic only column in Table 1.
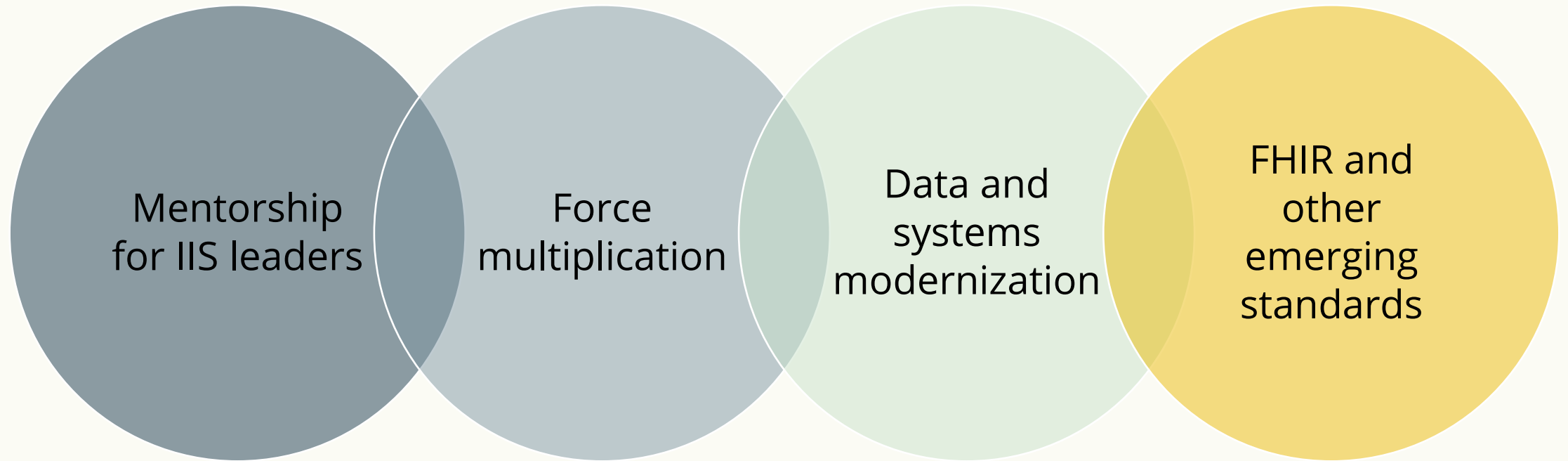
Key Lessons Learned

Lessons Learned

TA must adapt to changing workforce needs

Proactive engagement yields better outcomes

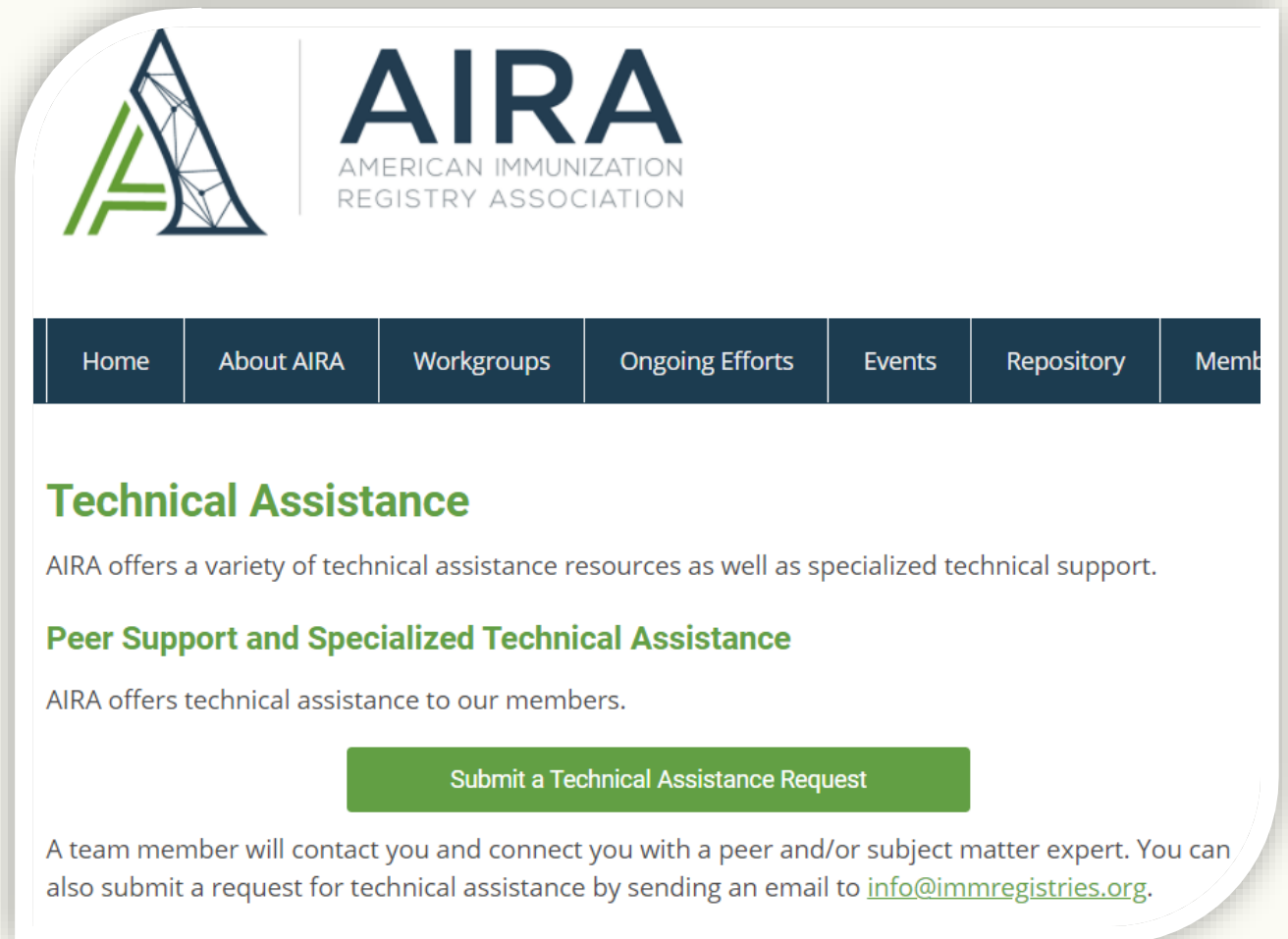Importance of leadership support and team participation

Evolving Needs – Looking Ahead

Mentorship for IIS leaders

Force multiplication

Data and systems modernization

FHIR and other emerging standards

Requesting Technical Assistance

- Submit requests via the online form or via email to info@immregistries.org

Thank You!

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