

An aerial photograph of a vast, dense forest of evergreen trees, likely spruce or fir, covering a hillside. The trees are tightly packed, creating a textured green surface. The lighting is soft, suggesting a misty or overcast day, with some areas appearing slightly darker than others.

AIRA 2025 NATIONAL MEETING

WELCOME



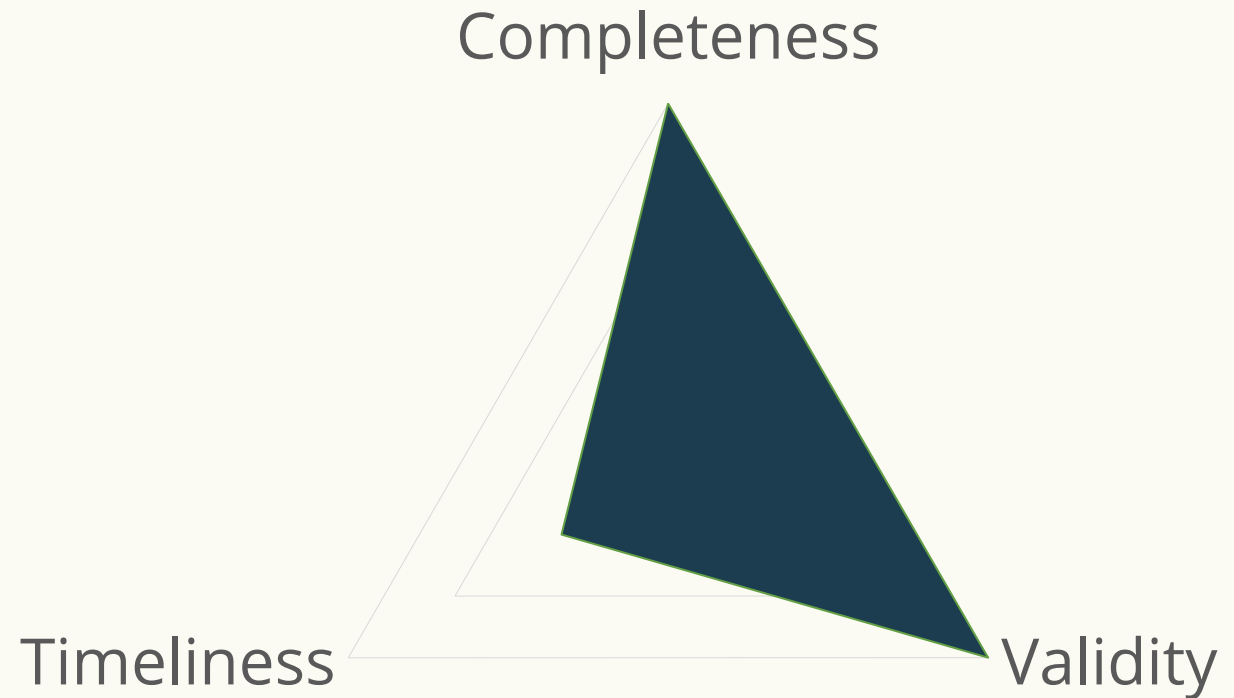
**Data at Rest (DAR) – Where
Are We Now and Where Do We
Go from Here?**

Presentation Outline

- Data at Rest (DAR) Overview
 - AIRA – Damon Ferlazzo
- DAR Reports use in the field:
 - New Mexico – Katie Cruz
 - Tennessee – Marie Hartel and Ashley Pasquariello

Data at Rest (DAR) Overview

- Data residing in the health information technology HIT production database regardless of source
- Examines data quality using 55 measures across three dimensions:
- Unique testing method – not exchanging test data between AART and IIS



Data at Rest (DAR) Overview

- 112 detections
- Examples –
 - patient phone number missing
 - vaccine improbable
 - vaccine code invalid
- Evaluated against MACAW's pre-defined benchmarks
- M&I uses children aged two years and under as of 12/31
- Reports: IIS-wide and optional provider (or another group) breakdown

Data at Rest (DAR) Process

Extract

- IIS staff will pull a pre-defined cohort of patients from their production database into a flat file.

Transform

- IIS staff will run an AIRA-provided tool on their extracted data. This tool will assess for data quality indicators. The output of this tooling will be a set of aggregate detections void of identifiable patient data.

Load

- The aggregate file generated during the Transform step will be uploaded to AIRA for analysis.

Analyze

- AIRA will analyze and produce individualized reports for the IIS to review and use to improve their data quality.

Patient Extract Example

ID	First	Middle	Last	Mother's Maiden	Mother First	Mother Middle	Mother Last	DOB	Gender	Street
1	[[VP]]	[[VP]]	[[NP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	6/29/2023	[[VP]]	[[VP]]
2	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[NP]]	1/17/2023	[[VP]]	[[VP]]
3	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	8/4/2024	[[VP]]	[[VP]]
4	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	1/17/2023	[[NP]]	[[VP]]
5	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	11/13/2023	[[VP]]	[[VP]]
6	[[VP]]	[[VP]]	[[VP]]	[[NP]]	[[VP]]	[[EX]]	[[NP]]	12/25/2024	[[VP]]	[[NP]]
7	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	10/26/2024	[[VP]]	[[VP]]
8	[[NP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	3/8/2024	[[VP]]	[[VP]]
9	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	3/26/2023	[[VP]]	[[VP]]
10	[[NP]]	[[VP]]	[[VP]]	[[VP]]	[[VP]]	[[EX]]	[[VP]]	4/16/2023	[[VP]]	[[VP]]
11	[[VP]]	[[VP]]	[[VP]]	[[NP]]	[[VP]]	[[EX]]	[[VP]]	1/28/2024	[[VP]]	[[VP]]

De-identified data

Excluded data

Actual Value

Report Example

filter

Completeness

1.1. Patient first name is present.

1.2. Patient middle name is present.

1.3. Patient last name is present.

1.4. Patient birth date is present.

1.5. Patient gender is present.

1.6. Patient address street is present.

1.7. Patient address city is present.

1.8. Patient address state is present.

1.9. Patient address ZIP code is present.

1.10. Patient complete address is present.

1.11. Patient race is present. ⚠️

1.12. Patient ethnicity is present. ⚠️

1.13. Patient phone number is present.

1.14. Patient email is present. ⚠️

1.15. Mother's maiden name is present. ⚠️

1.16. Responsible person first name is present. ⚠️

1.17. Responsible person last name is present. ⚠️

1.18. Vaccine administration code is present.

1.19. Vaccine administration date is present.

1.20. Vaccine information source (e.g., Admin/Historical Indicator) is present.

1.21. Vaccine lot number is present.

1.22. Vaccine lot expiration date is present. ⚠️

1.23. Vaccine eligibility code is present. ⚠️

1.12. Patient ethnicity is present. ⚠️

Data Analysis

Query

Export CSV

Save Query

DETECTION_TYPE	Value	Threshold
MQE0664 - Patient ethnicity is present	87.2% (95,277 / 109,294)	Higher than 95% (FAIL)

1.13. Patient phone number is present.

Total number of patient records with a phone number present over
Total number of patient records extracted
> 90.0%

Data Analysis

Query

Export CSV

Save Query

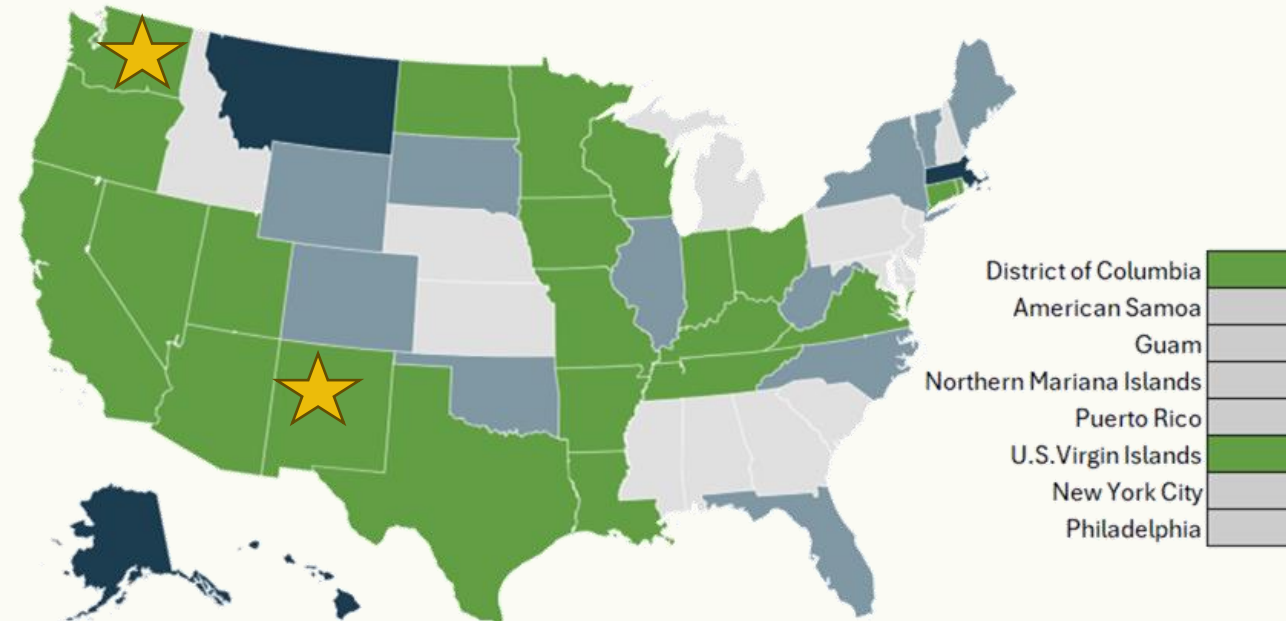
DETECTION_TYPE	Value	Threshold
MQE0688 - Patient phone is present	96% (104,960 / 109,294)	Higher than 90% (PASS)

1.14. Patient email is present. ⚠️

Total number of patient records with an email present over
Total number of patient records extracted
> 90.0%

Participation by Year

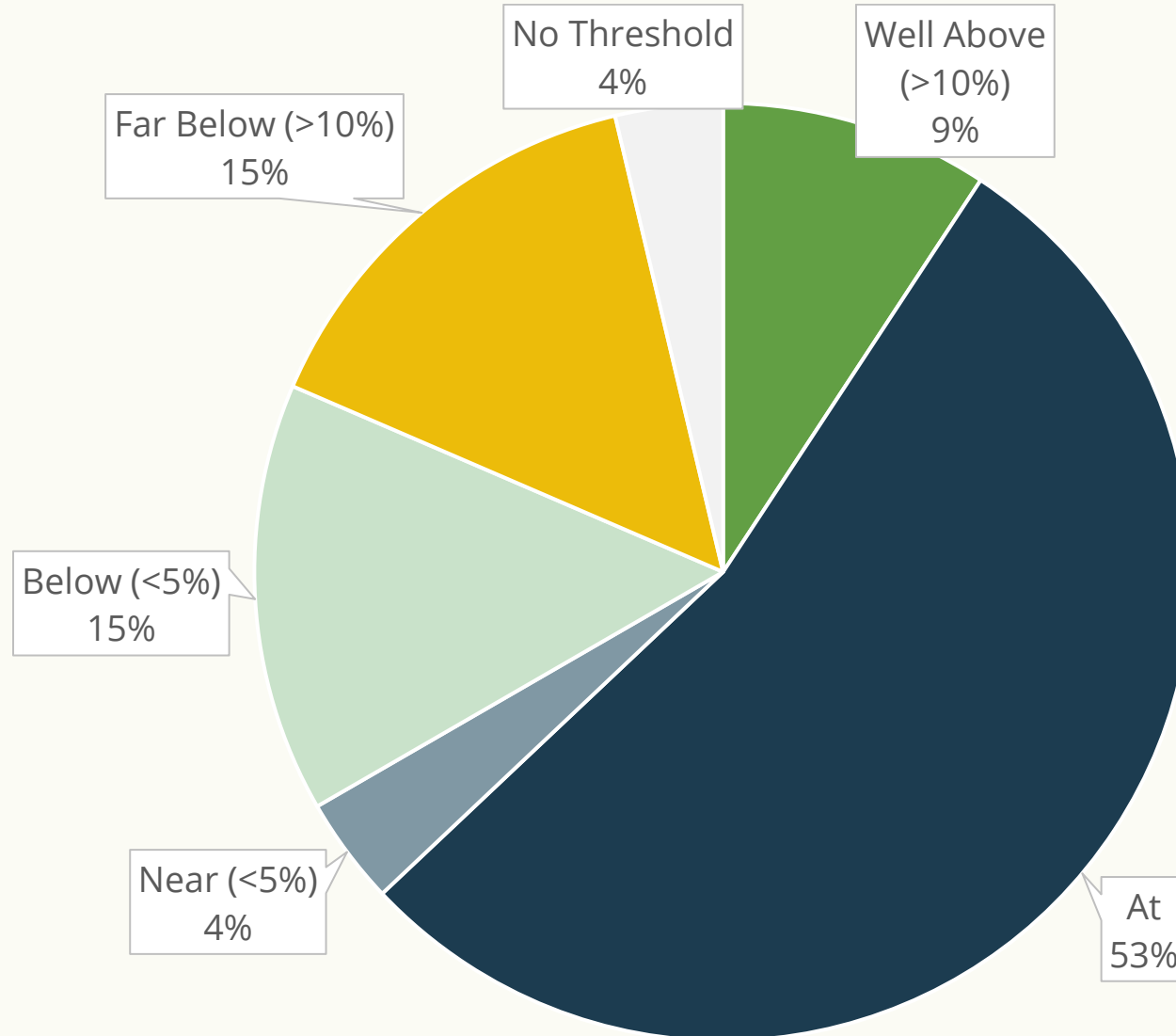
Year	Number of Participants
2022 (Pilot)	6
2023	8
2024	25
2025	TBD



★ Participated All Three Years

25	Completed
15	Interested
19	Unknown
4	Unable to Participate

How did IIS do in 2024?



Measures to Examine Closer

Measure	Threshold	Average	Outcome
Patient email is present	Higher than 90%	36%	Far Below (>10%)
Mothers' maiden name is present	Higher than 90%	69%	Far Below (>10%)
Responsible person first name is present	Higher than 90%	76%	Far Below (>10%)
Responsible person last name is present	Higher than 90%	75%	Far Below (>10%)
Vaccine lot expiration date is present	Higher than 99%	64%	Far Below (>10%)
Vaccine funding source is present	Higher than 99%	71%	Far Below (>10%)
Patient entry into IIS less than or equal to 30 days from birth	Higher than 95%	80%	Far Below (>10%)
Patient entry into IIS greater than 60 days from birth	Lower than 5%	14%	Far Below (>10%)

Long Term Objectives

- Improve all three dimensions of data quality
- Provide user-friendly tools for HIT users to identify highest need:
 - Group
 - Data element
 - Provider data quality report cards
- 100% participation by IIS
 - 25 of 61 (41%) of IIS participated in 2024

New Support Coming Summer 2025

- AIRA's Strategic Initiatives team is developing a strategy to visualize jurisdictions' DAR results and use them to generate a customized and interactive roadmap for data quality improvement.
- Contact Jody Dial at jdial@immregistries.org for more information



New Mexico Data at Rest (DAR) Project

Kathryn (Katie) Cruz – IIS Manager

Nathaniel Webb – IIS Epidemiologist

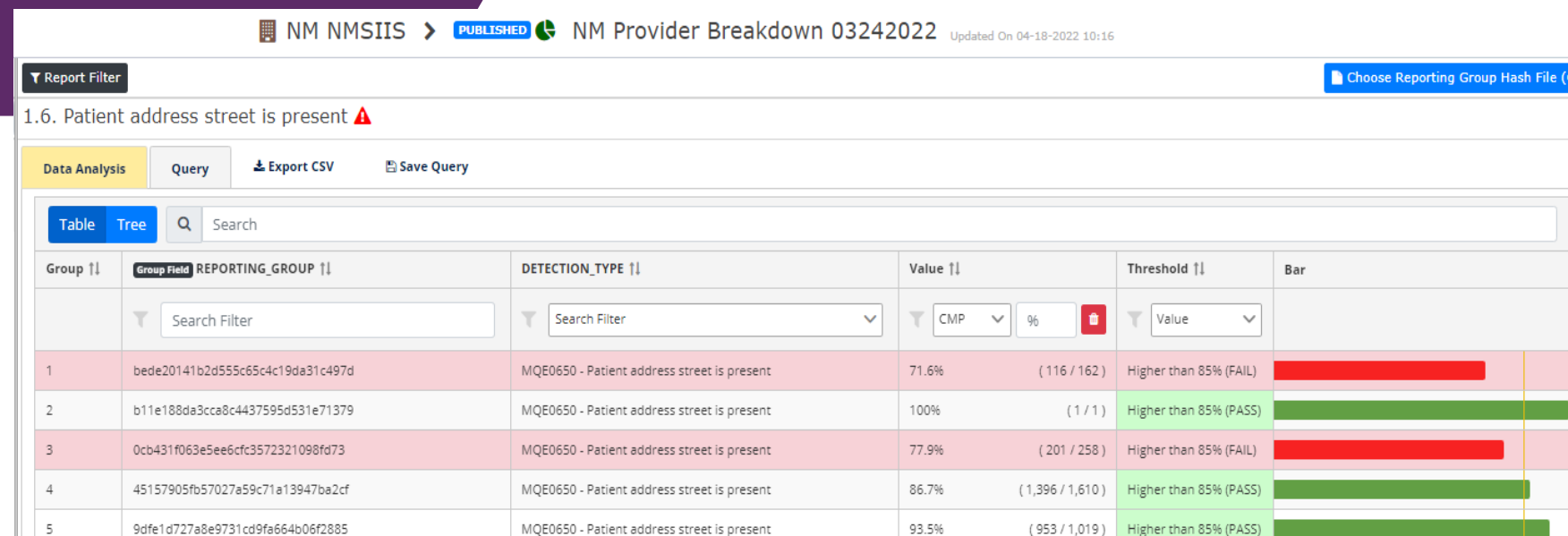
NM's DAR Project History

- Project initiation in 2021 after National AIRA Meeting
- Envision created PATIENT and VACCINATION scripts
- Hired 2 Temporary Health Educators (left program in 2023)

Barriers:

- Inability to edit our own scripts (IIS Epi hired in June 2024)
- Provider reaction to outreach efforts for data quality improvement

Measures



Measure	Measure Title	Meets	Does Not Meet	Data Unavailable	No Threshold
1	Completeness Indicators	16	8	0	0
2	Validity Indicators	19	1	1	2
3	Timeliness Indicators	3	5	0	0

Provider Improvement Efforts

- Sent emails to providers that failed to meet thresholds for identified priority measures
 - Outline project
 - Stated reporting requirements
 - Notifying provider of failure to meet reporting requirement
 - Offered assistance
- Created and provided educational materials
- Discussed Automated Data Exchange as reporting option
- Provided support for dose entry catch up and/or corrections

2023-2024 Comparisons

Provider Counts

- **2023: 463**
- **2024: 335**

Categorizing failed measure providers criteria:

Category	Criteria
Low Priority	Provider had >50 submissions and was within 5% of the passing score
Medium Priority	Provider had >50 submissions and was within 5-20% of the passing score
High Priority	Provider had >50 submissions and was more than 20% off the passing score.
Low Sample Size, Failed Measure	Provider had <50 submissions and failed the measure

Note: In general, these were the percentage ranges used but may differ for each individual measure

Year-over-Year Improvement in Provider Measure Performance (2023 to 2024) by Measure Type and Priority Level

Type	Measure	Measure Description	Low Priority	Medium Priority	High Priority	Low Sample Size, Failed Measure	Passed
Completeness	1.6	Patient address street is present	✓	✓	✓	✓	✓
	1.7	Patient address city is present	✗	✗	!	✓	✓
	1.8	Patint address state is present	!	✗	!	✓	✓
	1.9	Patient address ZIP code is present	✗	!	!	✓	✓
	1.10	Patient complete address is present	✓	✓	✓	✓	✓
	1.11	Patient race is present	✓	✓	!	✓	✓
	1.12	Patient ethnicity is present	✓	✓	!	✓	✓
	1.13	Patient phone number is present	✓	✗	✗	✓	✓
	1.14	Patient email is present	!	✗	✓	✓	✓
	1.24	Patient funding source is present	✗	✗	✓	✓	✓

Note: Check mark indicates the measure was improved in 2024 compared to 2023 by comparing percentages in each measure by priority level. Exclamation point indicates <1% change year over year. An X indicates the measure had a lower percentage in 2024 compared to 2023.

Year-over-Year Improvement in Provider Measure Performance (2023 to 2024) by Measure Type and Priority Level							
Type	Measure	Measure Description	Low Priority	Medium Priority	High Priority	Low Sample Size, Failed Measure	Passed
Validity	2.1	Patients born on first of the month do not exceed normal distribution of birth dates	✓	✗	✓	✗	✗
	2.4	Patient has more vaccinations than expected	✗	!	✗	✗	✗
	2.5	Vaccine administration date is before birth date	✗	✗	!	✗	✗
	2.10	Vaccine administration code was administered at an improbably age	✗	✗	!	✗	✗
Timeliness	3.1	Administered vaccination events are entered into the IIS within one calendar day from administration date	✓	✗	✗	n/a	✗

Note: Check mark indicates the measure was improved in 2024 compared to 2023 by comparing percentages in each measure by priority level. Exclamation point indicates <1% change year over year. An X indicates the measure had a lower percentage in 2024 compared to 2023.

Next Steps

1. Run data annually
2. Communicate with providers:
 - Project Goal
 - Reporting Requirements
 - Opportunities for Improvement/Troubleshooting
3. Develop and/or refine resources
4. Utilize benchmarks to track progress
5. Focus on areas with lower progress such as Validity

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Thank you!



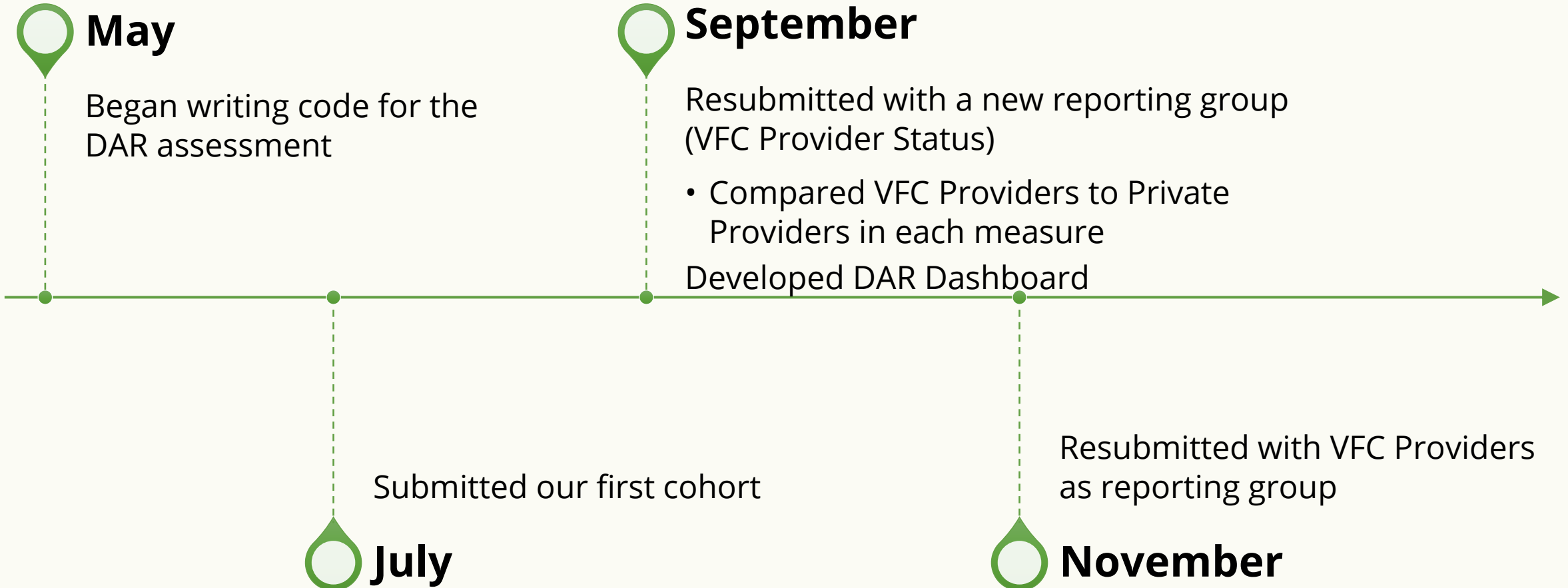
Special thanks to Kaitlin Ingle, DAR Epidemiologist

Tennessee Department of Health

Marie Hartel, MPH | Vaccine-Preventable Diseases and
Immunization Program Program Director

Ashley Pasquariello, MHL | TennIIS Director

Tennessee DAR Assessment - 2024



DAR Dashboard Purpose

Provide overview of DAR assessment measures that did not meet threshold across the entire cohort submitted

Look at specific reporting groups performance to identify areas of opportunity

Support ongoing data quality efforts

Facility Name – VFC PIN Organization

Name

1.11 - Patient race is present

Good
98.15%

1.12 - Patient ethnicity is
present

Good
98.15%

1.14 - Patient email is present

Good
90.74%

1.15 - Patient mother's
maiden name is present

Needs Improvement
46.30%

1.16 - Next-of-kin name first is
present

Good
100.00%

1.17 - Next-of-kin name last is
present

Good
100.00%

1.21 - Vaccination lot number
is present

Good
100.00%

1.22 - Vaccination lot
expiration date is present

Needs Improvement
93.37%

1.23 - Vaccination financial
eligibility code is present

Good
99.84%

1.24 - Vaccination funding
source code is present

Good
100.00%

2.05 - Vaccination admin date
is after lot expiration date

Needs Improvement
4.43%

2.15 - Vaccination lot number
is invalid

Good
0.32%

2.18 - Vaccination manufacturer
code is unrecognized

Needs Improvement
1.27%

3.01 - Vaccination system
entry time is on time

Good
99.51%

Cohort Inclusion Criteria:

- Patient Date of Birth between January 1, 2022 and December 31, 2023
- Patient Resides in Tennessee

Measure Specifics

1.11 - Patient race is present

Good
98.15%

1.12 - Patient ethnicity is present

Good
98.15%

1.14 - Patient email is present

Good
90.74%

1.16 - Next-of-kin name first present

Good
100.00%

Facility:

Threshold Evaluation: Good

Numerator: 53

Denominator: 54

Percentage: 98.15

Threshold: GT 95%

% from Threshold: 3.2

COHORT WIDE OUTCOME: 88.90%

1.15 - Vaccination lot number is present

Good
100.00%

Current Progress and Goals

Identified priority measures within our VFC provider group

Developing provider messaging on how to improve these priority measures

Share individualized infographics to each VFC provider on how they performed in each priority measure, with feedback on how to improve

Modifications to the dashboard to include all measures

Thank you!

- Contact Info: Ashley.Pasquariello@tn.gov
- Want more details? <Presentation Time>

Contact Information for Presenters

- AIRA: DFerlazzo@immregistries.org
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