

WELCOME

#AIRA2024



Patient Matching in IIS

Leveraging the DAR-Like Method
for Enhanced Data Quality

Agenda

- How to improve patient matching
 - Quality improvement framework
- Overview of tools
 - Methodology
 - Potential outputs
- Join Data at Rest (DAR)!

What is patient matching?

The identification and linking of one patient's data within and across health systems to obtain a comprehensive view of that patient's health care record.

Improve Patient Matching

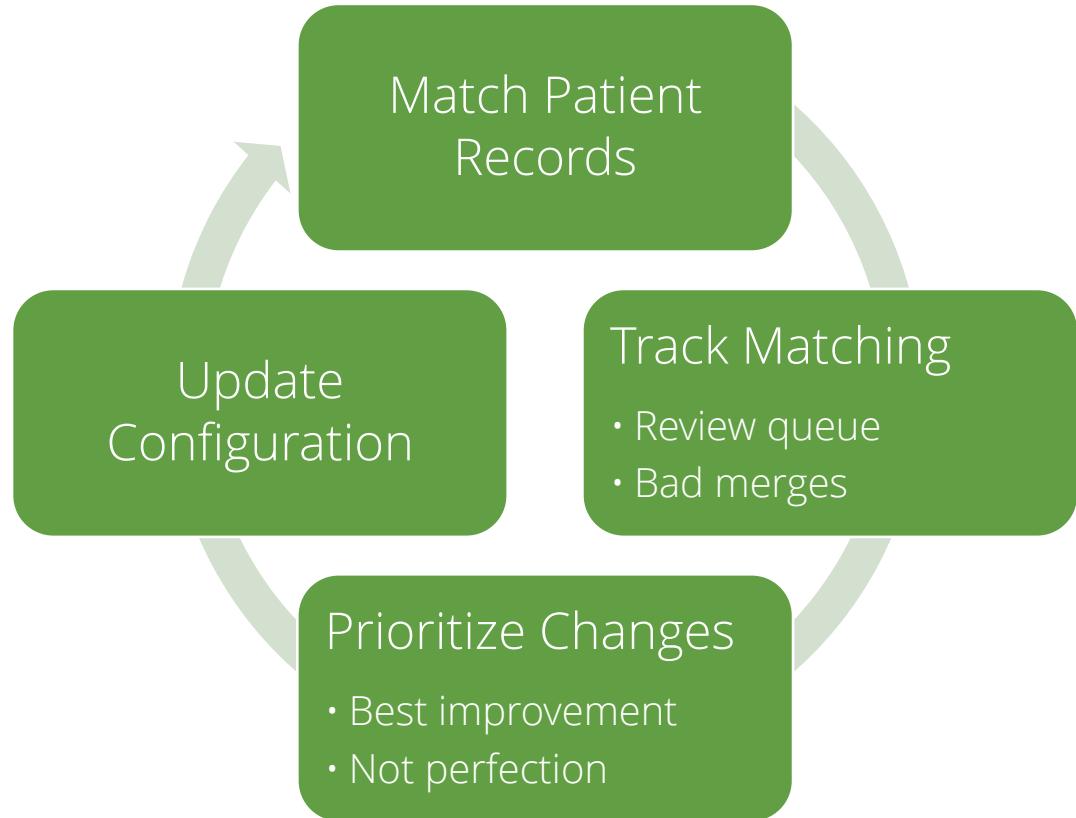
- How do you ensure you have perfect patient matching?

Improve Patient Matching

- How can we continually improve?

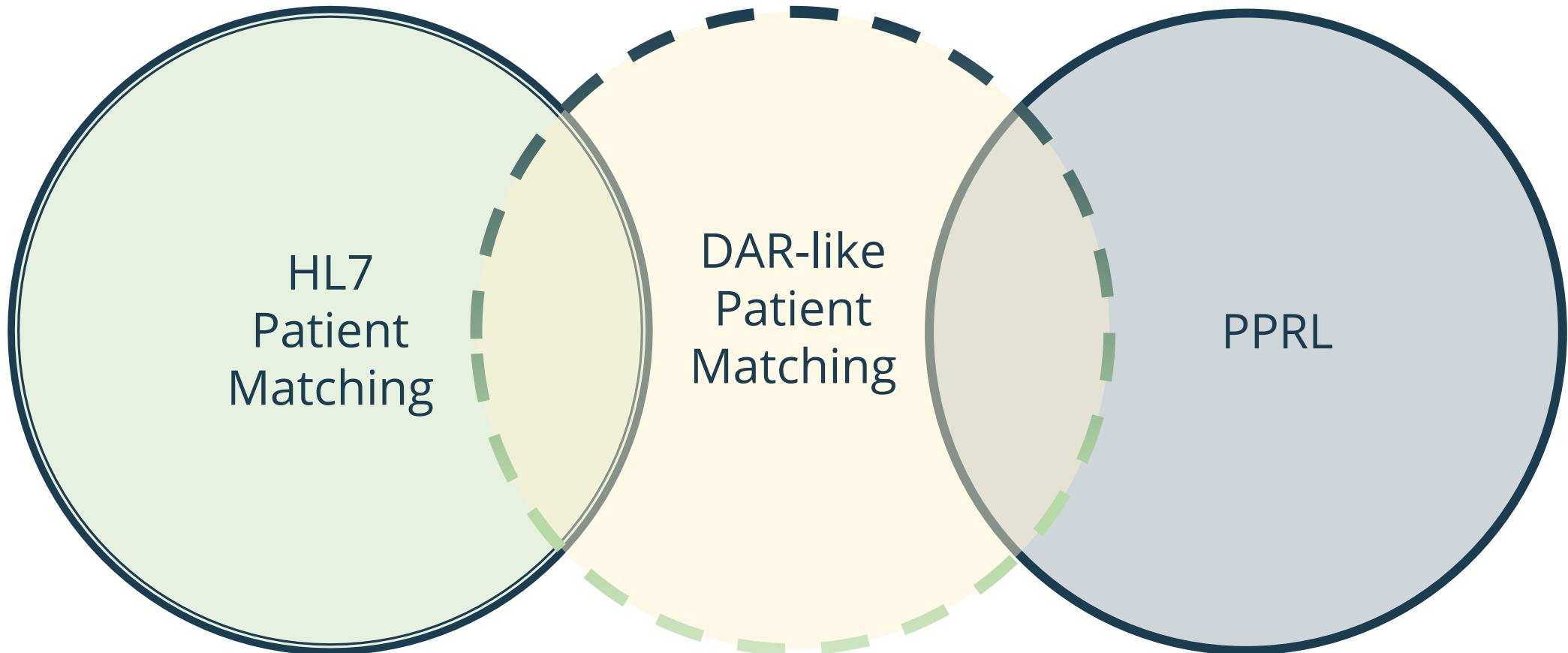
Improve Patient Matching

- How can we continually improve?
 - Implement a quality improvement process.

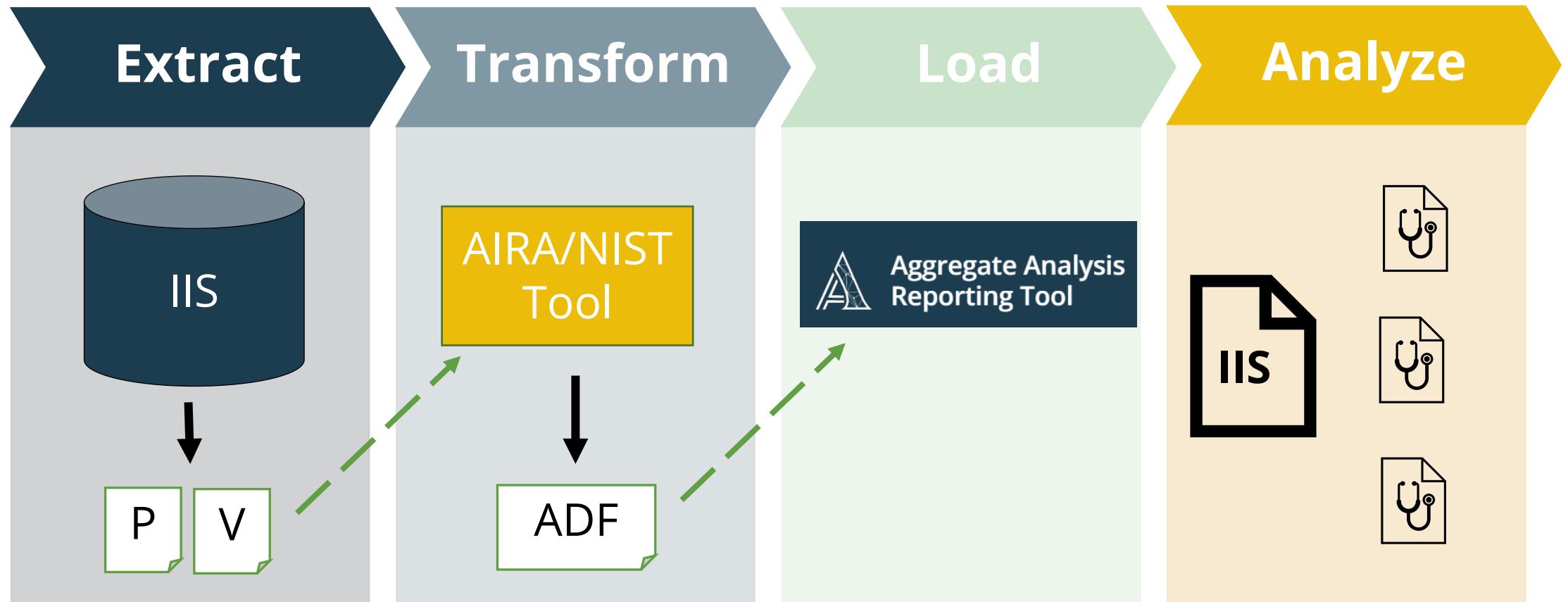


	Pre-Measurement	Testing & Discovery	Assessment	Validation
Transport				
Submission/Acknowledgment				
Query/Response	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Clinical Decision Support				
Data Quality Inc./Ongoing				
Data at Rest	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Patient Matching	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		2025
<i>HL7 Method</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<i>DAR-like Method</i>	<input checked="" type="checkbox"/>		2025	

Complementary Support



Data-at-Rest (DAR)



DAR Reports

NIST Data At Rest Quality Analysis Tool (qDAR) v4.0.0

Home Download Dashboard Upload File Configurations Report Templates Alexandra Hayes AART

Dashboard AIRA Sandbox PUBLISHED 2024 Discovery IIS Wide AIRA Sandbox Updated On 01-05-2024 12:05 X

Threshold All Fail Pass Report Filter Choose Reporting Group Hash File (CSV)

filter

1. Completeness

1.1. Patient first name is present. ⚠

Total number of patient records with a first name present over Total number of patient records extracted
 $> 99.0\%$

Data Analysis Query Export CSV Save Query

DETECTION_TYPE	Value	Threshold	Bar
MQE0683 - Patient name first is present	93.7% (282 / 301)	Higher than 99% (FAIL)	<div style="width: 93.7%; background-color: red;"></div>

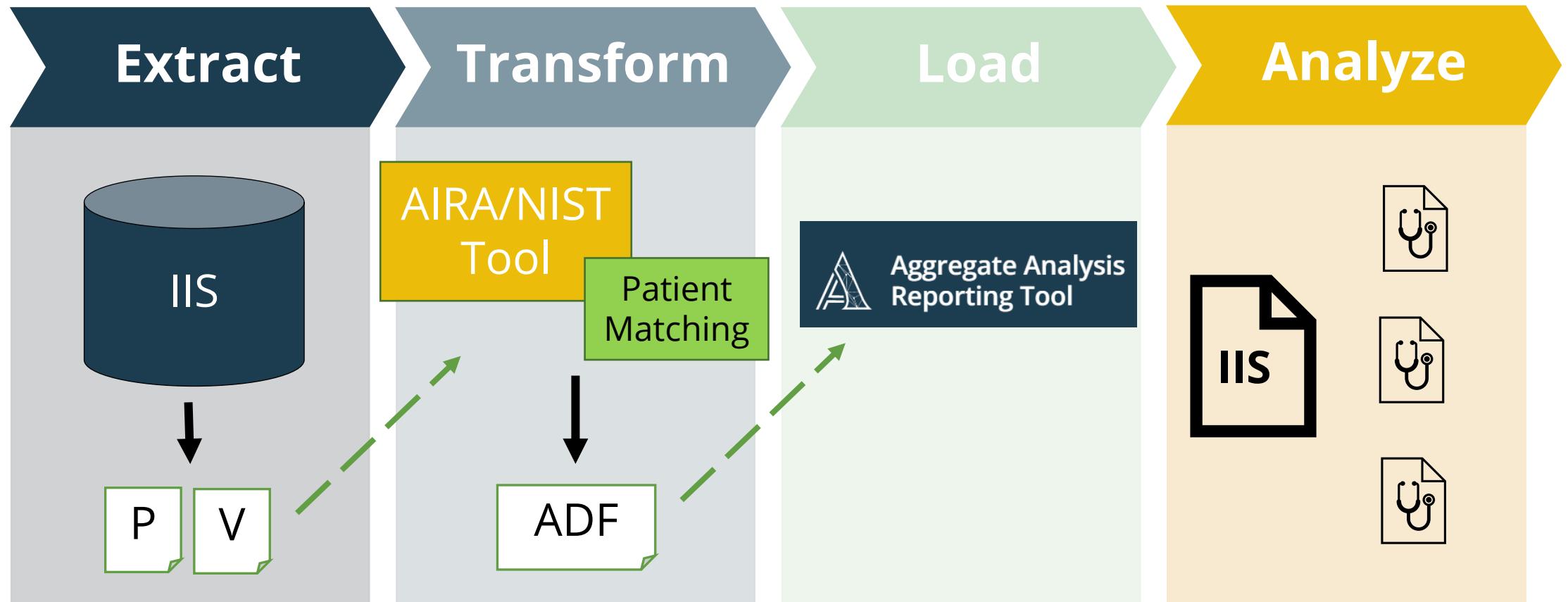
1.2. Patient middle name is present.

Total number of patient records with a middle name present over Total number of patient records extracted
 $> 75.0\%$

Data Analysis Query Export CSV Save Query

DETECTION_TYPE	Value	Threshold	Bar
MQE0685 - Patient middle name is present	87.4% (263 / 301)	Higher than 75% (PASS)	<div style="width: 87.4%; background-color: green;"></div>

Data-at-Rest (DAR) + Patient Matching



DAR + Patient Matching

Field
Name + first + middle + last
Date of Birth
Address + line 1 + city + state + zip
Phone

DAR + Patient Matching

Field
Name + first + middle + last
Date of Birth
Address + line 1 + city + state + zip
Phone



Possible matches

- 25% too high!
- 1% just about right
- 0% too low!

DAR + Patient Matching

Field
Name + first + middle + last
Date of Birth
Address + line 1 + city + state + zip
Phone



Possible matches

- 25% too high!
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DAR + Patient Matching

Field
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+ first
+ middle
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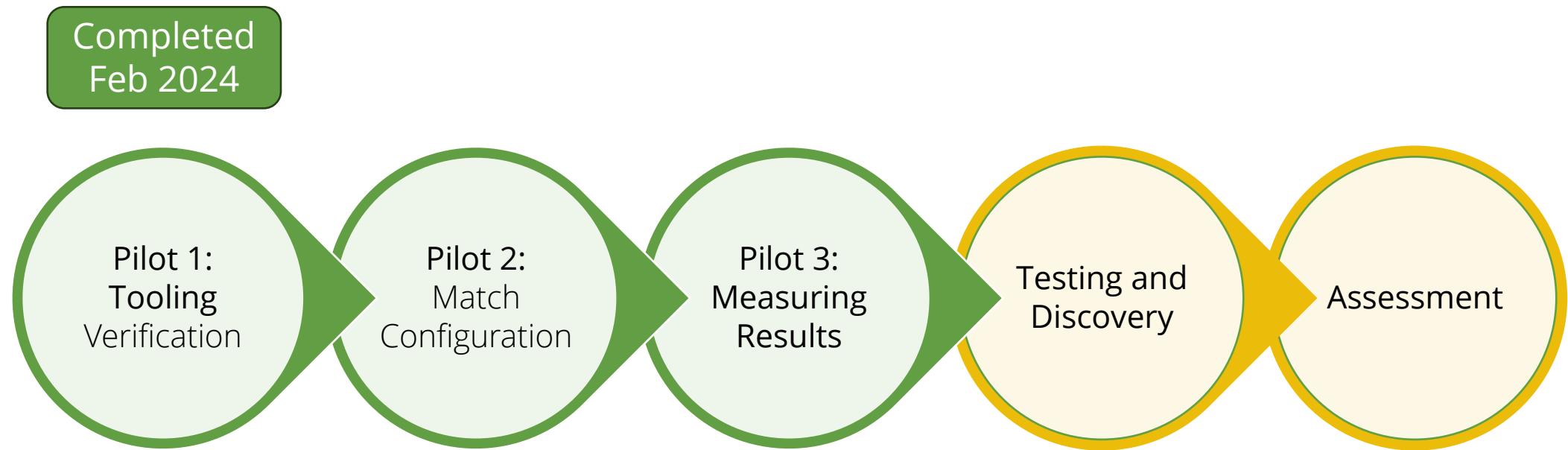
Mismo Matcher

- Open source
- Machine learning
- Single national configuration

Possible matches

- 25% too high!
- 1% just about right
- 0% too low!

DAR Patient Matching



Pilot

Goals:

- Verify tool can execute
- Verify DAR report generation
- Get feedback on local outputs
- Input for MACAW In Person

Limitations:

- Not comparable
- Very limited feedback for IIS

Pilot #1, cont.

	IIS #1	IIS #2	IIS #3	IIS #4
Records	27,211	42,912	69,331	27,018
DAR CLI run time	3 mins (151 r/s)	21 mins (34 r/s)	8 mins (144 r/s)	7 mins (64 r/s)
Possible matches	0.8%	0.7%	0.7%	0.7%

Pilot #1, cont.

	IIS #1	IIS #2	IIS #3	IIS #4
Records	27,211	42,912	69,331	27,018
DAR CLI run time	3 mins (151 r/s)	21 mins (34 r/s)	8 mins (144 r/s)	7 mins (64 r/s)
Possible matches	0.8%	0.7%	0.7%	0.7%
4 or more invalid	0.1%	0.05%	0.01%	0.1%
No doses	2.9%	0.8%	<0.1%	8%
Only a single HepB	5%	-	6%	-
Junk, temp, test names	1%	14%	1%	3%

Want to learn more?



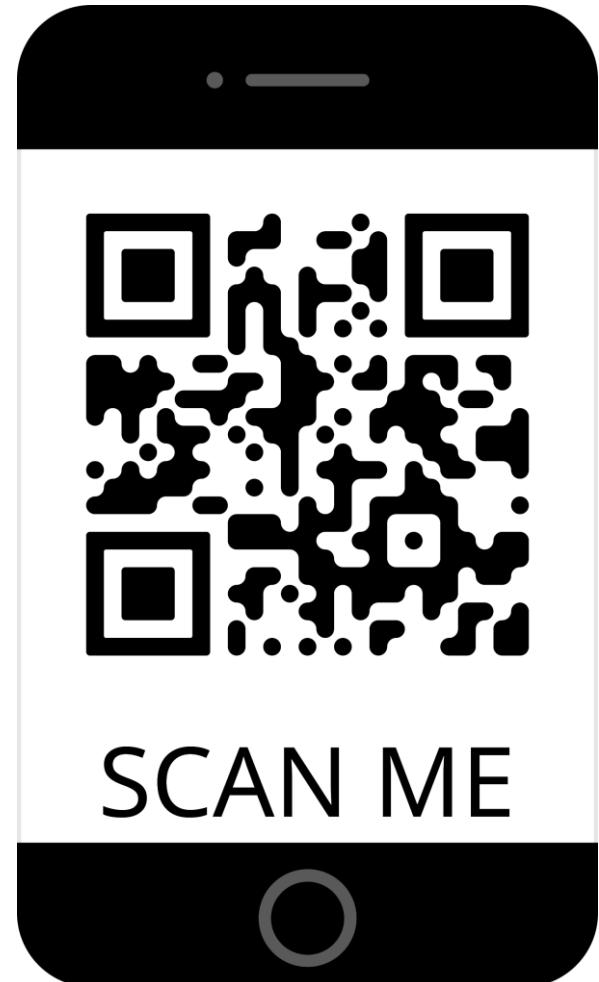
Technical Resources



Measures and Test for Assessment



Recording and slides of the DAR Town Hall



Join DAR Today!

- Please see AIRA staff for additional information about DAR assessment and/or DAR-Like Patient Matching pilot.