

A Practical Guide to Investigating DAR by EHR Results

Turning IIS data quality findings into targeted quality improvement actions | Summer 2026

Root cause analysis (RCA) is a structured approach for understanding why an issue is occurring before deciding how to improve it.

Research and implementation experience consistently show that IIS data quality is influenced by multiple factors, including workflow, onboarding, training, EHR configuration, interoperability, and policy decisions.¹ Understanding these contributing factors allows jurisdictions to identify improvement strategies that address the underlying cause and not just the symptom.

Approximately two-thirds of IIS data quality issues may be preventable through improved data collection, validation, and configuration within the EHR before information is submitted to the IIS.²

Common Contributing Factor Categories

Most data quality findings can be explored by considering one or more of the following categories:

Category	Examples
Clinical Workflow	Registration process, clinical and office staff steps, screening practices
Training & Knowledge	Staff understanding, onboarding gaps, data entry practices, turnover
EHR Configuration	Field mapping, defaults, required fields
Documentation Practices	Documentation habits, inconsistent use
IIS Business Rules	Validation logic, accepted values
Policy/Program Decisions	Local requirements, onboarding priorities
Technical/Data Flow	Interface issues, transport, transformations
Communication	Vendor coordination, provider outreach gaps

Step 1 – Start with one DAR by EHR finding

Begin with one measure, provider, or EHR product that demonstrates an opportunity for improvement. Starting with a single finding keeps the investigation manageable and allows

¹ Immunization Integration Program (IIP) Landscape Analysis (2023), <https://repository.immregistries.org/resource/aira-discovery-session-improving-immunization-data-quality-through-ehr-and-iis-collaboration/>.

² Ibid.

you to better understand the factors influencing the observed result before expanding your review.

Example

Your jurisdiction's largest EHR product has an average patient email completeness of 50%, which is well below the DAR measure threshold of 90%.

Step 2 – Describe the pattern

Before identifying possible causes, clearly define what your data are showing. Ask yourself:

- ✓ What specific pattern am I observing?
- ✓ Does this affect all providers or specific ones?
- ✓ How large is the performance gap?
- ✓ Does the finding vary across EHR products?

Step 3 – Explore possible contributing causes

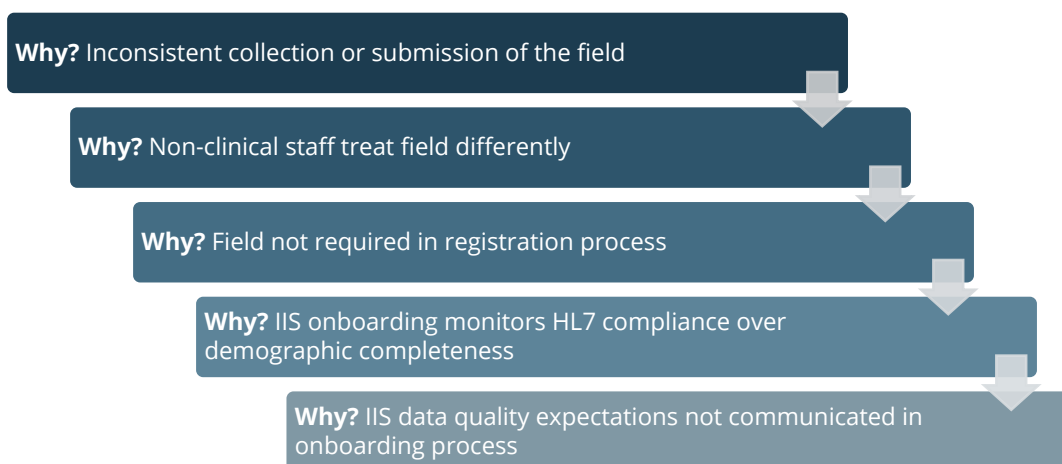
Category	Possible Contributors
Clinical Workflow	Registration staff might skip this field during intake
Training & Knowledge	Staff might not understand why the field matters for patient matching
EHR Configuration	Field might not be required or easily visible in workflow
Documentation Practices	Some reporting providers might prioritize minimal demographic collection

Observed Issue: Email address completeness varies across EHRs.

Avoid jumping to conclusions based on the first explanation that comes to mind. Instead, brainstorm several possible contributors across workflow, technology, onboarding, and other organizational factors.

Use your observations, local knowledge, discussions with stakeholders, and available documentation to identify potential contributors before determining which factors warrant further investigation.

Step 4 – Keep asking why



Continue asking "**Why?**" until you reach a process, workflow, technology, or policy issue that the jurisdiction can improve. The purpose of the 5 Whys technique is not to simply ask five questions but rather to continue exploring deeper contributing factors until you identify an underlying process or workflow that can be improved. As you move through each level, avoid stopping at symptoms or individual actions. Instead, look for opportunities to improve systems, processes, communication, training, or technology.

Step 5 – Identify improvement strategies

Partner with EHR vendors, implementation partners, or regional collaboratives to address configuration or interoperability issues.

Share provider-level DAR report cards to support targeted quality improvement discussions.

Evaluate IIS validation rules, onboarding guidance, or business processes to encourage more complete and accurate submissions.

Effective quality improvement efforts address the underlying causes identified during the RCA process. Rather than focusing only on correcting individual behaviors, consider interventions that strengthen workflows, improve system configuration, enhance provider onboarding, clarify expectations, or increase collaboration across partners.



Need Help? AIRA Can Help!

AIRA provides no-cost responsive technical assistance (TA) to help jurisdictions move from identifying a problem to implementing meaningful improvements. Consider submitting an ad hoc TA request if you need assistance with:

- Interpreting DAR by EHR findings or report cards
- Identifying potential contributing factors and root causes
- Developing an action plan or quality improvement strategy
- Connecting with EHR vendors, implementation partners, or other jurisdictions
- Identifying existing AIRA, CDC, or community resources that may help address your findings

Submit a [responsive TA request](#) to connect with an AIRA subject matter expert for individualized support.

Resources

Use these companion resources to support each step of your root cause analysis.

- [DAR by EHR workbook and user guide \(DAR Technical Resources\)](#)
Interpret report card findings and document your observations.
- [Root Cause Analysis Worksheets](#)
Use the Fishbone Diagram, 5 Whys, Workflow Mapping, and Prioritization Matrix templates to investigate contributing factors and identify improvement opportunities.
- [Data Entry Error Guide Template](#)
Develop provider-facing guidance that addresses common documentation and data entry errors.
- [Training Resources for Vaccine Data Entry Users](#)
Share evidence-based training resources with health care providers to promote accurate data collection and validation within the EHR before submission to the IIS.