



**AIRA**

AMERICAN IMMUNIZATION  
REGISTRY ASSOCIATION

# **Real Versus Artificial Coverage Rates**

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**Takeaways from the IIS Data Analyst  
Collaborative (IDAC)**

November 2024

# IIS Data Analyst Collaborative (IDAC)

November 21, 2024

## The IIS Data Analyst Collaborative (IDAC)

The IIS Data Analyst Collaborative (IDAC) is a discussion-based collaborative for people who work with immunization data to connect on important and timely topics. IDAC happens quarterly on the third Thursday at 1 p.m. ET. There will be a different discussion topic every meeting. The goals for these collaboratives are to offer an opportunity to share and develop skills and insights, to help people who work with immunization data to connect and spark collaborations, and to create a supportive, engaged community of IIS data analysts.

## Real Versus Artificial Coverage Rates

Discussion questions posted during this IDAC session included the following:

- What methods do you use to help mitigate issues from data quality issues?
- What do you think about establishing minimum data quality requirements for coverage rate calculations?
  - How to proceed?
  - What are the considerations?
- What is the impact of missing data elements (e.g., race/ethnicity fields) or old/outdated data (e.g., patient address)?
- What is the impact of the denominator used to calculate coverage rates?

### Discussion takeaways

Without a regulation or requirement to report, it is difficult for IIS data analysts to ensure their coverage rates represent the entire population. IIS data analysts are unsure if all the vaccinations have been reported to their IIS. They are unsure if lower coverage rates are being reported in areas where not all providers report. This calls into question the coverage rates generated.

### *Different denominators*

Also, using different denominators changes the resulting coverage rate. Thinking about missing providers, should denominators that include only the providers that report be used? This likely excludes providers with worse immunization practices and thus inflates rates (rates appear higher than reality). Or if non-reporting providers are included in a denominator, this results in missing numerator data being included, thus deflating rates (rates appear lower than reality).

### *Race/Ethnicity issues*

Race/Ethnicity data issues include legacy data, using "other" instead of "unknown" or not true race, and leaving the fill-in field for "other" blank. A lot of IIS are in the same situation. In future updates to the IIS, race and ethnicity and address reporting could be tied to an encounter so the IIS can see

who submitted the data and when. Several jurisdictions explained that, as a backup method, they do a place-based analysis using [CDCs social vulnerability index data set](#) (not just the social vulnerability index (SVI) index itself) and use the other social determinants of health metrics that CDC provides with the shapefiles. One jurisdiction mentioned ADI, [Area Disparity Index](#).

DMV and voter registration databases can be used to help with demographic and population level data. Some IIS have had some success using LexisNexis for specific projects. Participants discussed some of the barriers to using services like LexisNexis, e.g., data pertains to adults only, costly, and the cost-benefit ratio is unclear.

### *Geographic analysis*

Geographic analysis can be helpful to pinpoint where provider reporting may be missing. In areas with lower social determinants of health, is the issue that people are not being vaccinated, or are the IIS not getting those reports? Rural providers are not part of large chains or EHRs; they may even do manual data entry. Is it a reporting issue or a vaccination issue? When trying to address the reasons for lower vaccination rates in certain areas, this is important to know. It could be there are not enough providers, there is scarce transportation to those providers, providers are not reporting, or there's a combination of factors, etc.

### Novel ideas to help mitigate this issue

- If a VFC provider is part of a larger provider organization, require every location in that organization to report as well. It is easier for the EHR to send everything than to screen out only the VFC immunizations.
- Contact providers and request them to verify the number of vaccinations they have in their system compared to what has been reported to the IIS.
- During school nurse outreach, ask the school nurses to please notify you if there are providers in their area that do not report to the IIS.
- Build reports to run regularly to monitor HL7 traffic specifically for missing "daily" senders and higher-than-expected rejection/exception rates.
- Run a campaign to promote electronic interfaces with providers to lower their day-to-day burden of manually entering information. Onboarding providers to bidirectional electronic data exchange is helpful as well.
- Offer incentives for finding non-reporting providers.
- Learn from the success of others: conduct outreach with the mpox eradication effort providers who achieved complete coverage and learn about their procedures. (A vaccine provider bounty hunter idea was suggested!)
- Add a field called "source" to identify who has supplied demographic data: patient, parent, guardian, etc. If "unknown" is selected, add a field to capture the reason (e.g., not asked, refused to answer, unsure).

## Community needs and future IDAC topics

### *Percent completeness calculations*

Calculations used to determine completeness are not readily available. It would be nice to have a community standard for determining percent completeness. For example, if data is 97% or so complete, an IIS would be less concerned about what immunizations are missing.

### *Capture/recapture*

How to use an all-claims or Medicaid claims database to verify how complete the IIS system is. A capture/recapture analysis comparing provider reporting and billing source reporting of immunizations would be helpful—specifically, hosting a capture/recapture methods forum for all analysts to create a standard.