



SNAPSHOTS

IMMUNIZATION REGISTRY NEWS *from the* AMERICAN IMMUNIZATION REGISTRY ASSOCIATION (AIRA)

PRESIDENT'S REPORT

Dear IIS Colleagues and Partners,

As 2023 draws to a close, we are given the opportunity to reflect on our shared experiences, challenges, and successes as an IIS community. Over the past year, we've witnessed the official end of the COVID-19 public health emergency and commercialization of COVID-19 vaccines, a rescission of dedicated IIS funding, rightsizing our programs to reflect the impending COVID fiscal cliff, data modernization efforts across the public health space, nirsevimab planning and implementation, and for many of us, a more formal return-to-office. These are just a few of the many items that come to mind for me. What comes to mind for you? Even with the end of the pandemic response, it can often feel like we are "stuck" in response mode and are being asked to do even more with less. If this resonates with you, please know you're not alone. It is a tough time to be in public health.

Despite the magnitude of what we are being tasked to accomplish and just how heavy the world feels right now, let's take a minute to celebrate our successes together. Now, more than ever before, the IIS community is being recognized and called upon for its depth of experience and expertise. IIS are more interconnected than ever before, with real-time, bidirectional data exchanges among jurisdictions and federal partners like the Veteran's Health Administration and the Department of Defense (finally!). IIS continue to serve as the backbone of our nation's immunization programs, effectively adapting to accommodate new vaccines and other products, including the monoclonal antibody nirsevimab that will change the epi curve for RSV cases, hospitalizations, and deaths among our youngest infants and children. While the challenges are many, it is also exciting to be part of something so significant.

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Welcome to *SnapShots*, the American Immunization Registry Association's newsletter about the progress, best practices, and accomplishments of immunization information systems (IIS) across the country. We invite you to share news about your IIS. Email us at info@immregistries.org with information about a successful programmatic or technical innovation, major accomplishment, or milestone that your IIS has reached.



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Approaching the new year also presents us with an opportunity to look forward to what is to come. 2024 is sure to present its own challenges. As we collectively continue our recovery from the COVID-19 vaccine response and transition to more routine immunization work, I encourage everyone to think about resilience in the IIS community and workforce. Building resilience can take many forms, and there is not a one-size-fits-all method. As an IIS community, how can we support one another in building resilience and finding joy in our work? Make and cultivate connections. Celebrate success together. Remember our work has meaning and purpose. Communicate and build consensus as a community to advance together. Find and protect moments for invaluable self-care. AIRA is here to support all of us as we move into the new year, and I encourage you to find opportunities to participate in all that AIRA has to offer.

Wishing you a holiday season filled with love, good health, and time spent with family and loved ones.

In partnership,

Heather Roth, MA

Immunization Branch Chief, Colorado Department
of Public Health and Environment
AIRA Board President

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ADDRESSING IIS DATA GAPS BY URBANICITY: IMPUTING RACE AND ETHNICITY TO ASSESS DISPARITIES IN FLU VACCINE COVERAGE IN RURAL AND METRO COUNTIES IN WEST VIRGINIA

Early in 2023, the West Virginia IIS team partnered with STChealth to determine the association between data quality and geographic disparities in vaccine uptake, with a specific focus on missing race and ethnicity data.

In the West Virginia IIS (WVSIIS), 12% of records were missing race, 35% were missing ethnicity, 36% were missing race or ethnicity, and 11% were missing both race and ethnicity. As highlighted by the COVID-19 pandemic, race and ethnicity fields are historically underpopulated in IIS, which can limit our ability to effectively describe vaccine coverage and identify disparities. In prior investigations, we found the frequency of missing data varies across geographic areas; rural counties had race missing at higher rates (13%) compared with metro counties (11%), but metro counties had ethnicity missing at high rates (36%) compared with rural counties (32%). Multiple imputation using chained equations (MICE) is a statistical technique used to deal with missing information in a data set by predicting the value for the missing variable based on other information in the data set and repeats this process several times. We used MICE to address missing race and ethnicity and compared pre- and post-imputation flu vaccine coverage by urbanicity in WVSIIS.

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The sample consisted of all active individuals with a record in WVSIIS (N=2,160,507); the sample was predominantly female (53%) and white (87%), with a median age of 42 (interquartile range, IQR:43). Approximately 4% were black, and 3.6% were Hispanic/Latino. After we addressed missing race and ethnicity data, vaccine coverage estimates for rural communities continued to trail behind their metropolitan counterparts in every race and ethnicity category but most predominately in non-Hispanic white (19% and 21%), non-Hispanic black (8.4% and 14%), and Hispanic/Latino (7.6% and 13%). Further, the decline in flu vaccination rates was more pronounced in rural counties (3.3% decrease) compared to metro counties (2.3% decrease).

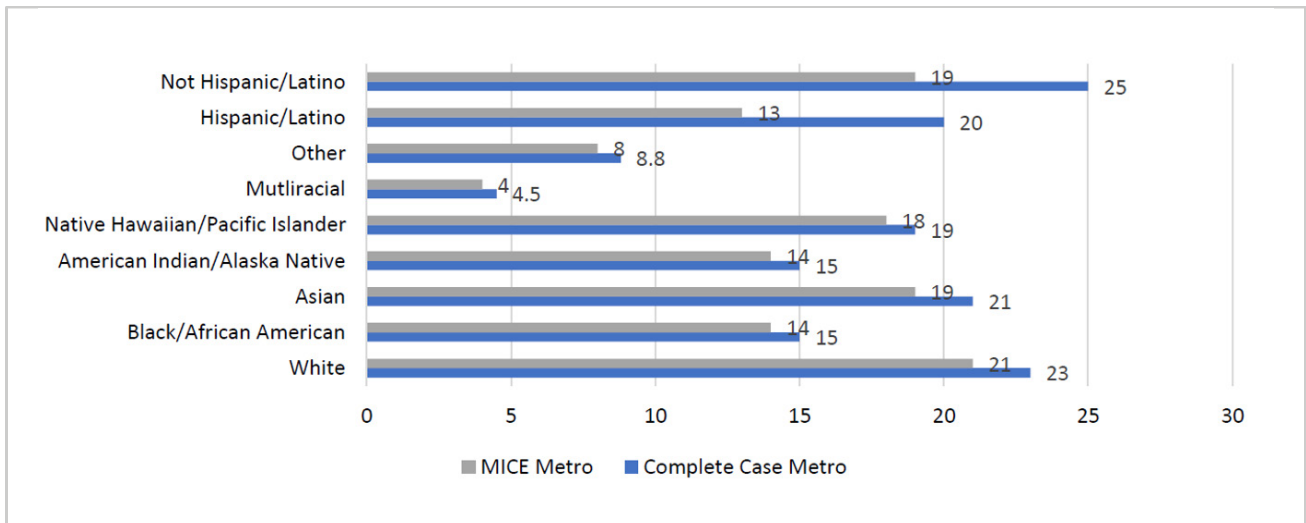
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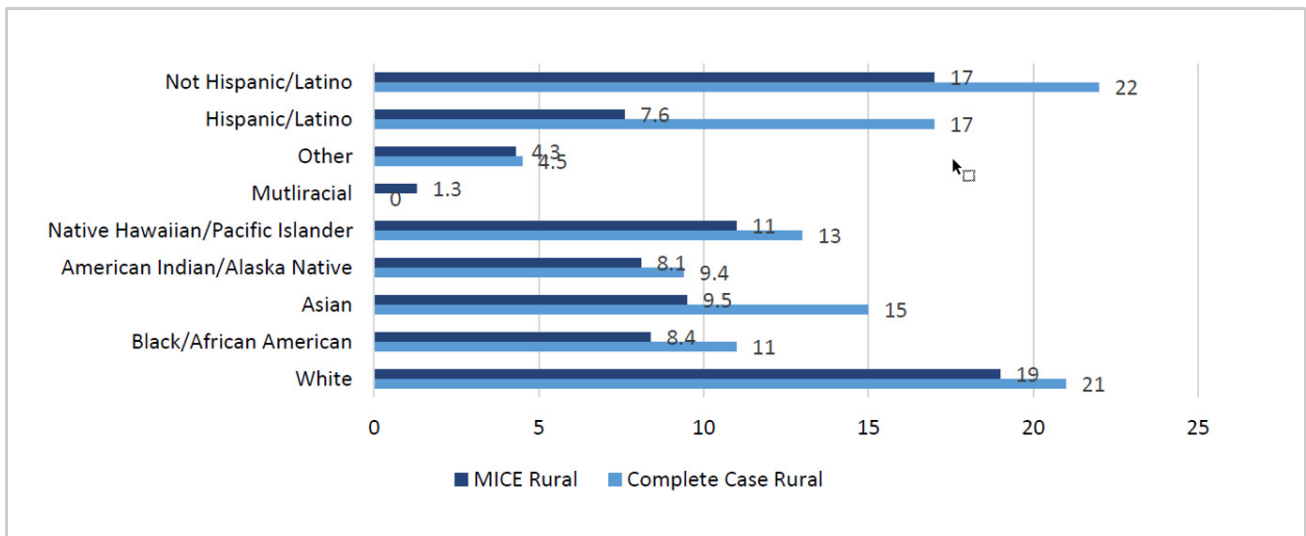
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Complete Case vs. MICE – Metro Flu Coverage Estimates



Complete Case vs. MICE – Rural Flu Coverage Estimates



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In this analysis, we used a statistically robust method of imputing race and ethnicity and found that estimated flu vaccine coverage disproportionately decreased among racial and ethnic minorities compared with their white counterparts, regardless of urbanicity. This is important because it adds evidence that missing race and ethnicity data in IIS could potentially contribute to our inability to adequately address racial and ethnic disparities, and could further isolate communities that are most vulnerable. Though this method of addressing missing data requires advanced statistical knowledge, IIS programs should advocate for continued education, particularly among those who perform statistical analyses, so that missing data within IIS is addressed appropriately. Further, it is essential to continue to improve primary preventive efforts aimed at educating vaccine providers in both metro and rural communities to input complete data into the IIS.

*- Submitted by Sara Brown, MPH, STChealth, Robert Wines, West Virginia IZ Director,
and Bryndan Kidd, MS, West Virginia IIS Manager*



END-OF-YEAR ROUNDUP: PHII'S IMMUNIZATION RESOURCES FOR 2023

2023 proved to be an active year for the Public Health Informatics Institute (PHII) in its ongoing support of the IIS community. PHII's new offerings for the year focused largely on supporting major IIS changes and providing guidance for core IIS functions.

Earlier this year, PHII hosted a series of webinars explaining how to make the most of the [Requirements Traceability Matrix](#) (RTM), a guide to identifying key IIS system requirements to improve IIS function and capability. PHII also released [a new guide for IIS on the Data Modernization Initiative](#) (DMI). This step-by-step guide provides suggestions on how IIS staff can engage in DMI—a national effort to create modern, integrated, and real-time public health data and surveillance.

PHII also built upon its decade-plus history of offering free eLearning courses on specialized informatics topics through its [Informatics Academy](#) by revamping its robust catalog of courses with an updated learning portal. As part of this refresh, PHII created two entirely new IIS-focused courses. The first course, Communications and Change Management, provides guidance on planning for change management, as well as essential skills required for communications with IIS partners. The second course, Data Use and Evaluation, covers comprehensive approaches to analyzing and interpreting IIS data necessary to inform decision-making and improve outcomes.

All of these resources and more can be found on [PHII's IIS Learning Hub](#). PHII is also planning more innovative IIS technical assistance and workforce development resources for next year.

PHII is grateful for ongoing collaborations with CDC, AIRA, and jurisdictional IIS teams from around the United States in developing and refining these tools. Send questions or follow-up comments on resources in the IIS Learning Hub to iis@phii.org.

- Submitted by Piper Hale, MPH, Public Health Informatics Institute



TECH CORNER

PROVIDING PUBLIC HEALTH EXPERTS WITH PRAGMATIC EXPLANATIONS OF TECHNICAL CONCEPTS

BEYOND TECH: THE HUMAN SIDE OF HEALTH IT SECURITY

When it comes to health IT security, our immediate thoughts often drift to complex technologies—encryption algorithms, multifactor authentication, and firewall protections. While these elements are crucial, they are not the be-all-end-all of security. In fact, they may even distract from the more significant vulnerabilities that lie in human interaction.

The Achilles' heel of most secure systems is not necessarily a technical fault but a human one. Social engineering—a practice as ancient as deceit itself—can quickly unravel the most sophisticated security measures.



Consider the tale of a security consultant hired to “hack” a Pentagon mainframe. Despite the military’s investment in state-of-the-art encryption and firewalls, the consultant gains access simply by posing as a desperate staffer and manipulating the help desk personnel. The weakest link? Human judgment swayed by authority and urgency, not the encrypted communication or secure firewalls.

Takeaway: don't neglect the human factor.

As you design or evaluate a secure system, it's imperative to consider not just the technological but also the human elements. How might a bad actor exploit social hierarchies or human psychology? Ensuring that the individuals maintaining your system are well trained and are adhering to documented policies and standard operating procedures can fortify your system against both technical and human vulnerabilities.

- Submitted by Nathan Bunker, American Immunization Registry Association (AIRA)

The “AIRA Tech Corner” is published as a blog. [Read more](#) on the AIRA website.