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AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

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SNAPSHOTS

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

PRESIDENT'S REPORT

Dear Colleagues,

As we near the end of 2022 and close in on the two-year anniversary of the COVID-19 vaccine rollout, I cannot help reflecting on all that has happened and all we have accomplished. **The IIS community has faced every new challenge with a determination to succeed and with unwavering dedication to our communities and to public health.** It has not been easy, and we have had to sacrifice a lot in order to do all that we've done. As we continue to move forward in this new IIS landscape, I hope that you all are taking the time you need to rest, recharge, and visit loved ones you haven't seen in a while and that you are really taking care of yourselves. We should be celebrating all that we have done, all the people who have been vaccinated, and all the lives saved as a result.

In addition to all that IIS have done and continue to do regarding COVID-19, I want to also recognize all that has been accomplished with the monkeypox vaccine rollout. Monkeypox came with its own unique set of challenges that required all of us to establish new processes and work with new systems. Again, we faced those challenges and found ways to succeed. This is another reason for us to celebrate.

Looking forward to the new year, I also want everyone to remember that your voice is important, but it cannot be heard if you don't use it. I know that we are all overwhelmed with daily emails asking questions and looking for our input and it's not possible to respond to every request that comes our way. There are a lot of initiatives that AIRA and other partner organizations are working on to help further the interest of IIS and help advocate for our needs. It is vital that they hear from as many of us as possible to make sure all of our interests, questions, and concerns can be captured and that the solutions and guidance that come out of these efforts truly meet the needs of our entire community, not just the needs of a few.

I hope you all have a safe, healthy, and happy holiday season!

Regards,
Mary Woinarowicz, MA
Manager, North Dakota Immunization Information System
AIRA Board President

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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.

Subscribe to *SnapShots*. This information will remain confidential and will not be sold or passed on to other parties.
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REED ALL ABOUT IT!

Katie Reed has been an integral part of AIRA from its conception. As she steps down from her 20-year tenure as *SnapShots* editor, we want to thank her for her work and highlight her contributions to AIRA and the immunization information system (IIS) community.

Katie's work with IIS began in 1998, with the implementation of a regional immunization registry in central New York. The immunization registry was given the name Central New York Regional Immunization Information System (CNYRIIS). Katie was hired as the project manager to help implement the CNYRIIS. She quickly found herself extending beyond the prototypical project manager responsibilities, covering every detail—"soup to nuts!" as she called it. During this early work, she was able to build an awesome team. It was not long before Katie and her team went from managing one regional system to multiple regional systems. In 2007, Katie transitioned to EDS (later known as HPE, DXC, and Gainwell), joining the team responsible for moving to a statewide system.

Katie became involved with IIS at a national level through participation in AIRA. Her history with AIRA dates to before it was a 501(c)(3), and she was present during those initial meetings when AIRA was just an idea. Her knowledge, experience, and willing attitude made her an invaluable founding member. During her time at AIRA, Katie served as the second-ever editor of *SnapShots*, co-chair of the Education Steering Committee, and a National Meeting presenter and attendee. She was an AIRA board member, valuable part of the steering committee for the Modeling of Immunization Registry Operations Work group (MIROW), and a subject matter expert with MIROW for many years. Over the years, she has been able to watch AIRA develop and continue to grow into the national resource it is today.

In 2019, Katie's role within DXE/Gainwell evolved, requiring her to transition away from day-to-day IIS engagement and into corporate support and strategy. Over the past year, Katie has had to step away from her last AIRA ties, and she stepped down as editor of *SnapShots* after the publication of the September 2022 issue.

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To reflect upon and celebrate her time as SnapShots editor, we interviewed Katie about both her time at AIRA and in the IIS community.

Q: What are your fondest memories of your time working in the IIS and immunization communities?

From the start, this was a great opportunity to be able to work in an environment where I could do everything I love, such as being a project manager, a bit of a technical geek, and supporting public health with amazing people. Talk about a trifecta! I have made so many friends which I believe comes from having such an amazing community. Together we have solved lots of challenges over the years. Starting early, with things like basic recruitment and retention of providers, through HL7 standards and interoperability, to outbreaks and pandemics, this community always rallied together to solve what came our way. It didn't matter if you had an email with .com or .gov, I always felt part of one team!

Q: What will you miss most about working in the IIS community?

The people and the fact that I never got bored. There is always something happening which keeps it from getting too rote. But to be honest, the people I worked with across the nation [are what she will miss most]. The people [in the IIS community] are forward thinking, strategic, and dynamic.

Q: Do you have any advice or words of wisdom for those in the IIS community?

Stay involved, stay engaged. The more you engage, the more you get out of it. This is an amazing community, and it is strong because everyone participated actively in supporting it and moving it forward.

During the interview, Katie stated, "AIRA and IIS are a part of my history both personally and professionally." Here at AIRA, Katie is a part of our history. Katie, we want to thank you for all you have done for AIRA and the IIS community. While this is bittersweet, we wish you the best as you grow in your new role and beyond!

"AIRA and IIS are a part of my history both personally and professionally."

EFFECTIVELY PLAN YOUR IIS HIRING WITH PHII'S NEW STAFFING RESOURCES

Hiring and allocating staff for specialized IIS roles can present unique challenges, but your IIS doesn't need to start from scratch when planning for staffing needs!

PHII is currently in the process of updating its 11 workforce classifications. These sample role descriptions identify typical duties, responsibilities, and competencies of key IIS team members; these roles include IIS managers, interoperability analysts, project managers, business analysts, and trainers, to name a few. Sample role descriptions may be adapted for a number of uses, including planning staffing needs, writing HR job descriptions for recruitment purposes, and reallocating staff to new roles.

The role descriptions map to the IIS Core Competency Model, developed by PHII in collaboration with CDC. The competency model offers a pathway to align IIS staff performance success with national immunization goals and recognized operational strategies. Used together, the role descriptions and competency model can provide guidance for identifying staffing needs and subsequent recruiting for IIS positions.

The role descriptions and staffing model are found on PHII's IIS operations tools page for staffing resources. PHII and CDC regularly review the roles to ensure that they are current and plan to update all 11 roles by spring 2023. New roles will be added as needed. Check out the website to see all the roles that have been updated thus far!

Other additional IIS resources from PHII

Additional staffing tools, training, guidance, toolkits for working with an IIS, and other related resources can be found on the IIS Learning Hub. The IIS Learning Hub regularly undergoes regular updates to remain current and relevant in a rapidly evolving immunization world. Some recent updates to the IIS Learning Hub include the following:

- PHII recently revamped and relaunched the Welcome to IIS email course, an 18-day orientation to IIS conducted through bite-sized lessons delivered to participants' email inboxes each day.
- Earlier this year, PHII updated the Requirements Traceability Matrix (RTM) to help jurisdictions assess their current IIS functionality or plan for future updates. A recent webinar provided guidance on how best to use the RTM to satisfy funding requirements; the webinar is now published online.
- The IIS Learning Hub features step-by-step deep-dive guidance into processes such as procuring a new IT solution for an IIS or migrating an IIS to a new platform. Visitors can also benefit from more general guidance on day-to-day IIS operations and management, as well as stories from the world of IIS and in-depth histories of the early years of IIS.

PHII is grateful for ongoing collaborations with the CDC, AIRA, and jurisdictional IIS teams from around the U.S. 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*

IMPROVING IIS DATA QUALITY THROUGH PARTICIPATION IN DAR

With IIS data now being utilized by a variety of stakeholders to inform outbreak response efforts and make important public health decisions, the need for IIS jurisdictions to focus on data quality has been brought to the forefront.

Participation in the Measurement and Improvement (M&I) Data at Rest (DAR) content area provides an opportunity for IIS jurisdictions to measure the quality of the data that has been accepted into the IIS production environment through an objective, independent testing process.

DAR results equip jurisdictions to better understand and identify opportunities to improve quality of the data that is "resting" in its IIS database. Participating IIS will receive usable and actionable reports that can help drive data quality from specific data senders.

Available reports include:

- **IIS-Wide Report** – Provides a view of the overall picture of the completeness, validity, and timeliness of IIS data
- **Provider Breakdown Report** – Stratifies the entire cohort of data by provider

New Mexico and **Arkansas** participated in this content area in 2022 and used their DAR results to improve their data quality.

During AIRA's October 3 Discovery Session and Town Hall meeting, **New Mexico** shared the data quality improvement plan it created based on its DAR results, which revealed timeliness as an area of concern. The plan included hiring temporary health educators to identify priority areas and obtain feedback from providers on barriers to timely reporting. These health educators are working to help provider offices transition to bidirectional data exchange and are developing and refining resources to assist provider offices in timely reporting to the IIS. Benchmarks were established to track progress, and data will be analyzed and communicated to the same cohort on an annual basis.

New Mexico's Estimated Resources for DAR Completion

1 staff person

6 hours to extract the data

10 hours to transform the data

1 hour to upload the data

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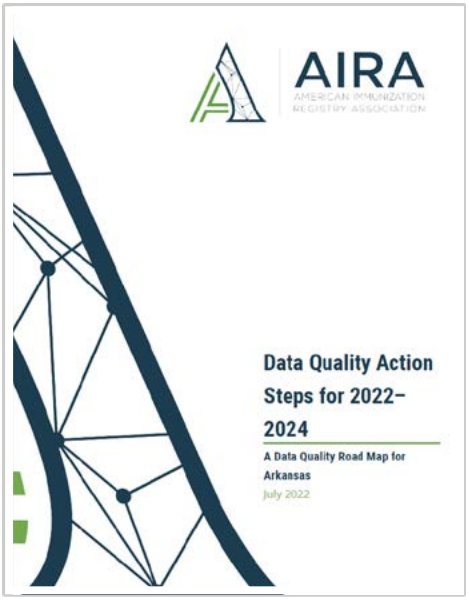
IMPROVING IIS DATA QUALITY THROUGH PARTICIPATION IN DAR *Continued from page 5*

Arkansas' IIS team participated in the Routine Immunization-DAR collaborative. Through this project, they received a bonus report, including a customized data quality road map, with actionable steps for improving data quality within the next one to two years. Based on Arkansas' DAR testing and discovery results, several strategic recommendations and associated action items were outlined, providing Arkansas with a ready-made, easy-to-use plan of action for addressing IIS data quality.



Beginning in 2023, DAR will transition from the testing and discovery phase to the assessment phase. Participating in DAR has become an increasingly important tool for identifying and addressing IIS data quality issues. Jurisdictions can fulfill Cooperative Agreement activities outlined in chapter D of the *Immunization Program Operations Manual (IPOM)* by participating in DAR assessment.

To learn about how your organization can participate, review the DAR Participation Checklist and submit a technical assistance request if you need support along the way.

"The information generated through the Routine Immunization-DAR Collaborative and the resulting Data Quality Road Map will be so beneficial in helping our team improve our IIS data quality! The DAR data upload used a process unfamiliar to me, but AIRA was super responsive and provided the guidance needed to make the process easy!" — **Rachel Odom, RN,** Arkansas IIS Manager

- Submitted by the Standards and Analytics team
*and the **Strategic Initiatives team** at AIRA*

TECH CORNER | PROVIDING PUBLIC HEALTH EXPERTS WITH PRAGMATIC EXPLANATIONS OF TECHNICAL CONCEPTS

WHAT IS ENCRYPTION?

We use encryption every day, but the technology can often feel obscure and inaccessible. This article will give you a basic framework to better understand how it works.

Encryption is a process of converting a plain text message that everyone can read into what appears to be a random series of letters and numbers. The encryption can be converted back into the original plain text only by the one who has the secret key. This allows for sending information securely across public networks, ensuring that only the receiving system can read the transmitted information.

Super-secret decoder wheel

When you were a child, you may have played with a toy that allowed you to create and read "super-secret" messages.

The operation of the toy is simple:

- Write down your message in plain English text with extra space between lines.
- Shift the inner ring relative to the outer ring a certain number of positions.
- Rewrite the message in the extra space below each line but substitute the letters going from the outer ring to the inner ring.
- Give your friend only the converted letters and tell them how many shift positions you used.
- Your friend can now reverse the process, writing the outer letter that matches the inner letter until they see your original message.

Here is what the secret messages would look like when encrypted:

Plain Text Message	Five Shifts on Inner Wheel
HELLO	CZGGJ
CAT	XVO
CAT IN THE HAT	XVO DI OCZ CVO
MICKEY MOUSE	HDXFZT HJPNZ

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TECH CORNER | PROVIDING PUBLIC HEALTH EXPERTS WITH PRAGMATIC EXPLANATIONS OF TECHNICAL CONCEPTS

WHAT IS ENCRYPTION?

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You can try this online yourself. https://cryptii.com/pipes/caesar-cipher

Cipher and key

While the decoder wheel is a child's toy today, it was used by Julius Caesar to send secret military orders to his Roman legions and still provides an accurate model for understanding modern encryption systems. There are two key terms you should be familiar with:

- **Cipher** – The method or process used to encrypt and decrypt. In the toy example, this is the decoder wheel and the knowledge of how to use the wheel.
- **Key** – The secret the sender and receiver share that keeps the encrypted data impossible to read. In the toy example, this is knowing how many positions the inner circle should be shifted to encode and decode.

Modern encryption improvements

Encryption systems we use today are much more sophisticated, although at their core they are doing the same thing.

Problem	Solution
Decoder wheel encryption is easy to decipher. Patterns, such as letter frequency, appear in the encrypted text. It takes only a few minutes of effort to start to see patterns and guess the letter substitutions that have been made.	Modern encryption methods have very complex mathematical operations that create encrypted text that have no discernable patterns.
The decoder wheel has only 25 possible positions, meaning that it would take no more than 25 attempts to find the combination that deciphers the encrypted text. The key size is thus only 25.	Modern encryption methods require very large randomly generated numbers with extremely high key size. An attempt to try every key is impossible to complete in any useful time frame.
How do you share the secret key securely across the internet? Before you can establish a secure channel, there has to be some way to transmit the shared encryption key securely.	In the next article we will talk about digital certificates and how they are used to establish secure channels for transmitting secret keys that can be used to encrypt data.

- Written by Nathan Bunker, *AIRA*

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