AIRA
AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

SNAPSHOTS

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

PRESIDENT'S REPORT

Dear Colleagues,

The world of immunization information systems (IIS) is one of rapid change, and the AIRA board is not immune. Two valuable members of AIRA's Executive Committee have recently left. Belinda Baker, the IIS manager from the state of Washington, retired and resigned as AIRA's treasurer, and Michelle Hood, the NESIIS coordinator at the Nebraska Department of Health & Human Services, resigned as immediate past president to pursue other career opportunities. Both Belinda and Michelle contributed extensively to AIRA's leadership and deserve our thanks for their hard work.

We are fortunate to have filled the two executive committee vacancies with extremely qualified and dedicated members of the IIS community. In April, Megan Meldrum became AIRA's new treasurer. Megan has been with the New York State Immunization Information System since 2008 and is a current AIRA board member, working closely with Amanda Dayton to monitor contracts and AIRA's budget. She is also a member of the Standards and Interoperability Steering Committee and the Modeling of Immunization Registry Operations Workgroup (MIROW).

In May, Amy Metroka, director of the Citywide Immunization Registry and Vaccines for Children (VFC) Operations (NYC), filled the vacancy left by Michelle Hood and became AIRA's vice president. Amy previously served as AIRA's president and is currently a member of the Measurement for Assessment and Certification Workgroup and MIROW. Amy will fill the important role of chairing the Bylaws Committee. The bylaws are currently being reviewed to identify changes that both clarify roles and provide flexibility in a dynamic environment. Please take the time to review AIRA's current bylaws and forward any suggestions to Amy. Of course, any bylaw changes will come to the full AIRA membership for a vote.

A final board update: Elections are coming! Mandy Harris, as president elect, chairs the Nominating Committee. The committee needs your help in identifying candidates to represent your interests. For the fall elections, positions will be open for three directors, the president elect, and the treasurer. Please consider this opportunity. IIS in all stages of development need representation and a voice in the community.

See you in Utah for the AIRA 2018 National Meeting!

Regards,
Kim Salisbury-Keith, MBA
KIDSNET Development Manager
Center for Health Data & Analysis, Rhode Island Department of Health

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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 across the country. We invite you to share news about your registry. Email us at info@immregistries.org or call us at 202-552-0208 with information about a successful programmatic or technical innovation, major accomplishment, or milestone that your registry has reached.

DATA QUALITY, TATTOOS, INTEROPERABILITY, AND YOGA
WHAT DO THEY HAVE IN COMMON?

They'll all be featured at the AIRA 2018 National Meeting in Salt Lake City!

Here's a sneak peek as to what you can expect at this year's event, as well as some behind-the-scenes stories from meetings past!

2018 Keynote Speaker: Scott Burris, JD, Professor of Law and Public Health and Director, Center for Public Health Law Research at Temple University

Scott Burris's work focuses on how law influences public health and what interventions can make laws and law enforcement practices healthier in their effects. As the premier methodologist in the emerging field of legal epidemiology, his work has been supported by many organizations, including the Bill and Melinda Gates Foundation and the CDC. Burris is a consultant to numerous U.S. and international organizations, including the World Health Organization. He is a founder of Legal Science LLC and a Fulbright Fellow and was the recipient of the American Public Health Law Association Health Law Section Lifetime Achievement Award in 2014.

Bring home enriching content

AIRA continues to offer rich, relevant content IIS staff can use. We try our best to make our program engaging and fun. This year, look for:

- International speakers with an emphasis on IIS work happening globally.
- Your peers sharing what they've learned about IIS preparedness and sustainability, interjurisdictional exchange, onboarding, standards, EHRs, CDSi, AFIX and all your other favorite acronyms.
- More recognition of the work **you're** doing, with a new community award plus a geocoding contest.
- Keynote speaker Scott Burris, JD, on the intersection between public health, state policies and practices, and market forces in a time of diminishing public health funding.
- Our interactive gameshow, back by popular demand! Who will be crowned the 2018 winner?

Community exchange

We structure the National Meeting to foster networking and strengthen collaboration. To supplement conversations happening within the meeting rooms, AIRA has organized extracurricular networking opportunities. Visit the registration desk and sign up for:

- Yoga on the Garden Terrace
- An invigorating morning run
- A casual walking tour around SLC
- Our always-lively AIRA reception— you're coming, right?

DATA QUALITY, TATTOOS, INTEROPERABILITY, AND YOGA
WHAT DO THEY HAVE IN COMMON? *Continued from page 2*

A calm exterior...can be misleading

Past attendees have praised how professional and organized our meeting is. (Thanks!) In the spirit of transparency, we thought we'd share a few anecdotes from meetings past to give you a sense of the controlled chaos that precedes the AIRA National Meeting.

Things that go bump

We've all heard Eric Larson share some methods he uses to instill independence and resourcefulness in his kids. During a work call at home one day, he heard his son answer their door and have a friendly exchange. Then he heard some muffled thumps. When questioned later, his son proudly told his dad that he had "taken care of" the multiple boxes that had been delivered. They were heavy, so he rolled them end-over-end through the house and down the steps to the garage. What did those boxes contain? The glass AIRA volunteer awards.

You can't miss us!

It's a little uncanny how often AIRA staff members run into IIS staff at airports around the country. Perhaps it's because we're hard to miss? One year, in an attempt to be frugal, we took advantage of a Delta baggage special and brought the majority of our supplies on the plane. Airport travelers hustled to get out of the way of a careening cart stacked so high with suitcases and boxes that its driver (Ketti Turcato) was almost invisible.

Bringing the magic

"Almost invisible" is not really fair, though, because on that same flight, Ketti, Rebecca Coyle and Amanda Branham were actually the talk of the plane. Why is that? They were not able to pack the magician hats they were bringing as session props. So the three of them put the top hats on their heads and wore them during the entire flight and as they trekked through the airport.

Your AIRA in-flight magicians
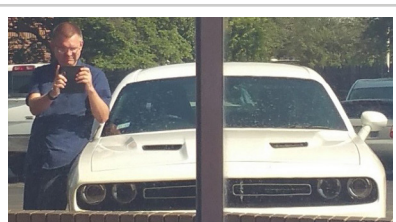
Nathan and his hot rod

Not to be out-classed...

And lastly, AIRA staffer Nathan Bunker, known for his technical thinking and his general adherence to logic, surprised his team by pulling up to our Chicago hotel in a muscle car. His reservation was for an economy vehicle, but apparently the rental place knew we all needed a laugh.

Join us today!

Hope these stories made you smile. We can't wait to spend time with you all this summer! Please join us in Salt Lake City. Check out our preliminary agenda, register for the meeting, reserve your hotel room and/or sponsor the event. See you in August!

– Submitted by Maureen Neary, AIRA

NEVADA'S AFIX-IIS JOURNEY

> Nevada recently completed the journey from the Comprehensive Clinic Assessment Software Application (CoCASA) to IIS for Assessment, Feedback, Incentives, and Exchange (AFIX) activities!

Many years ago, Nevada transitioned to using NV WebIZ (our statewide IIS) data for AFIX assessments and extracting and uploading data, rather than using records within a provider's office. When it was announced in 2013 that AFIX assessment functionality should be migrated to IIS, we were ready to jump in with both feet! We began our journey by participating in the development of AFIX-IIS Integration Phase II guidance and applying for and receiving, in 2015, an AFIX-IIS Phase I Prevention and Public Health Fund (PPHF) award.

The strong collaborative nature of Envision Technology Partners enabled us to pool our award with other Envision clients also receiving these funds, leading to the development and deployment of the full suite of AFIX assessments (Phase I & Phase II), as well as the adoption of functionality to support best practices for Patient Active/Inactive Status. Through weekly webinars hosted by Envision, all clients contributed to the incremental development, ensuring a final product that met all needs and requirements. The process was structured, efficient, and, ultimately, a positive and informative experience for Nevada.

As the various pieces of AFIX functionality were deployed to NV WebIZ, staff began developing educational materials for users and incorporating the new AFIX assessment process into policies and procedures. In the last quarter of 2017, Nevada's AFIX coordinators "unofficially" generated assessments in the IIS for comparison to CoCASA data for all AFIX visits. The coordinators found the new functionality easy to use and far less time-consuming than the traditional process. As of January 1, 2018, all AFIX assessments in Nevada are generated by NV WebIZ.

In accordance with a requirement of the PPHF award, the IIS AFIX functionality allows providers to generate and view their own assessments. To educate providers about this new feature, two guidance documents were developed: a detailed, 16-page guide, as well as a summarized, 2-page guide. As part of a larger effort to provide independent learning opportunities, an AFIX-IIS user video is under development.

While *we* loved the new functionality, it was important to ask providers what they thought. A sample of VFC-enrolled providers was selected to receive the educational guides along with a three-question survey. We asked: (1) Did you find it easy to generate an assessment for your clinic(s) and, if not, why; (2) What did you like best about it; and (3) If you could change anything about how it works, what would it be?

We received responses from all but two of the sampled providers, and they were overwhelmingly positive! They found it self-explanatory, fast, and easy and, somewhat surprisingly, thought it was an easier way to determine which patients needed to return. In fact, two of the practices indicated they had already begun to act based on the assessments, calling parents to make appointments. Only one respondent wished for a change: to be able to generate a similar assessment for patients aged 2–5 years (food for thought!). While the survey represents only a small sample of providers, we believe that, as the new process is used over the next year, more and more practices will self-assess and find new value in using NV WebIZ.

– Submitted by: Amanda (Mandy) Harris, Nevada Department of Health and Human Services

USING AN IIS VACCINE INVENTORY MANAGEMENT MODULE TO INCREASE VACCINES FOR CHILDREN PROGRAM ACCOUNTABILITY

In June 2017, New York City (NYC) released a comprehensive Vaccine Inventory Management (VIM) module in the web-based user interface of its immunization information system, the Citywide Immunization Registry (CIR).

This module was created to increase VFC program accountability and to provide our VFC-enrolled provider sites with expanded vaccine management capabilities.

VIM was integrated with the CIR's preexisting online VFC vaccine ordering system. With the introduction of VIM, providers were required to account for and balance their VFC vaccine inventory at the dose level before placing an order. VIM displays the provider's CIR Expected Inventory, which is based on vaccines shipped to the provider (source: VTrckS ship file) minus doses reported to the CIR as administered to eligible children or returned due to expiration or spoilage. The CIR automatically decrements doses administered or returned by matching them to vaccine lot numbers from the VTrckS ship file. At the time of ordering vaccines, providers are required to enter their on-hand VFC vaccine inventory, and VIM compares it to the CIR Expected Inventory. The provider must reconcile any difference before the vaccine order can be submitted. VIM also offers providers the ability to generate several customizable vaccine usage reports. In addition to facilitating vaccine accountability, lot-level reconciliation in VIM helps providers to be more aware of their vaccine usage and can also help them identify CIR reporting issues they were not aware of.

We recently measured the impact of VIM on VFC vaccine accountability among all VFC provider sites. Our goal was to increase the percentage of VFC sites with a CIR-generated Doses Administered Report (DAR) greater than 80% by 10 percentage points as of July 1, 2018, one year after VIM's release. The DAR is calculated by dividing the total number of doses reported as administered to children eligible for vaccines distributed through VFC (numerator) by the total number of doses received by the VFC site over the previous 12 months (denominator).

As of the end of May 2017, one month before VIM's release, the percentage of active VFC sites with a DAR greater than 80% was 67% (928/1,376). **By the end of April 2018, this measure increased 10 percentage points to 77% (1,018/1,318), thus meeting our goal two months ahead of schedule.** Further, 46% (612/1318) of active VFC providers ran a total of 7,891 unique VIM reports as of the end of April 2018. We will continue to monitor provider DARs and expect to see further improvement in VFC vaccine accountability in the coming months. We will also assess the utility of the VIM reports and their value for providers.

– *Submitted by: Arianne E. Ramautar,* MPH, *New York City Department of Health and Mental Hygiene*

HIMSS PROGRAM ADVANCES INTEGRATION OF IMMUNIZATION-RELATED CLINICAL SOFTWARE

> Each year, two to three million lives are saved globally by vaccinations, according to the World Health Organization.

We also agree that immunizations have led to better health outcomes, higher clinician productivity, and reduced medical costs. HIMSS, a global non-profit organization that leads endeavors optimizing health engagements and care outcomes through information and technology, is committed to further advancing those efforts.

The HIMSS Immunization Integration Program
Introduced more than four years ago through a Centers for Disease Control and Prevention (CDC), National Center for Immunization and Respiratory Diseases (NCIRD) contract with Chickasaw Nation Industries, the HIMSS Immunization Integration Program (HIMSS IIP) was launched to advance the integration of immunization-related capabilities within electronic health records (EHRs) and other clinical software. The program accomplishes this goal by:

- Facilitating agreement on priority immunization-related capabilities that align with clinical workflows
- Enabling software developers to voluntarily test and achieve recognition of their products
- Providing guidance to improve usability of immunization-related software functions

> **We believe that the widespread adoption of immunization-related capabilities across EHRs will not only support better care but also result in better health.**

Goals of the program
Integrating immunization-related software capabilities based on workflow and usability principles within EHRs and other clinical software can lead to improved clinical and patient decision making by providing more timely access to immunization data and supporting enhanced information sharing between EHRs and immunization registries.

The program is helping to ensure that clinicians administer the vaccines their patients need when they need them and that complete vaccination records are available within their local immunization information system. We believe that the widespread adoption of immunization-related capabilities across EHRs will not only support better care but also result in better health.

Accomplishments of the program
In October 2017, the HIMSS IIP earned approval from the Office of the National Coordinator for Health Information Technology as an alternative testing method for the Health IT Certification Program. This acknowledgement has encouraged vendors to seek recognition for their immunization-related software through this voluntary testing program.

Acknowledging the benefits of tracking immunization data through health IT systems, in March 2018 HIMSS announced the first set of products recognized by the HIMSS IIP for having fulfilled the testing requirements and program guidelines for immunization-related capabilities.

HIMSS PROGRAM ADVANCES INTEGRATION OF IMMUNIZATION-RELATED CLINICAL SOFTWARE

These products, which together represent more than 25% of the EHR market, include:

- Cerner's Cerner FirstNet® and PowerChart®
- Electronic Services Technologies' The Physicians – Practitioners Office Assistant
- Glenwood System's GlaceEMR
- HealthCareXchange's TheVaccinator
- Qvera's Qvera Interface Engine

Future direction

Ultimately, the HIMSS IIP brings together organizations focused on a common goal of educating the healthcare community on the benefits of health IT in expanding immunization awareness. HIMSS will continue to advance this goal by building on our organizational strengths to share best practices on the use of EHRs and other clinical software to increase and improve the effectiveness of interventions leading to improved immunization rates. **The HIMSS IIP is but one example of successful collaboration that can be replicated for future healthcare needs.**

To learn more

Contact us at IIPhelp@himss.org.

– Submitted by: Joyce Sensmeier, MS, RN-BC, HIMSS, and Floyd Eisenberg, MD, MPH, Chickasaw Health Consulting

SURVEILLANCE OF HL7 MESSAGE DATA QUALITY IN THE MICHIGAN CARE IMPROVEMENT REGISTRY

Timeliness, accuracy, and completeness are important dimensions of immunization information system data quality.

As part of ongoing data-quality evaluation for the Michigan Care Improvement Registry (MCIR), the Child Health Evaluation and Research (CHEAR) Center at the University of Michigan has developed methods to retrospectively evaluate Health Level Seven (HL7) message data-quality issues and identify potential opportunities for quality improvement.

We acquire HL7 messages from the MCIR query database on a monthly basis and parse out the message header (MSH) segments. The MSH segments provide identifying information about the message, including the sending/receiving site identity as well as the date/time that the message was created. In conjunction with information obtained by MCIR staff through the onboarding process, we classify HL7 message quality by the health system and health information exchange (HIE) through which sites' messages are sent.

> **Surveillance of HL7 message quality is assessed from three perspectives: timeliness, message errors, and overall message volume.**

SURVEILLANCE OF HL7 MESSAGE DATA QUALITY IN THE MICHIGAN CARE IMPROVEMENT REGISTRY *Continued from page 7*

Surveillance of HL7 message quality is assessed from three perspectives: timeliness, message errors, and overall message volume. Timeliness is evaluated based on the lag time between sending and receipt of each individual message, which is calculated by subtracting the date/time sent from the date/time acknowledged. This is done for HL7 vaccine update (VXU) and query by parameter (QBP) messages, compared to their respective acknowledgements (ACK or RSP). We calculate the 95th percentile of lag times to characterize the message timeliness for a health system or HIE to minimize the impact of occasional outlier cases. In addition, we assess VXU and QBP accuracy by summarizing the number of AE (error) and AR (reject) acknowledgement codes received by health system. Overall message totals (VXU and QBP) are also assessed by day and HIE to gauge the level of completeness.

Our initial assessment of message lags has revealed potential limitations if time zone is not reported in the VXU or QBP message; messages without a time zone are assumed to be in the same time zone as MCIR. In addition, many sites submit VXUs through batch message processing, which may introduce a waiting period between message creation and submission, creating the appearance of lengthy lag times.

Despite these limitations, our data quality surveillance methods have proven to be useful tools for monitoring trends in HL7 messaging over time and identifying areas for further investigation. We will continue to refine these methods in collaboration with other immunization data users and submitters.

– Submitted by Hannah Jary, MPH, Child Health Evaluation and Research Center, University of Michigan

UPCOMING AIRA RESOURCE ON ASSESSING DATA QUALITY PRACTICES: DATA AT REST

Data quality is complex and ever-changing. It is a constant battle to keep up with data cleansing practices while continuously finding new points of intervention.

However, the benefits of data quality are grossly underestimated when it comes to use of the data and impacts on the global public health arena. For this reason, the AIRA Assessment Steering Committee will be releasing a new data quality resource for the IIS community focusing on data at rest. The guide will be released later this summer.

> **The purpose of the upcoming guide is to provide practical guidance on techniques, methodologies, and processes for IIS to use in assessing the quality of data at rest.**

UPCOMING AIRA RESOURCE ON ASSESSING DATA QUALITY PRACTICES: DATA AT REST *Continued from page 8*

"*Data Quality Practices to Monitor and Evaluate Data at Rest*" is the third in a series of guides that provide practical guidance to IIS staff for assessing and improving the quality of their data. The prior two guides focused respectively on data validation during the onboarding process and ongoing data quality assessment for incoming data. The focus for this guide is data at rest. The purpose of the guide is to provide practical guidance on techniques, methodologies, and processes for IIS to use in assessing the quality of data at rest.

This guide focuses on the data quality dimensions of completeness, accuracy, and timeliness, with the additions of validity, consistency, and uniqueness. Examining data at rest provides unique opportunities to analyze data across providers or within providers and to look for patterns of issues not otherwise apparent. For example, aggregated data can reveal problems with data consistency, such as unexplained changes in the volume of immunizations administered over a given period or changes in the proportions of administered vaccinations by age group. In addition, problems with vaccine coding can occur when a new vaccine is introduced, and they may be easier to spot when looking at aggregate data. Finally, duplicate records and the incorrect merging of records may be discovered only through evaluation of data at rest from different provider sources.

The guide provides tables of indicators for evaluating data quality. The tables are organized by data quality dimension and provide a brief description of each measure and its significance. In addition, a recommended priority level is documented for each indicator and recommended target levels are provided for each completeness measure. The guide offers information on a few select activities that can improve data quality at the system level. These include strategies for cleansing and correcting addresses and for preventing duplicates and bad merges related to birth data. Finally, a section on implementation considerations gives general recommendations and a template for a step-by-step process for building a data-at-rest quality analysis plan. A number of data-at-rest sample reports have also been made available.

The usefulness of an IIS is dependent on the quality of its data. Trustworthy data is needed for clinical decision making, vaccine tracking and accountability, vaccination coverage assessments, and public health research. Recommendations made in the guide are independent of particular IIS implementations and technology solutions, and each IIS should adapt them to their own specific needs.

Questions regarding the data quality guides can be directed to Nichole Lambrecht, AIRA Senior Project Manager (nlambrecht@immregistries.org).

*– **Submitted by: Nichole Lambrecht,** AIRA*