AIRA
AMERICAN IMMUNIZATION REGISTRY ASSOCIATION

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SNAPSHOTS

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

PRESIDENT'S REPORT

Dear Colleagues,

It's hard to believe this year is almost over and 2020 is coming to a close. In many ways it feels like we're just beginning, especially when it comes to the pandemic. So much has happened so quickly this year yet it also feels like it took too long for some things to get going. As I look toward the coming year, I feel hopeful that we'll be moving toward a safer country and world.

In Indiana, as with every state and jurisdiction, our IIS and immunization program staff have worked so hard to make sure the public feels safe and informed and decision makers know about IIS and the importance of leveraging what IIS already do (and do well) regarding the pandemic. IIS are tried-and-true systems with decades of experience tracking vaccine and immunization data. Even though I know how much work already goes into it and will surely continue to be added to all our plates, I look forward to watching IIS shine as COVID-19 vaccines are distributed.

Many of us have been pulled into work or reassigned to work on the COVID-19 vaccine response. A lot of us have also continued to do our day-to-day work or have taken over the day-to-day work of our colleagues to make sure normal program operations continue. The articles in this edition of *SnapShots* highlight the great work being done around the country to make sure IIS are innovating, making positive impacts, and preparing for a successful COVID-19 vaccine rollout.

Thank you to those of you who carved out time to write and submit an article on top of everything else you're working on. I believe this information is invaluable to the IIS community and helps keep us all connected when it feels like we're being pulled in a million directions at once.

Regards,
Dave McCormick
AIRA Board President
Director, Indiana Immunization Division
Indiana State 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 (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.

To subscribe, please visit www.immregistries.org. This information will remain confidential and will not be sold or passed on to other parties. *SnapShots* is produced quarterly by the AIRA Education Steering Committee. Editor: Katie Reed, N.Y. AIRA • 1717 Pennsylvania Avenue NW, Suite 1025 • Washington, DC 20006 • Phone: 202.552.0208 • www.immregistries.org • Email: info@immregistries.org

FLU DASHBOARD PILOT PROJECT

One of the ways Minnesota is preparing for COVID-19 vaccine response is a pilot project for seasonal influenza vaccination data dashboards. Minnesota is currently working on creating two internal dashboards to share and track flu vaccine data.

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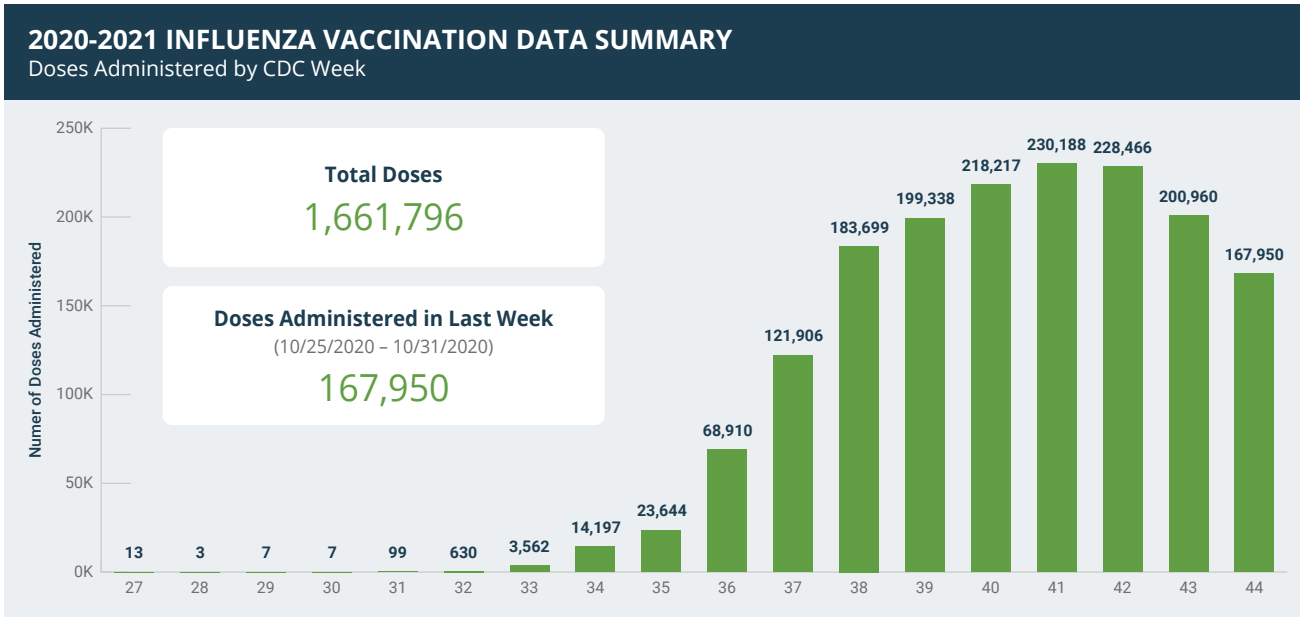
The first dashboard is a weekly snapshot of influenza vaccination administration data that will be shared with leadership at the immunization program and infectious disease division. It will highlight measures, such as the total number of flu vaccinations this season, total number of flu vaccinations administered in the past week, and total number of flu vaccinations by age group and organization type. The second dashboard is a daily summary of influenza vaccine distribution data that will be shared with leadership at the immunization program. It will highlight how much flu vaccine Minnesota has been allocated and how much has been distributed to providers. Both dashboards will allow us to monitor flu vaccine data in Minnesota and inform flu vaccine response work.

These dashboards also allow us to work through the process of preparing and sharing vaccination data on a routine basis, which will be critical to a successful COVID-19 vaccine response. In the process of creating the flu dashboards, we have been able to work through many issues, both data- and process-related, that will also be applicable to sharing COVID-19 vaccine data. As we continue to work through this process, we hope to be able to apply these lessons and the lessons from sharing other COVID-19 data to the sharing of COVID-19 vaccine data.

Samples can be found below:



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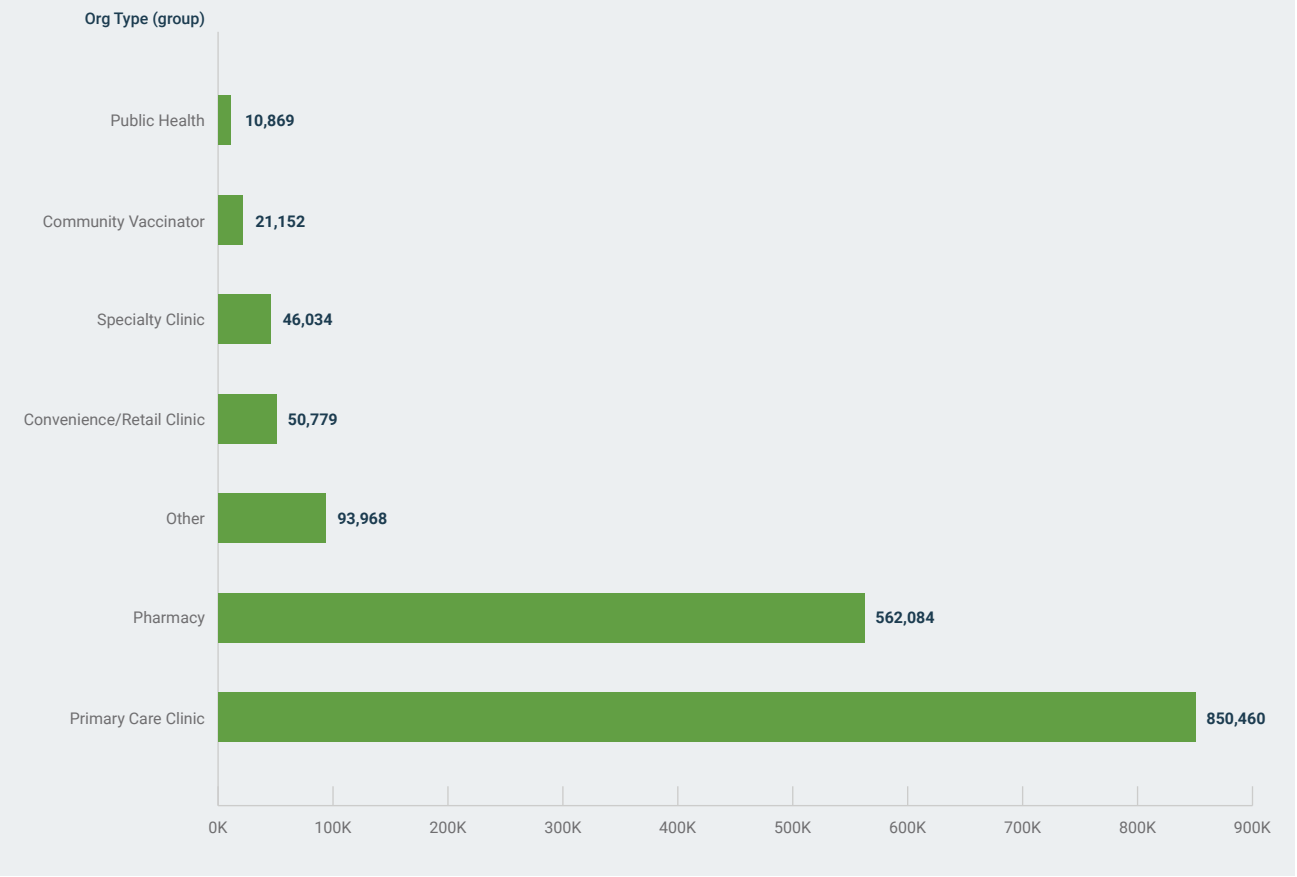
FLU DASHBOARD PILOT PROJECT *Continued from page 2*

2020-2021 INFLUENZA VACCINATION BY PROVIDER AND AGE GROUP
Doses Administered by Provider Type



- Submitted by Sydney Kuramoto, MPH,
COVID-19 Vaccine Data Management, MIIC Informatician

AN IMMUNIZATION VISIT – THE ROLE OF IIS AND HOW MEASUREMENT AND IMPROVEMENT CAN IMPACT THE PATIENT-PROVIDER EXPERIENCE

During the last session in the Select AIRA 2020 National Meeting Presentations, the focus was on Measurement and Improvement (M&I). The M&I Initiative is a community-led effort that started in 2015 to provide immunization information systems (IIS) with information and guidance on how to more fully align with IIS Functional Standards.

Through the results of testing, IIS are able to identify opportunities for improvement. AIRA has seen strong voluntary community-wide participation in M&I, and it continues to increase.

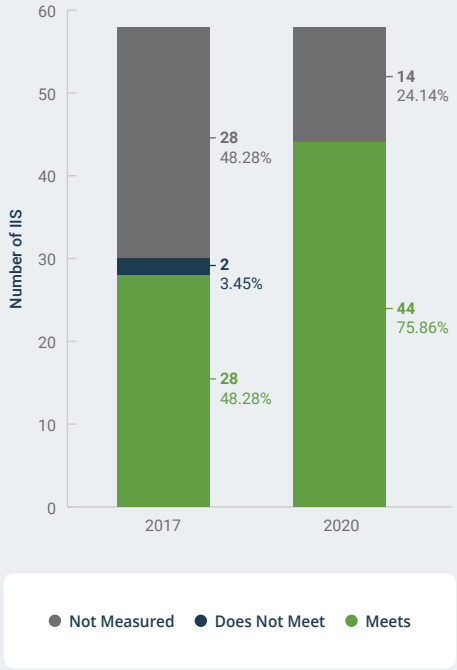
How do IIS data and M&I support the patient-provider experience? To illustrate the impact of M&I in the clinical setting, AIRA walked through the interoperability between the IIS and an electronic health record (EHR) at the point of care during a typical patient's annual exam.

What's the connection between M&I and a patient's immunization experience? Here's the journey:

Transport:
The provider's EHR and the IIS communicate with each other through standardized transport protocols that allow the office's EHR and IIS to exchange and use data electronically. The use of the agreed-upon transport layer, which is the Simple Object Access Protocol (SOAP) Web Services, promotes interoperability. EHRs are able to query the IIS for the patient's information using HL7.

AIRA tests this transport protocol through the Submit Single Message measure. AIRA is able to send an HL7 message with authentication parameters to test the capabilities that make data exchange possible. Between 2017 and 2020, there was an increase of 16 IIS that were able to respond with a conformant response as defined by the Centers for Disease Control and Prevention (CDC) Web Service Definition Language (WSDL) specifications.

IIS supports the Submit Single Message Operation as defined in the SOAP Standard Interface 1.2 specification, WSDL, as endorsed by CDC



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AN IMMUNIZATION VISIT – THE ROLE OF IIS AND HOW MEASUREMENT AND IMPROVEMENT CAN IMPACT THE PATIENT-PROVIDER EXPERIENCE *Continued from page 4*

Query and Response:
In preparation for a patient's annual exam, the provider accesses the practice's EHR and searches for the patient's record. Using the EHR-to-IIS interface, the provider is able to query the IIS to obtain the patient's immunization history. The query relies on standardized interfaces and standardized data. Using the patient's full record, the provider needs to determine if the patient is due for any vaccinations during the visit.

The provider expects the IIS will respond to the request with a complete immunization record for the patient. Between 2017 and 2020, AIRA saw an increase of 24 IIS that were able to provide a complete immunization record. This was an increase to 45 IIS from 21 IIS.

Query functionality is important within the IIS community. When surveyed by AIRA, 21 IIS reported receiving an average number of 11,732,362 query messages in 2019. One IIS reported receiving approximately 48.8 million query messages in 2019, which equates to an estimated 4 million query messages a month, or about 135,000 query messages a day.

Clinical Decision Support:
Clinical Decision Support (CDS) tools are designed to automatically determine the recommended immunizations needed when a patient presents for vaccination. The recommendations are developed by the Advisory Committee on Immunization Practices (ACIP) and are updated regularly throughout the year by ACIP.

Through testing, AIRA is able to assess implementation of Clinical Decision Support for Immunizations (CDSi) test cases. When an IIS returns an immunization forecast, it allows providers to make informed decisions based on current and accurate immunization data. In 2017, 16 IIS returned CDS in their HL7. In 2020, 41 IIS returned CDS in their HL7.

When the IIS returns CDS in the HL7, the provider is able to make informed decisions about the vaccines due for the patient.

Submission and Acknowledgement:
Based on the information provided by the IIS forecasting engine, the provider learns that the patient should receive a flu and a shingles vaccine during the visit. Upon discussing all the options with the provider, the patient decides to proceed with the recommended vaccines.

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AN IMMUNIZATION VISIT – THE ROLE OF IIS AND HOW MEASUREMENT AND IMPROVEMENT CAN IMPACT THE PATIENT-PROVIDER EXPERIENCE *Continued from page 5*

IIS should be able to process and accept administered vaccination events in full alignment with standards. Between 2017 and 2020, AIRA saw an increase of 24 IIS that were able to process an administered vaccine for a patient. This was an increase to 43 IIS from 19 IIS.

Once the provider administers the vaccines, the events are recorded in the EHR and automatically sent to the IIS. The message is then accepted by the IIS because the HL7 message contained the conformant demographic and vaccination data. The IIS then sends back an acknowledgement to the provider's EHR. The interoperability loop is closed, and the data exchange partners now have a record of the outcome.

When surveyed by AIRA, 24 IIS reported receiving an average number of 6,428,562 submission messages in 2019. One IIS reported receiving approximately 24.2 million submission messages in 2019, which equates to an estimated 2 million submission messages a month or about 66,000 submission messages a day.

Conclusion:
Since the inception of the initiative, AIRA has seen significant improvements in alignment with national standards across the IIS community. In the second quarter of 2020, AIRA launched the Data Quality Incoming/Ongoing Assessment content area. In late first quarter of 2021, the Data Quality Data at Rest Testing and Discovery Reports will be available to IIS. These reports will help IIS identify opportunities to increase their data quality and help target data exchange partner outreach efforts.

All these amazing improvements within our IIS community are great. However, we do know that the improvements are probably not all a direct result of M&I. Yet we think it's likely that M&I helped focus IIS programs and vendors on much needed improvements and has accelerated progress within each content area.

Want more information? Need help?

AIRA's technical assistance team is ready to help you understand your Aggregate Analysis Reporting Tool dashboard and results, help you prioritize work, and support your movement toward better alignment with standards. Do not hesitate to contact us for technical assistance. We can quickly answer a question or dive deeper into topics, such as assisting you and your IIS technical development team to better understand issues and make plans to more fully align with standards. Fill out a Technical Assistance Request or contact Kristi Siahaya for more information.

***- Submitted by Tesha Lucas,** AIRA*

OREGON'S PROVIDER ORGANIZATION SERVICE TRACKING

Over the years, the relationship between vaccination providers and an immunization information system (IIS) has done nothing if not grow deeper and more complex. Vaccine storage, an increasingly complex vaccination schedule, expanded data reporting requirements, and inventory management are just some of the ways the collaboration between providers and an IIS have become more intertwined and interdependent.

Since multiple staff members in the Oregon Immunization Program (OIP) interact with a provider on a variety of topics, they must have ready access to a wide range of information at any given time. OIP staff make it a priority to coordinate their activities with individual providers in order to facilitate successful interactions. For example, Oregon's IIS—ALERT IIS—and the Oregon Vaccines For Children (VFC) program work in close partnership across shared issues, such as data exchange and vaccine inventory. This is particularly important because, from a provider perspective, OIP can seem to be a single, seamless entity rather than multiple programs working in coordination with each other.

To help staff manage provider relationships effectively and ensure that all the details of interactions can be captured, OIP created an internal website known as POST (Provider Organization Service Tracking). POST is a provider database available 24 hours a day, created so OIP staff could consolidate the various partner lists within the program and improve management of all communications with providers. Cylvia Tucker, an OIP project manager, recently oversaw a POST website rebuild. She cannot imagine provider relations being managed without it.

To help staff manage provider relationships effectively and ensure that all the details of interactions can be captured, OIP created an internal website known as POST (Provider Organization Service Tracking).

Prior to POST, multiple lists of providers were kept, and a health educator scheduling a provider visit might have to print lists from several sources to ensure they were familiar with all recent activity and communications with the provider. Some issues, such as up-to-date reports of provider data submissions to ALERT IIS, could be difficult to access readily. With the advent of POST, provider lists were consolidated into aspects of a provider record and standard reports designed to recreate the lists. A single update to a provider record ensured all reports would be accurate. Issues such as data submission frequency and quality were added. The website essentially provides staff members a summary of all contact, interaction, assistance, and support a provider might receive—a diary, in essence, of all the ways OIP and a provider have worked together. "Anybody in the program, whatever their role is, will have access to [all of a given provider's] information," says Tucker.

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OREGON'S PROVIDER ORGANIZATION SERVICE TRACKING

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A POST home page for a provider will list the practice's name as well as mailing, delivery, and physical addresses. Contact information and medical responsibility for vaccination is clearly outlined. Tabs detail clinic associations (such as when a practice has multiple sites), data submission methods and recent history, certifications, type of population seen (such as age), VFC program, and vaccination delivery instructions. Notes from any staff member regarding interactions with the clinic are listed by date, along with details of the encounter.

Information in POST is also valuable for guiding staff in setting up new providers. Tucker points out that the same issues often arise for multiple providers and reviewing established providers in similar circumstances can smooth the creation of new records or help solve problems faster. For example, ALERT IIS recently discontinued the need for providers to obtain an electronic certification prior to sending data. As the certificates expire, data exchange can be interrupted. Using notes in POST from providers who've already transitioned off certification, staff can help providers resume regular data exchange by removing expired certificates. The entire website can be used effectively as a history of problem-solving, saving time and frustration in the future through documentation of known issues. This can ease the challenge of knowledgeable staff transitioning to other work. Tucker says new staff can use POST as a training tool, to review provider interactions, and to learn about the relationship process in real time. Notes can be inserted for a single provider or for all providers. For example, as the vaccine storage requirements for COVID-19 become clearer, POST can add this note to every provider record for the convenience of staff when discussing COVID-19 certification with providers.

Multiple reports are available through POST at the click of a button, including contact summaries, VFC activity or recertification, and data submission status. A report has already been created in POST to produce a list of COVID-19 providers that is tailored to meet the Centers for Disease Control and Prevention (CDC) reporting requirements, making this process simple and straightforward.

And because POST is a website accessed via a web browser on a tablet or laptop, updates can be made during site visits and other events while the information is fresh.

Like everything, though, information in POST must be up to date and accurate; "It's only as good as what people put into it," Tucker reminds us.

A rebuild of POST was needed to update the website to current technology. The OIP project team took this as an opportunity to make some improvements to website functionality. Provider web pages were made easier to read and navigate. Layouts and informational tabs are now much cleaner, says Tucker. And an old security feature that automatically signed a user out after 15 minutes of inactivity was replaced with a more flexible process, maintaining security but improving access by staff during site visits. And a feature was added for staff to save recent information searches for later reference.

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OREGON'S PROVIDER ORGANIZATION SERVICE TRACKING *Continued from page 8*

As with anything that does more, POST requires regular monitoring for unexpected performance or bugs. Tucker maintains an active list of bugs or issues and works to prioritize and fix them. While it may not seem like the perfect time since POST was just rebuilt, her mind is already teeming with great ideas to improve the website. For starters, with the vast amount of information now in POST, linking it to data visualization software such as Tableau could improve staff use of the data, particularly for those looking for information at a glance rather than diving deep into the statistics.

As enrollment for COVID-19 providers has begun, Tucker noticed that the process is so close to standard enrollment it's hard to distinguish the two; a clearer path separation would help highlight special circumstances like pandemic enrollment. Also, the number of third parties, such as data exchange professionals, has grown substantially in the IIS world. These companies submit data for multiple providers, and a clearer delineation of these relationships could make troubleshooting faster and more effective. While POST reports the dates of the most recent data submissions, it doesn't use submission thresholds or triggers to flag a problem. Tucker says that currently a submission problem would have to be noticed by an individual and then investigated. A threshold and flag system would find problems as they develop. A means to search provider notes using filters would be useful. And in the future, she'd love to see POST function as an app on any mobile device and not just be accessed as a website.

When asked what advice she would give to an IIS interested in building its own provider website, Tucker begins with the basics: understanding your needs and uses from the ground up. "Most technology projects fail because people go [right] from concept to [the] build." Not enough time is spent on carefully documenting product uses or exactly how a certain process must function to be successful. She recommends paying close attention to the product lifecycle stages of project management: initiation, planning, requirements gathering, design, testing, implementation, operations, and disposition. Helpful resources include materials and classes from the Public Health Informatics Institute. In-house resources might also be available, but Tucker warns that a program can't surrender design and execution; it must stay closely involved and maintain project ownership from start to finish. Comparing the visions of a technological solution with the program/user perspective, she says, is kind of like comparing what you need to build a house with what you need to live in it.

Cylvia Tucker can be reached at cylvia.l.tucker@dhsoha.state.or.us.

Thanks to Jenne McKibben and Cylvia Tucker for their contributions to this piece.

- Submitted by Andrew Osborn, *Oregon ALERT IIS*