



SNAPSHOTS

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

PRESIDENT'S REPORT

Dear Colleagues,

As I write this, I am sitting in a hotel room in Chicago after a long, and very productive, first day of our most recent Measurement for Assessment and Certification Advisory Workgroup (MACAW) in-person meeting. Sitting here thinking about how great this first day was and reading through the articles below, I'm reminded of how fortunate I am to be part of such an amazing community. We are full of great thinkers, people who are not afraid to push up their sleeves and work hard, people who are passionate about the health of others, people who are willing to share their stories, and more importantly, people who very much want to hear the stories of others!

This edition of *SnapShots* has some really great stories; you'll see below what I mean. Stories of people sharing new ways to look at their data, stories of securing and using funding streams in new and interesting ways, stories of new publications that look at centralized reminder/recall efforts, and a truly dizzying array of stories about a host of presentations and conversations held at APHA this year that directly relate to the work we do.

Hopefully, after you are finished reading the rest of the articles, you'll see what I mean and you'll take just one moment more to think about all of the great work you are doing every day. I'm sure every single one of you has an interesting and novel story to share with the rest of us, as sure as I am that there are plenty of people who would love to hear those stories. Consider sharing your stories with the rest of the community, whether it's participating on an AIRA call, reaching out to someone on an individual level, or sending us some items for next quarter's *SnapShots* (hint hint). We only get stronger as a community when we share as a community.

Regards,

Aaron Bieringer

AIRA Board President

MIIC Interoperability Lead and Implementation Coordinator

Minnesota 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.



BIRTH RECORDS AND BEYOND – MAINTAINING STRONG PARTNERSHIPS WITH VITAL RECORDS

Birth records are an important source of data for the IIS community, providing the primary source of demographic information for an immunization record and, in many jurisdictions, the source of a client's first immunization. Other vital records, such as deaths, marriages, birth amendments, and adoptions can provide additional information to an IIS.

This article summarizes a panel discussion held at the AIRA 2019 National Meeting on the topic of data sharing between IIS and vital records partners in five states (Minnesota, North Dakota, Oregon, Rhode Island, and Vermont). The panelists compared the different IIS-Vital Records relationships in each state, discussed the different agreements and policies that allow for the sharing of data between the IIS and Vital Records, and identified the specific types of data shared.

There were some notable similarities and differences among the states. While Minnesota and Oregon have formal data-sharing agreements that are reviewed on a regular basis, North Dakota, Rhode Island, and Vermont have informal data-sharing agreements with their vital records partners. Vermont even shares a database with Vital Records, and Rhode Island's IIS and vital records data are part of an integrated child health information system, while Minnesota, North Dakota, and Oregon maintain separate systems for their IIS and vital records data.



All states on the panel reported receiving both birth and death information in some format, and all receive similar information from the birth record. This information includes baby and mother demographics, hepatitis B vaccine, and hepatitis B immune globulin (HBIG) dose information. All states reported receiving death information including decedent name, date of birth, and date of death, but only Oregon, Rhode Island, and Vermont receive gender of the decedent.

Vermont was the only state to report receiving birth and death data in real time (because it shares a database with Vital Records), while Minnesota, North Dakota, and Oregon receive birth and death data weekly or twice weekly through either an automated process or manual upload. Rhode Island receives a birth data file import daily through its internal network and obtains death data by manually entering information received from the medical examiner or other sources.

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BIRTH RECORDS AND BEYOND – MAINTAINING STRONG PARTNERSHIPS WITH VITAL RECORDS

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Table 1: Summary of differences in data sharing among five states on panel

State	Data agreement	IIS integrated with other data	Birth/Death data frequency	Updates – adoption	Updates – marriage	Updates – gender
Minnesota	Formal	No	Weekly	Part of weekly update	No	Yes
North Dakota	Informal	No	Twice weekly	Emailed spreadsheet	No	No
Oregon	Formal	No	Twice weekly	Part of weekly update	Yes	Yes
Rhode Island	Informal	Yes	Birth daily, Death manual entry	Emailed PDF	No	No
Vermont	Informal	Yes	Real-time	Manually updated monthly	Yes	No

All panelists also receive adoption updates to the birth record, but the method of update varies widely by state. Most require manual record updating, but the payoff of consolidating childhood records, where school entry requires up-to-date immunization records, far outweighs the amount of staff time needed to make the manual data updates. The only states to receive updates from marriage records are Vermont and Oregon. Both states discussed the potential for using such records as a resource for patient matching and updating. Minnesota and Oregon

are the only states to receive updates of gender from Vital Records, but North Dakota, Rhode Island, and Vermont mentioned they are working to include those updates in the future. Establishing agreement and clarity on gender categories at the national level is an important next step.

As technology advances and organizations evolve, nurturing strong partnerships with vital records programs is an essential ingredient in maintaining and improving the quality of IIS client record data.

- Submitted by Kerry L. Lionadh, Oregon Immunization Program; Miriam Muscoplat, Minnesota Department of Health; Mary Woinarowicz, North Dakota Department of Health; Ellen Amore, Rhode Island Department of Health; Bridget Ahrens, Vermont Department of Health



IIS SHARE LESSONS LEARNED IN OBTAINING MEDICAID MATCH FUNDING

Several IIS have been successful in obtaining 90/10 Health Information Technology for Economic and Clinical Health (HITECH) Medicaid match funds.

These funds have been used to improve IIS infrastructure, advance interoperability with the IIS, and/or improve health outcomes for individuals with Medicaid insurance. Far fewer have obtained Medicaid Management Information Systems (MMIS) match funds to support ongoing IIS maintenance and operations. AIRA convened a panel of experts at the AIRA 2019 National Meeting to provide insight to IIS teams about successfully pursuing Medicaid match funds. Panelists included [Jan Hicks-Thomson](#) from the Centers for Disease Control and Prevention, [Daniel Chaput](#) from the Office of the National Coordinator, [Stacy Hall](#) from the Louisiana Department of Health, and [Tina Scott](#) from the Michigan Department of Health and Human Services. Their stories are meant to inspire and provide insight as you consider pursuing Medicaid match funds to advance your IIS and the health outcomes for your jurisdiction.

Louisiana's story

Louisiana has a very mature IIS that is central to their successful immunization program. It had been receiving level funding for its immunization program for several years, while provider and other stakeholder demands for improved connectivity and data use increased. Stakeholders included the state Board of Pharmacy and the expansion of pharmacist involvement in immunization, the Louisiana Academy of Family Physicians, managed care organizations, Louisiana Medicaid, and multiple participants involved in passing legislation requiring all vaccines to be submitted to the IIS. The IIS is housed in the same state agency as the Medicaid office. During a CDC IIS site visit in late 2017, Louisiana and CDC discussed the possibility of

Health Information Technology for Economic and Clinical Health (HITECH) Sunsets in 2021



90/10 HITECH

New work focused on interoperability

Eligible onboarding activities in the IIS:

- State staff or contracted support for onboarding work
- Provider education and training for participation in the IIS
- Onboarding and technical assistance for providers

Design, development and implementation:

- Initial infrastructure building or purchase
- Updating current IIS (or HIE) standards for data exchange
- Data warehouses
- Provider directories, master patient indexes, encounter alerts
- Clinical quality measure reporting

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IIS SHARE LESSONS LEARNED IN OBTAINING MEDICAID MATCH FUNDING

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Medicaid Management Information System (MMIS): Maintenance and operations



90/10 MMIS

- New work focused on interoperability closely mirroring 90/10 HITECH

75/25 MMIS

- System procurement, development, and enhancements
- System operations and maintenance: Hosting, staffing, contracted support, data quality improvement efforts and tools, etc.

50/50 MMIS

- Outreach services
- Staff or contracted design, development, and implementation of the IIS
- Enrollment providers in the IIS
- Regular program administrative costs
- End user training
- Facility and equipment (indirect non-personnel costs)
- Indirect personnel costs (agency-wide staff accounting, budgeting etc.)
- Postage

pursuing 90/10 HITECH funding for improvements to the IIS infrastructure and staffing. With leadership support, they then convened a meeting with the state Medicaid agency about securing 90/10 HITECH funding. They initiated monthly meetings, which included state health leadership as well as fiscal and legal staff, as they worked out the details of the [Individual Advanced Planning Document](#). Throughout the process, they remained focused on doing the right thing: delivering healthier outcomes for people with Medicaid insurance and identifying how the IIS could support providers in using best practices in immunization and improving coverage rates. Although the process took more than a year, longer than expected, they persisted and ultimately secured \$1.8 million dollars for a two-year period, which they were able to carry over. The funding allowed them to create three IIS outreach positions, one data quality position, and one meaningful use position. In addition, they secured funding to support two contracted staff for help desk support. They also included development, design, and implementation efforts for cloud hosting of the IIS, as well as data exchange with Vital Records. In addition to receiving the 90/10 HITECH match funds, the IIS successfully implemented a process for receiving payment for “report reimbursement” for providing HEDIS measurement data and reports to health plans. It established a memorandum of understanding with the state’s Medicaid office to detail the activities and financial details. It continues to work with the Medicaid office to pursue 75/25 (and possibly 90/10) MMIS funding, to continue its partnership with Medicaid, and to advance the ability of the IIS to promote better health outcomes and help health stakeholders reach Louisiana’s immunization goals. Contact [Stacy Hall](#) or [Quan Le](#) for more information.

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IIS SHARE LESSONS LEARNED IN OBTAINING MEDICAID MATCH FUNDING *Continued from page 5*

Michigan's story

Even before the days of HITECH, Michigan's Medicaid agency has provided cost-allocate financial support to the immunization program for IIS sustainability. The philosophy is that every little bit helps, and immunization programs will not leave any funding on the table. To that end, the IIS had secured varying levels of Medicaid match for as long as anyone can remember. The IIS has a true partnership with the state Medicaid agency and engages regularly with that agency to review how the IIS and the immunization program can assist with meeting state Medicaid and health information exchange goals. The long-standing relationship was challenged when staff turnover occurred in the Medicaid agency, but the documentation of their past joint successes and the engagement of the Health Department's leadership helped them overcome that hurdle. Michigan has leveraged this strong relationship and the ongoing support of the leadership in the immunization and Medicaid programs to pursue 90/10 HITECH funds for several high-value functionalities in the IIS, including:

- Creating and promoting the use of a query to deliver immunization records to authorized requestors. This effort first focused on Medicaid beneficiaries, using the Medicaid application "myHealthPortal/myHealthPortal." Focusing these first efforts on the Medicaid population allowed them to maximize the Medicaid fair share of the match.
- Promoting consumer access to the immunization record. This effort focused on giving access to foster care workers so they could provide immunization information to foster parents using a secure Medicaid portal. This approach focused the effort on the Medicaid population, maximizing the Medicaid fair share, and creating efficiencies by using an existing Medicaid consumer portal rather than a direct-to-IIS consumer access portal.

Michigan continues to have discussions with its state Medicaid agency about future projects and IIS development. The state is considering creating "vaccination due (reminder)" alerts to and through the Medicaid portal, improving the way the IIS supports HEDIS measurement for Medicaid and Medicaid health plans, and establishing an interface between the IIS and a Medicaid chronic conditions data base. This will result in better health outcomes among populations with underlying conditions that put them at risk for more severe consequences from vaccine preventable diseases. The IIS and immunization program meet regularly with the Medicaid agency to promote the relationship and work together to determine the best fit between the type of MMIS match (90/10; 75/25; 50/50) and the desired activities and outcomes in order to maximize the drawdown of federal funds to benefit the state. Contact [Tina Scott](#) for more information.

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IIS SHARE LESSONS LEARNED IN OBTAINING MEDICAID MATCH FUNDING

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Keys to Success

- **Leadership support:** Your leadership can help with connections with state Medicaid leadership, securing non-federal match, and negotiating internal relationships.
- **Fiscal staff involvement:** Fiscal staff can help you navigate reimbursement payment model and manage accounting and budgeting.
- **Leverage the Medicaid fair share to your jurisdiction's advantage:** Initiate design, development, enhancement, and implementation of activities and infrastructure with Medicaid providers and their patients. Doing so can maximize the Medicaid fair share because the initial stages will focus on a population that is 100% Medicaid.
- **Focus on the value for Medicaid:** Tell your story in terms of time savings for providers, best practices in patient care, and performance measurement support.
- **Speak their language:** Assure common understanding by starting where your Medicaid partners are, explaining the value of the IIS thoroughly, and using terms they understand.
- **Present a united public health voice:** Make it easier on the Medicaid agency by collaborating with your public health partners (labs, cancer registries etc.) with a coordinated approach.
- **Establish a clear memorandum of understanding or interagency agreement:** Avoid surprises by clarifying expectations, data sharing terms, financial processes, and deliverables in a formal agreement. Involve your legal staff as needed.
- **Connect with others:** Your peers, the CDC, and others have resources to support your efforts to pursue Medicaid match funding. One source is the CDC/ONC Federal Financial Participation Community of Practice.
 - To get on the mailing list, or for assistance, email: meaningfuluse@cdc.gov.
 - For past presentations, visit: www.cdc.gov/ehrmeaningfuluse/cop.html.



Ongoing support

The CDC/ONC Federal Financial Participation (FFP) (aka: Medicaid match) Community of Practice convenes webinars where jurisdictions can share successes and challenges relating to pursuing Medicaid match funds. Topics vary but include identifying barriers and challenges, sharing models and approaches, identifying interagency initiatives that may qualify for funding, and others. The calls typically take place on the fourth Friday of each month at 2 p.m. Eastern time. Contact meaningfuluse@cdc.gov with questions or to get on the mailing list. Past presentations can be found at: www.cdc.gov/ehrmeaningfuluse/cop.html.

- Submitted by Jan Hicks-Thomson, CDC; Daniel Chaput, Office of the National Coordinator; Stacy Hall and Quan Le, Louisiana Department of Health; and Tina Scott, Michigan Department of Health and Human Services



RESEARCH HIGHLIGHTS KEYS TO CENTRALIZED REMINDER/RECALL SUSTAINABILITY FOR IIS

Researchers from the University of Colorado Anschutz Medical Campus and the University of California Los Angeles explored the inner workings of an evidence-based approach to increasing vaccination rates: centralized reminder/recall (C-R/R).

In a recently published manuscript, researchers interviewed IIS members who were or had in the past conducted C-R/R at their IIS, exploring topics ranging from initiation and planning through sustainability of C-R/R at their IIS. Other health care players who conduct R/R were also interviewed to see what IIS can learn from the private sector about R/R.

Immunization information systems and the health departments that often house them are in unique positions of being able to send out reminders for upcoming or missed vaccinations to large populations of people. This centralized approach to reminder/recall has been shown to be effective in increasing immunization rates in certain populations and has been recommended by the National Vaccine Advisory Committee, among others. However, little has been published about the experiences of the IIS conducting C-R/R. A recent article published in *Vaccine* details these experiences, from getting the projects off the ground to issues they faced in trying to sustain C-R/R at their IIS.

Ten IIS that had experience with C-R/R, along with eight health plans or health systems, two pharmaceutical companies, and three advocacy groups, were interviewed for this manuscript. IIS tended to target childhood vaccinations and use mail, presumably because this age group and modality would have the least amount of legal and political resistance. However, other methods were described, including campaigns targeting adult vaccines and text message utilization. The article explored the following issues:

Sustainability

Factors that negatively or positively influenced C-R/R sustainability within IIS could be grouped into seven categories: decision making, stakeholder buy-in, partnerships, funding, data and technology, evaluation, and message content.

- **Decision making:** IIS were primarily motivated by the desire to increase vaccination rates at the population level. While leadership was always seen as supportive, the decision to conduct C-R/R was often constrained by limited funds and competing priorities.
- **Stakeholder buy-in:** Widespread support for C-R/R, both internal and external, was reported by interviewees. This included support from patient and provider groups, although some concerns were identified.
- **Partnerships:** Internal and external partnerships were reported as very beneficial to C-R/R operations. Partnerships tended to provide IIS with funding or supplies for C-R/R.

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RESEARCH HIGHLIGHTS KEYS TO CENTRALIZED REMINDER/RECALL SUSTAINABILITY FOR IIS Continued from page 8

- **Funding:** Funding was instrumental for C-R/R projects to exist, and sources ranged from federal grants to industry support. Start-up costs for IIS decreased significantly over time as they continued C-R/R efforts.
- **Data and technology:** While increased quality of immunization data and increased capabilities of IIS were heralded as great advantages for C-R/R, problems regarding contact information accuracy (e.g., telephone and address) still detracted from return on investment for C-R/R.
- **Evaluation:** Evaluations differed from IIS to IIS but were key to justifying sustainability of C-R/R projects.
- **Message content:** Messages were typically kept very general due to patient privacy issues, although this was seen as potentially making the C-R/R less actionable and effective.

Partnerships with and comparisons to private industry

Several of the IIS interviewed reported private industry partnerships that were helpful in providing necessary funding for initiatives, among other benefits. Those that did partner with industry had very positive experiences; however, they were all cautious about the optics of promoting any particular vaccine. Partnerships were primarily done with pharmaceutical companies, while other partners included state-level coalitions and policy-focused organizations. The potential for partnerships with health plans and systems, and even individual providers, was also discussed.

Private-industry R/R tended to vary greatly in scope and was motivated more by changes in HEDIS measures as well as return on investment than was IIS-based R/R. Other differences included fewer external partnerships and funding sources, increased access to outreach technology, more clear-cut evaluation, more actionable messages, and fewer legal issues.

Conclusions

The manuscript provides information about the barriers and facilitators to IIS that are conducting C-R/R and provides potential ways to encourage uptake of IIS-based C-R/R as well as elements that are crucial for sustainability. The authors, along with select IIS that conduct C-R/R, will be hosting a [three-week training webinar series](#) about the C-R/R initiation and sustainability using a [newly developed toolkit](#) as a framework. For more information on the webinar series, please visit [AIRA's website](#).

The article is titled "Supporting and sustaining centralized reminder/recall for immunizations: Qualitative insights from stakeholders" and is available in *Vaccine*, volume 37 Issue 44.

- Submitted by **Dennis Gurfinkel, MPH, and Alison Saville, MSW, MSPH,**
Adult and Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS)



IMMUNIZATIONS SHINE AT AMERICAN PUBLIC HEALTH ASSOCIATION (APHA) CONFERENCE

The American Public Health Association (APHA) conference, 14,000 strong, was held in Philadelphia, Pennsylvania, November 2–6, 2019, for the first time in 10 years. With its theme “For Science, For Action, For Health,” it presented successes, threats, and challenges to public health as well as the political, workforce, and technological directions for its future roles.

The opening session address by Dr. Robert Redfield, CDC director, left no doubt that vaccine preparedness and addressing vaccine hesitancy would be themes throughout the conference and expressed by many speakers. While IIS were not specifically mentioned, Dr. Redfield did cite CDC urgent issues, including the use of predictive analytics and workforce and infrastructure development, which include new technology platforms for biodefense, rapid threat response, and global health security and the need to recruit workers with skills to use them. Dr. Redfield and other speakers identified electronic health records as a public health tool.

Immunizations, outbreak management, exemptions, pockets of vaccine hesitancy, and changes in law were all discussed at the conference. Key sessions included:

- “Epidemiology of Vaccine Hesitance and Uptake,” featuring Sophia Newcomer of Montana. This presentation highlighted an analysis of HPV uptake in Montana. The presenter later shared that her IIS was robust, published county level data, and was used for reminder/recall. Many presentations discussed the positive role that provider recommendations can have for vaccine uptake.
- Admiral Brett Giroir, assistant HHS secretary and recently appointed acting director of the FDA, conducted a “fireside chat” on the roles and priorities of his organization and the importance of partnerships such as those with the National Vaccine Program Office. He also cited infrastructure challenges related to technology and workforce, which were echoed in a subsequent session headed by Dr. Karen de Salvo, former national coordinator, titled “Is an Ounce of Prevention Worth a Pound of Cure.” Local health officials from Philadelphia and Delaware proposed strengthening the public health data infrastructure to improve quality, availability, interoperability, and timeliness and to diversify the workforce, develop a new vocabulary for public health, and adequately sell prevention as a public health outcome.
- In a presentation directly related to IIS, Danelle Wallace, IIS manager for SDIR in San Diego, presented “Benefits of Real-Time Immunization Information System (IIS) Use in Vaccinating at Risk Populations During Hepatitis A Outbreak” in a session on outbreak investigations.

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IMMUNIZATIONS SHINE AT AMERICAN PUBLIC HEALTH ASSOCIATION (APHA) CONFERENCE *Continued from page 10*

- Public Health Law sponsored a number of sessions focused on increasing vaccination rates through school vaccination laws. New York City presented on the actions taken during the measles outbreak in selected communities and the application of legal enforcement, and in another session called “Innovative Approaches to New Public Health Challenges,” Dr. Jane Zucker presented “2018-19 Measles Outbreak, NYC: Challenges and Lessons Learned.”
- So important is vaccine denial that an entire panel discussion session, “Vaccines: Information, Misinformation and Disinformation,” was held on the historical perspective, the role of social media, bots and other influencers, and the CDC strategies to increase confidence in vaccines.
- The session “Epidemiology of Vaccine Preventable Diseases” focused on demographic trends associated with the coverage of vaccines in the United States to identify gaps in coverage and identify future targets for interventions.
- The role of exemptions—philosophical, religious, and medical—and their impact on immunization coverage was explored in a number of sessions from different perspectives, including community health planning and policy development, public health law, and the role of APHA state affiliates in promoting public health policy. There were also several examples of approaches to increasing vaccination coverage nationwide. For example, the elimination of non-medical exemptions in California and its impact on home schooling vaccination rates was discussed, along with Maine’s grassroots effort to remove non-medical exemptions for school-required vaccines. Dr. Alison Buttenheim presented on changes in provisional enrollments in Pennsylvania, and Tammy Pilisuk from the California Department of Health presented on California’s HPV Vaccine E-Reminder project.
- Public health law experts familiar to AIRA included Denise Chrysler, our guru on HIPAA and Family Educational Rights and Privacy Act, and Scott Burris, a past National Meeting keynote speaker.

At the APHA annual conference, it was wonderful to see the many relevant presentations and to promote the importance of AIRA’s work with IIS as the tool for enabling much of this on-the-ground public health work as well as supporting evidence-based data and information to improve immunization coverage.

- Submitted by Sue Salkowitz, Salkowitz Associates, LLC



IIS ANALYTICS IN THE MAKING

At the AIRA 2019 National Meeting, Kevin Snow of Envision Technology Partners presented a session titled “Lessons Learned Exploring Advanced Analysis of HL7 Log Data.”

HL7 logs within IIS applications can contain a wealth of information about data quality and system performance. Existing “big-data” technology is enabling the IIS practitioner to move from traditional delayed query and reporting to interactive, near real-time analysis, including proactive monitoring, alerting, and actions based on anomaly detection.

During review of meeting evaluations, Kevin’s talk was called out by a number of attendees as being particularly valuable, and we caught up with Kevin to learn more about this talk.

SnapShots:

Kevin, what inspired you to talk on this topic?

Kevin Snow:

It’s the culmination of some work I’ve been doing on the side at Envision, and even though this isn’t something we’re turning into a product, I thought attendees would find it interesting and possibly exciting. I hope it generates discussion and maybe ideas for how to make this kind of functionality a standard part of everyone’s IIS.

SnapShots:

Tell us a little more about how you got involved in analytics.

Kevin Snow:

It was mostly self-defense. I’m Envision’s primary HL7 developer and subject matter expert, so I often get pulled in to help our clients answer questions about what is happening in HL7, whether it involves data quality, trend analysis, system load, fault detection, and so much more. As a programmer, I like building solutions that other people can use, so I’ve been adding more detail to our logging mechanisms for years, which makes it easier to answer complex questions. In 2013, we delivered a graphical HL7 Traffic Analyzer that clients continue to use, but it is not as flexible as I’d like. The experiments with these new tools was the first time I got really excited about both the data being presented *and* the ease of creating visualizations and other analyses.

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IIS ANALYTICS IN THE MAKING *Continued from page 12*

SnapShots:

What are the tools you looked at and why?

Kevin Snow:

A few years ago, I began investigating Elastic, which had a great reputation for fast analysis of large data sets, like we see in HL7 logs. I reviewed materials online, attended a class or two, and began building a dashboard like one that I demoed during the session. I liked the power and flexibility of the tools, but it was maybe too much and too complex for a typical IIS user, even our jurisdictional admins.

So I next started looking at Microsoft's Power BI tools, which are aimed at more casual users. This was disappointing at first, as their feature set had not yet caught up. But after a short time, Microsoft delivered a really interesting set of tools that can do much of the same types of analyses but allowed for a more simplified presentation. In addition, they allowed for integrating analytics into email and instant messaging, which opened up a lot of options for taking action based on business rules. That has always been my goal: to have a system that can react more quickly than a human can and provide insights that may not be obvious to a typical human user.

SnapShots:

What issues have you encountered building these solutions?

Kevin Snow:

The technology has been mostly straightforward, but licensing—the business side—has made it hard to even figure out a good prototyping strategy. A big part of the expense in all these solutions is the data storage and computing power that goes into analysis. Although Elastic is built on open source and Power BI is proprietary, the real challenge is that these solutions are targeted to large businesses that can more easily justify the costs. In the IIS world, we're talking about a couple of jurisdictional users who really need this information and a lot of providers who could benefit from some of the information but can't/won't share in the costs. So I've been cobbling together an architecture using their entry-level freeware, but it just barely handles the data volume required by an IIS. Ideally, we'd have a consortium of IIS sites that could split up the server costs and make this more attractive cost-wise.

SnapShots:

Any final thoughts on your research and the presentation?

Kevin Snow:

I hope that others with shared interest in analytics will reach out to me. I'd love to build a community of IIS analytics users and see where that takes us.

Kevin Snow can be contacted at ksnow@envisiontechnology.com.

- Submitted by Steve Murchie and Kevin Snow, Envision Technology Partners