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From the editor's desk

Ross Gianfortune, Managing Editor

Collaboration and Data Sharing Drive Mission

Government runs on data, but it needs to be readable and shareable. For agencies to work together, a shared data language is critical for mission success. With so many different systems of collecting and analyzing information, the ability to share and collaborate becomes more important.

At the departments of Veterans Affairs and Defense, interoperability of electronic health records is crucial to delivering quality patient care. In 2020, the agencies implemented the joint health information exchange that largely improved data sharing across health and benefit information systems from DOD, VA and other federal and private sector partners.

Other public efforts to streamline data sharing include frameworks like the Office of the National Coordinator for Health IT (ONC)'s Trusted Exchange Framework and Common Agreement (TEFCA) and U.S. Core Data for Interoperability (USCDI). These standards are enabling organizations to minimize data sharing issues that have historically plagued health care. ❈

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Jayla Whitfield
Staff Writer/
Researcher

Sarah Sybert
Senior
Researcher

Inside Efforts at VA, DOD for Enhanced Data Sharing in Health Care

Work across agencies are improving new tech and eyeing joint health information exchanges that make data more interoperable and transparent.

BY SARAH SYBERT

As the need to share data both within and outside of agencies grows, interoperability becomes critical to efficiently collaborate on key large-scale projects such as electronic health records and also delivering ideal patient care at the departments of Veterans Affairs and Defense.

About 97% of hospitals and 90% of physician offices across the country use electronic health records — a movement seen also within the federal government as it works to ensure agencies have the policies and capabilities to effectively share data to benefit patients.

"Interoperable health information technology improves patient care, enables better connection between patients and providers, helps reduce the risk of dangerous medical errors and makes sure that our country is prepared for any future public health care crisis," Department of Health and Human Services' Secretary Xavier Becerra said earlier this year regarding the importance of interoperable health networks.

Data Improves Mental Health Care

VA uses data and data analytics extensively in its mental health programs for clinical decision support, targeting treatments and to make care most accessible and effective for veterans.

The agency leverages its own and the Defense Department's corporate data warehouses, which pull data from medical record instances and improve the clinical workflow. From this effort, VA has built data-driven prevention programs that use predictive analytics to estimate the risk of suicide in patients.

VA has launched two key suicide-prevention programs leveraging data: REACH VET and the Stratification Tool for Opioid Risk Management (STORM).

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Jodie Trafton
Director, Program Evaluation and Resource Center, Office of Mental Health and Suicide Prevention, VA

Both programs have been very successful in reducing mortality in patients targeted by the programs' treatment, according to Jodie Trafton, director of VA's Program Evaluation and Resource Center within the Office of Mental Health and Suicide Prevention.

"[We] use predictive analytics to identify patients who look like patients who have died of suicide or had overdose or suicide events. We use that to estimate risk for our patient population and then create clinical tools that allow clinicians to go in, do case reviews on the patients we think look at high risk, and then do outreach or work with their treatment teams to try to optimize care delivery," Trafton told GovCIO Media & Research in an interview. "They're really helpful programs, combining predictive modeling with clinical care delivery to get better patient outcomes."

VA has developed population management tools to better track high-risk patients and proactively monitor them, like the agency's Suicide Prevention Population Risk Identification and Tracking for Exigencies (SPRITE) report. SPRITE tracks care engagement and risk mitigation interventions across a variety of patient populations at high risk of suicide, and links directly to a variety of additional decision support tools that support care protocols designed for specific conditions or care transitions.

VA also created a new dashboard to help with patient transitions from inpatient care to outpatient care, which improved successful transitions by 5%.

"SPRITE help us find if they've dropped out of services, haven't been in touch with the VA for a while, find if they've stopped refilling their medications, if they've shown up in other facilities with emergency events, things like that. That allows our clinicians to keep tabs on all of the patients that they're monitoring and make sure that they're getting those treatments proactively," Trafton said.

VA also collaborates with the Department of Energy to characterize risk and protective factors in social determinants of health and communities, then intertwines that information with VA's data on patients and medical conditions.

"We find ways of partnering with communities to help improve care for veterans as well. So, we have a bunch of work now trying to integrate that medical record and outside data," Trafton said.

The agency is integrating emerging technologies like natural language processing and high-performance computing to improve medical record search features as more information becomes digital.

"With these platforms, things that used to be hard to curate at volume — because we have about 1.7 million clinical notes coming per day — without those high-performance computing capacity, we weren't able to do some of the things we've been able to implement now. So we're pretty excited about that and what it means for being able to do more fancy, integrated analytics clinical care models," Trafton said.

The Role of Joint Health Information Exchanges

The joint health information exchange implemented in April 2020 securely connects health and benefit information systems from the DOD, VA and other federal and private sector partners.

"It essentially expanded capabilities for both agencies to be able to improve patient safety and care coordination," Cindy Pan from the Veterans Health Information Exchange Program Office and program manager at VA's Exchange Partner Management, told GovCIO Media & Research. "It serves as a common gateway with participating external provider organizations."

Organizations connected to the common gateway receive a single, aggregated health summary consisting of the patient's VA and DOD health records, instead of having to send out multiple queries to get history from both agencies individually. In addition to the health summary, organizations can request more detailed health information like encounter summaries and clinical notes from the VA.

As of early 2023, the joint health information exchange enabled real-time

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— Jodie Trafton, Director, Program Evaluation and Resource Center, Office of Mental Health and Suicide Prevention, VA

electronic health information sharing with about 274 external hospital systems. This includes approximately 2,600 hospitals, 40,000 clinics, 1,400 labs, 900 pharmacies, 1,000 federally qualified health centers and 34,000 provider sites.

"It packs a big punch," Pan said. "We're regularly bringing on new partners, and the networks that we're connected to are constantly adding more participants. So our interoperability reach is really expanding on a regular basis. These real-time exchanges can lead to better patient care by reducing the need to carry paper medical records, which is something we can hopefully eliminate altogether."

The improved transparency of a patient's health record through the joint exchange enables a holistic view of a veteran's medical history and is bolstered by VA's Joint Longitudinal Viewer (JLV).

"Most of our VA staff use JLV to view the joint health information exchange records. So we have a widget within the JLV application that they use to see all those rich and robust records that are coming from the joint health information exchange. The same is true on the DOD side. It's our window," Rachel Wiebe,

management and program analyst within VA's JLV Office of Health Informatics/ Health Solutions Management, told GovCIO Media & Research.

In April 2023, VA had 1.2 million community documents opened in JLV, and VA is averaging between nine and 10,000 users per hour. VA also found that 47% of providers that use the system reported JLV always, most of the time, or usually prevents ordering of repeat diagnostics or medications.

"Not only do we know just intuitively that having access to complete records helps us coordinate care better, helps us have that holistic awareness of a patient's entire longitudinal care situation, but we do have objective data that tells us that we're doing something different because we have that information. We're not duplicating tests and medications," Wiebe added.

Since JLV's inception 10 years ago, VA has continuously added more types of data the system shares. JLV includes records from the joint exchange, VistA CPRS, VistA imaging, Oracle Cerner, the newly added MUSE cardiology studies, the DOD's legacy EHR systems and the Individual Longitudinal Exposure Record (ILER).

"JLV is using FHIR APIs. All of the data for both the VA and DOD Cerner implementations are stored in the same Millennium instance, so querying that, and bringing back all the records from the MHS Genesis implementation at DOD and the VA EHRM implementation at VA," Wiebe said. "[With ILER], we're now able to have a complete summary of the service members exposures while they were in active duty."

Especially after the passage of the PACT Act, the Veterans Benefits Administration is leveraging JLV to provide evidence for claims and improve claims processing. Also, within the past year, JLV is bringing in the DOD Enterprise Central Image Archive.

"The power here is you're not going to look for what's coming from DOD, what's coming from Cerner, what's coming from VistA. … All of the systems are presented for you here and in single, integrated view," Wiebe said. "Users can select domains or widgets they want on their workspaces. They can customize their workspaces. … We also like to emphasize the transparency of JLV it calls out for data, which it does real time, if JLV can't reach something, it indicates a yellow triangle to the user and tells them what data they couldn't access."

Next Steps for Data Sharing at the Agencies

Moving forward, VA is continuing to advance their data-sharing initiatives to "meet patients where they are," Pan said.

As of today, VA is currently connected to eHealth Exchange and CommonWell Health Alliance. The agency is actively working with DOD on participation in the Carequality Interoperability framework and is targeting

adoption of Office of the National Coordinator for Health IT (ONC)'s Trusted Exchange Framework and Common Agreement (TEFCA) published in 2022.

TEFCA aims to establish a universal technical and legal baseline for information exchange and interoperability across qualified health information networks (QHINs) nationwide.

"With TEFCA, ONC is essentially harnessing all that [interoperability] progress and putting into a national framework that we can all exchange through, and establish more standards through, so that everyone follows the same rules of the road. That always makes things smoother," Pan said. "We're definitely staying at the forefront of the edge trying to figure out how it's going to affect us and our entire industry."

In addition to TEFCA, VA is driving a handful of internal priorities like optimization with the joint exchange, and collaborating with VA's JLV team and DOD partners to shorten return documents and improve how documents are read.

"We're constantly taking feedback and working with all of the stakeholders to improve the system," Pan said. "We also want to implement additional exchange purposes. … For example, our current exchange agreement in place between the VA and the Social Security Administration (SSA) has reduced the claims processing time for SSA disability benefit claims from multiple weeks just a matter of days. We'd really like to see that level of efficiency and apply it to other areas. So expanding and utilizing the system that we've already built to be able to benefit other purposes of use at other agencies." ❋

White House Aims to Balance Data Accessibility and Sharing

The White House Office of Science and Technology Policy's "National Strategy to Advance Privacy-Preserving Data Sharing and Analytics" lays out the administration's use of privacy-preserving data sharing and analytics (PPDSA) within a "vision for a future data ecosystem" that can stimulate innovation in research while minimizing harm "arising from data sharing and analytics."

The strategy rests on five strategic priorities:

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Accelerate translation to practice through pilot programs, development of consensus technical standards and creation of user-focused tools, decision aids and testing environments.

1
Establishing a multi-partner steering group to help develop and maintain a healthy PPDSA ecosystem, build clarity on the use of PPDSA technologies within the law and promote proactive risk mitigation measures.

4
Build expertise and promote training and education through efforts to expand PPDSA knowledge across the public and private sector. This includes fostering privacy education opportunities, with attention to capacity building in underserved communities.

2
Elevate and promote foundational research through investments in research that can advance deployment of PPDSA approach and research to develop the next-generation PPDSA tech.

5
Foster international collaboration on PPDSA development through partnerships and an international policy environment that furthers the adoption of PPDSA technologies while protecting national and economic security.

Source:
White House Office of Science and Technology Policy

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Sharing and Collaboration Are the Future of Interagency Cooperation

Agencies can balance security and accessibility while sharing information across offices.

How can government organizations improve their security posture through data sharing, and why is this important?

Chang   We find that when organizations combine data sets and have more data, they gain deeper insights. The horizontal joining of data adds dimensionality that is essential for effective security. The more data agencies collect from different vantages and locations, the richer their pool of information. That abundance drives more in-depth analysis, better threat detection and accurate decision-making.

On top of that, NOCs and SOCs are not the only stakeholders needed for a full fledged response to threats. DevSecOps, infrastructure, and other teams all need to coordinate to provide a secure environment and response. Having a single source of truth means everyone can respond as one team.

Snowflake enables the horizontal connectivity of data sets, at scale, supporting a coordinated response, and also opening up interagency collaboration. Think like a threat actor: they might launch an attack playbook against regulatory agencies that cannot be deciphered unless we see patterns from across those agencies. Even at a meta level, CISA today receives telemetry data from various

Winston Chang
CTO, Global Public Sector, Snowflake

> **"The core of data collaboration lies in providing access control to data rather than simply sending datasets. This means sharing data isn't an all-or-nothing choice."**
>
> **— Winston Chang, CTO, Global Public Sector, Snowflake**

agencies, but what if they got all the data, in near real time, plus third-party data, and could analyze it at scale? Think of how incredibly effective we'd be as a government.

✳ Where does data collaboration play a role, and what is involved in order to activate this capability?

Chang   Our standard data sharing involves exporting data from one system and transferring it via SFTP, or if the amount is smaller, a REST API, or something like that. While this method works, it is slow, labor-intensive and creates as many security issues as it solves. The new paradigm is dynamic. It doesn't move data or copy data and it provides a full audit and transparency into what is done to your data. That's why Snowflake has seen a boon of data collaboration across the globe.

The core of data collaboration lies in providing access control to data rather than simply sending datasets. This means sharing data isn't an all-or-nothing choice. There are gradients of sharing where one partner might get part of a data set with multiple columns masked and another might get full views, but not to every row. This control is governed by role-based access, specific data tags and access policies designed in code. Access can be revoked or even set for a limited time. These controls provide oversight, ownership and granular control over data collaboration.

Ultimately, with the ease of connecting on Snowflake and the reduced risk to sharing, we drive collaboration because the data stewards can focus on the mission outcome and be assured against downside risk.

(ctd.)

✳ Who is doing this well and what benefits are realized?

Chang   The government originated the federated model in the 1980s. Today this model has thrived in the sharing of watch lists or red list types. Agencies including the Treasury, State, Commerce, and numerous regulatory bodies, all of which maintain their own watch lists. These lists need to be shared and cross-referenced to make sure bad actors don't slip through. Historically, sharing this data efficiently has been daunting.

We're seeing a broad spectrum of leaders within these organizations recognize the importance of data sharing and collaboration. It's not limited to just CIOs; their deputies, enterprise architects, and many others are actively engaged in promoting these practices. Civil servants motivated to make a difference are leading this shift.

Still, the major roadblocks are the legal and policy implications of data sharing. MOUs and ISAs remain the longest processes, and these agreements, whether inter-agency or between our own program offices, introduce bureaucratic bottlenecks. These delays become even more apparent when the technical side of data collaboration takes only a few minutes on Snowflake.

I'd love to consolidate, modernize and digitize these processes. It's very doable. It's not just tech that can be more agile, our processes can use some agility training as well. We'll get there. I see so much innovation in government and we're here to help on everything data. ✳

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ONC is Creating New Frameworks, Standards to Improve Data Sharing

New frameworks and data standards are creating an interoperability baseline across the health care landscape.

BY JAYLA WHITFIELD

The Office of the National Coordinator for Health IT (ONC) is building upon the 21st Cures Act mandates to improve data sharing and create a seamless experience for patients by advancing its Trusted Exchange Framework and Common Agreement (TEFCA) and United States Core Data for Interoperability (USCDI).

ONC was established through an executive order in 2004 and legislatively mandated in the Health Information Technology for Economic and Clinical Health Act (HITECH Act) of 2009. Through its work, ONC has prioritized two key objectives: advance the development and use of health IT capabilities and establish expectations for data sharing.

The later 2016 21st Century Cures Act outlines the path forward for cross-government interoperability and data exchange and serves as a north star for ONC's strategic priorities.

"An important element of the digital foundation that we've all been working toward over the last decades of implementing electronic health records is to have a minimum dataset or standard dataset. ... So, if it's needed for emergency care purposes, or for other purposes, that everyone can count on that," National Coordinator for Health IT Micky Tripathi told GovCIO Media & Research in a recent HealthCast.

To bolster this "digital foundation" and build upon its baseline for interoperability, ONC has made new strides since the beginning of the year across its portfolio, including promoting the 21st Century Cures Act, advancing TEFCA and expanding the USCDI.

HTI-1 Proposed Rule

In early 2023, ONC released the 'Health Data, Technology, and Interoperability: Certification Program Updates, Algorithm Transparency, and Information Sharing (HTI-1) Proposed Rule' to further implement the 21st Century Cures Act

Micky Tripathi

National Coordinator for Health Information Technology, Department of Health and Human Services

and increase the effectiveness and accessibility of electronic health data exchange, which is essential for health care delivery across the country.

Under the proposed rule, ONC aims to update the minimum sharable dataset, health IT certification program, information-blocking regulations and the adoption of the USCDI.

"In addition to fulfilling important statutory obligations of the 21st Century Cures Act, implementing these provisions is critical to advancing interoperability, promoting health equity, and supporting expansion of appropriate access, exchange and use of electronic health information," Tripathi said in a statement.

Ultimately, HHS leaders say the new rule will increase interoperability and promote information sharing.

"We want to do everything we can to create mechanisms and structures to allow for the sharing of information and make that as easy as possible to reduce the burden of that to reduce the threshold [and] allow people to be able to share information as easily as possible," Tripathi said during an April 2023 information session.

As the adoption of EHRs continues to increase, Tripathi said it's imperative to build a strong digital foundation.

"It's about shared assets and shared infrastructure, all the things we've been doing in the private sector we now want to bring to the public health sector," Tripathi said during an earlier event.

TEFCA Creates a Baseline for Interoperability

TEFCA provides the legal baseline for information exchanges and interoperability nationwide. As agencies work to increase interoperability across health information networks TEFCA outlines a path that provides health information efficiently and securely.

ONC published TEFCA in 2022 to meet the 21st Century Cures Act mandate, which called on the agency to improve data sharing. (ctd.)

"We want to be able to create a uniform floor of interoperability so that every authorized entity and authorized user — including individuals — have a baseline expectation of being able to get basic health care, medical record information securely and reliably across the network," Tripathi said when ONC published its TEFCA in 2022. "We also want to be able to greatly simplify connectivity. ... And then we also have to enable the ability to locate aggregate information in a patient-centric way."

For the health care industry, agencies are using TEFCA to their advantage. CDC and ONC are working with state, tribal, local and territorial communities to identify early adopters and help them forge the path forward to encourage other members of the public health community to adopt the framework.

"TEFCA will improve health and safety. It takes us to the next level," Department of Health and Human Services (HHS) Secretary Xavier Becerra said in February when ONC recognized TEFCA's Qualified Health Information Networks (QHINs). "Part of what defines the 21st century digital health care system is interoperability. Healthcare interoperability is critical if we're going to talk health care national infrastructure."

As TEFCA provides seamless communication and cuts out data entry, it also helps eliminate the digital divide across agencies. In addition, TEFCA closes gaps across the board including: "health agencies' lack of access to health exchange networks and actionable health data, challenges with payer-provider exchanges, barriers to patient data access and more," Tripathi said.

"[TEFCA is] unlocking not just a better course of treatment for one individual, but we're starting to use the power of the data that's becoming available to unlock better courses of treatment for thousands – and then ultimately for millions – of people, and this really showing the power scale," said Dr. Arati Prabhakar, director of the White House's Office of Science and Technology Policy (OSTP) and assistant to the president for science and technology, during the HHS event.

(ctd.)

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— Arati Prabhakar, Director, White House Office of Science and Technology Policy

USCDI Transforms Data Sharing and Reporting

Alongside TEFCA, the U.S. Core Data for Interoperability (USCDI), a combination of health data classes and elements for interoperable health information exchange nationwide, is creating new data initiatives. USCDI has established a core set of data to support patient care in order to reach interoperability at every level.

USCDI provides a standardized baseline of health data classes and regularly releases new data classes and elements to stay ahead. In May 2020, USCDI began with 52 data elements, but the elements have expanded to nearly 100. The new requirements range from making data elements accessible through EHRs and adding classes for health status, equity, health insurance information and accessibility.

"What we have done in this is try to provide some capabilities for transparency to users about the algorithms that a certified technology developer has incorporated in the EHR system, so that the user has the ability to have an understanding of what algorithms are incorporated in that technology and certain characteristics of those algorithms," Tripathi said during the information session in April.

On the Horizon

Across agencies, data interoperability is top of mind, and collaboration across agencies is essential to reach full-scale seamless data exchange.

"At ONC, we're doing everything to be a services partner to our HHS partners," Tripathi said during the CDC-ONC event in February.

Tripathi hopes USCDI will become a nationwide public health data model.

"USCDI has quickly become the core fabric of healthcare delivery system," Tripathi added. "It's not only required in EHR certification, it's also required in corresponding CMS access rules and regulations related to APIs."

In addition, Tripathi said USCDI provides the entire package because it includes elements from health equity, race, ethnicity, language, status and health insurance information.

"We don't have to compromise on building infrastructure at every stilt because of the authorities and concerns about sharing data," Tripathi said. "We can have shared assets in cloud environments in the cloud business models that allow for the protection of that data, the isolation of that data and the exposure of it to other parties for all the uses that party agrees to." ❋