

TTS IMPACT

Turning data into knowledge with enterprise data & analytics at the VA

The U.S. Department of Veterans Affairs (VA) worked with Presidential Innovation Fellows (PIF) to build an enterprise data and analytics platform that improves the speed of making decisions and helps personalize veterans' digital experiences. PIF is a program within the General Services Administration's (GSA's) Federal Acquisition Service's Technology Transformation Services (TTS).



THE VA'S STORY VA's mission is to fulfill President Lincoln's promise "to care for him who shall have borne the battle, and for his widow, and his orphan" by serving and honoring the men and women who are America's veterans.

Their Office of Information Technology (OIT) works to provide a seamless, unified veteran experience through delivering useful, state-of-the-art technology.



THE CHALLENGE

The VA plans to integrate its learning health system and social determinants of health to improve veterans' and their families' quality of life. The VA has multiple business offices interfacing with veterans.

More specifically, offices within the VA like the Veterans Health Administration provide a large portion of a veteran's healthcare services, such as out-patient, in-patient, and pharmacy services across many medical specialties. In addition, the Veterans Benefits Administration provides services related to a veteran's economic benefits and education, such as service-related disability payment, home and auto loans, and education and training benefits.

Social Determinants of Health (SDOH)

[Social determinants of health](#) (SDOH) are conditions where people live, learn, work, and play that affect a wide range of health and quality-of-life risks and outcomes. To realize the benefits of integrating the learning health system and SDOH, the VA used the data collected and generated from across the business offices to improve the business decision-making process and personalize veterans' interface experiences.

To integrate, the VA needed an up-to-date data and analytics platform that integrated and organized data across offices. This modernized data and analytics platform also required computing, tool sets, and insight delivery capabilities to efficiently analyze big data and deliver the final insights back to the business.



THE SOLUTION

To get there, the OIT partnered with [Presidential Innovation Fellows](#) (PIF) to begin a data and analytics modernization effort called “Rockies” in Spring 2020. Rockies is a cloud-native enterprise data and analytics platform hosted inside the VA’s enterprise cloud environment. The platform provides advanced analytics tools and computing resources to VA analysts and data scientists. It also systematically curates, organizes, and integrates separate sources of data following industry standards. All of these result in faster and more consistent analysis results while reducing VA analysts’ burdens.

Providing technical expertise from across the full healthcare continuum, a PIF used their previous industry experience leading multiple digital enterprise initiatives that transformed data use to enable and accelerate health innovations like precision medicine.

PIF advised platform architecture priorities, a business case, and vetting criteria to ensure that the VA chose the best technology. As an expert in data science and health systems, Wanmei worked hand-in-hand with the VA’s chief technology officer and chief data technology officer to create strategy, implement, and manage the end-to-end software product development cycle.



THE IMPACT

Rockies is the first of the VA’s enterprise data and analytics modernization effort. Rockies went live in September 2020 after four months of intensive agile development process. In this release, the VA delivered a number of core platform capabilities:

- Data engineers and data scientists can address a variety of patient healthcare questions by using a data lake, with some tables exceeding **3 billion** rows;
- Role-based access and security controls that **comply** with National Data Systems policies and protect veteran data in the platform;
- **Six end-to-end, self-service tools**, from ingestion to dashboard creation, that operate in a harmonized environment via Personal Identity Verification (PIV);
- The VA can rapidly improve the platform by using automated configuration management using [FedRAMP high platform services](#) for mission-critical use cases; and
- Data engineers can use deployment automation in three environments with open-source tools for cloud **interoperability**.

It helps unlock the value of VA data, bringing data-driven insights to decision makers. Key impacts of the first release include:

- The Office of Mental Health can **reduce time to insights** and calculate the medication possession ratio for all drugs in **under 20 minutes, an 88% reduction**, thanks to higher computing power.
- VA’s data scientists and analysts can **work faster and get better insights** thanks to improved user experience, improved workflow, and modernized analytics tools.

“VA’s health data is a national asset. Using it is central to our delivering on our agency’s mission. Presidential Innovation Fellows’ technical leadership has set us on a path towards modernizing our core analytics computing environment in a way that will enable VA to use our data to deliver better outcomes to Veterans over the coming decade.”

— Charles Worthington, Chief Technology Officer, U.S. Department of Veterans Affairs

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