Terminology Support for Federal Healthcare Client

The VA API Development Portal, VADP, formerly known as Lighthouse, is a Veterans Health Administration (VHA) program which provides clinical data via Application Program Interfaces (APIs) to support a variety of healthcare needs. The first client of the program was Apple Health, which provides Veterans with health data from legacy systems on their mobile device. The VADP program office asked the VHA Knowledge Based Systems Division (KBS) to provide terminology mappings for coded elements. They wanted to create FHIR APIs to access VistA and needed our expertise to translate the VistA coded clinical data to meet the requirements of the HL7 FHIR specification. For example, the HL7 FHIR standard requires an allergy status code for patients, but the VistA legacy system does not have such a status code. To remedy this we created a software rule which calculates an allergy status (active, inactive, resolved etc.) based on other information in the patient's record. Our expertise in both the details of FHIR standards compliance and clinical data enabled us to bridge the business and technical gaps to complete the project. J P Systems' technical SMEs worked with the VHA KBS Lighthouse Project team to provide terminology support and guide the FHIR interface development.

J P Systems performed clinical and statistical analysis on VA clinical data, informed by data specifications, to assess how well the data corresponded to the standard. In cases where the correspondence is clinically valid, we provided mappings. Where the correspondence was inexact, we worked with the business owners to understand their priorities for the data and make recommendations. Some of the "medication order status" values fit perfectly, but where they didn't, we had to identify lossy maps, ensure they would be used appropriately, and provide extensions to the standard for cases that required the full original semantics.

What does the VHA VADP program do?

VADP pulls VistA EHR data in order to support FHIR standard resources, such as the Argonaut data query. These resources are intended to be used anywhere by any consumer and would have a variety of uses. The first use is as a patient-facing application that allows Veterans to view their VA health data combined with their external health data. As a result, a more complete longitudinal patient record provides more data for Clinical Decision Support and increases patient safety.

Measurable, Visible Results

As a result of our work on this project, Veterans can now view their VA healthcare data on their phones alongside their data from other healthcare provider organizations. By meeting FHIR standardization requirements, we have laid the foundation for operational communication of data between VA legacy systems and external providers in other healthcare organizations. These communications include (but are not limited to) consultations, referrals, and support for Veterans who move.