

Collaborative Services Subcommittee

Assessment of Collaborative Services Efforts So Far

September 2020

This document summarizes an assessment of the Collaborative Services efforts so far on behalf of the Collaborative Services Subcommittee (“the Subcommittee”) of the Health Information Exchange Steering Committee (HIESC). It was prepared by VITL to summarize the points agreed to by the Subcommittee in their meeting on August 31, 2020.

As a brief review, the Collaborative Services Effort so far has consisted of two major phases:

Phase 1: Implement a new Master Patient Index (MPI), and Terminology Service, and establish a new architecture for HIE interfacing using the Rhapsody interface engine.

Phase 2: Implement a new “Future Data Platform”; a repository of data to support reporting activities by Vermont Information Technology Leaders (VITL) in support of Vermont Health Information Exchange (VHIE) operations and data quality management, and by VHIE stakeholders in support of healthcare system and quality improvement.

In Phase 1, Verato was chosen as the MPI technology. A partnership was also formed with a subsidiary of HealthInfoNet (HIN, the Maine HIE) known as Cureous Innovations (CI) to utilize HIN’s Term Atlas terminology services technology, and to supply licensing and hosting of the Rhapsody interface engine. In addition, VITL established a new cloud based “landing point” destination for interface connections in the Microsoft Azure computing cloud, using “next generation” firewall technology.

Phase 2 is currently being implemented. Through an extensive process of evaluation involving VHIE stakeholder organizations, MedicaSoft was chosen as the new data platform. VITL is currently implementing the platform with guidance from the Subcommittee and its members including the Department of Vermont Health Access (DVHA) and the Vermont Agency of Digital Services (ADS).

Phase 1

In Collaborative Services Phase 1:

- The Verato MPI has been successfully implemented and has been in production operation since January 2020:
 - Consistent with the goals of Phase 1, this has established the MPI as a modular component of the HIE architecture, enabling maintenance of patient identification independent of any of the systems which require use of the identity data. This eliminates the significant limitations of depending on the Health Catalyst Interoperability (HCI) platform for patient identity assignment.
 - Verato is provided in a Software as a Service (SaaS) model, avoiding the need for owned, on-premises infrastructure. Verato utilizes advanced “referential matching” techniques, where data beyond the source health care data is used to enhance patient matching capability.

- The MPI is currently being used to support OneCare Vermont (OCV), Vermont Chronic Care Initiative (VCCI) and Blueprint data applications.
- Metrics demonstrate the improved patient identity results. For example, the ability to match reference patient population identities to VHIE data to support an important data extract application has increased from matching less than 65 percent of population identities to VHIE data, to matching greater than 95 percent.
- During 2021 use of the MPI is expected to be extended to the VHIE provider portal.
- The Term Atlas terminology service has been successfully implemented and has been in production operation since April 2020:
 - Consistent with the goals of Phase 1, the Term Atlas software is provided in a SaaS model, eliminating the owned, on-premises infrastructure used for the prior solution. The prior application suffered from reliability problems which have also been eliminated.
 - So far, 9 clinical concepts including over 700 unique codes have been mapped through Term Atlas. Over 600,000 instances of the 700 codes were mapped in data received during August alone. This demonstrates clear successful use of the terminology service.
 - The scope of clinical concepts being mapped will continue to be expanded through use of the tool.
- The improved VHIE interface architecture has been successfully implemented and has been in production operation since April 2020:
 - Consistent with the goals of Phase 1, the Rhapsody software is provided in a SaaS model, eliminating the previously used owned, on-premises infrastructure.
 - The landing point for VHIE interface connections has been migrated to the Azure cloud, creating a modular architecture which separates the interface connections from the interface engine technology used (and its location). VITL is moving existing interfaces to Azure over time as clients and their vendors can be engaged.
 - The new solution licensing supports unlimited software communication points. Previously these communication points were licensed individually at incremental costs, resulting in the need to design interface structure to minimize these costs. Interface design is now freed from this constraint, allowing for optimal design without regard for any incremental connection module costs.
 - The new solution has a geographically separate disaster recovery (DR) instance which has been fully tested. The prior solution did not have a disaster recovery capability.

In conclusion, the Subcommittee endorses the following statements:

- **The technologies stood up in Phase I act as the HIE foundation and provide real value:**
 - **Significant improvement in patient matching**

- **Shed on-premise infrastructure for Rhapsody. Unlimited communication points allow flexible interface design and support future growth**
- **Significant progress in terminology services**
- **The Collaborative Services Phase 1 project has met its stated objectives**

Phase 2

As previously mentioned, Phase 2, implementation of the MedicaSoft NXT data platform, is under way. The test system infrastructure has been established and is running in the Amazon Web Services (AWS) cloud. Once implemented, this will replace the decommissioned (Blueprint) Vermont Clinical Registry and VITL's self-developed, on-premises Health Data Management platform with a new, modern vendor platform provided in a SaaS model with full redundancy and DR capabilities.

The following outcomes are anticipated:

- Better data to support health care and health care system improvement
- More efficient data access for clinicians through FHIR API support
- Improved data and access for VHIE stakeholders
- Support for patient access to data
- More efficient and sustainable technology platform
- Strong security and compliance with interoperability rule requirements

It should be noted patient access to data, with emphasis on FHIR APIs, will now be required for all HIEs based on the Office of the National Coordinator for Health Information Technology (ONC) interoperability rules. Compliance with FHIR API standards is anticipated as a requirement for continued funding of VHIE initiatives through CMS. Without this initiative, the VHIE would have no practical path to achieve compliance with these requirements in the timeframe needed.

Testing and validation of interface configurations and historical data conversion is currently underway. The Subcommittee has approved the project charter and scope, and a detailed document of system requirements.

To summarize, the Subcommittee endorses the following statement:

- **The MedicaSoft platform will meet the needs of the users on the subcommittee**

Next Steps

There is significant opportunity to advance VHIE capability using the MedicaSoft platform. The Subcommittee will continue to support VITL through development of a near term technical and functional roadmap including validation of use cases. The Subcommittee will also provide guidance as needed in the current implementation and in future related projects.