Health Information Exchange Strategic Plan

2023-2027 Plan *(2022 Update)*

Submitted: November 1, 2022

Submitted by the Agency of Human Services

18 V.S.A. § 9351(a)(1) The Department of Vermont Health Access, in consultation with the Department's Health Information Exchange Steering Committee, shall be responsible for the overall coordination of Vermont's statewide Health Information Technology Plan. The Plan shall be revised annually and updated comprehensively every five years to provide a strategic vision for clinical health information technology.

Contents

Key Terms

Health information – Information created during care delivery and/or in a social service setting which supports coordination of care, reimbursement, public health and quality reporting, analytics, and the policy and governance surrounding management of the health care system.

Health information exchange (HIE) verb – The action of appropriate and confidential sharing health information across facilities, organizations, and government agencies supporting treatment, payment, and healthcare operation activities according to national standards. HIE is often used as shorthand for programs, tools, and investments that help aggregate and exchange health information.

Health Information Exchange (HIE) noun –An organization that collects health information electronically, manages it, and makes it available across the health care system. There is at least one HIE in almost every state in the nation, and HIEs can offer a variety of services. In Vermont there is one HIE, referred to as the Vermont Health Information Exchange (VHIE), which is operated by Vermont Information Technology Leaders (VITL).

Vermont Information Technology Leaders (VITL)- VITL is the legislatively designated operator of the Vermont Health Information Exchange (sometimes written VHIE and pronounced Vee-high), a secure infrastructure that gives health care organizations in Vermont the ability to electronically share and access their peoples' health information to improve the quality, safety, and cost of people care.

The Centers for Medicare & Medicaid Services (CMS) - CMS combines the oversight of the Medicare program, the federal portion of the Medicaid program and State Children's Health Insurance Program, the Health Insurance Marketplace, and related quality assurance activities.

Data Governance - Data governance is a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon protocols which describe who can take what actions with what information, and when, under what circumstances, using what methods. It clearly identifies the roles and responsibilities of those who take part in those processes and how they should interact.

Data Integration - Data integration is the process of combining data from different sources into a unified view or format.

Unified Health Data Space - Vermont's Health Information Exchange has evolved from a 'first generation' HIE which was focused on sending and receiving clinical records to a 'second generation' HIE with a more robust assortment of data types and services offered. With this transition and with the completion of the technology work, the ecosystem of the health information exchange is referred to as the Unified Heath Data Space.   As such, we will no longer be referring to Collaborative Services and instead will use the term Unified Health Data Space. This more accurately captures the second-generation function and needs of the HIE and as such will be used throughout this plan when referring to the ecosystem of the HIE.

HITECH - The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009, was signed into law on February 17, 2009, to promote the adoption and meaningful use of health information technology and expired in 2021.

Health Data Utilities (HDU) - are statewide entities that combine, enhance, and exchange electronic

health data across care and services settings for treatment, care coordination, quality improvement, and public and community health purposes.

Outcomes Based Certification - For all systems that comprise the Medicaid Enterprise System (MES), the Streamlined Modular Certification (SMC) approach to Outcomes Based Certification (OBC) is designed to: demonstrate measurable improvements to a State's Medicaid program. This is achieved through data collection and testing to enable operational reporting of performance and functionality. OBC also reduces the burden on States and CMS during the certification process without compromising CMS's responsibility to ensure systems satisfy all requirements.

People/Person – Throughout this plan there are references to "people"/ "person" – not patients, clients, members, or beneficiaries. Fundamentally, all individuals in the health system are people/person, not the diseases they have or the insurance cards they hold. Using this term maintains the reminder that the health system is here to support health and well-being, not stigmatize or reduce any person to their symptoms, situation, or relationships.[1]

Health System – A "system" can be understood as an arrangement of parts and their interconnections that come together for a purpose. A health system has many parts. In addition to individuals and families, health providers, health services organizations, pharmaceutical companies, government, and other organizations play important roles. The interconnections of the health system can be viewed as the functions and roles played by these parts. The health system includes all activities focused on promoting, restoring, and maintaining health.[2]

> A note on the name of this plan: 18 V.S.A. § 9351 calls for a Health Information Technology Plan which "shall include the implementation of an integrated electronic health information infrastructure for the sharing of electronic health information among health care facilities, health care professionals, public and private payers, and patients." The term *Health Information Exchange* describes the act of sharing health information, often electronically, while the term *Health Information Technology* is a broad term that describes the technical capabilities and equipment an individual or organization might use to meet any variety of health-related needs. Therefore, to best align with the focus of this plan to provide a transparent view of the State's health information exchange needs and challenges, this plan is hereafter referred to as the Health Information Exchange Plan, or the HIE Plan for short.

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[1] Williams, S. T. (2013, November 22). *A person, not a patient: Words about the words we use*. MinnPost. Retrieved from https://www.minnpost.com

[2] World Bank. (2007). *Healthy Development: The World Bank Strategy for Health, Nutrition, and Population Results.* Washington, DC. World Bank. https://openknowledge.worldbank.org/handle/10986/6843 License: CC BY 3.0 IGO.

Executive Summary

The plan is governed by 18 V.S.A. § 9351 which includes criteria and content that need to be included in the plan. This plan is outcomes driven, with specific and achievable goals focused on meeting the needs of each stakeholder – people, providers, payers, public health, and policy makers. Per statute, this year's HIT plan update includes a comprehensive five-year update. The five-year plan update is comprised of 4 main inputs. These inputs include the following: HIE Steering Committee Strategy Planning Session; recommendations from Briljent, the consultant who worked on the HIE Data Strategy and Data Governance; alignment with the Federal Health Information Technology Plan; and current year accomplishments/status. It is worth noting the Federal Health IT mission is "Improve the health and well-being of individuals and communities using technology and health information that is accessible when and where it matters most."[3] Vermont's HIE vision and mission for years has directly aligned to that.

There are four HIE Goals that underpin the strategy.

HIE Goals:

1. **Create One Health Record for Every Person -** Support optimal care delivery andcoordination by ensuring access to complete and accurate health records.

2. **Better Health Outcomes (new) –** Promote health and wellness for individuals and communities.

3. **Improve Health Care Operations -** Enrich health care operations through data collection and analysis to support quality improvement and reporting with the goal to reduce health care costs and provide insight to improve the delivery and experience of care

4. **Use Data to Enable Investment and Policy Decisions –** Bolster the health system's ability to learn and improve by using accurate, comprehensive data to guide investment of time, labor, and capital, and inform policy making and program development.

As the HIE has matured and developed, it has grown from a first generation HIE, focused on sending and receiving clinical data, to a unified health data space utility. This is also reflective of the shift for advanced HIEs to move from a send/receive of clinical data to a data utility. This provides the capability for essential functionality of health information exchange across the health care system while also providing the capability for people to engage with their health information, enhanced public health responses keeping communities healthier and safer, and providing opportunities to manage health care with an eye to improved outcomes.

The HIE Plan outlines four components to the operational and strategic success for the HIE. These include funding, data governance, policy/process, and technology. Each component has foundational and future components as the HIE continues to mature and develop and the needs of the ecosystem change and grow. The plan will highlight the previous year's accomplishments and strategic vision for each component and the strategic vision for each component. It is important to note, these four components work in concert with each other and contribute collectively to the success of the HIE.

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3 https://www.healthit.gov/sites/default/files/page/2020-10/Federal%20Health%20IT%20Strategic%20Plan_2020_2025.pdf
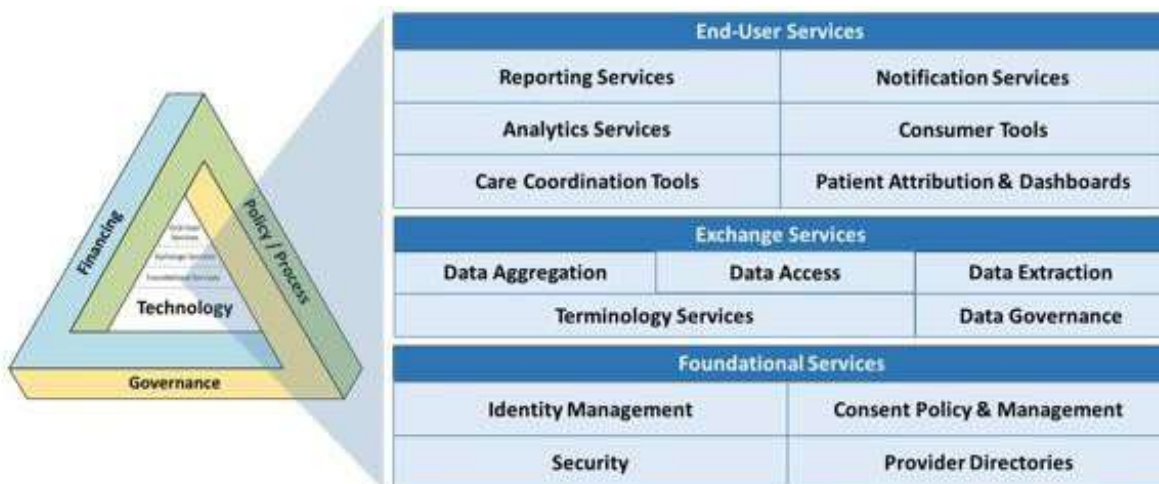
Figure 1: HIE Ecosystem - The Components

Funding: One of the main challenges in the recent year(s) for Vermont's HIE, as well as other HIEs across the country, is sustainable funding. Many HIEs have been undergoing a funding transition. This is due to the original funding that many states used to support their HIE activities, HITECH, coming to an end in 2021. Some HIE's were able to make a transition to sustainable funding and others are still figuring it out. In 2022, Vermont's HIE had a significant accomplishment, as it was one of the first states in the country to achieve CMS Certification. As a result of this certification, Vermont's HIE receives funding from the Federal Government's Medicaid Management Information System (MMIS). While this outcome-based certification requires an additional responsibility from the HIE to work toward the stated outcomes (new metrics and reporting from the State of Vermont to CMS which will be discussed in more detail in Appendix E), it does provide overall more sustainability for Vermont's core HIE activities. CMS funding of the HIE as of 2022, is 75% of maintenance and operations, and 86-90% of the development work. The balance of the funding is from the State providing matching dollars as required. These matched state dollars are often from the health claims tax or from grants. Strategically, funding sustainability is a core component of the HIE.

As such, it is the HIE Steering Committee's desire to continue to keep the HIE functioning as a data utility for the next few years. Specifically, this means continuing the current funding structure. Once the HIE reaches maturity around achieving key milestones associated with the Unified Health Data Space, the HIE Steering Committee is open to exploring private funding for the HIE for innovation or customization. The health information exchange is a valuable data utility for the health community and the HIE Steering Committee intends to continue funding it mainly through public funds and the claims tax until a mature, unified health data space is achieved. HIE Steering Committee actively coordinates with VITL on the funding structure to ensure both entities are in synch.

Governance: An area that received focus in 2022 was to expand and enhance data governance for the HIE, especially as progress is made toward incorporating new data types into the HIE. The State of Vermont partnered with a consulting firm, Briljent, to assist the HIE Program in documenting and developing a data governance framework for the HIE. As a result, the HIE Program has a robust framework for data governance and has actively started executing on this framework. A key step is the development of the HIE Data Governance Council which is underway as of the writing of this plan. There is a recommended, tiered approach to the data governance which will be outlined in the Strategic

Governance section. The HIE Steering committee will continue to be active in overseeing the Data Governance Council. In 2023, a critical initiative is to add the defining detail to each element of the HIE data governance and to develop specific governance for each new domain – such as social determinants of health, Part 2 (substance use disorder), and claims data.

As this year includes a five-year comprehensive update, through the engagement with Briljent, a Data Strategy for the HIE was also provided. This includes comprehensive, actionable steps to help achieve the maturity of the Unified Health Data Space. These steps include establishing a robust data governance plan; defining and communicating the roles for data access; optimizing data utility; and ensuring sustainability and scalability. Taking the HIE Strategic plan and making it operational is very important to the HIE Steering Committee. As such, each strategic goal will have an action plan associated with it in the following months to ensure we realize the strategies set forth in this plan.

Policy/Process: There are six existing statutes that relate to the HIE. The 2022 Legislative Session established Act 167 (S.285), Bill Status S.285 (Act 167) (vermont.gov). The HIE plan is aligned to support these laws. A policy goal that was advanced in 2022 in support of 18 V.S.A. **§**1129, was the exchange of immunization data with the Vermont Department of Health and the Health Information Exchange, underscoring the fact that policies help drive and shape the strategic and operational work of the HIE. Aligning to policies and processes for the HIE, VITL provided Vermonters with "health data IT literacy education" to educate the public on the benefit and use of electronic health information. In addition, the 2022 HIE Steering Committee has created the role of a person representative on the HIE Steering Committee.

From a strategic perspective, there are key items the HIE Program will focus on over the course of the next few years. These include continuing to diversify the data sets in the HIE – clinical, claims, social determinates of health, person generated data, such as sensor and Internet of Things (IOT) data. This speaks to the sustainability of the data in the HIE. The HIE Program needs to consider future data sources that could augment the Unified Health Data Space but are not yet available for inclusion, for example: patient generated data, data generated from devices, and new federal or state data assets such databases or data warehouses. In addition, to optimize the data utility of the HIE, it will be important to consider data management and data quality to ensure the HIE has the most complete data possible. For strategic sustainability, it will be important to ensure the HIE process and policies evolve as needs evolve. This includes stakeholder needs, policy updates, and changes in technology standards or policies that, include legislation, rules, and standards. A key process will ensure that there is a solid process for managing and transferring knowledge within the human side of the organization. This will add to the long-term sustainability of the HIE.

With Vermont's current HIE structure and future enhancements, it is well positioned to assist in addressing the health equity needs across the state and within communities. From a public health and policy position, the HIE can provide data to address the unique needs of the underserved and disadvantaged individuals who disproportionately carry the burden of severe chronic diseases, mental health needs, and socioeconomic barriers that challenge health outcomes, by changing how we develop and use digital technology and data. Public health infrastructure and health equity are two major priorities to emerge from the COVID-19 pandemic for the federal and state governments, community organizations, payers, and providers. Health Information Exchanges play a key role in achieving these goals

Technology: Key technology accomplishments in 2022 helped to solidify the foundational components

of the HIE and begin to leverage Vermont's existing infrastructure. Vermont Information Technology Leaders Inc. (VITL) completed a migration of their platform to a fully cloud-based offering that streamlines and modernizes the clinical data warehouse in 2021. Building on that platform, VITL launched new provider portal that supported easier access to VHIE data. In addition, the platform was leveraged to support other data needs, including enhancing the reporting data warehouse, piloting the ingestion of social determinants of health data, and building a bi-directional interface with the State's Immunization Registry.

With many of the foundational elements in place or underway for the four components, we anticipate advancing each component to achieve the four goals stated above. While many core components to the fundamental HIE technology stack are in place, the HIE will continue to require enhancements. Some of these include establishing data marts for appropriate uses and uses; creating and applying an analytics layer to best optimize the data usability; ensuring ease of use through applying single sign on capability; and ensuring bidirectionality of data flow as it aligns with federal and state laws and data security guidelines. As outlined in 18 V.S.A. § 9351 (6), the Unified Health Data Space is well positioned to ensure reuse of technology to make the most efficient use of resources. Strategic consolidation and integration of existing infrastructure will be considered as well as ensuring new development is leveraging existing technology. These strategic technology initiatives will be discussed more in the Strategic Technology section.
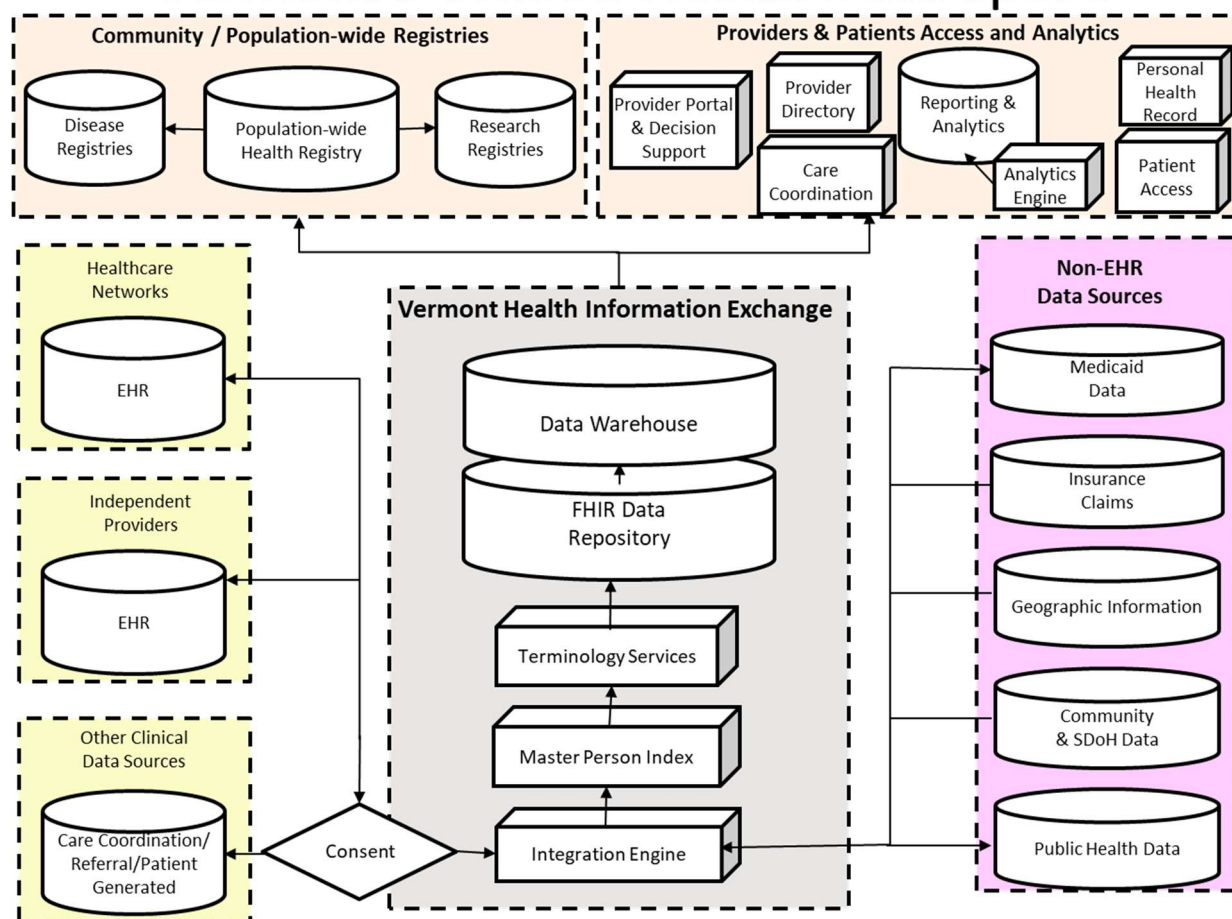

Figure 2: Vermont's Unified Health Data Space Model

2022 Accomplishments

Funding

A key initiative over the last few years for Vermont's Health Information Exchange, has been to achieve a financially sustainable model for the State's HIE activities. This is especially critical and relevant as the funding stream that was in place for the last ten years, HITECH, ended in 2021. The state identified an option of achieving more sustainable funding under the Medicaid Enterprise System (MES). This funding stream requires HIEs to meet federal certification standards. Vermont successfully pursued CMS certification which is called CMS' Outcome Based Certification.

This certification was secured on May 11, 2022, with a retroactive effective date of November 11, 2021. Vermont was one of the first states to achieve certification for their HIE. The resulting change in the funding is reflected in the table below. The funding from the MES results in a higher federal rate than Vermont previously had which is a positive step for VHIE financial sustainability. As shown in the table below, state dollars continue to be required. To leverage federal investments, states are required to provide state-sourced matching funds. The main source of this state funding in Vermont is the HIT-Fund, which is funded through a portion of a tax on commercial health care claims. The claims tax requires legislative action for it to continue and prevent it from sunsetting. The HIT Fund next sunsets in July 2023, and accounts for about $3-$4M annually. The State is committed to ensuring that the HIT Fund (the portion of the State's health care claims tax dedicated to health information technology spending for the state) is used to develop and maintain "integrated electronic health information infrastructure." More information on the health care claims can be found in the Policy section under Appendix F - 'Brief Review of Vermont Policy Impacts on HIE'.

Current	Category	Federal	State	Total	
Maintenance and Operations (M&O)	All	72%	28%		100%
Design, Development, Implementation (DDI)	Medicaid	90%	10%		100%
Design, Development, Implementation (DDI)	Shared (Medicaid and Non Medicaid)*	86%	14%		100%
Design, Development, Implementation (DDI)	Fully Non Medicaid	0%	100%		100%
Example**					
Maintenance and Operations (M&O)	All	$ 4,680,000	$ 1,820,000	$ 6,500,000	
Design, Development, Implementation (DDI)	Medicaid	$ 675,000	$ 75,000	$ 750,000	
Design, Development, Implementation (DDI)	Shared (Medicaid and Non Medicaid)	$ 1,720,000	$ 280,000	$ 2,000,000	
Design, Development, Implementation (DDI)	Fully Non Medicaid	$ -	$ 250,000	$ 250,000	
Total		$ 7,075,000	$ 2,425,000	$ 9,500,000	
Previous *	Category	Federal	State		
Maintenance and Operations (M&O)	All	25%	75%		100%
Design, Development, Implementation (DDI)	Medicaid	90%	10%		100%
Design, Development, Implementation (DDI)	Shared (Medicaid and Non Medicaid)	30%	70%		100%
Design, Development, Implementation (DDI)	Fully Non Medicaid	0%	100%		100%
Example					
Maintenance and Operations (M&O)	All	$ 1,625,000	$ 4,875,000	$ 6,500,000	
Design, Development, Implementation (DDI)	Medicaid	$ 675,000	$ 75,000	$ 750,000	
Design, Development, Implementation (DDI)	Shared (Medicaid and Non Medicaid)	$ 600,000	$ 1,400,000	$ 2,000,000	
Design, Development, Implementation (DDI)	Fully Non Medicaid	$ -	$ 250,000	$ 250,000	
Total		$ 2,900,000	$ 6,600,000	$ 9,500,000	

* Varies by quarter
** Example only - not representative of actual figures
** Post HITECH funding (10/1/21 - 12/31/21)

Table 1: Cost Allocation based on Outcomes Based Certification

As part of the Outcomes Based Certification (OBC), the state is required to provide quarterly metrics to CMS. One of these metrics involves the percentage of the design, development, and implementation (DDI) for shared projects. As such, based on the outcome of this percentage, the quarterly federal / state percentage for shared DDI varies on a quarterly basis. We do not anticipate this to fluctuate more than 1-2 points per quarter. More information on the OBC metrics and financial implications can be found in the Appendix E on 'Outcomes Based Certification Metrics'.

Recognizing, per statute 18 V.S.A. § 9351 (5), the State HIE Program is also responsible for exploring grant programs to complement the existing funding, the state had three impactful grants awarded to assist in developing and advancing health reform across the HIE. These grants included the Health Equity Grant, the ASTHO Grant, and the Global Commitment to Health Waiver. These grants, while awarded in 2022, will contribute to funding a portion of the DDI work associated with them in 2023 and 2024. The Department of Health received a grant focused on addressing differences in health equity, which includes data and data systems. Specifically related to the HIE projects are evaluating race and ethnicity, as well as sex and gender data collection, standards, challenges, deficiencies, and as appropriate implementing plans resulting from the evaluation. Other projects are targeted to develop a strategy for integration of Vermont Department of Health data with the HIE. These projects are expected to be completed by the end of 2023. The Global Commitment to Health Waiver allows the State to focus federal Medicaid investments to further Medicaid's role as a driver of all-payer payment and delivery system reform. Within the waiver, the state can incentivize the procurement of data collection tools for Medicaid providers who could not take advantage of the federal Meaningful Use programs. Additional federal funding for Home and Community Based Services (HCBS) has been secured, in some part, to advance health-IT efforts to support the HCBS sector. We will discuss more in the strategic section the projects associated with the Global Commitment to Health Waiver.

Over the course of 2022, significant accomplishments were made in the funding space resulting in sustainable funding for maintenance and operations likely for the duration of the HIE, provided the state can continue to support the required match rate. This plan will propose options in the strategy session for future design, development, and implementation funding mechanisms, aligning to the statute requirement in 18 V.S.A. § 9351 (5).

Governance

As part of the 2021 HIE Plan submission, the Green Mountain Care Board made a recommendation to strengthen the development of data governance. As such, in 2022 AHS partnered with the consulting firm, Briljent, to provide two key deliverables associated with that recommendation. These deliverables included a proposed data strategy and data governance for the HIE. A critical part of the Briljent engagement was to ensure that as an HIE Program, we operationalize data governance. As such, the action items for data governance in the strategic section are tangible and can be directly implemented. A solid foundation for the data governance framework was designed from the Briljent engagement which directly aligns to 18 V.S.A. § 9351 (8) in statute. This includes the following: the governance structure (establishing data governance council, membership); core federated teams, roles and responsibilities for process owners and data domain roles, role-based access, overall HIE data governance and domain driven governance. We will go into each of these areas in in the strategy section.

Policy/Process

In response to legislation that effects the HIE, the 2022 Legislative Session included Act 167 (S.285). This act supports health care reform, and certain elements directly relate to the HIE. To support Act 167, the HIE Steering Committee will continue to work to create one integrated health record in 2023. The HIE Steering Committee will work in collaboration with Agency of Human Services, Agency of Digital Services, and State's HIE staff to develop a data integration strategy as required in Act 167. "The act directs the Health Information Exchange (HIE) Steering Committee to include a data integration strategy in its 2023 HIE Strategic Plan and to continue its efforts to create a single, integrated health record for each individual. The act repeals a prohibition on filing information that is required by law to be kept confidential with the GMCB for the Vermont Health Care Uniform Reporting and Evaluation System (VHCURES) in a manner that discloses the patient's identity, but the act retains other protections regarding access to and use of the information consistent with the federal Health Insurance Portability and Accountability Act (HIPAA)."[4]

This integration strategy will need to provide a recommendation in line with the HIE Plan goal of 'creating one health record for each person' and 18 V.S.A. § 9351 (6) and in this exploration it may contemplate the integration of VHCURES in the HIE.

As elaborated in the Strategic Policy/Process section, AHS in concert with the HIE Steering Committee will be launching the Medicaid Data Aggregation & Access Program incentive to bolster mental health, substance use disorder services, and social determinants of health data. The integration of these data is assisted by the repeal of 18 V.S.A. § 9410(e), allowing for the transfer of health information from a provider to VHCURES within HIPAA compliance. Prior to the 2022 repeal, this statute created a stumbling block to creating one health record, and removal of the language serves the goal to cumulate Vermonter's health data in a Unified Health Data Space.

Technology

The advancement of the HIE to the Unified Health Data Space, is in service of not just the traditional use case of providing data to support the delivery of care to individuals, but also in support of public health, population health, and Medicaid operational needs. The Unified Health Data Space goes beyond simple clinical document exchange, and collects, matches, standardizes, and secures data to support expanded capabilities through curating complete, longitudinal individual records that can support these expanded needs.

Vermont's transition to the Unified Health Data Space aligns with a national shift seen in HIEs functioning as Health Data Utilities, emerging from the demonstrated value of leveraging HIE data and infrastructure in support of public health purposes throughout the pandemic. Civitas Networks for Health maintains a working definition of Health Data Utilities (HDU) as:

> *Statewide entities that combine, enhance, and exchange electronic health data across care and services settings for treatment, care coordination, quality improvement, and public and community health purposes. They enable specific, defined use cases, with protections to ensure people privacy and appropriate data use. HDUs build on existing technical, organizational, and trust infrastructures that exist across a state to meet the diverse and emerging needs across*

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[4]https://legislature.vermont.gov/Documents/2022/Docs/ACTS/ACT167/ACT167%20Act%20Summary.pdf

stakeholders. HDU's rely upon strong, multi-stakeholder governance structures to balance the interests and needs of the individuals, organizations, and agencies they serve.

Significant progress was made toward creating a Unified Health Data Space in 2022. The achievements include launching a new clinical portal, piloting the collection of Social Determinates of Health (SDoH) data with the Vermont Chronic Care Initiative (VCCI), developing new connections to enable the collection of more health data, integrating Vermont Department of Health's immunization data, expanding data reporting capabilities, providing Medicaid beneficiaries with the individual health data and establishing national data sharing connections. Details about each of these efforts follow.

Clinical Portal Launched

In 2022 VITL launched a new VITLAccess clinical portal, so that portal users would experience the benefits of VITL's new data platform, such as improved people matching and more parsing of data from clinical documents into easily searchable fields. Every step in the configuration and launch of the portal was informed by user needs. VITL conducted user interviews that informed portal customization and piloted the new tool with a group of 49 clinicians and staff who shared feedback about portal features and functionality, data quality, and communications.

Rollout of the new clinical portal began in April and continued through June. Users joined training webinars and accessed new education resources in the VITLAccess Learning Hub including brief videos, a user manual, and quick reference guides. Many additional custom trainings have been provided for interested organizations.

Use of the portal by health care organizations has increased significantly since the same time last year (this is without counting the Vermont Department of Health, who used the portal heavily for COVID-19-related work in 2021). Feedback from old and new users has been strongly positive. For instance, users say the new layout allows quicker access to clinically relevant data and is organized more like the EHRs they use every day.

Piloting the Collection of Social Determinants of Health (SDOH) Data with the Vermont Chronic Care Initiative (VCCI)

In 2022 VITL created a framework to ingest State Social Determinants of Health (SDOH) data from questionnaires that were completed by people who access certain State services. The long-term objective is to use this and similar data to provide a more complete understanding of the social and economic impact to a person's health. The current pilot will incorporate data collected by the Vermont Chronic Care Initiative's screening tools into the Vermont Health Information Exchange.

Developed New Connections to Collect More Health Data

In support of the goal of creating one health record for every person, activities to develop new connections (interfaces) to integrate new data to the HIE continued. In 2022, priority for these new interfaces was given to support public health's need for laboratory and immunization data. However, work also continued to support the collection of clinical data.   As of September 30, 71 interfaces were completed, including:

- 21 new public health priority interfaces
- 39 interfaces to collect data from providers implementing new electronic health records

- 11 interfaces from sites submitting new data

The following table details the connections that exist to collect and share VHIE data.

Interface Counts by Direction			
Location Categories	Total Organizations or Services Contributing or Receiving Data	VHIE Inbound Interfaces	VHIE Outbound Interfaces
Federal/State Agency	1	10	18
Federally Qualified Health Center (FQHC)	11	104	137
Home Health Agency	4	24	
Hospital	16	86	
Long Term Care Services	2	5	3
Mental Health Services	3		97
Other	28	137	
Primary Care	93	222	100
Specialty Care	141	291	134
Total		879	489

Table 2: Existing connections to collect and share VHIE data

Connected with the Vermont Department of Health's Immunization Registry to Share Up-To-Date Immunization Data with Care Providers

In 2021, the Department of Health began sending flat files of immunization data to the HIE to be incorporated into people's health records. However, the feed was not real-time, and therefore individual's records were not up to date. In 2022, the VDH and VITL teams worked together to design and implement a live, bi-directional feed between the VHIE and the Immunization Registry, which will allow providers to query real-time immunization records directly from their Electronic Health Record (EHR). The integration is being piloted with at least one health care organization in 2022 and will be rolled out to additional providers in 2023. Additional functionality will also be added, including the ability to access forecast data. This enhancement is in support of 18 V.S.A. § 1129, which was amended in 2021 to allow immunization record sharing from the Department of Health's Immunization Registry to the Vermont Health Information Exchange

Continued Efforts to Expand Data Reporting Capabilities

Building on the 2021 implementation of the new data and reporting platform, work continued in 2022 to continue implementation and enhancement of the data warehouse and reporting capabilities. In early 2022, the Blueprint for Health annual report was generated from the new platform for the second year. Opportunities to enhance capabilities and performance were implemented to allow for transition of additional reporting capabilities, with work to transition the daily COVID reporting for VDH underway.

Supported the State Medicaid Agency's Efforts to Provide Medicaid Beneficiaries with Their Health Data

In support of the State Medicaid Agency's requirement to comply with the 21st Century Cures Act and the associated Final Rules, VITL worked with the team at DVHA to design and implement a feed of clinical data for Medicaid beneficiaries to the state's claims processor to enable the state to make individual clinical and claims data available and accessible to third party applications upon the individual's request.

Worked to Establish a Connection for National Data Sharing

The VITL team worked to build a Hub connection to eHealth Exchange, a network that enables the sharing of people's health data to support health care and public health efforts across the nation, including with the Department of Veterans Affairs and the Department of Defense. Initial planning and implementation began in the spring, with go-live on the Hub planned for the end of the year.

Strategy

In previous years, the focus of the HIE Plan was building the technical foundation needed to advance health data exchange in response to local needs and national requirements. While technical enhancements will continue to be necessary as part of ongoing work of the HIE, the technical fundamentals are largely in place and operational. As such, Vermont and its partners are shifting the focus to leverage the systems in the Unified Health Data Space to support the myriad potential uses of a central and modular health data repository built for interoperable cross-system data exchange and efficient access.

The plan articulates a strategic framework required to execute and sustain Vermont's Unified Health Data Space. The plan specifies the recommended activities for the next few years. The Strategic Plan for the Unified Health Data Space is comprised of four high level objectives of funding, governance process/policy, and technology:

- Establish robust data governance plan
- Define and communicate roles for data access
- Optimize data utility
- Ensure sustainability and scalability

There is consensus that the Unified Health Data Space will support a wide range of needs that are likely to expand and evolve over time. Below is an initial list of the ways in which the Unified Health Data Space will support and advance the needs of the data users identified above.

- Public health, including disease surveillance, immunization, addressing key health priorities, and facilitating school readiness.
- Population health, including providing data for a customizable, interdisciplinary approach to connecting practice and policy to facilitate change at a local level
- Clinical decision making
- Value-based care and other innovative payment models
- Consumer empowerment and lowered cost from repetitive utilization through access to their data
- Anticipation and planning for community health needs and resources

Over time, the number of ways in which the data may be used and the identification of specific use cases that will define its use are likely to increase as stakeholders identify new opportunities to operationalize the information. As such, it is important the HIT Plan each year addresses the evolving needs of the stakeholders and the national landscape of best practices. Strong communication across the HIE Steering Committee, VITL, and AHS will be critical to success. Establishing a clear communication plan will increase awareness and reduce disagreements or confusion. In the following sections we will discuss in depth the strategic plan for each component.

Strategy: Funding

Funding for the HIE in Vermont has evolved over time, this section provides historical context and the path forward that the HIE and its provider incentive program are taking to continue to evolve the HIE. In 2009, the U.S. Congress passed the Health Information Technology for Economic and Clinical Health Act (HITECH) as part of the American Recovery and Reinvestment Act (ARRA) to speed adoption of EHR and exchange systems. Under HITECH, CMS constructed the EHR Incentive Program to provide financial incentives for "Meaningful Use" of EHR technology. The Medicare EHR Incentive Program concluded in 2014, and CMS transitioned reporting requirements and payment adjustments for Medicare providers to the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) with the Merit- based Incentive Payment System (MIPS) Quality Payment Program (QPP). Incentives for Medicaid providers meeting Meaningful Use criteria continued through September 2021 under the Medicaid Promoting Interoperability Program.

It is well understood that many areas of the health care system were not eligible for these opportunities, and as a result, EHR systems often may not reflect the unique needs of certain care providers such as those who provide mental health care or those who offer care coordination and referral services in addition to addiction treatment or physical health care.

As the Medicaid Promoting Interoperability Program ended, CMS offered states a new opportunity to design and operate their own EHR Incentive Programs to continue the push toward digitization of health records systems and make possible health data exchange across the continuum of care. CMS has notified states that they will provide funding to design a continued Electronic Health Record Incentive Program.

In 2023, the HIE Steering Committee will provide oversight on the design of a program that will reduce inequities in data access and sharing capabilities to allow a range of health services providers to participate in value-based payment models. The short-term focus of the program will be on those who provide Medicaid-funded long-term care, home, community based, substance use disorder, and mental health services. The first step in designing the program, called the Medicaid Data Aggregation & Access Program, will be to evaluate how Medicaid providers currently store, access, utilize, and share information about the full range of enrollee needs and associated service utilization. Based on the findings, Vermont will determine how to close gaps that are identified and connect Medicaid providers to interoperable data systems. Connecting data systems to the VHIE ensures that health care experiences can be evaluated at an individual and population level.

The State has identified funding sources for 2023 and 2024 HIE activities. This is through: CMS certification; conditionally approved cost allocation methodology; the HIT fund which is from part of the claims tax; and grants. The HIE Steering Committee recommends that the Vermont Legislature continue the HIT Fund (currently extended through 2025) to support execution of the work described in this Plan. To ensure financial sustainability and to ensure we meet the evolving needs of the stakeholders, we want to continue exploring the option for diverse funding structures for the required state match portion. We will continue to scan the landscape and apply for grants to further the development and grow stakeholder value. We also over the course of 2023 explore viable options to diversify the funding streams with the HIE Steering Committee that could potentially be applied for in 2025. It will be important to achieve the milestone of operationalizing the Unified Health Data Space prior to offering private funding from the health care system. Based on the HIE's strategic path, we expect by end of calendar year 2024 to have achieved great progress toward further realizing the full potential of the Unified Health Data Space. As such, the HIE Steering committee in partnership with VITL expects to talk about potentially offering the

opportunity for members of the health care system who seek unique customization or want to invest in innovative capabilities and/or technologies to pay for these specific services. Having this discussion, about the potential path for private funding for customization and innovation in 2023 to potentially take effect in 2025, provides adequate time to thoroughly examine the option as well as allowing members of the health care system to potentially built it into their data strategy and budget cycles. It is important to ensure the HIE demonstrates a high value for stakeholders as the whole health care system benefits from robust engagement and sharing of electronic health records by providing the highest care and quality possible for Vermonters.

Strategy: Governance

Establish Robust Data Governance

Data governance is essential to managing the availability, usability, integrity, and security of data and forms the cornerstone for the strategic plan for the Unified Health Data Space. Vermont's updates its HIE strategic plan annually, reflecting progress since the first strategic plan developed in 2018 and approved by the GMCB.

The governance approach for the Health Data Space should build upon the existing HIE framework and align with VHIE's existing governance structure to support the following key objectives:

- Improve data sharing across the Health Data Space
- Improve data quality
- Provide the right data, at the right time, to the right stakeholder
- Improve data analytic capacity and reporting

Following the Vermont HIE governance model, it will be important to establish a Data Governance Council that informs key decisions. As such it is imperative that this body include representation from each stakeholder group. To ensure collaboration, it will be important that all stakeholders have equal input into key decisions. Discussions and any decisions must consider all perspectives so that final decisions are well-informed. The near-term action plan includes:

- Establish the Data Governance Council and identify a representative from each of the stakeholder groups to serve on the Council
- Establish a plan for communicating with executive sponsors/council and initial domain stakeholders of Unified Health Data Space
- The Data Governance Council will establish a charter that outlines roles, decision-making processes, meeting structure, and frequency

Define and Communicate Roles for Data Access

The Unified Health Data Space must meet the needs of multiple users who will require access to data at various levels of granularity. Role-based access will ensure that individuals using the Unified Health Data Space only have access to the information at the appropriate level of detail required to meet their individual or organization's needs, while aligning with federal and state laws regarding the protection of patient health information (PHI).

Additionally, several state agencies and stakeholders require aggregated, deidentified data to generate reports or target limited resources to those communities where they will be most effective. To delineate roles, it will be important to identify how data is accessed and used taking into consideration the following key factors:

Current State	Future State
• Who has access to data?	• Who else will need data access?
• What data is currently available to a user?	• What data will the user need?
• How is data currently accessed?	• How should data be accessed?
• What level of granularity is needed (e.g., individual vs aggregated data)	• What level of data granularity will be needed?
• In what format is the data currently received by each user (e.g., tables, reports, patient list)	• What is the ideal format for each user to receive the data?

Table 3: Decision factors for data access

There are natural groupings of information known as data domains, which will be managed by all owners of data included in the HIE. Examples of this may be claims, clinical, public health, or social determinants of health. A key priority will be to identify the data needs for all stakeholders in each domain and clarify which data roles can meet their needs, based on current state and desired future state. Through this process, it will be possible to map each stakeholder to roles in each specific data domain to which they need access. Stakeholders should specify what data is needed to perform their activities. It will be important to consider any future needs that can be clearly defined at this time to avoid rework.

It will be imperative that data be updated at a cadence that reflects the availability of new information. For individuals who will need a single longitudinal record such as providers or caregivers, it will be essential that they have actionable, current, information that reflects recent test results, medical procedures, and diagnoses. Another consideration will be the process by which data is accessed, which may vary across domains and systems. The method for organizing and accessing data (e.g., dashboard, portal) by different user groups must align with the data architecture and available resources. An important component of the HIE data governance is to ensure it is operational.

The State and HIE Steering Committee recognize the criticality of data governance. As the Unified Health Data Space is evolving, it is important that the data governance evolves with it. To realize the vision of an integrated health data infrastructure (Unified Health Data Space), Vermont needs data exchange policies and processes that recognize individualized needs while supporting holistic care, system measurement, and improvement. This section outlines the data governance model that will be established in 2023 and enhanced as necessary for a living and operational framework. The model ensures the appropriate structure for planning and governing the health data space, coordinating services, and appropriate use of the data to advance clinical and public health objectives.

The objectives of data governance include the following themes, originating from various stakeholders of the VHIE:

- Ensure **secure access** to all data provided through the Unified Health Data Space. The stakeholders know the challenges and restrictions of the diversity of data on the roadmap for this environment. It will take coordination and clear communication to maintain the security of Vermonters' health data and to allow the State to continue to operate as good stewards of that information.
- Ensure the quality of data provided in the environment. Combining data in this environment will have little value without confidence in its quality. The more data in the environment, the more challenging maintaining quality becomes. Governance is essential to guide the processes to **ensure quality data**.
- Accurately **unify data** into a single linkable record while maintaining integrity. Having a single record increases the value of data to the State and ultimately its people by introducing the ability to analyze problems beyond a single domain. Leverage unified data for the benefit of public health and individual care.
- **Enhance the usability** of data for social services and healthcare institutions across the State. In the end, data should be highly usable with as few barriers to access and understanding as possible. Data, when available, should have a very specific purpose or utility.

A data governance framework connects the organization's data strategy and goals to the structure necessary to manage the data that will achieve those goals. It contains the rules, processes, and procedures to implement and maintain the program over time. These themes should live explicitly throughout the governance program as decisions are made, priorities are set, and projects are planned and implemented.

The data governance components for Vermont's Unified Health Data Space are directly tied to the feedback and priorities identified by involved stakeholders. The themes listed above have been condensed to the following components: quality data, secure data, connected data, and purposeful data. Therefore, each decision made, and priority determined, should be in pursuit of these key components.

There are also key elements of data governance that enable the organization to realize the benefits of each component but are not components in and of themselves. For Vermont, these elements include communication, culture, and collaboration. For example, collaboration alone is not a sufficient goal in data governance but prioritizing the element of collaboration will enable the Unified Health Data Space to provide quality, secure, connected, and purposeful data.

The figure below illustrates the four data governance components and how they are supported continually by the elements.
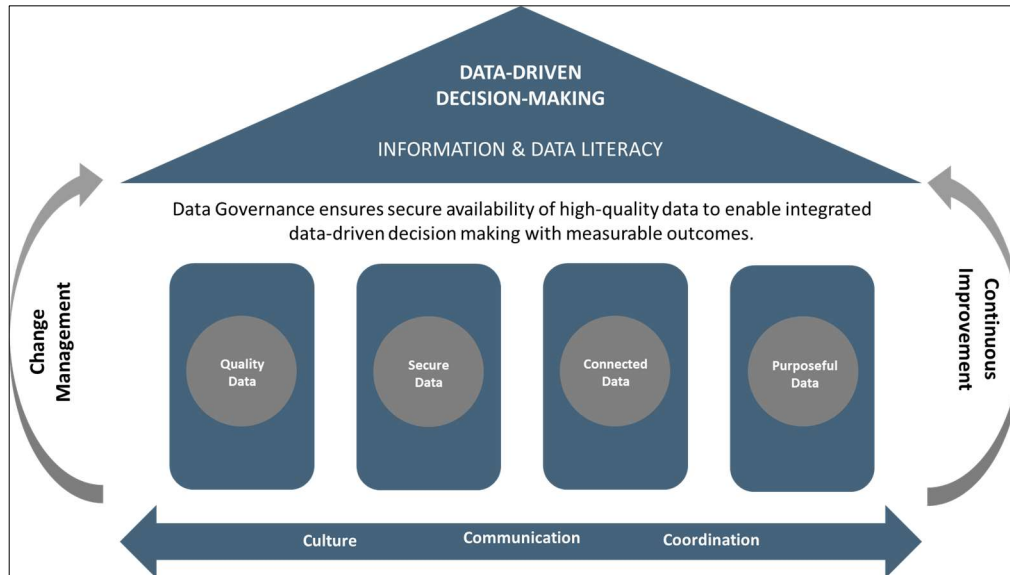
Figure 3: Data governance components

Governing by Domain

Categorizing information is one of the first steps in defining boundaries around information ownership and responsibilities for maintenance. Data domains are an industry standard used to segment data. A data domain is typically a logical business grouping of information, one that may likely go beyond the scope of a singular system. Domains are typically derived through the operations or functions an organization performs and subsequently the data used to support those functions.

An example of a data domain in the Unified Health Data Space is providers and their data. Though there may be nuanced differences in the detailed content of each provider's data, like between a commercial claim and a Medicaid claim, from the perspective of combining data for a unified view, it is helpful to consider the data more generally as provider data.

In domain-centric governance structures, data is expected to be governed independently by the domain business owners - the group of people who manage the collection and operations of the business functions of the domain. Each domain is therefore responsible for maintaining the quality of its information. This is done with the understanding that the domain's data can then be consumed by other domains within the organization.

As more data domains are integrated into the Unified Health Data Space, it is helpful to refer to any existing standards around domain identification and categorization. Considering and/or conforming to said standards can allow for easier integration across the industry of healthcare systems, making the unified data even more valuable.**Error! Reference source not found.**

For the HIE, the recommended data governance structure is depicted below. As the utility of the Unified Health Data Space grows and evolves over time, the data governance structure will need to adapt accordingly. This structure has the following characteristics:

- Domain-centric ownership
- Operates on the assumption that data is managed by domain owners
- Central function to define standards for integrating and accessing data
- Outcomes-driven operation
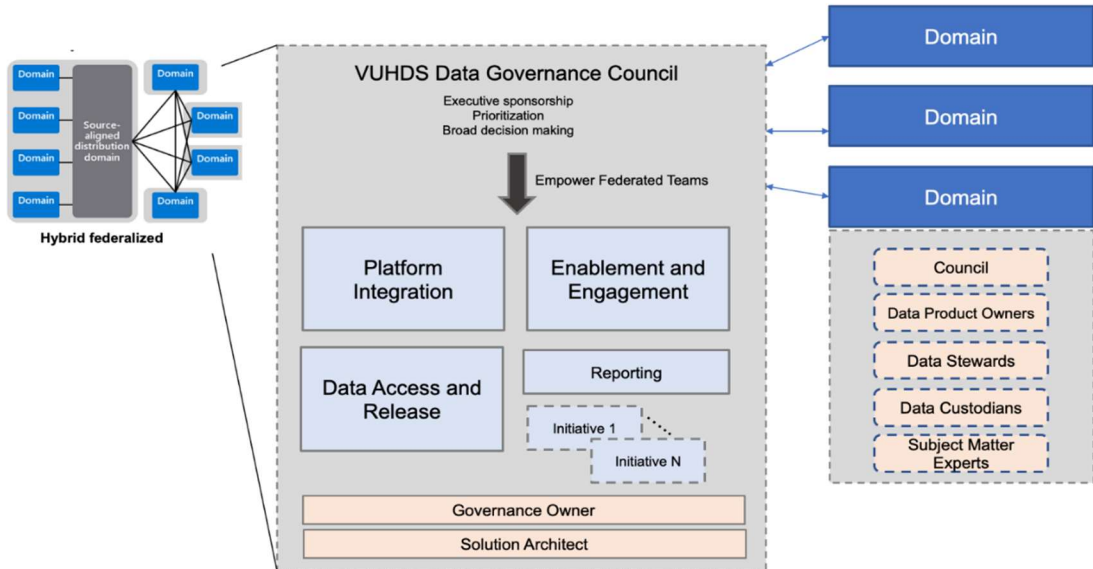
Figure 4: Data governance structure

Data Governance Council

A Data Governance Council provides executive sponsorship, prioritizes the goals, and is responsible for broad decision-making for the Unified Health Data Space. In short, it is the authority that manages the environment. A Unified Health Data Space Council is necessary to include responsible parties who own the data that will eventually live in the environment, which will extend beyond what is currently in the HIE. The Council also acts as an internal authority over how the data is integrated and managed for the environment.

The responsibilities of the Council include:

- Empowering and forming Federated Teams to support the execution and operations of data governance for the Unified Health Data Space.
- Monitoring program effectiveness by tracking the status of governance activities and initiatives. This can be managed by the Governance Owner, whose role is defined below, or by leveraging the Federated Teams.
- Setting priorities for the program by developing and/or evaluating use cases or outcomes for the benefit of Vermonters.
- Setting and approving policies. The Council should provide executive support for policy changes. The Federated Teams and subject matter experts should provide evidence-based support.

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- Provide executive sponsorship, including but not limited to funding support, communications, and being an escalation point for Federated Teams.
- Communicate and educate data use and data governance across their respective stakeholder groups

HIE Steering Committee Model and Structure

The steering committee model is designed to identify where decision makers go for support, who is responsible for oversight, who provides HIE services, and how service providers are held accountable. It also calls for the Steering Committee to:

1. Define an HIE investment portfolio and monitor statewide investments in service of theVermont's HIE goals.
2. Assess the viability of investments, identify the needed level of investments, and consider the appropriate balance of public and private sourced funds.
3. Advance HIE use cases, ensure accountability of all parties involved in furthering the State's HIEgoals, and engage a broad range of stakeholders in the strategic planning and oversight activities.
4. Receive the HIE Data Governance Council recommendations.

The Steering Committee's goals, commitments, and membership are included in its Charter in Appendix B. While the Steering Committee continues to hold the strategic vision for HIE, sub-committees provide subject matter expertise, operational support, and bring specific recommendations to the larger body. Subcommittees have proven to be an effective element of HIE governance. For 2023 there are four existing subcommittees currently identified. As needed, subcommittees will be created for their specific purpose and continue or complete as needed to help inform governance and project success. For some areas, these directly map to domains of data.

2023 Subcommittees of the HIE Steering Committee

Connectivity Criteria Subcommittee

Required by 18 V.S.A. § 9352 (i)(2), Vermont's Connectivity Criteria establishes the standards for creating and maintaining connectivity to the VHIE network. An overarching clear framework expressed through the Connectivity Criteria empowers data sources and data receivers to confidently share health data. Vermont's Connectivity Criteria is based in national standards like the United States Core Data for Interoperability (USCDI) and standards set forth by the federal "Meaningful Use" program, however, it aims to further define data standards to ensure data exchange is possible to meet the specific needs of Vermont's data users.

During 2019 & 2020, VITL has convened stakeholders to contribute to the annual updating of the Connectivity Criteria. Last year, they expanded the purpose of this Subcommittee to allow for the development of Connectivity Criteria for specific data sets. See page 43 for a description of the Designated Agencies (DA's) Connectivity Criteria effort that further defined data standards for

substance use disorder, mental health, and behavioral health data to enable Designated Agencies to share health data using the VHIE. In 2021, the Subcommittee met in September 2021 to create new criteria for Claims data from Payer organizations and to review the existing physical, mental and behavioral health criteria. The group aligned the Criteria with the program needs and the Office of the National Coordinator (ONC) United States Core Data Interoperability v1 (USCDI) data set, as well as the CMS 837 Professional format for Claims. The recommendation from the Subcommittee were to:

1.) Create a new Claims data contributor type to include a separate Tier 2 with data elements based on the required data in the CMS 837 Professional format for the first year;

2.) Add COVID-19 Test Results to the Physical Health Tier 2 Criteria for 2022;

3.) Leave Mental/Behavioral Health Tier 2 Criteria as is for 2022 until more legal guidance from the new Substance Abuse and Mental Health Services (SAMHSA) is available to handle this data type.

In September of 2022, The HIE Steering Committee approved the recommendation that the criteria remain unchanged for 2023 from that of 2022. And for future considerations – complying with Federal Interoperability rules, factoring in Social Determinants of Health (SDOH), Sexual Orientation and Gender Identity (SOGI), and Care plans into the Criteria with focus on data completeness was also recommended.

See Appendix C for updated Connectivity Criteria including the criteria developed for the Claims data type.

Part II+ Group (Domain)

In 2022, the group paused their work to gather stakeholder input on the development of universal policies and procedures for sharing data governed by 42 CFR Part 2 including substance use disorder data, awaiting further federal guidance on changes to 42 CFR Part 2. This plan proposes that group be reengaged in 2023, with a data governance focus.

Social Determinants of Health Subcommittee (Domain - New)

This group will be responsible for working with the HIE data governance council to provide recommendations on data governance for social determinants of health. This subcommittee will be responsible for executing and operationalizing the strategic goal the HIE Steering Committee has around social determinants of health. More detail regarding social determinants of health is included in the Strategy: Process/Policy section.

Medicaid Data Aggregation & Access Program Subcommittee (New)

The MDAAP Subcommittee will aid the State in designing a program to onboard Medicaid providers to digital health record systems or care coordination or referral tools, which will ultimately be connected to the VHIE. The program will build upon the work started under the HITECH Medicaid EHR Incentive Program (Promoting Interoperability Program), but Vermont now has the opportunity to design program requirements to best support the needs of health care systems and Medicaid providers beyond the previous scope of the program. The initial focus of

the program will be on mental health providers, substance use disorder providers, and long-term services and supports (LTSS) providers, as they were either previously ineligible or their data needs were not met by the previous EHR Incentive Program. These providers also disproportionately serve populations experiencing health disparities, which further aligns with the focus of the Medicaid health reform efforts and allows for shared achievements with other HIE projects. Development of the program will occur in three phases:

Phase I: Evaluate how Medicaid providers currently store, access, utilize, and share information.

Phase II: Using the findings from the evaluation, design a program to increase electronic data collection and exchange amongst the Medicaid provider community.

Phase III: Implement the data collection tool and HIE connection incentive program, now called MDAAP, with pre-identified Medicaid providers that meet qualifying criteria and achieve specific milestones that advance Medicaid's goals.

The Medicaid Data Aggregation and Access Program Subcommittee will provide essential guidance to the program staff and vendor consultant to identify an array of providers that represent the landscape of current data capacity held by the targeted fields. Staff also anticipate relying on the Subcommittee's leadership and relationships to meaningfully engage with targeted providers in the field so we can design an incentive program to meet providers' and peoples' needs. MDAAP Staff will schedule recurring meetings with the Subcommittee culminating in two vendor presentations to the full HIE Steering Committee for an approval vote of vendor recommendations.

Strategy: Process/Policy

From a strategic perspective, it will be important to optimize data usability. To ensure that data is useful, it will be important to consider the following three categories: data management; data quality; and diversifying data sets in the HIE. To ensure sustainability and scalability of the HIE, it will be important to consider the following items: knowledge management; human resources; stakeholder needs; and policies.

Data Management

Data ownership must be considered when establishing an integrated data system. Source data lives in multiple systems which are "owned" by and managed by different entities who must coordinate to ensure the accurate integration of information as well as state and federal laws related to data access. The Unified Health Data Space will require coordination and collaboration across each of the data owners with a single, trusted authority assuming responsibility for the comprehensive data set.

Data integration involves an automated process for bringing data together from multiple sources, standardizing it, and preparing it for data analysis. The ultimate objective is to establish software-enabled automated processes that won't require engineers to write custom scripts. In establishing the Unified Health Data Space, it will be necessary to establish a clear process for data integration and identify the parties responsible for managing the process. The process should include detailed steps for preparing the data for integration, transforming it into a standardized format, ensuring data accuracy, and synthesizing the data.

Data Quality

The Unified Health Data Space will need to have clearly defined processes for data cleaning and ensuring the data is valid (correctly formatted and stored) and reliable (complete and accurate). Data quality is expected to be managed by the source domain. Specific procedures should be documented for maintaining data quality during the integration into the Unified Health Data Space, including identifying missing data, assessing out of range values, and developing a process for correction. Data completeness is an important item, ensuring the data being ingested into the HIE is as complete and comprehensive as possible. Processes for data integration and the cadence at which this is performed will also need to be documented.

Data

Vermont needs to consider future data sources that could augment the Unified Health Data Space but are not yet readily available for inclusion. This could include people generated data, data generated from devices, and new federal or state data assets such as enhanced surveillance systems or data warehouses. This also includes building on the existing work and continuing to bring in data for social complexity and claims data. Below includes additional details around the importance of Social Determinates of Health (SDOH) and the specific strategic items for inclusion in the HIE as well as opportunities for further integration.

Social Determinants of Health (SDoH)

The Healthy People 2030 initiative by the U.S. Department of Health and Human Services (HHS), designed to guide national health promotion and disease prevention efforts to improve the health of the nation, defines an overarching goal specifically related to SDoH: "Create social, physical, and economic environments that promote attaining the full potential for health and well-being for all."

Data is the key for building a robust and efficient Social Determinants of Health strategy, needed to address health and health care disparities and achieve health equity. CMS Framework for Health Equity 2022–2032 also identified Priority 1 as Expand the Collection, Reporting, and Analysis of Standardized Data.

What Goes Into Your Health?

Socioeconomic Factors — Education, Job Status, Family/Social Support, Income, Community Safety

Physical Environment

Health Behaviors — Tobacco Use, Diet & Exercise, Alcohol Use, Sexual Activity

Health Care — Access to Care, Quality of Care

40% / 10% / 30% / 20%
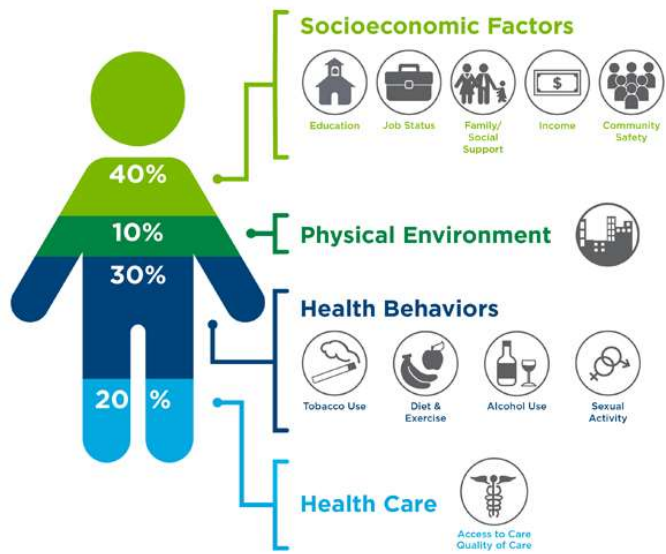
Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

The Bridgespan Group

VHIE strives to improve our collection and use of comprehensive, interoperable, standardized individual-level demographic and SDoH data. As stated in CMS Framework for Health Equity 2022–2032, increasing our understanding of the needs of those we serve, including social risk factors and changes in communities' needs over time, gives us instruments to leverage quality improvement and ensure all individuals have access to equitable care and coverage.

Image Source: The Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Programs (October 2014)

SDoH Strategy Focus Areas:

- Use cases development and implementation to drive prioritization
- Safe aggregation and storage of SDoH data as part of a person-centered approach
- Engaging mental health providers, substance use disorder (SUD) treatment providers, and long-term services and supports (LTSS) providers that predominantly serve the

Medicaid population
- Supporting communities via SDoH

Substance Use Disorder, Mental Health, Behavioral Health VHIE Pilot

Some parts of the health care system were not able to fully take advantage of the federal Medicaid and Medicare EHR Incentive programs which offered funding to health care organizations to offset the cost of purchasing EHR systems. In 2019, Vermont's Joint Fiscal Office (JFO) appropriated funds through a grant administered by the Department of Mental Health (DMH) to Vermont's Designated Agencies (DA) to offset the cost of upgrading EHR systems at 9 of the DAs. Vermont Care Partners, on behalf of the DAs, was required to develop an interoperability strategy that considered the VHIE as a key component of data integration and exchange across the health care system. As a result, VITL and Vermont Care Partners developed DA-specific Connectivity Criteria to ensure that once the DA systems are connected to the VHIE they can seamlessly transmit coded data that can be exchanged across care settings (to the extent that consent and organizational policies allow).

After the HIE Steering Committee approved the DA Connectivity Criteria, VITL established a Part II+ group, uniting stakeholders to create universal policies and procedures for sharing sensitive data types. This subcommittee will be responsible for establishing the data governance for Part II+ group within the HIE, the data elements that will be ingested in parallel while the infrastructure to connect this data to the HIE is being built.

Integrations across the Health System:

To fully participate in the vision of a Unified Health Data Space, public health data and systems must be integrated with the VHIE. In 2023, AHS will partner with VITL to design a strategy for bolstering public health management through partnership with the VHIE. The integration strategy will consider leveraging VHIE infrastructure to enhance public health operations (an effort to reuse existing technical capabilities in support of 18 V.S.A 9351 (6)), incorporating public health data (e.g., immunizations, birth/death, cancer records) into the health record contained on the VHIE, and reporting for public health surveillance and monitoring. The strategy will build on lessons learned from the COVID-19 response and account for new federal requirements for state-level reporting. The HIE Steering Committee will provide feedback on the public health data strategy and use it to inform ongoing efforts to propel state-wide health information exchange. In addition, for future funding options, Public Health registries are also eligible for CMS certification. While there are dedicated funding sources for Vermont's Public Health registries, certifying these systems may create an opportunity for Vermont to receive enhanced federal funding. It is important to note that operations of the registries would have to comply with CMS guidance, such as integration with an HIE and reuse of existing federal investments before certification could be obtained. Certification of public health data capabilities will be further explored as part of the process of developing a public health and VHIE integration strategy.

In addition to integrating public health systems to the HIE, the HIE will also serve as the Data Warehouse for Vermont Medicaid Operations. This will include ingesting Medicaid claims into the HIE, leveraging the existing technology of the HIE and providing the data for the Medicaid Analytics vendor for required reporting and analytics. Having the HIE consolidate data warehouse functions across the State aligns to 18 V.S.A 9351 (6). Future integrations, which also align to 18 V.S.A 9351 (6)

as well as the goals of the HIE Plan, include integrating the Pharmacy Drug Monitoring Program (PDMP), the all-payer claims database (APCD), and integrated enrollment and eligibility data.

Other key items that are important to ensure the HIE is sustainable and scalable includes knowledge management, human resources, and policies. Some of the biggest risks to business continuity and change sustainability, especially during a transformational period, are turnover and the inability to preserve knowledge throughout the organization. Knowledge management is defined as the process of creating, identifying, and managing knowledge of an organization and structuring it for effective and efficient use by individuals and teams. It should exist at the strategic level because operational knowledge is the lifeblood of business continuity. When knowledge is effectively managed, the organization is better equipped to withstand changes that come with time such as shifts in strategic direction, changes in work location, adoption of new processes, or changes in systems. Knowledge management will be necessary to expedite access to information, increase efficiencies, improve decision making, and support innovation. It will be important to develop a knowledge management framework to assess how knowledge is captured within the scope of the Unified Health Data Space as well as transferred across it as necessary. As new staff are onboarded, it will be important to ensure that they have the appropriate knowledge base to sustain the system. There may also be a need for new staff that bring a different set of skills and expertise. This may include partnership opportunities with educational institutions at all levels and providing pathways for current staff to expand their knowledge and skills. It will also be important to create succession plans to minimize loss of institutional knowledge when turnover occurs. As we plan for the HIE in the coming years, it will be important to cultivate a workforce suited for the unique mix of technical, compliance, business, and clinical skills needed for management of Unified Health Data Space.

Lastly, to ensure the HIE is sustainable and scalable it will be important to continue to monitor the landscape for upcoming policy changes. Rules governing data interoperability and information exchange will continue to be released multiple times a year and will need to be monitored. Legislation often impacts or influences data collection and sharing requirements. As such, as policies evolve, the HIE will need to be responsive to these changes.

Strategy: Technology
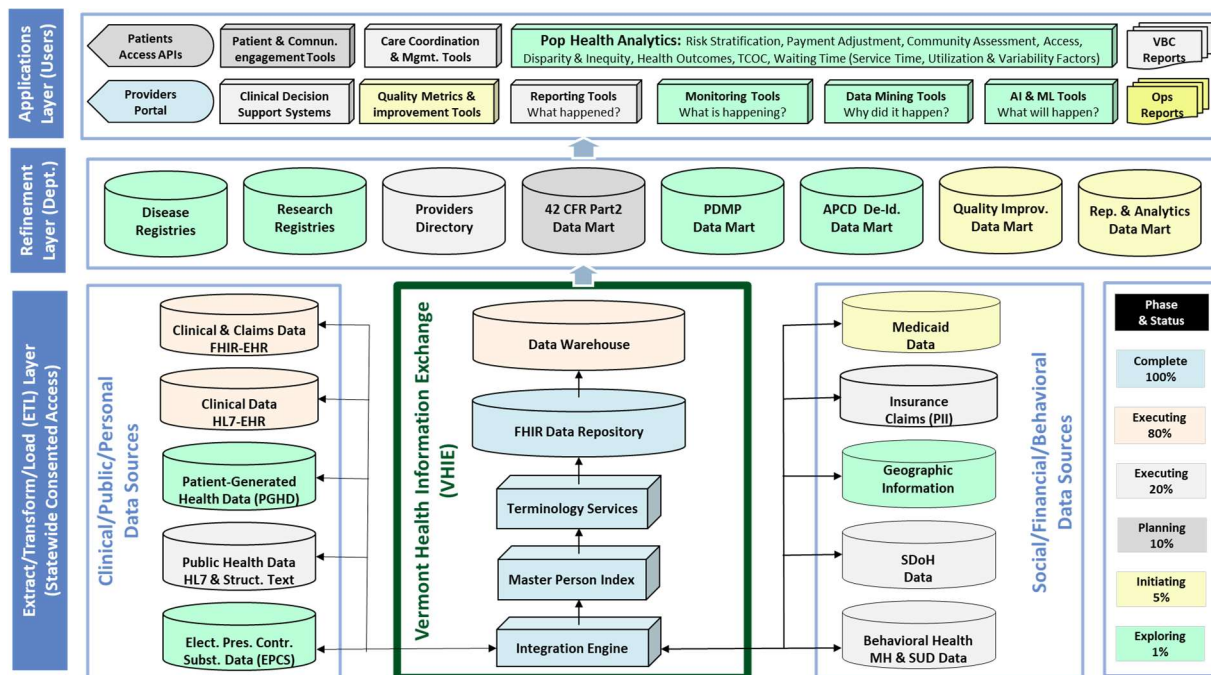
Figure 5: Technology components of the HIE

With its foundational technical infrastructure in place, the VHIE is well positioned to play a key role in advancing VT's population health, in-line with the State's Strategic Plan. The technology components of the HIE are shown in the figure above in the green box labeled 'Vermont Health Information Exchange (VHIE). From a technology standpoint ensuring the HIE is positioned to be sustainable and scalable over the next few years a few key items are important. These include ease of use; bidirectionality of data; data matching; analytics capabilities; system efficiencies; and tools.

Adoption and utilization of the Unified Health Data Space will depend on the ease by which its users can access the information they need. Providers will need a single sign-on that is integrated into their workflow. They will also look to have VHIE data available within their standard workflow and tools. Stakeholders may need access to interactive dashboards to enable them to analyze data based on certain person characteristics, health, or geography. Working within each user group, it will be possible to define what is currently feasible (e.g., manual query or data extract) as well as begin to consider how data can be more effectively accessed and shared (e.g., access to sophisticated tools like Tableau that can facilitate data visualization). The ability to analyze and use the data (often called data literacy) from the Unified Health Data Space will vary across user groups. Those groups who will want to run ad hoc queries will require resources to conduct these analyses. These may include hiring staff with expertise in data analytics or training current staff to develop data literacy. Without analytic skills, stakeholders will not be able to effectively manipulate the data to support their individual use cases. Strategic investments for technology for the HIE will involve acquiring and integrating modern, easy-to-use analytic tools to facilitate the effective use of the Unified Health Data Space, enabling staff without training to generate meaningful insights from the data. It will also be important to clearly communicate what tools and resources are available to users of Unified Health Data Space.

It will be important to present each different stakeholder with data fields that will be useful and presented in

a format that is meaningful. While enhancing ease of use for the consumers, it will also be important to elevate data literacy skills in the process. Within each user group, it will be important to identify processes to simplify access to data based on their role-based access. To ensure coordination and collaboration across all stakeholders, it is critical that data flows in both directions. That is, if a stakeholder contributes data to the Unified Health Data Space, they must be able to access data that aligns with their designated role, as well as federal and state privacy laws. As such, data must be accessible to stakeholders that are contributing data to the warehouse, aligning with policies, laws, and data security guidelines. VITL currently uses a data matching algorithm that has proven to be highly effective in matching people records. Additionally, VHIE data has been successfully matched to Medicaid claims. Scaling this to include all claims will require time and resources. It will be important to document and automate the processes for data matching to ensure there is one record for each person.

One of the primary benefits of the health data space will be reducing redundancy and establishing streamlined processes to increase efficiency. To reduce unnecessary duplication, minimize extraneous costs, and streamline processes, it will be necessary to establish a detailed plan to increase efficiency including optimizing data storage, access, filtering, and sharing. This aligns to 18 V.S.A. § 9351 (3,4,6). Innovative technologies are being developed and evaluated that can help increase access to protected patient data while continuing to respect patient preferences for the sharing of sensitive health information. Developing a strategy that can accommodate emerging technologies like data segmentation, data tagging, HL7 Clinical Decision Support (CDS) Hooks, and SMART on FHIR[5] will be essential. Over time, there will be increasing sophistication in the tools and methods for data automation and refinement. Anticipating the evolution of data tools and algorithms to improve data is essential. Implementing the above technologies and continuously scanning the national landscape of best practices will enable personal health records for longitudinal health information, patient API for efficient and secure access, and the Internet of Things (IoT) for data collection and health monitoring.

The UHDS will enable the reduction of Vermont's Total Cost of Care (TCOC) by enabling data driven personalized care through Person generated data for a complete health data profile, to promote closer people engagement and drive higher-value care by reducing unnecessary and costly low-value care. Technology enablers for this data driven personalized care include Patients Generated Data (PGD) through IoT devices for timely and complete health data profile, SDoH data collection and access for preventing high-cost clinical encounters and optimizing personalized diagnostics, treatments, and recovery. Risk stratification tools for predicting high-cost encounters before they happen. Payment adjustments tools for promoting value-based care and reducing paying for volume.

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[5] What is SMART on FHIR? SMART is **an open-source, standards-based API that leverages the OAuth 2.0 standard to provide secure, universal access to EHRs**. The SMART platform builds on the existing Fast Health Interoperability Resources (hence the name "SMART on FHIR")

Strategy: Next Steps

This strategic plan outlines the key items necessary to facilitate the successful implementation of the Unified Health Data Space over the course of the next few years. In the following months, AHS with the HIE Steering Committee will build out an action plan for each 2023 Strategic Goal item from the below table and track progress with appropriate key process indicators (KPIs) and metrics.

Ongoing coordination across all stakeholders will support and advance implementation, while efforts to promote data literacy, including outlining use cases for how the data may be used, will increase interest in and use of the Unified Health Data Space. These efforts will be paired with reviews to ensure that professional practice and policy are properly followed to ensure patient education and consent. Throughout the implementation process, the HIE will look for opportunities to improve implementation or make course corrections that will ensure successful development and management of the Unified Health Data Space.

Year	Goal	Foundational	Value Based Care Mgt	Governance	Grow Value for Stakeholders	Develop Culture of Learning and Innovation	Focus on Health Equity
				HIE THEMES			
2023	Establish **Data Governance** for each data type and stakeholder use of it	x		x			
2023	Focus on **clinical data completeness, quality, and standardization**	x		x			x
2023	**Funding Structure** - establish milestones and guardrails for seeking private funding	x				x	
2023	**Establish new / additional interfaces** to increase the richness of data. **Promote portability of EHI** through standards-based APIs and other interoperable health IT that permit individuals to readily send and receive their EHI across various platforms.	x			x	x	
2023	**Enhance accessibility** for Stakeholders			x	x		x
2023	Identify two **use cases for SDoH** and enable end to end implementation of it.		x	x	x		x
2023	**Deveopment work** to start for HIE to serve as the **Medicaid Data Warehouse**		x		x		
2023-2024	**Integrate Dept of Health and HIE** to include: bi - directional exchange of immunization records; vital statistics; electronic case reporting; Pharmacy Drug Monitoring Program		x	x	x		x
2024	Ongoing Technology Enhancements: **ease of use**, employ single sign on capability				x		
2024	**Expand Stakeholders** to include **researchers** to utlize limited datasets of HIE for health improvement			x	x	x	x
2024	**Integrate all-payer claims** and clinical data			x	x		
2024	Capability for **complex care management, care coordination, and referral management**		x		x		x
2024-2025	**Onboard** Integrated Enrollment and Eligibility data			x	x		
2023-2025	Enable HIE to ingest and use data from **Home Health Devices:** Wearable sensors, IOT			x		x	
2024-2025	Enable HIE to **adopt analytics** to empower individuals, address patients' full range of health needs, promote healthy behaviors, and facilitate better health outcomes for individuals, families, and communities					x	x
2025	**Customization** for Provider Portal				x	x	
2025	Explore **person engagement platform**				x	x	

Table 4: Strategic Goals

Appendix A: Protocols for Access to Protected Health Information on VHIE

Protocols for Access to Protected Health Information on VHIE

Section 1 – Purpose

Upon approval by the Green Mountain Care Board, this addendum shall be incorporated into and become part of Vermont's Health Information Technology Plan (the "Plan"). Vermont law requires that the Plan include standards and protocols for the implementation of an integrated electronic health information infrastructure for the sharing of electronic health information among health care facilities, health care professionals, public and private payers, and individuals receiving care. In particular, 18 V.S.A. § 9351(a)(3)(B) requires that:

> *The Plan shall provide for each patient's electronic health information that is contained in the Vermont Health Information Exchange to be accessible to health care facilities, health care professionals, and public and private payers to the extent permitted under federal law unless the patient has affirmatively elected not to have the patient's electronic health information shared in that manner.*

This addendum is intended to give effect to these provisions.

As required by statute, Vermont Information Technology Leaders, Inc. ("VITL") has been designated to operate the Vermont Health Information Exchange ("VHIE") in accordance with standards and protocols that are consistent with those adopted under the Plan.

Notwithstanding the annual review and approval of the HIE Plan as a whole, these Protocols shall remain in effect for the existence of the VHIE until superseded or modified with approval of the Green Mountain Care Board.

Section 2 - Definitions

"Consent" means an Individual's decision to permit access to the Individual's Protected Health Information on the VHIE by Participating Health Care Organizations and by public or private payers for Permissible Purposes. No affirmative action is required from an individual to establish their Consent. Individuals shall be considered to have given their Consent until and unless the individual affirmatively Opts-Out.

"De-identified" means that all identifying information related to a Person as set forth in the HIPAA Privacy and Security Rules are removed from the Protected Health Information.

"Health Care Operations" means any of those activities identified by federal regulations at 45 C.F.R. § 164.501, as may be amended, including but not limited to, quality assessment and improvement, evaluations relating to the competence of treating providers or necessary administrative and management activities.

"HIPAA" means the Health Insurance Portability and Accountability Act of 1996, as may be amended, and its implementing rules promulgated in 45 C.F.R. Parts 160, 162, and 164, as may be amended.

"HIPAA Privacy Rules" means those privacy rules described in 45 C.F.R. Part 164, Subpart E, as modified and enlarged by the Health Information Technology for Economic and Clinical Health (HITECH) Act and any other subsequent amendments to the Rules.

"HIPAA Security Rules" means those security rules described in 45 C.F.R. Part 164, Subpart C, as modified and enlarged by the HITECH Act and any other subsequent amendments to the Rules.

"HITECH Act" means the Health Information Technology for Economic and Clinical Health Act of 2009, as may be amended, and its implementing rules promulgated at 45 C.F.R. Parts 160, 162, and 164, as may be amended.

"Medicaid State Plan" means that there is an agreement between a state and the Federal government describing how that state administers its Medicaid programs. It gives an assurance that a state will abide by Federal rules and may claim Federal matching funds for its program activities.

"Medical Emergency" means a condition that poses an immediate threat to the health of any individual and which requires immediate medical intervention. The term "Medical Emergency" specifically is intended to include an "Emergency Medical Condition" which is defined as a medical condition manifesting itself by acute symptoms of sufficient severity such that the absence of medical attention could reasonably be expected to result in (1) placing the health of the individual in serious jeopardy or (2) serious impairment to bodily functions or (3) serious dysfunction of any bodily organ or part.

"Opt-Out" means a Person's affirmative election to withhold Consent, communicated to VITL through designated process.

"Participating Health Care Organization" means the individual hospital, medical practice, physician practice, home health care agency or other health care provider who has entered into a VHIE Services Agreement. Health Care Organization is either a recipient of Data or a supplier of Data, or both, with respect to Data available through the VHIE. The term "Participating Health Care Organization" shall include all the individual providers and authorized staff employed or otherwise legally associated with the entity or organization.

"Part 2 Provider" means a Participating Health Care Organization provider that has notified VITL that the organization or a unit or staff member within its organization, meets the definition of a Program under 42 C.F.R. Part 2, presently located in 42 C.F.R. § 2.11.

"Part 2 Lawful Holder" means any entity other than a Part 2 Provider that has notified VITL that the records it has provided to VITL consist or are reasonably be expected to consist, in whole or in part, of records protected by 42 C.F.R. Part 2.

"Patient", "Individual" or "Person" means an individual whose personal demographic information or Protected Health Information is stored or transferred by the VHIE. The term includes a personal representative who has the authority to authorize the disclosure of a Person's Protected Health Information pursuant to 45 C.F.R. § 164.502 (g) and any other applicable state or federal laws.

"Payment" means any activity undertaken to obtain or provide reimbursement for the provision of health care items or services to a Person.

"Permissible Purposes" means Treatment, Payment, Health Care Operations, consistent with HIPAA and Vermont law.

"Protected Health Information" and the abbreviation "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to the individually identifiable health information created or received by or on behalf of a Participating Health Care Organization. Such term shall also include Electronic Protected Health Information.

"Public Health Authority" means an agency or authority of the United States or a State that has been granted authority and responsibility to protect public health and to prevent or control disease, injury or disability, and, as such, that is authorized by law to collect or receive such information for the purpose of preventing or controlling disease, injury, or disability.

"Significant Public Health Risk" shall have the same the meaning as the term "significant public health risk as" in 18 V.S.A. § 2 (12).

"Revoke" or "Revocation" of Opt-Out means a Person's withdrawal of a previous election to Opt-Out.

"Substance Use Disorder Identifying Records" or "SUD Identifying Records" means records obtained from a Part 2 Provider or Part 2 Lawful Holder that meet the applicability provisions for restrictions on disclosure in 42 C.F.R. Part 2, presently located in 42 C.F.R. § 2.12(a)(1).

"Treatment" means the provision, coordination, or management of health care and related services by one or more Health Care Organizations.

Section 3 –Access by Participating Health Care Organizations

A. **General**. Each Individual's electronic Protected Health Information that is contained in the Vermont Health Information Exchange shall be accessible to Participating Health Care Organizations to the extent permitted under law unless the Individual has affirmativelyelected not to have the Individual's electronic Protected Health Information shared in that manner.

Participating Health Care Organizations shall access Protected Health Information on the VHIE only forPermissible Purposes and only with respect to Individuals with whom they have, had, or are about to commence, a Treatment relationship.

B. **Responsibilities of Participating Health Care Organizations**. Participating Health Care Organizations shall–

   (i) execute a VHIE Service Agreement addressing the terms of providing Patient PHI for exchange on the VHIE and the Participating Health Care Organization's Access to Patient Records

   (ii) cooperate in good faith to execute all provider responsibilities under any processes established by VITL to collect and record Individual elections to Opt-Out, and

   (iii) have policies and procedures in place to ensure that only those individuals involved in Treatment, Payment or HealthCare Operations may access a Persons' PHI on the VHIE.

C. **VITL Responsibilities**. In addition to the obligations provided elsewhere in this addendum, VITL, as the operator of the VHIE, shall–

        (i) enter into a Business Associate Agreement ("BAA"), including, if applicable, a Qualified Service Organization Agreement ("QSOA"), with Participating Health Care Organizations addressing the terms of VITL's use and disclosure of Individual PHI obtained from the Participating Health Care Organization and

        (ii) ensure mechanisms exist to ensure records of patients who have Opted Out are not available, except in the event of Medical Emergencies as in Section D.

D. **Emergency Access to PHI on the VHIE**. Notwithstanding a Persons' choice to Opt-Out, a Participating Health Care Organization may access the Individual's PHI through the VHIE for use in Treatment of the Individual for a Medical Emergency, but only if the Participating Health Care Organizationis unable to obtain Individual consent for such access. Participating Health Care Organizations accessing PHI under such circumstances must notify the Individual of such access as soon as is reasonably possible and must obtain a Revocation of the Individual's Opt-Out for further access to PHI of that Individual on the VHIE after the Medical Emergency has ended.

Section 4 – SUD Identifying Records

A. **Protections necessary to prevent disclosures.** The regulations set forth in 42 C.F.R. Part 2, governing records of covered substance use disorder treatment providers, require additional protections to prevent disclosure of SUD Identifying Records.

B. **VITL Responsibilities**. In addition to the obligations provided elsewhere in this addendum, including those in Section 3.C, VITL, shall–

        (i) work with AHS, Part 2 Providers, and Part 2 Lawful Holders to identify and meet all applicable technical and programmatic requirements before allowing parties to access SUD Identifying Records under Sections 3, 5, or 6,

        (ii) take reasonable care to prevent unpermitted disclosure of SUD Identifying Records, including working with Part 2 Providers to appropriately identify, store, and manage, as required by law, SUD Identifying Records transmitted to VITL, and

        (iii) disclose SUD Identifying Records as permitted by law and authorized by the Part 2 Provider or Part 2 Lawful Holder or as required by law.

Section 5 – Public Health Access

Patient PHI that is contained in the VHIE shall be accessible to a Public Health Authority for public health purposes to the extent that access is authorized under state and federal law. This access shall not be limited by the patient's election not to share data with Participating Health Care Organizations and public and private payers under 18 V.S.A. § 9351(a)(3)(B). A Public Health Authority that receives PHI for a public health activity or purpose may only disclose such PHI to the extent permitted by state and federal law.

Section 6 – Payer Access

A. **General**. Each Individual's electronic Protected Health Information that is contained in the Vermont Health Information Exchange shall be accessible to public and private payers to the extent permitted under federal and state law unless the Individual has affirmatively elected not to have the Individual's electronic Protected Health Information shared in that manner.

Public and Private Payers shall access Protected Health Information on the VHIE only for Permissible Purposes and only with respect to Individuals with whom they have or had a relationship.

B. **Payer Responsibilities**. Payers shall–

> (i) enter into a Data Use Agreement addressing the terms of their Access to Individual Records and

> (ii) have policies and procedures in place to ensure that only those individuals involved in Payment or Health Care Operations may access a Person's PHI on the VHIE.

C. **VITL Responsibilities**. In addition to the obligations provided elsewhere in this addendum, VITL, as the operator of the VHIE, shall–

> (i) if receiving PHI from the Payer entity, enter into a Business Associate Agreement ("BAA") with payers addressing the terms of VITL's use and disclosure of Individual PHI obtained from the Payer,

> (ii)implement policies and procedures to prevent Payer Access through the VHIE to PHI of Patients who have Opted Out.

Section 7 – Individual Rights with Respect to Access

A. **Education**. VITL and the Department of Vermont Health Access shall develop, maintain and administer a program of education that enables Individuals to fully understand their rights regarding the sharing of their Protected Health Information through the VHIE and provide them with ways to find answers to associated questions. Educational materials and processes shall be incorporated as appropriate with existing education obligations, such as Notice of Privacy Practices disclosure requirements under HIPAA, and shall aim to address diverse needs, abilities, and learning styles with respect to information delivery.

Education materials and processes shall clearly explain–

> (i)   the purpose of the VHIE;

> (ii)   the way in which Protected Health Information is collected;

> (iii) how and with whom Protected Health Information may be shared using the VHIE;

> (iv) the Permissible Purposes for which Protected Health Information may be shared using the VHIE;

> (v)   how to Opt-Out and how to Revoke the Opt-Out; and

(vi) how to contact the Office of the Health Care Advocate.

B. **Patient Opt-Out.** With the exception of access by Public Health Authorities and access in a Medical Emergency, Patients shall be free to Opt-Out of participation in the VHIE at any time, which election shall remain in effect with respect to information requested by Participating Health Care Organizations or Payers, unless and until the Patient Revokes such election in writing.

C. **Patient Access to PHI.** All patients shall be provided the right of access to their PHI contained in the VHIE to the extent permitted under applicable HIPAA rules.

D. **Patient Request for Audit Report.** A Patient may request and receive an audit report of access to their PHI on the VHIE by contacting VITL's Privacy Officer. VITL shall provide the requested audit report as soon as reasonably possible, but in no event longer than 30 days after request.

E. **Revocation.** A Patient who has Opted-Out shall be entitled to Revoke such Opt-Out at any time. VITL shall develop and administer one or more Revocation mechanisms for this purpose, including a mechanism by which the Patient's Opt-Out revocation may be documented by the Payer entity. It is the obligation of VITL to update records of the Patient's Consent status for the VHIE. A Revocation shall remain effective unless the Patient subsequently Opts Out.

F. **Deidentified Data.** De-identified patient information may be used for research, quality review, population health management and public health purposes, as permitted by HIPAA. No commercial use or sale of de- identified patient information is permitted.

G. **VITL Responsibilities.**

(i) establish one or more user-friendly mechanisms through which Patients may Opt-Out,

(ii) maintain updated Consent-status records of all Patients who have Opted-Out, and

(iii) ensure the ability to audit access to patient records to facilitate compliance by Participating Health Care Organizations and participating payers with Accounting of Disclosure regulations under HIPAA.

Health Information Exchange Steering Committee Charter

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Purpose of the HIE Steering Committee

The HIE Steering Committee exists to:
1. Serve the needs of HIE users by advancing HIE use cases;
2. Strengthen the relationship between authority and accountability; and
3. Engage a broad range of stakeholders in strategic planning and oversight activities.

The Steering Committee's Vision & Mission

Vision: To enable health information exchange that promotes quality health care in Vermont.

Mission: To work across organizations and disciplines to create and endorse a shared view of the definition, purpose, and goals of HIE in Vermont.

Ultimately, the Steering Committee exists to support development of a state-wide strategic plan (the HIE Plan) and guide implementation of that plan. In 2018, the Steering Committee identified three overarching goals in the HIE Plan that are intended to guide the state's health information exchange work. The goals include:

1. Create One Health Record for Every Person
   a. Support optimal care delivery and coordination by ensuring access to complete and accurate health records
   b. Reduce provider burden by aggregating essential data in one, useful location
   c. Provide people with a comprehensive understanding of their health and care

2. Improve Health Care Operations
   a. Enrich health care practices with data collection and analysis to support quality improvement and reporting
   b. Align data aggregation and data quality efforts to support real need
   c. Reduce burden associated with reporting
   d. Allow providers to analyze their own data and put information into action

3. Use Data to Enable Investment and Policy Decisions
   a. Bolster the health system's ability to learn and improve by using accurate, comprehensive data to guide investment of time, labor, and capital, and inform policy making and program development
   b. Put data in the hands of program's serving population-wide needs
   c. Enable data-informed decision making

The Steering Committee's Guiding Principles
- We commit to creating an HIE Plan that is accurate, reliable, and actionable.
- We drive to use technology and data to support value-based care.
- We are accountable for meaningful work that furthers the goals of HIE.
- We work to optimize what exists today and be thoughtful about future developments.

- We are good stewards of limited public and private resources.
- We exist to develop systems that better the health and well-being of Vermonters.

Scope

In 2019 and beyond, the HIE Steering Committee will:

- Support development, execution, and oversight of Vermont's HIE Plan.
  - o Annually, develop and/or update the HIE Steering Committee charter and bylaws to clearly define roles of members, voting procedures, and other essential operational functions.
  - o Annually, update the State's HIE plan to support the health system's needs and priorities. The plan must comply with state law and guidance provided by the Green Mountain Care Board (GMCB) through the annual plan review process.
  - o Develop and maintain a technical roadmap to support the State's HIE network and achieve the goals stated in the HIE Plan.
  - o Oversee and manage activities set forth in the annual HIE plan.

- Continue to grow and evolve the HIE Steering Committee to best meet the State's needs.
  - o Identify growth opportunities for the governance body and assign ad-hoc committees as needed (e.g., data governance, connectivity, finance, audit).
  - o Act as the central point of review for new or adjusted priorities with HIE stakeholders. Identifying alignment opportunities to further integrate the statewide data management architecture.

- Support the Department of Vermont Health Access (DVHA) and other stakeholders in focusing HIE investments to align with statewide HIE goals.
  - o Define the portfolio of investments needed to further HIE goals and, annually, refine the HIE financial sustainability model through evaluation of progress made in the preceding year.
  - o Note: The Committee does *not* approve or review public investments. Rather, they aid in the development of strategy that may guide both public and private investments in support of shared, state-wide goals.

- Support development of processes and policies that enable achievement of statewide HIE goals.
  - o Provide recommendations to the legislature, GMCB and other stakeholders on actions they can take to support the State's HIE plans and goals and support the development of policy and legislation to further statewide HIE goals and objectives.
  - o Identify priority policies that must be focused on to expand interoperability of health information.
  - o Review and provide feedback on policies developed by AHS, the VHIE, and other stakeholders related to the exchange of health data.

- Engage stakeholders in the Steering Committee's work.
  - o Actively and consistently engage with existing stakeholder advisory groups to ensure that planning and implementation considers insights from impacted and interested parties.
  - o Act as ambassadors of and liaisons to individuals' respective population or organization represented as Committee members on matters discussed or pursued by the HIE Steering Committee.

Steering Committee Membership

The members of the committee were selected by the Chair to best enable HIE progress in Vermont. Membership is comprised of 9 voting members and 4 non-voting members. AHS's HIE Unit will act as the Steering Committee's administrative and operational support.

Name	Role	Population or Organization Represented
Kristin McClure	Chair / Voting Member	Vermont's Agency of Human Services
Jessie Hammond	Voting Member	Vermont's Department of Health
Jimmy Mauro *Blue Cross Blue Shield of Vermont*	Voting Member	Payer Representative
Simone Rueschemeyer *Vermont Care Partners*	Voting Member	Mental Health & Substance Use & Intellectual Developmental Disabilities Representative
Georgia Maheras *Bi-State Primary Care Association*	Voting Member	Primary Care Representative
Emma Harrigan *Vermont Association of Hospitals and Health Systems*	Voting Member	Hospital Care Representative
Victor Morrison	Voting Member	Representative of people who engage with the health care system
Josiah Mueller *OneCare Vermont*	Voting Member	Accountable Care Organization Representative
Tim Tremblay	Voting Member	The Blueprint for Health Program
Sandy Rousse *Central Vermont Home Health and Hospice*	Voting Member	Home Health and Hospice Representative
Laura Pelosi *Long Term Care Advocate*	Voting Member	Long Term Care Representative
Kathryn O'Neill	Non-Voting Member	The Green Mountain Care Board
Vacant	Non-Voting Member	The Agency of Digital Services
Beth Anderson	Non-Voting Member	VITL, Vermont's Health Information Exchange Operator

Vacant	Operational Support / Non- Voting Member	Health Information Exchange Program, Agency of Human Services

Decision Making

Decisions will be made by a majority vote (unanimity minus 2). The committee will make attempts to bring in affected parties beforehand for their advice. Decisions will be logged by the scribe for that meeting, the Committee Coordinator or HIE Program Manager. The committee will produce a decision document that names, explains, and describes the impact of all decisions. Affected entities will be notified within 30 days.

Communications – Meetings

Note: In April 2020, the Steering Committee agreed to revise the in-person meeting structure considering the COVID-19 pandemic and the need to physically distance from others. The Committee agreed to the following:

- Maintain Regular Meetings
- Meet virtually
- Aim to keep meetings under 2 hours
- Strategically Work Through Small Groups (subcommittees) to Ensure Efficient Management of Timely Activities
- Utilize Email More Often to Conduct Committee Business e.g., Consent Updates
- Host Meetings for Special Topics: Individual or Group Meetings to Get Up-to-Speed on Topics like the 21st Century Cures Act

HIE Steering Committee Website

Meeting agenda, minutes, and resource materials will be posted on

https://healthdata.vermont.gov/. Draft materials may be sent via email from the HIE Unit directly to Steering Committee members.

Data Set and Data Quality Standards Worksheet

Tier 2 HC Elements

VHIE Connectivity Criteria Tier 2 Healthcare Common Data Elements					
Location(s):					
Data Contributor Type:					
Vendor:					
Date:					
Concepts	**Data Elements**	**Standardized Coding System(s)**	**Data Contributor Type**	*HCO use only* **Documentation Assessment** Providers are documenting data sets in discrete data fields (Yes or No)	*VITL use only* **Connectivity Assessment** EHR vendor is technically capable of transmitting data sets
Demographics	First Name	N/A	All		
	Last Name		All		
	Middle Initial (if has middle name)		All		
	Date of Birth		All		
	Gender (self reported)		All		
	USPS address (Street, City, State and Zip Code)		All		
	Medical Record Number		All		
Providers	Assigned PCP NPI (Individual)	National Provider Index(**NPI**)	All		
	Servicing Provider NPI (Individual)		All		

	Additional Members of the Care Team (if available)	NPI (if available)	MH/BH		
	Sending Organization	N/A	All		
Diagnostic Results	Hemoglobin A1C	Logical Observation Identifiers Names and Codes **(LOINC)**	All		
	LDL		Physical		
	HDL		Physical		
	ALT		Physical		
	AST		Physical		
	Cholesterol		Physical		
	Triglycerides		Physical		
	Fecal Occult Blood Test (FOBT)		Physical		
	Stool DNA Test (FIT DNA)		Physical		
	Fasting Blood Glucose Test		Physical		
	Lyme Disease Test		Physical		
	Cervical Cancer Screening (HPV test and Date of test)		Physical		
	COVID-19 Test		All		
	Pregnancy		MH/BH		
	Platelet Count		MH/BH		
	Red Blood Cell Count (RBC)		MH/BH		
	Hematocrit (HCT)		MH/BH		
	Mean Corpuscular Hemoglobin		MH/BH		
	Mean Corpuscular Volume		MH/BH		
	Mean Corpuscular Hemoglobin Concentration		MH/BH		
	Red Blood Cell Distribution Width		MH/BH		
	Absolute Neutrophil Count		MH/BH		
Immunizations	Pneumococcal	CVX codes	Physical		
	MMR		Physical		
	Diphtheria, Tetanus, Pertussis (DTaP)		Physical		
	Tetanus, Diphtheria, Pertussis (Tdap)		Physical		
	Varicella		Physical		

	Haemophilus Influenzae Type B (HiB)		Physical	
	Hep A		Physical	
	Hep B		Physical	
	Rotavirus		Physical	
	Meningococcal ACWY (MCV4)		Physical	
	Meningococcal B (MenB)		Physical	
	Polio (IPV)		Physical	
	HPV		Physical	
	Influenza		Physical	
	COVID-19		Physical	
Problems	Hypertension	IHTSDO SNOMED CT. Will also accept ICD-9, ICD-10, or Z Codes MH/BH: MH Codes Fall in the F range on ICD-10 F01.50 - F99 Mental Behavioral and Neurodevelopmental disorders. HCO may also ocassionally report Z codes: (Z00 - Z99)Factors influencing Health status and contact with health services.	Physical	
	Diabetes		Physical	
	ADHD		Physical	
	Coronary Artery Disease		Physical	
	Obesity		Physical	
	Asthma		Physical	
	End Stage Renal Disease (ESRD)		Physical	
	Smoking Status		Physical	
	Tobacco (Including Nicotine) Use		Physical	
	COPD		Physical	
	Stroke		Physical	
	Anxiety		All	
	Depression		All	
	Colon Cancer		Physical	
	F01-F09 - Mental disorders due to known physiological conditions		MH/BH	
	F10-F19 - Mental and behavioral disorders due to psychoactive substance use		MH/BH	
	F20-F29 - Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders		MH/BH	

	F30-F39 - Mood [affective] disorders		MH/BH	
	F40-F48 - Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders		MH/BH	
	F50-F59 - Behavioral syndromes associated with physiological disturbances and physical factors		MH/BH	
	F60-F69 - Disorders of adult personality and behavior		MH/BH	
	F70-F79 - Intellectual disabilities		MH/BH	
	F80-F89 - Pervasive and specific developmental disorders		MH/BH	
	F90-F98 - Behavioral and emotional disorders with onset usually occurring in childhood and adolescence		MH/BH	
Vital Signs	Height	Logical Observation Identifiers Names and Codes **(LOINC)** in Unified Code of Units of Measure, Revision 1.9.	All	
	Weight		All	
	BMI (if recorded in EHR)		All	
	Blood Pressure - Diastolic		All	
	Blood Pressure - Systolic		All	
	Heart Rate		All	
	Respiratory Rate		All	
	Pulse Oximetry		All	
Procedures	Colonoscopy	Snomed, CPT, HCPCS, Loinc	Physical	
	Sigmoidoscopy		Physical	
	Mammography		Physical	
	Colectomy		Physical	
	CT Colonography		Physical	
	Cervical Cancer Screening (Pap test and date of test)		Physical	
	Ultrasound or CT scans for cancer		Physical	
	Psycho Social Rehabilitation		MH/BH	
	Individual Therapy		MH/BH	

	Comprehensive Community Support		MH/BH		
	Group Psychotherapy		MH/BH		
	Emergency Service		MH/BH		
	Crisis Intervention Service		MH/BH		
	Psychiatric Evaluation		MH/BH		
	Skills Train and Development		MH/BH		
Medications	Medications	**RxNorm**, a standardized nomenclature for clinical drugs produced by the United States National Library of Medicine	All		
Allergies	Medication Allergies	**RxNorm**, a standardized nomenclature for clinical drugs produced by the United States National Library of Medicine	All		
Screenings/Patient Education	Tobbaco Use Screening	Snomed, CPT, HCPCS, Loinc	All		
	Colorectal Cancer Screening		All		
	Depression Screening		All		
	Substance Use Disorder Screening		All		
	Depression Screening		All		
Payers	Primary Insurance Company	N/A	All		
	Primary Insurance Member ID		All		
Encounters	Hospital Inpatient Admissions (From ADT)	N/A	All		
	Hospital Inpatient Discharges (From ADT)		All		
	Hospital Inpatient Transfers (From ADT)		All		

VHIE Connectivity Criteria Tier 3 Healthcare Expanded Data Elements

Location(s):

Data Contributor Type:

Vendor:

Date:

Concepts	Data Elements	Standardized Coding System(s)	Data Contributor Type	*HCO use only* Documentation Assessment Providers are documenting data sets in discrete data fields (Yes or No)	*VITL use only* Connectivity Assessment EHR vendor is technically capable of transmitting data sets
Demographics	Maiden Name	N/A	All		
	Phone Number		All		
	SSN		All		
	Nickname		All		
	Suffix		All		
	Birth Sex		All		
	Race		All		
	Ethnicity		All		
	Preferred Language		All		
	Phone Type		All		
Providers	Care Team Member NPI (Individual)	National Provider Index (**NPI**)	All		
	Servicing Provider Site Address	N/A	All		

Diagnostic Results	Urinalysis results for substance use and/or treatment adherence	Logical Observation Identifiers Names and Codes **(LOINC)**	Physical		
Problems	Pregnancy	IHTSDO SNOMED CT. Will also accept ICD-9, ICD-10	Physical		
	Fetal Loss		Physical		
	Suicidality		Physical		
	Opioid Use Disorder		Physical		
	Alcohol Use Disorder		Physical		
	Upper Respiratory Infection		Physical		
	Social Determinants of Health (Problems)		Physical		
	Disability/Physical Limitation		Physical		
Vital Signs	Body temperature	Logical Observation Identifiers Names and Codes **(LOINC)** in Unified Code of Units of Measure, Revision 1.9.	Physical		
	Inhaled oxygen concentration		Physical		
	BMI percentile per age and sex for youth 2-20		Physical		
	Weights for age per length and sex		Physical		
	Occipital-frontal circumference for children < 3 years old		Physical		
Procedures	Audiological Evaluation, <= 3 months age	Snomed, CPT, HCPCS, Loinc	Physical		
	Postpartum Care between 21 and 56 days after delivery		Physical		
	Pulmonary Function Test		Physical		
	Developmental Screening <= 3 years		Physical		
	HEDIS Appropriate Treatment for Upper Respiratory Infection ("URI")		Physical		
	Diabetes Eye Screening		Physical		
	Contraceptive Counseling		Physical		
	Long-Acting Reversible Contraception Insertion		Physical		
	Long-Acting Reversible Contraception Removal		Physical		

	Childbirth (live birth)		Physical		
	Abortion		Physical		
	Prenatal Care		Physical		
	First Trimester Care for Pregnancy		Physical		
	Second Trimester Care for Pregnancy		Physical		
	Third Trimester Care for Pregnancy		Physical		
Advance Directives	Advance Directives (Y/N)	N/A	Physical		
	Advance Directives Contents		Physical		
Allergies	Food Allergies	**RxNorm**, a standardized nomenclature for clinical drugs produced by the United States National Library of Medicine	Physical		
	Latex Allergies		Physical		
Screenings/Patient Education	Colorectal Cancer Screening Results	Snomed, CPT, HCPCS, Loinc	Physical		
	Breast Cancer Screening Results		Physical		
	Tobacco Cessation Treatment or Follow-Up		Physical		
	Reproductive Health Screening		Physical		
	Reproductive Health Follow-Up		Physical		
	Depression Treatment or Follow-Up		Physical		
	Substance Use Treatment or Follow-Up		Physical		
	Social Determinants of Health Screening(s)		Physical		
Payers	Secondary Insurer	N/A	Physical		
	Secondary Insurer Member ID		Physical		
Assessment and Plan of Treatment	NQF 0647 + 0648 Receipt of Care Transition Record at Discharge	N/A	Physical		
	NQF 0648 Timely Transmission of Transition Record (Discharges from an Inpatient Facility to Home/Self		Physical		

	Care or Any Other Site of Care) ("CTR")				
Chief Complaint	Chief Complaint	Snomed, CPT, HCPCS, Loinc, ICD-9/10	Physical		
Clinical Notes	Consultation Note	Snomed, CPT, HCPCS, Loinc, ICD-9/10	Physical		
	Contraceptive Use	RxNorm	Physical		
	Long-Acting Reversible Contraception ("LARC") Use	RxNorm	Physical		
	Imaging Narrative	Snomed, CPT, HCPCS, Loinc, ICD-9/10	Physical		
	Laboratory Report Narrative		Physical		
	Pathology Report Narrative		Physical		
	Procedure Note		Physical		
	Progress Note		Physical		
Discharge Instruction	Discharge Instruction	Snomed, CPT, HCPCS, Loinc, ICD-9/10	Physical		
	Discharge Instruction Contents		Physical		
Family History	Family History	Snomed, CPT, HCPCS, Loinc, ICD-9/10	Physical		
	Family History Contents		Physical		
Provenance	Author Time Stamp	N/A	Physical		
Unique Device Identifier(s) for a Patient's Implantable Device(s)	Unique Device Identifier(s) for a Patient's Implantable Device(s)	UDI identifier as described by applicable FDA regulation	Physical		

VHIE Connectivity Criteria Tier 2 Claims Data Elements

Organization(s):

Data Contributor Type: Claims

Vendor:

Date:

Concepts	Data Elements	Standardized Coding System(s)	*Org use only* **Documentation Assessment** Organization is documenting data sets in discrete data fields (Yes or No)	*VITL use only* **Connectivity Assessment** Vendor is technically capable of transmitting data sets
Insurance and Claim	Primary Insurance Type	N/A		
	Primary Insurance Company			
	Primary Insurance Member ID			
	Primary Insurance Group Number			
	Relationship to Insured			
	Insured Name (if not Patient)			
	Insured USPS address (if not Patient) (Street, City, State and Zip Code)			
	Insured Date of Birth (if not Patient)			
	Insured Sex (if not Patient)			
	Insured Phone Number (If not Patient)			
	Provider, Service, or Supplier Federal Tax ID			
	Total Charges for Claim			

	Enter Total Amount Paid by Patient		
	Physician or Supplier Signature		
	Physician or Supplier Signature Date		
	Service Facility Location		
	Billing Provider Name		
	Billing Provider Address		
	Billing Provider Zip Code		
	Billing Provider Phone Number		
	Billing Provider NPI		
Claim Type	Employment Related Claim	N/A	
	Auto Accident Related Claim		
	Auto Accident Place (if auto related)		
	Other Accident Related Claim		
Demographics	First Name	N/A	
	Last Name		
	Middle Initial (if has middle name)		
	Date of Birth		
	Sex (self reported)		
	USPS address (Street, City, State and Zip Code)		
	Phone Number		
	Patient or Insured Signature		
	Patient or Insured Signature Date		
Providers	Referring Provider Name (if exists)	National Provider Index (**NPI**)	
Diagnosis	Date of Current Illness, Injury, Pregnancy, etc.	ICD9, ICD10	
	Diagnosis Code(s)		
Procedures, Services or Supplies - Can be a repeating data element within a claim	Date(s) of Service	CPT, HCPCS, CMS Place of Service (POS) Codes	
	Place of Service Code		
	Procedure, Service or Supplies		
	Charge for Procedure, Service or Supplies		

	Number of Days or Units for Procedure, Service or Supplies			
	Rendering Provider Name	National Provider Index (**NPI**)		

VHIE Connectivity Criteria Certification Process

Vermont Information Technology Leaders, Inc.

VHIE Connectivity Criteria Certification Process

Overview
The Vermont Health Information Exchange (VHIE) Connectivity Criteria establish the conditions for health care organizations or payers to connect to the VHIE. The VHIE is the technology that aggregates data and facilitates the exchange of patient clinical and claims information. The criteria:

- are designed to be incremental in its approach to set a path for organizations to connect
- guide data contributors in meeting certain conditions to connect and share useful, quality data
- assist health care organizations and payers in selecting or maximizing electronic health record (EHR) and other technology investments
- incorporate tools allowing health care organizations and payers to perform a self-assessment which can then be validated by Vermont Information Technology Leaders (VITL)

The VHIE Connectivity Criteria are incorporated into the Vermont HIE Plan and are reviewed annually for approval by the Green Mountain Care Board (GMCB).

When do Health Care Organizations or Payers complete the VHIE Connectivity Criteria?
Organizations need to complete the criteria when any of the following occur:

- ☐ Connecting to the VHIE for each interface contributing data
- ☐ Selecting/Purchasing/Implementing a new or replacement EHR
- ☐ HIT-related Certificate of Need requests to the GMCB
- ☐ Participating in a payment reform program and Data Quality Project (as requested) to contribute data. Programs include: OneCare Vermont care management and data analytics platform, Vermont Department of Health Immunization Registry, Blueprint for Health, Medicaid and other programs as needed

VHIE Connectivity Criteria Process
Health care organizations or payers may need to engage their vendors to complete the VHIE Connectivity Criteria materials and make any necessary technical changes. Health care organizations and payers will complete the items below in bold

1. **Complete the VHIE questionnaire**
2. **Complete the VHIE Data Set and Data Quality Worksheet**
3. VITL will review the materials, develop a VHIE Connectivity Workplan, and meet with the organization to review any gaps and identify solutions
4. **Address areas of improvement in the VHIE Connectivity Workplan. Areas of improvement may include EHR technical documentation, updates and/or practice workflow changes**

Certification
Health care organizations meeting each level of the criteria are issued a letter and certificate of recognition seal (See below). Organizations are encouraged to post the certificate of recognition seal on their website and printed materials demonstrating achievement in meeting the criteria, especially in HIT-related Certificate of Need requests.

VITL • 1 Mill Street, Suite 249 • Burlington, VT 05401 • 802-861-1800 • www.vitl.net

VHIE Connectivity Work Plan

Organization Details

Date: MM/DD/YY
Organization Name:
Location Name(s):
-

Data Contributor Type (Physical Health and/or Mental/Behavioral Health or Claims):
Electronic Health Record or System:
Stakeholders: Blueprint for Health, OneCare Vermont, Vermont Chronic Care Initiative, Medicaid, and the Vermont Department of Health

Live Contributing Interfaces:
- Admission, Transfer, and Discharge (ADT)
- Continuity of Care Document (CCD)
- Immunization (VXU)
- Fast Healthcare Interoperability Resources (FHIR)
- Claims

VHIE Connectivity Criteria

- Required under 18 V.S.A. § 9352(i)(2)
- Establishes the conditions for health care organizations to connect to the Vermont Health Information Exchange (VHIE)
- Part of the State HIE Plan and annually reviewed and approved by the GMCB
- The Criteria measure progress of each organization in supporting point of care and payment and health reform program stakeholders.

	Met	Not Met
Tier 1 – Meet baseline connectivity standards	☐	☐
Tier 2 – Meet common data set and data quality standards for all stakeholders	☐	☐
Tier 3 – Meet expanded data set and data quality standards for stakeholders	☐	☐

Criteria Evaluation

See *[Filename for Data Set and Data Quality Standards Worksheet for this HCO]* for data element evaluation.

Recommendations

This section will identify changes per location that are needed to meet Tier 2. It will include the organizations plan to achieve Tier 2 or Tier 3.

VHIE Connectivity Work Plan

Common Scope:
- Example: Missing data elements will be addressed by an upgrade occurring in 6 months.

Location Specific Scope:
- Example: Location #1 – needs to update their custom template to map data elements to the CCD.

Short paragraph summarizing thoughts, efforts, needs, etc.

Timing

This section will detail the timing that the organization expects to complete the changes needed to meet Tier 2 or Tier 3 Connectivity Criteria.

Connectivity Criteria Stakeholder Matrix

Tier 1 – Baseline Connectivity Criteria

Tier	Customers	Stakeholders	Customer Responsibilities	Stakeholder Responsibilities	VHIE Responsibilities	Objective and Characteristics	Value in Connecting to the VHIE	Data Criteria	Security	Outcome
1 – Baseline Connectivity	Health care organizations (HCO) contributing patient data for use at the point of care. HCOs and payers contributing data as required by health reform delivery and payment programs (Accountable Care Organization, Blueprint for Health, MU, Vermont Dept of Health, Medicaid, other programs)	Green Mountain Care Board (GMCB), Accountable Care Organization, Blueprint for Health, Vermont Dept for Health, Vermont chronic Care Initiative (VCCI), Medicaid, etc.	Engage with VITL to meet the Baseline Connectivity Criteria; establish connectivity to the VHIE; build interfaces from the Health care or Payer organizations to the VHIE	Identify priority HCOs and their locations needing to contribute data Identify priority Payer organizations needing to contribute data Communicate to the prioritized HCOs and Payers the program's need and use for data	Establish and publish technical requirements that support secure, standard connections. Assess baseline data compliance for patient matching and message structure to share data using the Baseline Connectivity Criteria scoring worksheet Work with customer to establish connectivity and build interfaces from the HCO or Payer to the VHIE and from the VHIE to the Stakeholder's system(s).	Interfaces are established that meet HL7 industry standards outlined in the VHIE Baseline Connectivity Criteria document. Interfaces to the VHIE are sufficient to support patient identity matching Interfaces to the VHIE are sufficient for transmitting data to Stakeholder(s) Access to patient data is supported by HIPAA and Vermont law, including patient consent	Clinician access to patient information integrated within the provider's EHR or using the VHIE Provider Portal (VITLAccess) Electronic results delivery from the VHIE (e.g., hospital or third-party laboratory results) seamlessly integrated within a provider's EHR. Data electronically delivered to and accessible within Vermont Immunization Registry Data facilitates timely and accurate Event notification systems	Meet the VHIE Baseline Connectivity Criteria which identifies requirements for patient matching and system specifications for sufficient, secure data exchange. Include the Connectivity Criteria tier achievement in HIT-related Certificate of Need requests to the GMCB	Complete VHIE Services Agreement to meet legal business, operational and security requirements. Attest to HIPAA Compliance. 42 CFR Part 2 Data Compliance is needed when applicable.	Clinicians can access patient data across healthcare settings. Records are matched to the correct patients and duplicate patients are avoided. Data is used to analyze population health and support health reform

Tier 2 – Common Clinical Data Set and Data Quality Connectivity Criteria

Tier	Customers	Stakeholders	Customer Responsibilities	Stakeholder Responsibilities	VHIE Responsibilities	Objective and Characteristics	Value in Connecting to the VHIE	Data Criteria	Security	Outcome
2 – Common Clinical and Claims Data Set and Data Quality Standards	Participating HCOs in Accountable Care Organization, VCCI, Blueprint for Health, Bi-State, other programs Participating Payers involved in Health Reform efforts	Population Health Management and Quality care programs Accountable Care Organization; Blueprint for Health; Vermont Department of Health; other) Care management programs being supported (VCCI, Accountable Care Organization, others). Policy makers, clinicians and HCO administrators reliant on data reports from the Accountable Care Organization (ACOs); Blueprint for Health; Vermont Department of Health; Medicaid; other. Green Mountain Care Board (GMCB)	Capture data in discrete data fields in EHR. Capture discrete claims data to be shared with the VHIE Hold vendors accountable for sharing data for program(s) in which the HCO or Payer participates Complete the Data Set and Data Quality Standards Worksheet containing the common data set requirements	Establish common clinical and claims data set. Identify HCOs needing assistance in meeting Clinical Quality measures for their program. Partner with VITL and the HCO or Payer and the program(s) in data quality projects to improve data quality during and/or post-interface implementation.	Assess the ability of HCOs and Payers to document minimum data sets and their vendors capability to send that data using the Data Set and Data Quality Standards Worksheet. Facilitate the effort with HCOs and Payers to improve data quality at the documentation level or the technical level to meet stakeholder's and customer's minimum data requirements. Identify data delivery and standardization opportunities Resolve data delivery and standardization opportunities	Minimum clinical and claims data sets are complete, accurate. Clinical and claims data is standardized and therefore interoperable Expanded applications such as care management, claims and clinical data use can be supported to meet customer specified usage. Performance measurement, population health management, and health reform applications are enabled.	Same as Tier 1 with the addition of: Supports Care management tools (Vermont Chronic Care Initiative, etc.) by those engaged in the care continuum Reduces manual effort by enabling chart abstraction tools for quality measure and population health reporting (Bi-State FQHC, Blueprint for Health, Medicaid, etc.) Robust data analysis and reporting to measure performance (Blueprint for Health practice profiles, Accountable Care Organization, Medicaid, Qlik, etc.)	Participates in and complies with programs that have specific data quality requirements. Meet the common clinical and claims data set requirements in the Data Set and Data Quality Standards Worksheet Include the Connectivity Criteria tier achievement in HIT-related Certificate of Need requests to the GMCB	Same as Tier 1	Increased data quality enables usage and confidence in information for quality performance measurement, population management reporting, and health reform efforts.

Connectivity Criteria Stakeholder Matrix- 2022 Proposed.docx

Tier 3 – Expanded Clinical Data Set and Data Quality Connectivity Criteria

Tier	Customers	Stakeholders	Customer Responsibilities	Stakeholder Responsibilities	VHIE Responsibilities	Objective and Characteristics	Value in Connecting to the VHIE	Data Criteria	Security	Outcome
3 – Clinical Data Set and Data Quality	Participating HCOs in Accountable Care Organization, VCCI, Blueprint for Health, Bi-State, other programs Participating Payers involved in Health Reform efforts	Population Health Management and Quality care programs Accountable Care Organization; Blueprint for Health; Vermont Department of Health; other) Care management programs being supported (VCCI, Accountable Care Organization, others). Policy makers, clinicians and HCO administrators reliant on data reports from the Accountable Care Organization (ACOs); Blueprint for Health; Vermont Department of Health; Medicaid; other. Green Mountain Care Board (GMCB)	Capture data in discrete data fields in EHR. Capture discrete claims data to be shared with the VHIE Hold vendors accountable for sharing data for program(s) in which the HCO participates Complete the Data Set and Data Quality Standards Worksheet containing the expanded data set requirements	Establish expanded clinical and claims data set Identify standardization issues to achieve interoperability Identify HCOs needing assistance in meeting Clinical Quality measures for their program Partner with VITL and the HCO or Payer and the program(s) in data quality projects to continuously improve data quality	Assess the ability of HCOs and Payers to document minimum data sets and their vendors capability to send that data using the Data Set and Data Quality Standards Worksheet. Facilitate the effort with HCOs and Payers to improve data quality at the documentation level or the technical level to meet stakeholder's and customer's minimum data requirements. Identify data delivery and standardization opportunities Resolve data delivery and standardization opportunities	Clinical and claims data sets are complete, accurate, standardized, and interoperable Performance measurement and population health management applications are optimized.	Same as Tiers 1 and 2 with the addition of: Data can be used for advanced end user tools and services (Care Management tools, custom data marts for customer use Advanced reporting driven by clinical and claims data (Comparative data sets, etc.)	Meet the clinical and claims data set requirements in the Data Set and Data Quality Standards Worksheet Scope of data collected supports performance measures, interoperability supports population health management and health reform efforts. Include the Connectivity Criteria tier achievement in HIT-related Certificate of Need requests to the GMCB	Same as Tier 1	Increased data quality enables usage and confidence in information to optimize quality performance measurement, population management reporting, and health reform efforts.

Appendix D: Interface Prioritization Matrix

Highest Priority
- Large People Volume
- Easy Vendor
- Tier 2 Capable
- Site Ready
- No known Upgrade/switch in next 12 months
- Data Priority in alignment with HIE Steering Committee Direction
- FHIR Capable

Interface Prioritization – Lowest Priority
- Small People Volume
- Hard Vendor
- Not Tier 2 capable
- Site not willing
- Upgrading/Switching EHR in next 12 months
- Data Priority not in alignment with HIE Steering Committee Direction
- Not FHIR Capable

Interface Prioritization – Other Considerations/Tiebreakers
- Contributing Data
- Receiving Data
- Replacements in Past
- Programs supported
- Other special circumstances

Interface Prioritization Matrix - Clinical Key

Categories	Description	Criteria
People Volume	Site serves and generates data on a large people population of unique lives from existing data in VHIE	Large (>10,000), Medium (5000-10,000), Small (<5000) or Unknown
Vendor Ease	Is the vendor one we have worked with in the past? Are they easy to work with?	Easy (1-3 months), Medium (3-6 months), Hard (6 + Months or custom formats needed), or Unknown if new vendor
Vendor/Site Tier 2 capable?	How capable is the vendor for Tier 2?	Yes, No, Not Evaluated Yet, or Vendor working on Tier 2 if the vendor has been evaluated but needs to make changes to achieve Tier 2, or Does not Apply if the vendor does not generate all the data types in Tier 2 and could never send it, for example a commercial lab.
Site ready to engage?	Has the site been vetted yet by any group for willingness to proceed?	Yes, No in 2019, or Unknown if they have not been asked in last year
Known Upgrade/Switch in next 12 months?	Is the site planning on upgrading or replacing their EHR in the next 12 months? Note: for replacement interfaces this will be No, as we have already factored this into the filter	Yes or No
Data Category	What type or category of data does this organization generate, or what sector of health care are they in? Does it align with the HIE Steering Committee Priorities for the year?	Hospital, Ambulatory, Pharmacy, Home Health, Long Term Care (LTC), Dental, Commercial Lab, COVID, SDoH, MH, BH, Etc. These can change each year. For 2021 COVID is a high priority
Contributing Data?	Is this site currently contributing some data to the VHIE?	No or the types of Data being Contributed already
Receiving Data?	Is this site currently receiving Results Delivery data from the VHIE?	No or the types of Data being Received already
Replacements in Past?	How many times has an interface been replaced by VITL?	# of times replacement interfaces were paid for by DVHA in the past

Programs supported	How many programs will this data serve in Vermont	OneCare Vermont (OCV), Blueprint (BP), Bi-State (FQHCs), Vermont Dept of Health Immunization Registry (VDH), Vermont Chronic Care Initiative (VCCI)
FHIR Capable	Is the vendor capable of connecting to the VHIE using FHIR interfaces?	Yes, No, Not Evaluated Yet
Other special circumstances?	Are there any other special reasons for this to move up in priority?	This can be they are contractually required to connect, or any others that emerge.
Highest Priority	Large Volume	
	Easy Vendor	
	Tier 2 Capable	
	Site Ready	
	No known Upgrade/switch in next 12 months	
	Data Priority in alignment with HIE Steering Committee Direction	
	FHIR Capable	
Lowest Priority	Small Volume	
	Hard Vendor	
	Not Tier 2 capable	
	Site not willing	
	Upgrading/Switching EHR in next 12 months	
	Data Priority not in alignment with HIE Steering Committee Direction	
	Not FHIR Capable	
Other Considerations	Contributing Data?	
	Receiving Data?	
	Replacements in Past?	
	Programs supported	
	Other special circumstances?	

Interface Prioritization Matrix - Claims Key

Categories	Description	Criteria
People Volume	Site serves and generates data on a large people population of unique lives from existing data in VHIE	Large (>10,000), Medium (5000-10,000), Small (<5000) or Unknown
Vendor Ease	Is the vendor one we have worked with in the past? Are they easy to work with?	Easy (1-3 months), Medium (3-6 months), Hard (6 + Months or custom formats needed), or Unknown if new vendor
Site ready to engage?	Has the site been vetted yet by any group for willingness to proceed?	Yes, No, or Unknown if they have not been asked in last year
Known Upgrade/Switch in next 12 months?	Is the site planning on upgrading or replacing their EHR in the next 12 months? Note: for replacement interfaces this will be No, as we have already factored this into the filter	Yes or No
Contributing Data?	Is this site currently contributing some data to the VHIE?	No or the types of Data being Contributed already
Receiving Data?	Is this site currently receiving Results Delivery data from the VHIE?	No or the types of Data being Received already
Programs supported	How many programs will this data serve in Vermont	OneCare Vermont (OCV), Blueprint (BP), Bi-State (FQHCs), Vermont Dept of Health (VDH), Vermont Chronic Care Initiative (VCCI), DVHA
FHIR Capable	Is the vendor capable of connecting to the VHIE using FHIR interfaces?	Yes, No, Not Evaluated Yet
Other special circumstances?	Are there any other special reasons for this to move up in priority?	This can be they are contractually required to connect, or any others that emerge.
Highest Priority	Large Volume	
	Easy Vendor	
	Site Ready	
	No known Upgrade/switch in next 12 months	
	FHIR Capable	
Lowest Priority	Small Volume	

	Hard Vendor	
	Site not willing	
	Upgrading/Switching EHR in next 12 months	
	Not FHIR Capable	
Other Considerations	Contributing Data?	
	Receiving Data?	
	Programs supported	
	Other special circumstances?	

Interface Prioritization Matrix – Clinical Scoring

Categories (110 Pt Scale)		
People Volume (35 Pts)		
Large		35
Medium		20
Small		10
Vendor Ease (10 Pts)		
Easy		10
Medium		5
Hard		1
Vendor/Site Tier 2 capable? (20 Pts)		
Yes		20
No		0
Not evaluated Yet		10
Vendor working on Tier 2		15
Tier 2 Does Not Apply		20
Site ready to engage? (20 Pts)		
Yes		20
No - in 2019		5
Unknown		10
Data Category in Alignment (5 Pts)		
Yes		5
No		0
Replacements in Past? (5 Pts)		
0		5
1		2
2+		0
FHIR Capable (10 Pts)		

Yes		10
No		0
Not evaluated Yet		5
Other Circumstances (5 Pts)		
Up		5
None		0
Known Upgrade/Switch in next 12 months?	Not needed as locations were already removed from the proposed list this year	
Highest Priority	Large Volume	
	Easy Vendor	
	Tier 2 Capable	
	Site Ready	
	No known Upgrade/switch in next 12 months	
	Data Category Priority in alignment with HIE Steering Committee Direction	
	FHIR Capable	
Lowest Priority	Small Volume	
	Hard Vendor	
	Not Tier 2 capable	
	Site not willing	
	Upgrading/Switching EHR in next 12 months	
	Data Category Priority not in alignment with HIE Steering Committee Direction	
	Not FHIR Capable	
Other Considerations	Replacements in Past?	
	Other special circumstances?	
Tiebreakers	Contributing Data?	
	Receiving Data?	
	Programs supported	
NOTE: There are things out of VITLs control that could affect this system and may cause a need to rerank. Ex: If a COVID Vaccine becomes available in late Fall 2020.		

Interface Prioritization Matrix – Claims Scoring

Categories (90 Pt Scale)	
People Volume (35 Pts)	
Large	35
Medium	20
Small	10
Vendor Ease (10 Pts)	
Easy	10
Medium	5
Hard	1
Unknown	5
Site ready to engage? (20 Pts)	
Yes	20
No	0
Unknown	10
FHIR Capable (20 Pts)	
Yes	20
No	0
Not evaluated Yet	10
Other Circumstances (5 Pts)	
Up	5
None	0
Highest Priority	Large Volume
	Easy Vendor
	Site Ready
	No known Upgrade/switch in next 12 months
	FHIR Capable
Lowest Priority	Small Volume
	Hard Vendor
	Site not willing
	Upgrading/Switching EHR in next 12 months
	Not FHIR Capable
Other Considerations	Other special circumstances?
Tiebreakers	Contributing Data?

	Receiving Data?
	Programs supported
NOTE: There are things out of VITLs control that could affect this system and may cause a need to rerank.	

Appendix E: Outcomes Based Certification Metrics

Direct Care/Care Coordination Outcomes

Direct Care/Care Coordination
Metric
1.1a Number of VITLAccess Users
1.1b Number of HCO VITLAccess Users/Number of Potential HCO Users
1.1c Number of Patient Queries through VITLAccess
1.2 Number of Medicaid patient records transmitted from the VHIE to the Medicaid care coordination tool

Direct Care/Care Coordination: Event Notification
Metric
3.1 Number of event notifications (ADT) messages sent to Patient Ping through VHIE connection
3.2 Master Patient Index: Percent Medicaid Match Rate

Direct Care/Care Coordination: Electronic Results Delivery
Metric
4.1 Number of LAB messages captured in the VHIE
4.2 Number of RAD messages captured in the VHIE
4.3 Number of TRANS messages captured in the VHIE

Public Health Outcomes

Metric
5.1 The percent of total immunization messages (VXU) provided by the VHIE to the Immunization Registry by HL-7
5.2 Percent of total death records transmitted from Death Registry to VHIE
6.1 LAB messages captured in the VHIE and transmitted to the Public Health Authority

Value Based Care Outcomes

Metric
7.1 Blueprint for Health Clinical Extract Report from the VHIE *

Appendix F: Policy Background

HIE Ecosystem: Policy/Process

To realize the vision of integrated health data infrastructure (Unified Health Data Space), Vermont needs data exchange policies and processes that recognize individualized needs while supporting holistic care and system measurement and improvement. Since 2006, Vermont's Legislature has repeatedly acted to ensure that HIE policies bolster the health care system.

- Brief Review of Vermont Policy Impacts on HIE -

In 2006, to support the data needs related to the Global Commitment Waiver, the Vermont General Assembly passed legislation[6] establishing policies and standards to govern the state's health information technology infrastructure.

In 2007, the General Assembly authorized VITL to "operate the exclusive statewide health information exchange network" and develop the State's health information technology plan (what is now called the HIE Plan).

In 2008, Vermont's General Assembly established the Health-IT (HIT) Fund to provide dedicated funding for "health information technology adoption and utilization." Revenue from the health care claims tax is paid by the health insurers on private health insurance claims, and the revenue collected from 0.199 of 1% of all health insurance claims is deposited into the General Fund, pursuant to 32 V.S.A. § 10402(b). The portion of the claims tax allocated for health information exchange activities amounts to approximately $3.5M-$4M annually. Each year since its establishment, the legislature has extended the HIT Fund for one or two additional years; the HIT Fund is now extended to July 1, 2023.

In 2011, the Green Mountain Care Board (GMCB) became statutorily obligated to review and approve Vermont's statewide health information technology plan.

Vermont Act 54 of 2015 charged the GMCB with oversight of VITL's budget.

Vermont Act 73 of 2017 required the State to conduct a comprehensive review of Vermont's HIT Fund, the Health IT Plan, the VHIE, and VITL. One of the outcomes of the evaluation was the creation of the HIE Steering Committee to address issues with fragmented governance.

In 2018, the General Assembly passed Act 187 requiring the State and VITL to operationalize the recommendations from the Act 73 Evaluation Report. Third party reports confirm that VITL and DVHA satisfactorily addressed all recommendations from the evaluation. The Act also authorized the HIE Steering Committee to develop the statewide Health Information Technology Plan and required DVHA to produce a report on the State's consent policy.

Act 53 of 2019 called for the adoption of an "opt-out" consent policy for the sharing of health information

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[6] Act 191, *An act relating to health care affordability for Vermonters*. (2006).

through the VHIE. DVHA and VITL were required to execute robust public education and provide substantialopportunities for public input in the process. The consent policy officially changed on March 1, 2020.

In 2021, Vermont's law on immunization records, 18 V.S.A. § 1129, was amended to allow immunization record sharing from the Department of Health's Immunization Registry to the Vermont Health Information Exchange.

Policies set forth by the federal government catalyzed digitization of health records systems – particularly the Health Information Technology for Economic and Clinical Health (HITECH) Act and the creation of the Office of the National Coordinator for Health IT (ONC) – and have acted as a driver of health system interoperability efforts. Recent federal rules aim to take this one step further by puttingpeople at the center of health care by giving individuals access to their personal electronic health information.

On March 9, 2020, the HHS Office of ONC and Centers for Medicare & Medicaid Services (CMS) released two rules, which implement the interoperability and people access provisions of the federal 21st Century Cures Act. Together, these rules mark the transition to more robust federal health care data sharing policies from the federal government, requiring both public and private entities to share health information with individuals while keeping information private and secure, thus allowing people unprecedented access to their health data and resources to research health care providers, ultimately empowering them to make informed decisions about their care.

The ONC rule establishes a technical framework that sets standards for information sharing and penalties for information blocking. The CMS rule sets specific requirements of organizations funded byCMS to share health data with peoples.
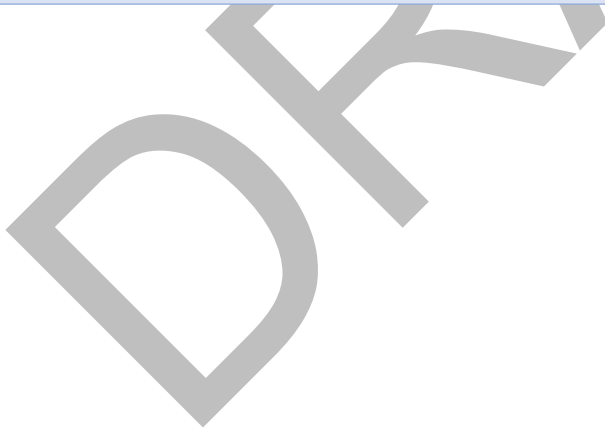
Federal Interoperability Rules

The ONC 21st Century Cures Act sets forth requirements for health information exchanges and certain health care payers, providers, hospitals (health information networks), and IT developers sharing electronic health information with individuals. The ONC Final Rule describes a technical compliance framework that would deter "information blocking" to ensure that gaining access to one's health information does not require any "special effort" on the individual's part.

VITL, the operator of the VHIE, is required to provide people with access to their electronic health information under this new ONC rule.

VITL is currently offering people's access to data upon request. The VHIE data platform is based on a FHIR Data Exchange Standard which CMS and the ONC require in the new interoperability rules. VITL has worked to augment their policies and procedures to ensure that their operations support compliance with the rules.

VITL will have the technical infrastructure available in the MedicaSoft platform to aid health care payers in opening clinical and claims data to individuals and transmitting data with other payers, as requested by people, and required by the rules.

> **ONC's Cures Act Final Rule** supports seamless and secure access, exchange, and use of electronic healthinformation. The rule is designed to give patients and their healthcare providers secure access to health information. It also aims to increase innovation and competition by fostering an ecosystem of new applications to provide patients with more choices intheir healthcare.
>
> It calls on the healthcare industry to adopt standardized application programming interfaces (APIs), which will help allow individuals to securely and easily access structured electronic health information using smartphone applications.
>
> *Source: https://www.healthit.gov/curesrule*

21st Century Cures Act: Interoperability and Information Blocking (ONC Final Rule)

ONC's final rule sets the technical framework for the 21st Century Cures Act. The rule establishes secure, standards-based application programming interface (API) requirements to support people's access to their electronic health information. APIs are the foundation of smartphone applications (apps). As a result of the ONC rule, people will be able to obtain and use their electronic health information from their providers' medical records using the smartphone app of their choice. Medical records are available to people at no cost, but smartphone apps may charge fees for related value-added services.

The ONC final rule also established a regulatory framework to prevent industrywide information blocking practices and other competitive behavior by those entrusted to hold peoples' electronic health information (EHI).

> ### *What are APIs?*
>
> APIs are technology that allow one software program to access another software program. APIs may modernize healthcare data sharing, as they have already altered data sharing in other sectors. In the financial sector, online and smart phone banking is enabled by APIs. APIs can help health care professionals improve and simplify care delivery by allowing patients to access and share their information, allowing providers to use electronic tools to securely share health data with other treating providers, and facilitating submissions to registries (e.g., immunizations/vaccinations.).

Additionally, the ONC final rule requires electronic health records to standardize available clinical data to promote new business models of care delivery. The rules advance common data through the United States Core Data for Interoperability (USCDI). The USCDI is a standardized set of health data classes and data elements that are essential for nationwide, interoperable health information exchange. The USCDI includes "clinical notes," allergies, and medications among other important clinical data and social determinants of health to help improve the flow of electronic health information and ensure that the information can be effectively understood when it is received. It also includes essential demographic data to support people matching across care settings.[7]

To comply with the new federal interoperability rules, the VHIE continues to make people records available to peoples who seek them and will soon offer an API transmission of people records to those who request them through third-party applications

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[7] Office of National Coordinator. (2020). *The ONC Cures Act Final Rule*.
https://www.healthit.gov/cures/sites/default/files/cures/2020-03/TheONCCuresActFinalRule.pdf

Interoperability and Patient Access Final Rule (CMS Final Rule)

Building on the technical and regulatory framework established by the ONC's final rule, CMS' Interoperability and Patient Access final rule requires health plans in Medicare Advantage, Medicaid, the Children's Health Insurance Program (CHIP), and offered through the federal Health Insurance Exchanges to share claims and encounter data electronically with patients. Beginning in 2021, impacted health plans are required to share claims and other health information with peoples in a safe, secure, understandable, and user-friendly electronic format through a Patient Access API. The goal is the same with the ONC's final rule: with more complete data in their hands, peoples can be more informed decision makers resulting in better managed care.
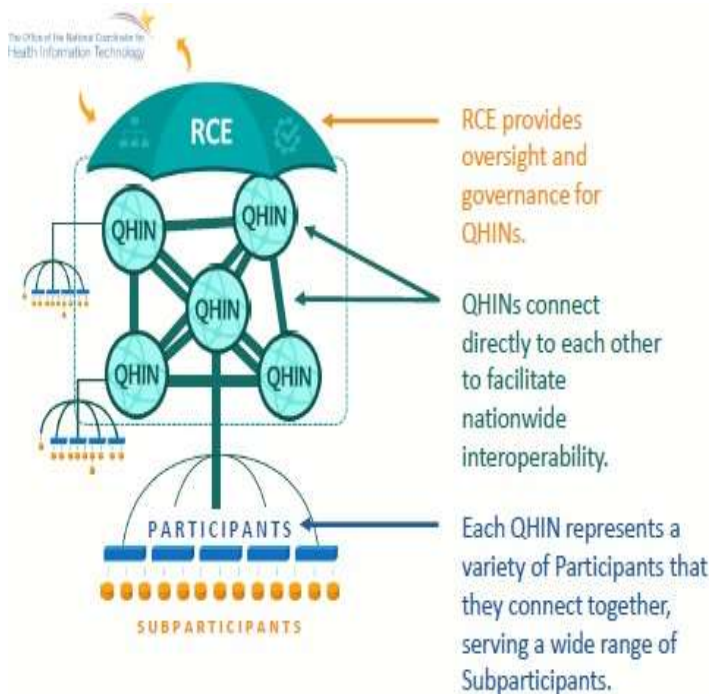
This People Access API will allow people to access their data through any third-party app they choose to connect to the API and could also be used to integrate a health plan's information to a person's electronic health record (EHR). By requiring relevant health information to be shared with them, people can take this information with them as they move from plan to plan, and provider to provider throughout the health care system.

Additionally, to advance the mission of fostering innovation and support care coordination, the CMS final rule establishes a new Condition of Participation (CoP) for all Medicare and Medicaid participating hospitals, that requires electronic notifications to other health care facilities or community providers or practitioners when a person is admitted, discharged, or transferred. These notifications provide information to receiving providers that should lead to early outreach and immediate follow up care which in turn improves people outcomes. Vermont hospitals are currently complying with this new requirement in one of two ways – (1) their electronic health record (EHR) system automatically generates and sends notifications to facilitate transitions of care or (2) they are taking advantage of a third-party alerting systems, such as the Route solution offered by VITL in partnership with Bamboo Health (formerly PatientPing).

CMS is also requiring states to send enrollment data daily for beneficiaries enrolled in both Medicare and Medicaid, allowing care administrators to understand how people are insured to bolster coordination of care. Sharing enrollment data is expected to ensure that people gain access to appropriate services and that these services are billed appropriately the first time, eliminating waste and burden.

In addition to the Interoperability rule, in October 2020, CMS partnered with the US Departments of Labor and the US Department of the Treasury to issue a rule on price transparency. Impacting many of the actors covered by the Interoperability rule, this new price transparency rule requires sharing of the cost of specific medical services to allow people to evaluate cost before seeking care. The information required by both rules could be presented together in apps that show people records of their care and the costs of their care with comparison to average costs for like medical services.

TEFCA: A Basis for Nationwide Interoperability

The Office of the National Coordinator for Health Information Technology

RCE provides oversight and governance for QHINs.

QHINs connect directly to each other to facilitate nationwide interoperability.

Each QHIN represents a variety of Participants that they connect together, serving a wide range of Subparticipants.

In support of its goal to expand access to health data to improve outcomes, in 2016 the US Department of Health and Human Services (HHS), Office of the National Coordinator for Health Information Technology (ONC) introduced the creation of the Trusted Exchange Framework and Common Agreement (TEFCA) as part of the 21st Century Cures Act. In early 2022, ONC and the Sequoia Project, the Regional Coordinating Entity selected for implementation, published the Trusted Exchange Framework, Common Agreement version 1 and several Standard Operating Procedures (SOPs), that set the foundation for implementation. A Roadmap for future FHIR support was also released.

Fundamentally, TEFCA creates a nationwide system that enables secure sharing of health data through a network of networks, in compliance with the myriad of federal and state health data privacy and access laws. Interested participants, such as hospitals, primary care providers, health networks, and HIEs can connect through to-be-selected Qualified Health Information Networks (QHINs), that agree to abide by TEFCA technical standards (Trusted Exchange Framework) and operating terms (Common Agreement). The Recognized Coordinating Entity (REC) plays an overarching role in governing data exchange across the network.

 Eventually, TEFCA will also provide a path for data exchange beyond traditional clinical providers, a tactic for improved health data use that Vermont is already pursuing. There are no mandates for participating in TEFCA and sharing data across regional partners, and there will be fees for local HIEs to connect to QHINs.