Contingency Plan for the Vermont Health Information Exchange

AUGUST 29, 2018

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2 EXECUTIVE SUMMARY

Vermont Act 187 of 2018 required the Department of Vermont Health Access (DVHA) and the Vermont Information Technology Leaders (VITL) to submit a contingency plan to be used if they are unable to implement the recommendations for improvements to management and functionality of the Vermont Health Information Exchange (the VHIE)[1] made in the Health Information Technology Report (required by Act 73 of 2017). DVHA contracted with Capitol Health Associations (CHA) to develop the following contingency plan. CHA and its partners developed a set of contingency plan options, informed by a stakeholder needs assessment and thorough business and legal review. Collectively, the six options offer a flexible path forward. Each option has benefits and drawbacks detailed in the plan; all but Option 6 are designed to achieve change with minimal disruption for health care providers, health care consumers, State government, and Vermont's health reform initiatives.

This plan specifies the current VHIE functionality that would need to be transitioned or replaced in the event the contingency plan is activated. It also provides a model for Health Information Exchange (HIE) functionality and sustainability that can be used by VITL or any future VHIE operator.

In developing plan options, CHA and their project team conducted a business and legal review, considering VITL's current operations including its contractual obligations, human resources issues, and budgets. This work helped establish the level of continued investment necessary to maintain VHIE operations with minimal disruption during any necessary transition. It also established what elements of VITL's current operations could be transitioned to a new operator, and what actions would need to be taken to minimize the financial risks to a potential merger partner or to VITL and the State.

The plan shows how each contract and license is configured, demonstrating that VITL would carry a changing financial burden depending on the timing of any contingency plan activation. The plan also details VITL's tangible and intangible assets, and how they would need to be managed in the event of a transition.

The CHA team has conducted a financial review of VITL's business including the assumptions and forecasts of revenue and funding, including risks, used to create the FY19 and FY20 budgets. CHA also reviewed employee costs. These inputs were the basis for a financial model for use in the event of contingency plan activation.

Based on these inputs, CHA developed six options for action.

[1] In this document CHA uses the term "VHIE" to mean the Vermont Health Information Exchange – Vermont's system of and infrastructure for health care related data sharing, currently operated by VITL. CHA also uses the term "HIE," to mean (depending on context) either the activity of sharing health care related data or a generic system of and infrastructure for health care related data sharing.

Table 1: Contingency Plan Options Summary

Option 1	VITL merges with a private organization from outside Vermont
Option 2	An RFP process to select a new operator for the VHIE
Option 3	A selection process for (a) management or (b) operations consulting to advance VITL's operations
Option 4	A Vermont-based entity assumes VHIE operations via a merger with VITL
Option 5	VITL operations are assumed by the State of Vermont
Option 6	VITL shuts down the VHIE in favor of stakeholder-led exchanges

These options are discussed in detail in this plan, providing decision-makers information with information about the benefits, costs, and risks of each.

A major component of the contingency plan is an investigation of stakeholder needs. The Health Information Technology Report earlier established the importance of the VHIE as a public asset and the promise of health information technology. CHA's stakeholder engagement survey adds detail about the priority use cases that the VHIE must evolve to meet.

The stakeholder expectations and use cases discussed in this plan can be used to supplement the HIE/HIT Steering Committee's stakeholder engagement work whether or not this contingency plan is activated. Should the State of Vermont (the State) and the Legislature determine a transition is necessary, a distinct set of considerations apply: the business and legal requirements and risks of transitioning the VHIE from VITL to another operator/partnership or consultants, or of shutting down the current VHIE system.

3 PROJECT TEAM

3.1 CAPITOL HEALTH ASSOCIATES TEAM

The following plan was developed by a team of experienced firms consisting of Capitol Health Associates LLC (CHA) as the primary contractor specializing in health care IT and health care business operations; Match Point Partners LLC, a FINRA-licensed Investment Bank specializing in institutional financing for health care concerns, corporate turnarounds, liquidation events and sales and restructuring of assets; Benesch, Friedlander, Coplan & Aronoff LLP a law firm specializing in health care, intellectual property, and corporate law; and Peregrine Financial Solutions LLC, specializing in accounting and forensic accounting services.

3.1.1 Capitol Health Associates

For the past 25 years the partners in CHA have consulted on health care projects in the Federal, Public, and Private Sectors. Throughout our careers our partners have founded and obtained financing for successful health care companies, led a number of corporate turnaround projects and developed cutting edge, first-of-their-kind health information technology systems that are currently in use today by enterprise scale health institutions.

Members of our organization have served on corporate and institutional boards of directors and advisory boards as well as management and turnaround teams in various positions such as Chairman, Vice Chairman, CEO, President and COO, CMO, and Director of Program Management, for companies such as Privis Health, I-Trax Health Solutions (DMX: AMEX), Evogen, AnaViRx, InstantLabs, Merck and The Institutes of Medicine.

We have completed projects with DVHA, the Vermont State Legislature, VITL, Office of the National Coordinator, Delaware Health Information Exchange, Northern Counties Health Care, State of Minnesota Health Information Exchange, State of Texas, Veterans Administration, Department Of Defense Health Affairs, Tri-Care Management Activity, Los Angeles County Department of Health Services, US Health and Human Services, Centers for Medicaid and Medicare, Accenture and Deloitte Consulting, and large private healthcare entities such as Johns Hopkins, The University of Pittsburgh Medical Center, Emory Health Care, and The University of Pennsylvania Health System. This abbreviated group of clients we have served, represents a cross section of the largest healthcare systems in the US serving tens of millions of individuals.

3.1.2 Match Point Partners

Match Point Partners is an advisory firm providing a unique blend of value-added investment banking, strategic, and operating services, strategic advisory, business plan development and turnaround services to emerging middle market health care and technology firms. We have assembled a team of experienced entrepreneurs, bankers, and operators who work together to leverage our deep industry knowledge and experience to help each client achieve its goals. Our team leverages its senior level strategic, operating and financial advisory expertise to tailor creative, innovative solutions to help our clients achieve superior value. Match Point partners with transforming companies to be a catalyst for value creation, providing a full array of investment banking services covering all types of transactions including mergers and acquisitions, sell-side and buy-side representations, and formation of joint ventures and strategic alliances among others. We specialize in working as a team with all stakeholders to identify and achieve both financial and

non-financial objectives. The Match Point team conducts strategic reviews and planning and has extensive experience in assisting clients in evolving situations to determine the best path forward then executing along that path. In our Strategic Reviews, we undertake a thorough analysis of market dynamics, competitive positioning, and opportunities for expansion to evaluate a range of potential growth scenarios for the company. Through our in-depth strategic, financial, and industry analyses, we work to uncover the array of intelligence needed to make the optimum choice for the company and its stakeholders in order to help bring a client's growth and expansion strategies to fruition.

3.1.3 Peregrine Financial

Peregrine Financial Solutions (PFS) provides a full range of superior standard and customized accounting and financial solutions at an exceptional value so that its clients can focus on managing and growing their businesses. PFS provides CFO advisory support and Controller services and specializes in forensic accounting services, including creating GAAP financial statements from non-accounting records and assisting the federal government, accounting system automation and accounting system data conversions.

The two founders of PFS are both Certified Public Accountants and seasoned financial executives with over 70 years of combined experience working with technology, communications, software development, government contracting, manufacturing, wholesale, professional services, banking and venture capital entities. Over the last five years, PFS has provided all the accounting support to CHA's clients, including the state of Vermont. In addition to basic accounting and automation of accounting processes in a cloud-based environment, this support includes invoicing the State, reconciliations with the State, and payment of all sub-contractors and other vendors.

3.1.4 Benesch Law

Benesch is an AmLaw 200 business law firm celebrating its 80th anniversary with offices in Cleveland, Chicago, Columbus, Hackensack, Shanghai, and Wilmington. The firm is known for providing highly sophisticated legal services to national and international clients that include public and private, middle-market and emerging companies, as well as private equity funds, entrepreneurs, not-for-profit organizations, trusts and estates. Benesch's Health Care & Life Sciences Practice Group can offer attorneys who also have over 100 combined years of practical experience in the health care industry. Every attorney in our Health Care & Life Sciences Practice Group has worked in or is actively involved in some facet of the health care industry. Benesch's Innovations, Information Technology & Intellectual Property (3iP) Practice Group represents clients in protecting their most valuable asset class: their intellectual capital. Whether obtaining intellectual property (IP) rights, prosecuting infringement actions, or helping clients exploit their IP rights, the 3iP Group has the legal training and experience to help clients get the most out of their intellectual capital. In addition, Benesch's 3iP Group is skilled in counseling clients with respect to IP rights of others and in defending clients in IP actions brought against them in courts and administrative agencies throughout the United States and internationally. We have experience with all forms of intellectual property, including patents, copyrights, trademarks, and trade secrets.

4 Introduction and Project Overview

4.1 The State of Vermont Commissioned a contingency plan for HIE management

DVHA contracted with CHA for development of a contingency plan for the VHIE as required by Vermont Act 187 of 2018. The contingency plan will be used if the State and VITL are unable to implement the recommendations from the Vermont Act 73 Health information Technology report. A memorandum from the Vermont Agency of Administration and Agency of Human Services to the House Committee on Health Care, accompanying the Act 73 Report, described its publication as an opportunity to re-evaluate Vermont's HIE strategy in partnership with other stakeholders. That ongoing process has included the development of a plan to implement the report's recommendations, the convening of an HIE Steering Committee, and most recently this contingency plan. The State of Vermont has specified that the following elements be included in the contingency plan:

- A description of the health information exchange services that would need to be replaced
- A process for determining the manner in which the services would be replaced and the mechanism for acquiring the replacement services, such as a request for proposals
- An assessment of the State's ownership interests in hardware systems, software systems, applications, data, and other physical and intellectual property that would need to be licensed to a future operator of Vermont's health information exchange
- A plan for transitioning operations from VITL to the new operator or operators
- The impacts of the change on health care providers, health care consumers, state government, and Vermont's health care reform initiatives

4.2 Capitol Health Associates collected input and developed options

CHA developed a systematic approach to addressing the stated requirements of the contingency plan and to conducting the additional business and legal reviews we think are important to a well-informed, comprehensive plan. The resulting plan offers 6 options to meet Vermont's data sharing and HIE needs. Pros and cons are presented for each option, along with guidance on the planning and implementation of each option, financial and legal considerations, and expert opinion on areas of concern.

CHA utilized the following methodologies to complete the deliverables requested by the State:

- CHA and its partners collected input from a broad group of stakeholders to inform our development of plan options, ensuring that the options will meet future needs of Vermont's citizens
- CHA and its partners investigated possibilities and developed recommendations for meeting the data sharing and HIE needs of stakeholders
- CHA and its partners developed six options for the future management of the VHIE, in the event a change is necessary
- CHA and its partners worked with VITL management to gather details on the business activities, contracts, vendors, and operations of the entity, enabling us to establish an actionable plan that creates minimal disruption during any transition that may be necessary
- CHA and its partners conducted a legal review of contracts, business operations, and infrastructure and have provided opinions related to corporate assets and liabilities and how assets may or may not be transferred to a new operator

- CHA and its Partners established criteria to assist the State in determining what would constitute a fair and proper offering from prospective vendors to assume operations of VITL and/or the VHIE platform and infrastructure

4.3 OPTIONS DEVELOPMENT PHILOSOPHY

CHA and its partners developed a set of contingency plan options, informed by a stakeholder needs assessment and thorough business and legal review. Collectively, the six options offer a flexible path forward. Each option has benefits and drawbacks detailed in the plan; all but Option 6 are designed to achieve change with minimal disruption for health care providers, health care consumers, State government, and Vermont's health reform initiatives.

This plan provides costs, timelines, and deliverables for each option. Options 1-5 can be thought of as selection processes (selection of a new operator or consultants). The contingency plan details the necessary steps to complete each of these selection processes. The plan also lists the steps involved in Option 6, a shutdown of VHIE operations. ***VITL could continue operations with its current budget during the Options 1-5 contingency execution.***

Options 1-5 maintain planned VITL budgets. CHA considered how VHIE services and costs could be further reduced during the selection processes, but decided against recommending such reductions as they could devalue the VHIE and VITL, possibly reducing interest among potential merger partners or new operators. Reduced services could also create short-term difficulties for VHIE users that might discourage future engagement.

Ongoing operational costs (those costs after the contingency execution) are not reflected in this analysis. Ongoing costs would likely vary depending on the option. Only a complete shutdown would guarantee reduced spending on VHIE operations.

4.4 OPTIONS OVERVIEW

Table 2: Contingency Plan Options Overview

Option	Option 1	Option 2	Option 3a	Option 3b	Option 4	Option 5	Option 6
Description	**Outside Merger**	**New Operator**	**Consulting: Replace Mgt.**	**Consulting: Advance Ops.**	**In-State Merger**	**State Assumes Ops.**	**VHIE and VITL Shut Down**
Outcome	Merger approved and legal documents signed.	RFP process completed and new vendor selected.	RFP process completed and mgt. consultants selected.	RFP process completed and consultants selected.	Merger approved and legal documents signed.	State assumes all VITL assets, liabilities, and operations.	Complete shut-down of VITL.
Contingency Execution Time Frame	6 - 12	18 -24	8 - 12	6 - 9	4 - 8	8 - 15	3 - 6
Complexity	Moderate	High	Moderate	Low	Moderate	High	Moderate
Risk Level	Low	Moderate	High	High	Moderate	High	High
Desirability Ranking	1st	2nd	5th	6th	3rd	4th	7th
Impact on Expenditures and Existing Services	None	None	None	None	None	None	Major reduced Services
Net Cost or Savings of Option ( ) = cost	($300,000) - ($600,000) (a)	($450,000) - ($600,000) (a)	($200,000) - ($300,000) (a)	($150,000) - ($225,000) (a)	($200,000) - ($400,000) (a)	($200,000) - ($375,000) (a)	$267,000 - ($1,376,000) (b)
	(a) For options 1 - 5, these are the estimated incremental costs required to provide each deliverable. These costs include fees paid to Investment Bankers, Project Managers, Attorneys and Accountants.						
	(b) For option 6, these are the estimated reduced service mode savings, less incremental costs described in footnote (a), one-time severance payments, potential contract/license termination fees, and rent liability. This is the only option with potential reduced service mode net savings (of $267,000) being forecast during the option period in a best-case scenario without any contract/license termination fees or rent liability. The worst-case scenario of ($1,376,000) net cost assumes maximum contract/license termination fees and rent liability. PLEASE SEE 15.4 APPENDIX D: OPTIONS TABLE FOR MORE DETAIL.						
Next Steps After Contingency is Executed	Merged company develops budget and commences operations.	Selected organization develops budget and commences operations.	Selected consultants begin work with VITL to replace mgt.	Selected consultants begin work with VITL to develop plan for advancing operations.	In-State merge organization develops budget and commences operations.	State develops budget and commences operations.	Marketplace determines HIE services and data sharing mechanisms. Potential bridge service developed.

4.5 Impact of plan options during Contingency Execution

Five of the six options presented in this plan have been crafted to deliver processes that keep VHIE operations stable during the selection of a new operator/partnership or consultants. The CHA team worked directly with VITL management to establish the core components and personnel required to keep the exchange functioning. The sixth option is disruptive by definition. Impacts of all options are previewed below.

4.5.1 Impact for Options 1, 2, 3a, 3b, 4, and 5

- Users do not experience service interruptions
- VITL would maintain the current budget
- VITL operations are focused primarily on the core VHIE services
- New development work is curtailed during Contingency execution
- Any changes to business operations would come as a result of decisions made by the new operator/partnership

4.5.2 Impact for Option 6

- Major disruption to existing VHIE customers
- Basic technical functions stop, including lab delivery, automated immunization registry updates
- Data aggregation functions end, data stops flowing.
- Significant portion of the health data exchange infrastructure within Vermont's healthcare system ceases to exist
- Several functions including lab delivery, automated updates to the immunization registry, point of care portal, data sharing, and data aggregation would need to move to the local level

4.6 VHIE Core Capabilities

If the contingency plan is activated, the future VHIE operator (whether entirely new, a merged entity, or VITL with consultant support) must have a deep understanding of effective health information exchange generally and the core capabilities of the VHIE specifically. They must be prepared to work closely with the State of Vermont and VHIE users, participating in the emerging HIE/HIT governance process. The operator will execute the VHIE plan developed by this governance body, delivering a high-functioning HIE solution that serves the priority use cases of Vermont providers, patients, health care organizations, and other stakeholders. A discussion of the essentials for effective data sharing and information exchange, based on national best practice and Vermont stakeholder input, is presented in Section 15.

The stakeholder input collected to inform this plan is presented in summary in Section 15 and in detail in the Appendix. Stakeholders indicated that they are continuing to rely on traditional methods of communication – like fax and phone – for exchanging patient information with other health care and community providers, and that they would prefer direct exchange of information with hospitals and ambulatory care providers. The strongest preference was for connection to a network that provides routine integration of patient data into their own data systems. Stakeholders widely recognize the value of accessing patient data not already in their own data systems but are less convinced that their organization has a business case for sharing its own data. The HIE/HIT

planning process, and any future VHIE operator, will need to design a system in which stakeholders find value in both data use and data sharing.

Section 15.8 of this report describes the health information exchange services that would need to be transitioned or replaced in the event the contingency plan is activated. A table in this section lists the core technical capabilities of a high functioning HIE system, describes current state of VHIE technical capabilities, what if any gap exists, and what progress VITL has made in 2018 to close gaps.

This contingency plan begins with options for transitioning VHIE services to a new operator or new management should that be necessary, discusses the necessary business and legal considerations of such a change, and concludes with an overview of the essentials of effective HIE, VHIE current state and progress, and new stakeholder input that can be used by any future operator.

5 CONTINGENCY PLAN OPTIONS

5.1 THE CONTINGENCY PLAN OPTIONS OVERVIEW

This plan presents six options for the State of Vermont to consider. To inform these options the CHA team conducted due diligence on VITL corporate operations, assets, liabilities, contractual obligations, and intellectual property. In addition, CHA has examined VITL corporate finances to inform the options.

The options are presented in **Error! Reference source not found.**.

Table 3: Contingency Plan Options Summary

Option 1	VITL merges with a private organization from outside Vermont
Option 2	An RFP process to select a new operator for the VHIE
Option 3	A selection process for (a) management or (b) operations consulting to advance VITL's operations
Option 4	A Vermont-based entity assumes VHIE operations via a merger with VITL
Option 5	VITL operations are assumed by the State of Vermont
Option 6	VITL shuts down the VHIE in favor of stakeholder-led exchanges

The CHA team did consider a seventh option, the sale of VITL to another corporation or entity, however during our due diligence process and supported by the preceding valuation statement, we concluded that there were limited tangible and intangible business assets to support an acquisition of the corporation by another company. There are two main reasons for this conclusion.

First, VITL and the VHIE currently do not and are not projected to generate any positive cash flow and there is only one revenue generating contract, with OneCare Vermont, which does not supply enough cash to sustain company operations. The funding of VHIE operations is not stable as the HIT fund – a main source of VITL's funding from the State - must be reauthorized by the legislature at short-term intervals, creating a sustainability risk. Therefore, it is highly doubtful that any corporation would pay to acquire VITL.

Second, VITL contracts a majority of the VHIE operations to Medicity which owns the core component of the exchange, leaving no tangible asset for VITL to sell. The other major components that VITL developed to support HIE operations are works for hire and supplemental components of the VHIE are also licensed from outside suppliers. Based on contractual restrictions, VITL does not have the right to aggregate, deidentify, and sell the healthcare data set accumulated over the years of operations. Typically, companies work to gain the right to sell deidentified data sets which can produce significant income and create a tangible asset for the company.

5.2 SUCCESS IS DEPENDENT ON CONTINUED FUNDING

The contingency plan options, except Option 6, envision a future in which VHIE operations continue. Those operations depend on continued funding. At this time, a majority of VHIE activities are funded by the HIT Fund which is set to expire July 1, 2019. The success of any chosen contingency plan option depends on the presence of a stable funding mechanism. Such a funding mechanism should be in place prior to executing on any of the Options in this plan, with an expectation that it will continue for a minimum of two to three years, depending on the option chosen. For all Options a five-year funding guarantee would be preferable.

The success of any chosen contingency plan option depends on the presence of a stable funding mechanism.

Some successful state HIEs have different funding models, for instance some generate most of their revenue from fees charged to users and recipients of data and services. A different business model for the VHIE and transition away from the HIT Fund model is possible in the long term, but a transition to a new model would need to happen in such a way that there is no gap in funding that could result in a reduction of VHIE services or VHIE performance and therefore VHIE value. Any change to the funding model would need to take place after the successful completion of the selected contingency plan option, should the plan be activated.

If the contingency plan is activated, it is essential that funding for the VHIE remain at such a level that the value of the VHIE not be diminished during the transition period. Option 1 and Option 4 are particularly susceptible to unstable funding as these options require the acquiring company to make a significant investment and take a sizable risk in assuming the liabilities of VITL. Such an investment and assumption of risk are unlikely without a guarantee of continued financial support for the VHIE, by the State, through the transition period and probably for several years afterwards.

Each year since 2014, VITL has required approximately $5.0 to $7.0 million before state and federal grants and contracts to operate the VHIE. For each of the fiscal years 2018 and 2019, VITL is expected to require approximately $5.0 million. Therefore, if the Contingency Plan is activated and the State and VITL choose the option of finding a partner to merge with VITL and take over VHIE operations, any partner is going to require a commitment from the State of Vermont for ongoing funding of the VHIE or the ability to modify the pricing and costs of VHIE services to VHIE users, or a combination of both. For the fiscal year 2020, the State of Vermont has committed $4.5 million in funding. VITL has prepared for this decrease in revenue through 2020. Beyond 2020, if operational costs are not decreased to match revenues, implementation of contingency options will be confronted with this financial deficit.

In order to execute a majority of the options we believe the Legislature and/or the State and/or the healthcare community will need to develop a stable funding source for a minimum of two years for Options 2, 3, and 5 or a minimum of three years for Options 1 and 4. To be successful, all of the options will require continued funding to make them attractive and worthwhile to the contemplated operators. Even Option 6, shutting down the VHIE, would require some continued

funding if the state were to provide a public data utility for use by local exchanges, and possibly to provide grants to support development of local exchanges. If the State intends to move away from the HIT Fund as the primary source of funds for the VHIE, the Legislature and the Administration would need to establish a firm funding plan to permit enough time to conceive and execute a new business and revenue model for VHIE operations. In addition, as CHA's models depict, in all cases VITL will require funding to continue operations while a transition takes place. Funding would also be necessary for the implementation cost of the selected contingency plan option.

CHA's models show that in all cases VITL will require funding to continue operations while a transition takes place. Funding would also be necessary for the implementation cost of the selected contingency plan option.

5.3 Adjustment of VITL Operations During Contingency Plan Execution

CHA and VITL have jointly explored opportunities for reducing the cost of VITL operations during any transition that may be necessary. Initially, that exploration produced a model that would greatly reduce operating costs but would also strip away services and reduce performance, negatively impacting customers and damaging the business for future owners/operators. A subsequent exploration produced the model presented here, whereby VITL continues to operate the VHIE through the transition period, keeping VHIE operations in a stable state but restricting new work and non-essential activities in order to maintain or reduce total spending while creating minimal disruption for the current customers of the VHIE.

The current budget is lean, with $900,000 in costs stripped out as compared to fiscal year 2017 actual results. In Options 1, 2, 3a, 3b, 4 and 5 VITL would continue to operate with these resources. Also, as noted previously, for the fiscal year 2020, the State of Vermont has committed $4.5 million in funding versus $5.0 million in 2019.

In Option 6, VITL would go into a major reduced services mode, which would result in $209,000 per month in savings for 3-6 months until it shuts down. Severance includes $141,000 paid out immediately and an additional $71,000 paid out when the final employees are terminated. As above, CHA consulted VITL to create this budget and severance was based on one month of salary and payroll tax.

5.4 Financial Considerations: Incremental Costs Per Option

A financial model has been created to quantify and compare the incremental costs of each option to secure a new VHIE operator, and an estimated savings from reduction of services. ***These incremental costs include fees paid to investment bankers, attorneys, consultants, project managers and accountants, as well as severance paid to terminated employees and fees associated with contract or license terminations.*** All costs are estimates based on the best information available at the time. The incremental costs are given in the "Financial Considerations" section of each option.

Table 4: Contingency Plan Options and Incremental Costs

Option	Option 1	Option 2	Option 3a	Option 3b	Option 4	Option 5	Option 6
Description	**Outside Merger**	**New Operator**	**Consulting: Replace Mgt.**	**Consulting: Advance Ops.**	**In-State Merger**	**State Assumes Ops.**	**VHIE and VITL Shut Down**
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Risk Level	Low	Moderate	High	High	Moderate	High	High
Desirability Ranking	1st	2nd	5th	6th	3rd	4th	7th
Impact on Expenditures and Existing Services	None	None	None	None	None	None	Major reduced Services
Net Cost or Savings of Option ( ) = cost	($300,000) - ($600,000) (a)	($450,000) - ($600,000) (a)	($200,000) - ($300,000) (a)	($150,000) - ($225,000) (a)	($200,000) - ($400,000) (a)	($200,000) - ($375,000) (a)	$267,000 - ($1,376,000) (b)
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5.5 Contingency Plan and Option Risks

Table 5: Risks That Apply to All Plan Options

Risks That Apply to All Plan Options	
General Risks	• Initiating major change is inherently risky • Transition costs will be higher than current VITL operational costs • Several unknown issues exist in any transition • The outcome of any transaction is unknown • The behavior of any new operator is unknown
Risks Associated with Existing Contracts and Leases	• Expiration and renewal terms of current contracts and licenses vary and can cause financial risk • The transfer of contracts and licenses require approval by 3rd parties • A property lease exists (details below) • The disposition of the leased property presents a financial risk

Table 6: Risks by Option

Risks by Option	
Option 1 *VITL merges with a private organization from outside Vermont*	• **Moderate Complexity** • 6 months to 1-year to complete a transaction • Dependent on finding a suitable merger partner • No guarantee that a transaction will be completed • New operator may require significant changes in VHIE operating platform • Lease is a financial risk • Stable funding is required • New operator may change the funding model • Additional costs for intermediary
Option 2 *RFP process to select a new operator for the VHIE*	• **Complex Process** • 18 months to 2-years to complete the process • VITL required to transfer all operational components of the VHIE to the State • VITL must deal with certain licenses and contracts that may not transfer • Lease is a financial risk • Stable funding is required • New operator may change the funding model • State contracting processes can be lengthy • State history in managing complex IT contracts • Entire process must be redone at certain intervals • Open competition can be an operational risk in out years • New operator may require significant changes in VHIE operating platform
Option 3a *Selection process for consulting to replace current management*	• **Moderate Complexity** • Significant cost increase for executive leadership • 8 months to 1-year to complete the RFP process • Dependent on finding a suitable consulting firm • New operator may change the funding model • Stable funding is required • State contracting processes can be lengthy • Entire process must be redone at certain intervals • Open competition can be an operational risk in out years

Option 3b *Selection process for operations consulting to advance VITL's operations*	• **Low Complexity** • May not resolve issues that caused the contingency plan to be enacted • 6 to 9 Months to complete the RFP process • Increased operational cost • Dependent on finding a suitable consulting firm • New management may change the funding model
Option 4 *A Vermont-based entity assumes VHIE operations via a merger with VITL*	• **Moderate Complexity** • 4 to 8 months to complete a transaction • No guarantee that a transaction will be completed • Political and territorial issues may arise • Entity may not independently represent the best interests of all stakeholders • Short list of possible merger partners • New operator may change the funding model • Dependent on finding a suitable organization within the state to merge with • Lease is a financial risk • Stable funding is required • Operator may change funding model • Risk that the new operator lacks capabilities to successfully operate the VHIE
Option 5 *VHIE operations are assumed by the State of Vermont*	• **Complex Process** • 8 to 15 months for the transition to complete • VITL required to transfer all operational components of the VHIE to the State • VITL must deal with certain licenses and contracts that may not transfer • Political issues may arise • Big brother issue may arise • State will have to hire additional people to run the VHIE • Lease is a financial risk • Stable funding is required • Risk that the new operator lacks capabilities to successfully operate the VHIE
Option 6 *VITL shuts down the VHIE in favor of stakeholder-led exchanges*	• **Moderate Complexity** • **High disruption factor** • 3 to 6 months to complete a shutdown • VITL would have to be completely shut down • Lingering financial and legal ramifications may arise for contracts, licenses and lease • Some health service areas may not develop exchange capabilities • Immediate funding for health service areas does not exist • Turf battles may arise • State may need to operate some portions of the existing VHIE infrastructure as a public service • Stakeholder-led exchanges will take time and money.

6 BUSINESS, FINANCE, AND LEGAL REVIEW

CHA has conducted a thorough analysis of VHIE operations to establish options for transition based on takeover and improvement of the existing infrastructure vs. wholesale replacement of the current VHIE.

CHA along with other members of the team have investigated and are presenting six courses of action and requirements relating to the transition of VHIE operations from VITL to a new operator. The following section provides detail on the findings from the business and legal reviews that informed the options provided and highlights areas of risk pertaining to financial and contractual responsibilities.

While reading the following section it is important to know that:

- CHA was tasked to determine if there is Intellectual Property owned by VITL that would constitute an intangible asset of value that may be sold or may be required to be transferred to another entity.
- CHA in development of the options needed to make certain valuation statements concerning the fair market value of VITL as a business.
    - These tasks and CHA's statements concerning them recognize the fact that VITL has established an HIE infrastructure that has qualitative and operational value to the State of Vermont and its healthcare community and that this infrastructure was conceived as a work for hire and therefore ultimately controlled by the State of Vermont and therefore not an intangible asset owned by VITL
    - Over many years, the State of Vermont has invested in a VHIE infrastructure that can be reused and leveraged but is not saleable
- ***This plan provides costs and timelines for implementing each option. It does not provide costs for VHIE operations once a new operator is in place. There is no basis for CHA to create such forward-looking statements.*** Although the long-term success of the VHIE following implementation of any of these options cannot be predicted with any certainty, the fiscal year 2019 approved budget provided by VITL is being used as the baseline for all revenues, costs and services. Any variances from this budget have been quantified when calculating the estimated cost or savings of each option's deliverable.

6.1 BUSINESS VALUATION STATEMENT

In developing the contingency plan options, it is necessary to ascertain the potential value of HIE to the State, and the value of the VITL organization. This includes consideration of the value of HIE activities and the VITL organization to the State and the healthcare entities that receive services from VITL. It also includes the value of VITL as a commercial entity should it be necessary to find a merger partner. In the context of any business, value is generally defined quantitatively, by referring to financial metrics such as revenues, costs, and earnings. However, because HIE is an essential service for healthcare entities in Vermont, and VITL's goal is not simply to seek profits as commercial businesses do but rather to deliver a public service to its stakeholders, we must analyze qualitative value in addition to quantitative value.

Quantitative value was an important consideration in contingency plan development, because it will be important to any potential merger partner. Potential merger partners will also calculate the quantitative value of VITL to determine what if any consideration they would pay for VITL assets in a merger. They will also assess the cash flow derived from the operation of the VHIE on a historic and projected basis to determine whether they can make a financial profit (in the case of a for-profit corporation) or at least break even from operating the VHIE (in the case of a not-for-profit corporation).

Accordingly, as a key part of its review, CHA and its partners examined the business, vision, investment, cash flow, operations and impact, both now and in the future, of the VHIE. The State is committed to providing the best healthcare services for its residents, and this requires effective HIE. Data sharing is essential to many State initiatives in the healthcare arena. The state has, over the years, made significant investment in the VHIE. With these fact in mind, it becomes clear that the VHIE is of essential importance to the State, its residents and healthcare providers. Thus, on a qualitative value basis, the VHIE is a valuable asset to the State and its constituents and its services should be continued.

To ascertain quantitative value, in the traditional business sense, CHA and its partners utilized standard commercial investment banking practices to analyze the financial performance of VITL both historically and as projected for the future and reviewed the recent and current budgets to determine its cash flow. This analysis yields a conclusion that there is very little if any current commercial quantitative value in VITL due primarily to the substantial amount of state and federal grants and contracts required to break-even and the lack of tangible assets. Specifically, to break-even on a net operating basis, VITL has or would have required state and federal grants or contracts of $6.8 million, $6.9 million, $5.2 million, and $5.5 million for the years 2014, 2015, 2016, and 2017, respectively. VITL management projects state and federal grants and contracts of approximately $5.0 million being required for each of the fiscal years 2018 and 2019 to break-even on a net operating basis.

Each year since 2014, VITL has required cash from state and federal grants of approximately $5.0 to $7.0 million to operate the VHIE. For each of the fiscal years 2018 and 2019, the amount required from state and federal grants and contracts is expected to be approximately $5.0 million. Therefore, if the Contingency Plan is activated and the State and VITL choose the option of finding a partner to merge with VITL and take over VHIE operations, any partner is going to require a commitment from the State of Vermont to ongoing funding of the VHIE or the ability to modify the pricing and costs of VHIE services to VHIE users, or a combination of both. For the fiscal year 2020, the State of Vermont has only committed $4.5 million in funding. This $500k reduction from 2019 presents an additional risk for any potential owner or operator of the VHIE, for any of the contingency plans. Another significant factor affecting the commercial value of VITL is that there are limited business assets to support a positive valuation of the corporation. VITL contracts a majority of the VHIE operations to Medicity which owns the core component of the exchange, leaving no tangible asset for VITL to sell. In addition, other major components that VITL developed to support HIE operations are works for hire and supplemental components of the VHIE are licensed from outside suppliers. Furthermore, based on contractual restrictions VITL does not have the right to aggregate, deidentify, and sell the healthcare data set accumulated over the years

of operations. Typically, companies work to gain the right to sell deidentified data sets which can produce significant income and create a tangible asset for the company.

In summary, ***while the qualitative value of HIE activities and the VHIE system to the state of Vermont is huge, the quantitative value of the organization VITL to potential merger partners is near zero without substantial funding commitments from the state and/or increased pricing flexibility.***

6.2 Business and Legal Review

CHA reviewed VITL's contractual obligations, human resource issues, operations, and budgets and documented important considerations, to inform the contingency plan options and guide the entities involved in any transition of VHIE operations that may be necessary.

6.2.1 Contracts and Licenses

VITL has a number of contractual obligations that will need to be addressed in the event the contingency plan needs to be implemented. How these obligations are handled depends on which option is selected. Specifically, Options 2 and 6 will need special consideration by the State, VITL Management, and the VITL Board of Directors (BOD) regarding how these items are addressed as financial risks exist for a number of contracted items and the lease at Chase Mill. These items would not necessarily be assumed or transferred in the execution of these options. In Options 1 and 4 the assets and liabilities of VITL would transfer to the acquiring entity and become their responsibility to address as they see fit, however any action that can be taken to reduce the risk for a merger partner is desirable.

As shown in the "VITL Software License" in the Appendix, a majority of the contracts and licenses may only be terminated early in the event of bankruptcy or breach of contract. Many of them carry an auto renewal policy with the ability to opt out anywhere between 30 and 90 days prior to the auto renewal. In the event notice is not given in the time allotted the contract will automatically renew and VITL is liable for the entire amount due.

Of the 31 vendors the contacts of largest value related directly to VHIE operations are Medicity, TechVault, SalesForce, Rhapsody and Health Language with a total yearly expenditure of $1,214,529. Licensed technologies that are not related directly to VHIE operations carry a total expenditure of $103,339 per year. These items are primarily based on yearly renewals with varying expiration dates which translates to a changing financial burden depending on the timeframe associated with each option.

6.2.2 ACO Contract

VTIL entered into an agreement in 2015 to supply HIE based services to OneCare Vermont (OCV). The contract was extended for 2016 through December 31st 2018. The contract with OCV carries an approximate value of $1mm per year and is the only commercial contract of consequence VITL has at the current time. We assume that the contract will be renewed for another 2-year period creating a total value of ~$2mm by 2020.

VITL has during this contract established a working data environment for OCV in the form of a DataMart. This infrastructure will need to be conveyed to the State in Option 2 and 5. In Options

1 and 4 it will transfer as part of the merger to the new operator. The contract may only be assigned to another party by written consent of OCV. There is no specific language that permits the agreement to convey with the merger or sale of the company. Therefore, prior to any transaction, merger or otherwise VITL will need to obtain consent from OCV to transfer this agreement to a new operator or to the State.

The contract contains no language that addresses intellectual property. This means that any IP created under this contract remains the property of VITL and if any such IP was developed VTIL will need to convey those rights to the State or to a new operator depending on the Option selected.

6.2.3 Office Space Lease

At the time of this writing the Chase Mill lease was being renegotiated by VITL management in an effort to reduce the size of the leased space thereby reducing the cost. The current leased space measures 11,051 square feet at a cost of $158,369.28 per year, at a rate of $13,197.44 per month, plus triple net expenses of $40,005.36 per year. The lease is set to expire on June 30th, 2019.

A triple net lease (triple-net or NNN) is a lease agreement on a property where the tenant or lessee agrees to pay all real estate taxes, building insurance, and maintenance (the three "nets") on the property in addition to any normal fees that are expected under the agreement (rent, utilities, etc.).

The tenant is required to give 180 days' notice of intent to renew prior to the expiration of the lease which carries a term of 5 years, the deadline for this notice is December 1, 2018. VITL is working with the landlord to reduce the overall footprint of the space down to 8,000 square feet reducing the monthly exposure to $9,958.14 plus triple net expenses of $2,424.57. Issues we have identified are as follows:

- The lease amendment is contingent on the landlord acquiring a new tenant for the planned vacated space
- The landlord has control of the process. We feel this is a risk as the landlord while possibly making a good faith effort has no true motivation to act
- VITL is not permitted to sublet the space. This restricts VITL's ability to act in their own best interest
- If no tenant is signed the current lease stays in effect until the end of the term
- If a tenant is signed the lease will still expire on June 30, 2019

If a new tenant is not found CHA assumes VITL will not renew its current lease for the five-year extension, rather it will renegotiate a new lease for the reduced space. If a new tenant is found, CHA assumes that in December a new amendment will be written to accommodate the next extension. If that extension is written to the letter of the lease another five-year cycle will begin creating a financial obligation of approximately $775,860.00 plus (depending on time frame) any rent escalation, triple net, and maintenance expenses. In the latter case CHA further assumes that VITL will work to negotiate a shorter term for the extension.

Lease termination is complex. This lease in particular has language in General Conditions, Paragraph 12, that attempt to add additional fees and conditions in the event of a breach, default, or bankruptcy, creating high financial exposure.

The aforementioned items should be of special interest as they have the potential to create a financial burden of well over one million dollars.

6.2.4 Intellectual Property Review

This Section of the Contingency Plan will assess VITL's ownership interest in intellectual property and other assets used in its business operations including the operation of the VHIE and, to the extent that VITL licenses or leases any intellectual property or other assets, determine whether such assets are assignable to another entity, i.e., an entity that may in the future assume operation of the VHIE ("Future VHIE Operator"). Furthermore, recommendations are provided in regard to what intellectual property and other assets should be assigned by VITL to a Future VHIE Operator. The analysis provided herein is based exclusively upon the information and materials that have been provided to us and assumes the completeness and accuracy of such information and materials.

Research into the ownership of the assets in question is complete for the information that was provided for review. The determination of the ownership of some assets, and the ability of VITL to assign any rights it may have in some of the assets, can only be determined after an assessment of documentation and contractual agreements executed by VITL and third-party vendors that were not provided for review within the scope of this analysis. As such, the analysis as presented may warrant modification upon evaluation of the documentation that was not provided. Where applicable, a lack of documentation and information has been noted in the text and footnotes of this analysis.

6.2.5 Assessment of Ownership Interests in and Assignability of Intellectual Property and Other Assets

The following will discuss the ownership and/or assignment rights of VITL assets and intellectual property. The VITL assets and intellectual property can be categorized into three distinct groups:

1. Tangible assets consisting of various hardware, equipment, and furniture used by VITL in furtherance of its business operations ("VITL Tangible Assets")
2. Software licenses for software VITL uses in furtherance of its business operations, and intellectual property
3. Data VITL maintains consisting of the Protected Health Information (PHI) collected in conjunction with the operation of the VHIE ("VITL Data")

A detailed description of all VITL's assets and software licenses is provided in Section 14. VITL has an ownership interest in its tangible assets. The majority of VITL's software is licensed from third party vendors and not owned by VITL. No software license is included on the VITL balance sheet.

Much of the software VITL uses can be procured on the open market by a Future VHIE Operator (it is mostly standard off-the-shelf software) and therefore, there is no need to license or assign it from VITL to a Future VHIE Operator unless the remaining term of the license presents a financial burden for the state to exit prematurely.

VITL may have an ownership interest in certain Intellectual Property (IP) based upon the circumstances inherent in the development of such IP. The documentation that CHA has been provided is not entirely clear with respect to the chain of title to this IP. Also, VITL is unclear under which contract or grant IP ownership may have been created and, if created, what the correct chain of title would be for such IP. CHA believes that further investigation would not conclusively

resolve the question. The team has concluded that if such ownership in IP were created, and if the IP is required for the operation of the VHIE, then this IP must be licensed by or assigned to a Future VHIE Operator.

With regard to VITL Data, there is nothing in the materials that CHA has been provided for review which would confer ownership in VITL with respect to the VITL Data. The ownership of VITL Data remains with the Health Care Organizations ("HCOs") that use the VHIE, with the individuals from whom the VITL Data was collected by such HCOs, or with the State if it contributed any VITL data. Accordingly, a Future VHIE Operator will need to enter into agreements with HCOs contributing data to the VHIE in order to access and utilize the VITL Data contributed to the VHIE by such HCOs.

The detailed discussion of VITL assets and IP is presented in Section 3.

6.3 FINANCIAL REVIEW

6.3.1 Budget Review

The team has gained a full understanding of the assumptions and forecasts of revenue and funding, including risks, used to create the FY19 and F20 budgets. ***This section offers comparisons of the proposed budget to historical performance for an understanding of all proposed changes in the budget.***

Table 7: Budget Review and Forecast

	2014	2015	2016	2017	2018	2019	2020
	actual	actual	actual	actual	forecast	budget	forecast
Income Statement							
Core Grant	$ 6,521,243	$ 6,993,040	$ 3,010,201	$ 4,987,329	$ -	$ -	$ -
Core Contract	-	-	-	-	3,973,471	3,801,044	3,551,000
APD Contract	-	-	1,233,498	744,332	1,421,529	1,143,956	894,000
SIM Contract	-	-	1,388,568	862,173	-	-	-
Other State Contracts	-	-	-	-	184,685	42,000	-
Total State/Federal Contracts and Grants	6,521,243	6,993,040	5,632,267	6,593,834	5,579,685	4,987,000	4,445,000
Program Service Fees	-	-	1,478,391	1,194,640	993,120	1,018,760	1,019,000
Conference Fees	-	-	62,668	208,218	-	-	-
All Other Revenue	102,897	424,568	885	43	800	-	-
Total Revenue	6,624,140	7,417,608	7,174,211	7,996,735	6,573,605	6,005,760	5,464,000
Personnel Expenses	(3,659,154)	(3,959,418)	(3,881,551)	(3,863,145)	(3,120,020)	(2,943,387)	
Operating Expenses	(3,254,906)	(3,332,613)	(2,883,974)	(3,044,312)	(2,891,690)	(2,970,836)	
Total Expenses	(6,914,060)	(7,292,031)	(6,765,525)	(6,907,457)	(6,011,710)	(5,914,223)	
Net Income (Loss)	**(289,920)**	**125,577**	**408,686**	**1,089,278**	**561,895**	**91,537**	
Less F&S Grants and Contracts	(6,521,243)	(6,993,040)	(5,632,267)	(6,593,834)	(5,579,685)	(4,987,000)	

Net Commercial Income (Loss) *		(6,811,163)	(6,867,463)	(5,223,581)	(5,504,556)	(5,017,790)	(4,895,463)	NA
* Excluding State & Federal Grants and Contracts								
Cash Flow								
Cash Received from F&S Grants and Contracts		$ 6,285,636	$ 7,097,237	$ 5,353,144	$ 6,175,888			
Cash Received from Fees & Services		37,027	423,423	1,541,059	1,402,858			
Interest Received		571	1,145	885	43			
Cash paid for Personnel		(3,548,605)	(3,830,254)	(3,968,783)	(4,042,682)			
Cash paid for Goods & Services		(3,398,799)	(2,620,907)	(3,608,152)	(3,061,208)			
Cash paid for Interest		-	(1,845)	(1,273)	(1,836)			
Purchase Fixed Assets		(54,349)	(84,115)					
Increase (Decrease) in Cash		**(678,519)**	**984,684**	**(683,120)**	**473,063**			
Less: F&S Grants and Contracts		(6,285,636)	(7,097,237)	(5,353,144)	(6,175,888)			
Decrease in Cash exc F&S Grants and Contracts		$ (6,964,155)	$ (6,112,553)	$ (6,036,264)	$ (5,702,825)	NA	NA	NA

6.3.2 Review of Employee Costs

The CHA team conducted a review of all employee costs, including those associated with termination (severance). This is based on a list of all current (and budgeted) employees (with names redacted) by title, primary job responsibility, annual salary and start date. For any fixed-cost contracts, the team has determined the contract length and cost of termination. Table 8 shows the employee costs in the current VITL budget and indicates which positions would continue to be budgeted in major reduced services mode, along with total employee costs for each of those scenarios. More detailed documentation, with salaries for each position, is available upon request. That information is not included here because even with names redacted individual employees are easily identifiable.

Table 8: VITL Employee Costs, Current Budget vs. Reduced Services Modes

VITL Employee Costs			
	Current Budget	**Reduced Services - Minor (a)**	**Reduced Services - Major**
Executive Assistant	X	X	
Admin Assistant	X		
Interim CEO	X		
Accounting Manager	X	X	X
Chief Financial Officer	X		
Programmer Analyst	X	X	X
Chief Operating Officer	X	X	X
Application Analyst	X	X	
Clinical Architect	X	X	X
Director of Operations	X	X	
Data Analyst	X		
Application Analyst	X	X	
Director of Client Services	X		
Application Analyst	X	X	
Application Analyst	X	X	
Lead Technical Support Specialist	X	X	
Jr. Technical Support Specialist	X	X	
Technical Support Specialist	X	X	X
Programmer Analyst	X	X	X
Director of Technology	X		
Security Analyst	X	X	X
DBA/Analyst	X	X	
Programmer Analyst	X		
Systems Administrator	X	X	X
Interim CTO	X		
Monthly Employee Cost (b)	**$244,000**	**$ 160,000**	**$ 81,000**
Monthly Savings versus Budget	**NA**	**$ 84,000**	**$ 163,000**
One-time Severance Cost (c)	**NA**	**$ 71,000**	**$ 141,000**
(a) Reduced Services Minor was developed by CHA and VITL in the process of developing contingency plan options. It is not used in the current version of any option, but is presented here for informational purposes			
(b) Includes Salaries, Fringe Benefits and Payroll Taxes			
(c) Assumes a one-time payment equal to one month of salary and payroll taxes for each terminated employee			

6.3.3 Financial Model for Evaluating Contingency Plan Options

The financial model the CHA team developed for this contingency plan is detailed and flexible. The details of how incremental costs and savings for each option were calculated can be found in the "Options Table" in the Appendix.

7 OPTION 1: VITL MERGES WITH A PRIVATE ORGANIZATION

7.1 OPTION 1 OVERVIEW

The option entails the merging of VITL with the assistance of an intermediary such as an investment bank or merger and acquisition advisory firm into another private company, such as an organization that specializes in HIE operations or a health information technology company, that has the capability and resources to advance Vermont's data sharing and exchange services and meet stakeholder needs. The merger would ideally be conducted privately between VITL and the selected company with oversight from the State of Vermont. This approach has several advantages in that it can be executed in a relatively short amount of time compared to other options, thus lowering overall costs as well as reducing financial and contractual risks as the suitor would assume most or all of VITL's existing assets, liabilities, contracts and possibly a number of its employees. It would then be up to the company to dispose of extraneous items as it sees fit.

In Option 1 VITL merges with another private company that has the capability and resources to advance Vermont's data sharing and exchange services and meet stakeholder needs.

This option is considered moderately complex and has a reasonable likelihood of success although it is highly dependent upon successfully finding one or many suitable firms willing to merge VITL's operations with their own.

The viability of this option relies on continued funding of VHIE operations by some means by the state or other mechanism. A merger will only be attractive if VITL's operations come with some certainty of continued funding of the VHIE for a reasonable term, otherwise the business risk involved will outweigh the gain for the acquiring business.
It is important to note that CHA did not conduct interviews with or gather information from any entity that may be considered a candidate for merger with VITL in the process of developing this plan.

7.1.1 Merger and Acquisitions Advisory Firm Description

A merger and acquisition (M&A) advisory firm provides advice on corporate mergers, acquisitions and divestitures as well as debt and equity financing. M&A advisory firms are different from investment banks in that an investment bank, in addition to performing an M&A advisory role, may also act as an underwriter or agent when corporations are issuing securities and maintain markets for previously issued securities.

M&A advisory firms try to match businesses for sale with prospective merger partners or buyers. To do this, an M&A advisory firm's services typically include:

- Business valuation
- Preparation of a pitchbook or confidential information memorandum
- Identification of prospective buyers and discussions with these parties
- Providing negotiation of purchase and sale agreement and other deal-related agreements
- Assisting with due diligence

- Resolving transaction issues throughout the process

7.2 State of Vermont's Role in Option 1

This option will require continued funding in some form for a period of no less than three years with five years being optimal, however it is essentially a private process conducted by VITL as a sovereign corporation. The state may choose to play an advisory role to VITL management, participating in the selection of the intermediary as well as the selection of the merger entity. The advantage of the private transaction is that state involvement is limited, reducing time to execute the process and thus the overall cost of the transaction.

7.3 VITL's Role in Option 1

VITL along with an advisory firm of its choice would lead the merger process. It will be imperative for VITL management and BOD to remain in place during the entire merger until closing.

7.4 Risks for Option 1

- **Moderate Complexity**
- 6 months to 1-year to complete a transaction
- Dependent on finding a suitable merger partner
- No guarantee that a transaction will be completed
- New operator may require significant changes in VHIE operating platform
- New operator may change the payment model
- Stable funding is required
- Lease is a financial risk
- Additional costs for intermediary

7.5 Process for Option 1

7.5.1 Develop a Transition Budget

Utilizing the Option 1-specific financial model referred to below in section 7.5.2.2, VITL will modify the budget to sustain operations during the merger process based on the current state of the company at the time of any action that may be taken. VITL will need to consider the proper staffing levels and make operational and contractual decisions based on elements presented in this plan.

7.5.2 Bank Merger Process Phase I: Preparation to Go to Market to Seek a Merger Partner

7.5.2.1 Diligence and Reviews

To begin its work, a banker will spend time with VITL and the management team to perform due diligence on the VITL and VHIE as well as and conducting on-site reviews.

7.5.2.2 Preparation of Financial Projection Model

The banker's financial team will work together with the CEO, CFO and other relevant personnel on preparing the Financial Projection Model. While the bank performs most of the detailed work, this is a collaborative and iterative process to ensure the company is as best positioned for a merger as possible.

7.5.2.3 Preparation of Targeted Partner List

Another important activity that will be conducted during Phase I is the preparation of the Targeted Partner List. The banker will review the marketplace and suggest a list of five to twenty potential merger partners.

7.5.2.4 Preparation of Confidential Information Memorandum

The conversations and collaborations during this period will provide the banker with details and relevant corporate information of VITL and VHIE that will be the cornerstone of the Confidential Information Memorandum (CIM).

7.5.2.5 Preparation of Executive Summary and NDA

After completing the CIM, the banker will create an Executive Summary, a two-page summary derived from the CIM which describes the opportunity on a no-name basis and will work with VITL's counsel to create a Confidentiality Agreement (NDA) for potential partners.

7.5.2.6 Creation of Virtual Data Room

Lastly during Phase I, the banker would assist in the collection and organization of due diligence for the Virtual Data Room for potential partners. A complete and well-prepared Data Room ensures an efficient due diligence period for potential partners.

7.5.3 Bank Merger Process Phase II: Commencing the Solicitation

7.5.3.1 Approach Target Investors

Upon the completion of the CIM the banker would then initiate contact with the approved potential partners by sending the Executive Summary and the Confidentiality Agreement. Once an executed Confidentiality Agreement is returned to the banker, they would send out the CIM and engage in more substantive conversations with the potential partners. The focus of this approach is to generate a strong competitive bidding process for the opportunity.

7.5.4 Bank Merger Process Phase III: Continuing Solicitation; Management Meetings

7.5.4.1 Continue Investor Outreach and Discussions

During the next Phase, the banker will continue to reach out to potential partners as well as have conversations with interested partners about the CIM and their overall level of interest. Also, at this time a decision will be taken as to whether to seek written Indications of Interest from partners or proceed to limited management meetings and seek Indications of Interest following such management meetings. The decision will likely depend on the number of interested potential partners, as well as their level of interest.

7.5.4.2 Preparation of Management Presentation; Management Meetings

With the initial solicitation phase underway, typically the banker and VITL would work on preparing the Management Presentation. This PowerPoint presentation (and potentially ancillary presentations) will act as a guide for the meetings with potential investors that are qualified and sufficiently interested. Additionally, at this time, the banker provides access to the Virtual Data Room so qualified parties can conduct some initial Due Diligence. Following the conclusion of the management meetings, if not prior per above, the banker will solicit Indications of Interest from parties.

7.5.5 Bank Merger Process Phase IV: Negotiation of Offers

7.5.5.1 Negotiate Offers

During this Phase, the banker would enter Negotiations with one or more interested parties with the objective of entering into a Binding Letter of Intent with the preferred partner.

7.5.6 Bank Merger Process Phase V: Move to Final Negotiation and Closing

7.5.6.1 Sign a Binding Letter of Intent with the Preferred Partner

7.5.6.2 Lead the Transaction to Closing

By establishing a timetable and holding all parties including, the potential partner, attorneys, accountants, and other consultants accountable, the banker will drive the deal to completion.

7.6 Financial Considerations for Option 1

- Time frame: 6-12 months
- Incremental Costs: $300,000 - $600,000 excluding success fee to Investment Bankers

8 OPTION 2: RFP PROCESS TO SELECT A NEW OPERATOR FOR THE VHIE

8.1 OPTION 2 OVERVIEW

In this option, State would take into its possession all the assets required to successfully operate the VHIE and then bid out the operation of the exchange to a new operator. To execute this option the State would utilize a formal Request for Proposals process conducted by DVHA. DVHA would first issue a Request for Information (RFI) to gain market intelligence to inform the RFP. From there DVHA would develop and issue an RFP, collect responses, and ultimately award a multi-year contract to the successful bidder. The RFP process affords the State of Vermont full control over the procedure and utilizes internal staff to conduct all aspects of the process.

In Option 2, the State would take into its possession all the assets required to successfully operate the VHIE and then bid for a new operator.

This option is considered complex has a moderate chance of success, for the following reasons:

- The RFP process as managed by DVHA is well-documented and relatively predictable
- DVHA staff have a solid working knowledge of VHIE operations
- DVHA is familiar with the contracting of services from VITL
- DVHA staff would have well-defined goals and objectives and provide significant oversight
- There are many HIE operators and HIT companies in the market capable of successfully responding to the RFP.
- There is past evidence that complex HIT projects managed by the State have met with complications
- State-contracted services contracts typically last for a period of two years with the possibility of a two-year extension
- Contracts require a reauthorization process that can take up to six months to achieve

Careful consideration of this option is warranted.

This option's viability depends on continued funding of VHIE operations by some means. Companies will only respond to an RFP of this magnitude if there is some comfort that the successful bidder would receive an agreement with the State to operate the VHIE for a reasonable term of at least three years due to the extensive requirements associated with operating the VHIE. Otherwise the business risk involved would outweigh the gains.

8.2 STATE OF VERMONT'S ROLE IN OPTION 2

This option is essentially a state-run and funded process, conducted by DVHA. The State would work with VITL to develop a plan to transfer all VHIE assets to the State. The State may choose to engage VITL management in RFI and RFP development and selection of the successful bidder.

8.3 VITL'S ROLE IN OPTION 2

VITL would be required to work with the State to turn over all assets pertaining to the operation of the VHIE and develop a plan for addressing the disposition of certain contracts, leases and assets

once operations were assumed under contract by another vendor. VITL will be required to continue operations in stable mode during the RFP process but restrict new work. This approach would maintain current spending levels and create minimal disruption for the current customers of the VHIE. The State may also require VITL's support with RFI and RFP development and possibly with the selection of the successful bidder.

8.4 RISKS OPTION 2

- **Complex Process**
- 18 months to 2-years to complete the process
- VITL required to transfer all operational components of the VHIE to the State
- VITL must deal with certain licenses and contracts that may not transfer
- Lease is a financial risk
- Stable funding is required
- New operator may change the funding model
- State contracting processes can be lengthy
- State history in managing complex IT contracts
- Entire process must be redone at certain intervals
- Open competition can be an operational risk in out years
- New operator may require significant changes in VHIE operating platform

8.5 PROCESS FOR OPTION 2

8.5.1 Develop a Plan for Transition of VHIE Assets

The State would work with VITL to develop a plan to transfer all VHIE assets to the State pertaining to the operation of the VHIE. VITL would develop a plan for addressing the disposition of certain contracts, leases and assets once operations were assumed under contract by another vendor.

8.5.2 Develop a transition budget

Utilizing the proforma budget developed in 8.5.8 below VITL will modify the budget to sustain operations during the merger process based on the current state of the company at the time of any action that may be taken. VITL will need to consider the proper staffing levels and make operational and contractual decisions based on elements presented in this plan.

8.5.3 Develop an RFI based on the outline supplied by CHA

Based on the complexity of this option CHA recommends that DVHA work with VITL to develop and issue a formal request for information (RFI) to inform the RFP. CHA will supply an outline for the RFI subsequent to the completion of this plan.

8.5.4 Develop a list of possible RFI and RFP respondents

DVHA may choose to work with VITL to develop a list of organizations to target for participation in the RFI and RFP processes, based on their capabilities and experience, with the aim of ensuring reasonable interest from leading industry players in competing for the business. DVHA may also find it desirable to augment the RFI and RFP listings on the State's bid website by formally inviting certain organizations to participate.

8.5.5 Issue the RFI

DVHA issues the RFI with responses due no more than 30 days from issue. Two weeks would be more desirable to minimize the transition timeframe.

8.5.6 Develop the RFP

While the RFI process proceeds, DVHA begins development of the RFP by assembling requirements based on present knowledge and standard state RFP clauses and attachments. Responses to the RFI are considered and utilized to further inform the RFP and to assist in developing additional requirements.

8.5.7 Route, edit, and approve the RFP; Issue the RFP

DVHA may choose to formally invite the participation of targeted organizations.

8.5.8 Develop a proforma budget to fund the contract

In order to evaluate the responses and to reduce the time to contract DVHA may want to utilize internal knowledge, the information presented in this contingency plan, and VITL's assistance, to develop a proforma budget for funding the future operations of the VHIE under the contract. This action will assist in vendor evaluation and get a head start on the final budget. (Note: The financial models presented in this contingency plan are designed to be used for this purpose.)

8.5.9 Evaluate RFP responses

Responses to the RFP are evaluated by DVHA and potentially VITL and other parties.

8.5.10 If necessary, conduct a down select process

The State and VITL may find two or more companies to be very close in their responses and may wish to conduct a down select process to gain more detail. In this case, DVHA would inform the respondents that it requires more information to make Its final decision, issue a request for additional information, conduct site visits or in-person interviews if warranted, and evaluate additional information.

8.5.11 Issue an apparent winner notice

8.5.12 Negotiate pricing and terms; develop contract and final budget

8.5.13 Sign and formally award contract

8.5.14 Selected organization executes its plan

8.6 Timeframe for Option 2

Based on prior knowledge of complex RFP and contracting processes in the State of Vermont and experience with HIE replacement processes in other states, CHA believes this process will take no less than 18 months to complete and could stretch to 24 months if complications develop.

8.7 Financial Considerations for Option 2

- Time Frame: 18 – 24 months
- Incremental Cost: $450,000 - $600,000

9 OPTION 3A: CONSULTING FIRM TAKES OVER EXECUTIVE OPERATIONS OF VITL BY INSERTING A NEW EXECUTIVE MANAGEMENT TEAM

9.1 OPTION 3A OVERVIEW

Option 3a utilizes a consulting firm to take over executive operations of VITL by inserting a new executive management team. The new executive management team would execute a predefined plan of action to turn around VITL operations and meet the stakeholder requirements and, once complete, install a permanent management team.

The moderate complexity of this option gives it a high chance of success. It depends on finding an experienced turnaround team. It will require continued funding under the current HIT Fund mechanism.

In Option 3A a turnaround consulting team takes over executive operations of VITL by inserting a new executive management team. The team would execute a predefined plan of action to turn around VITL operations, meet stakeholder requirements and, once complete, install a permanent management team.

9.2 STATE OF VERMONT'S ROLE IN OPTION 3A

This option is essentially a state-run and funded process. The State may choose to invite VITL management to participate in the development of the RFP and selection of the successful bidder.

9.3 VITL'S ROLE IN OPTION 3A

Depending on the State's requirements VITL would act in a support role during the RFP process to assist the state in development of the RFI and RFP and the selection of the successful bidder.

9.4 RISKS OPTION 3A

- **Moderate Complexity**
- Does not necessarily resolve issues that caused the contingency plan to be enacted
- 6 to 9 Months to complete the process
- Increased operational cost
- New operator may change the funding model
- Dependent on finding a suitable consulting firm
- New management may change the funding model

9.5 PROCESS FOR OPTION 3A

9.5.1 Develop a budget for the process

Utilizing the financial information developed in 9.5.5, VITL will modify the budget, based on the current state of the company at the time any action that may be taken. The new budget would allow continued operations with some reduction of services during the consultant selection process. VITL will need to consider the proper staffing levels and make operational and contractual decisions based on elements presented in this plan.

9.5.2 Develop the RFP for Executive Consulting Services

DVHA may choose to engage VITL staff and/or other parties to help develop the RFP. RFP development will include assembling requirements based on present knowledge and standard state RFP clauses and attachments. In this option it will be important to include a requirement for the consulting firm to submit a plan as part of its RFP response for the operations of VITL. The data presented in this contingency plan and in the HTS report will be useful to the RFP writers in crafting the RFP requirements, and to the bidders in crafting their RFP responses. It is conceivable that bidders may also require site visits and interviews with VITL and DVHA to complete develop plans and successfully respond to the RFP.

9.5.3 Develop a list of possible RFP respondents

DVHA may choose to work with VITL to develop a list of organizations to target for participation in the RFP process, based on their capabilities and experience, with the aim of ensuring reasonable interest from leading industry players in competing for the business. DVHA may also find it desirable to augment the RFP listing on the State's bid website by formally inviting certain organizations to participate.

9.5.4 Route, edit, and approve the RFP; Issue the RFP

Follow normal state processes for routing, editing, and approving an RFP. Issue the RFP on the state's website and issue any formal invitations to participate. Conduct any necessary bidder site visits and interviews.

9.5.5 Develop a proforma budget to fund the contract

In order to evaluate the responses and to reduce the time to contract DVHA may want to utilize internal knowledge, information presented in this plan, and assistance from VITL and other sources to develop a proforma budget for funding the future operations of the VHIE under the contract. This action will assist in vendor evaluation and get a head start on the final budget. (Note: The financial models presented in this plan are designed to be used for this purpose.)

9.5.6 Evaluate RFP Responses

DVHA, possibly supported by VITL and/or other parties, will evaluate the RFP responses. They will issue requests for any additional information needed and support any necessary bidder site visits and/or interviews.

9.5.7 If necessary, conduct a down select process

The State and VITL may find two or more companies to be very close in their responses and may wish to conduct a down select process to gain more detail. In this case, DVHA would inform the respondents that it requires more information to make its final decision, issue a request for additional information, conduct site visits or in-person interviews if warranted, and evaluate additional information.

9.5.8 Issue an apparent winner notice

9.5.9 Negotiate pricing and terms; develop contract and final budget

9.5.10 Sign and formally award contract

9.5.11 Selected organization executes its plan

9.6 Timeframe for Option 3a

Based on our prior knowledge of moderately complex RFP and contracting processes in the State of Vermont and experience in this area of contracting, CHA believes this process will take no less than eight months to complete and could stretch to twelve months if complications develop.

9.7 Financial Considerations for Option 3a

- Time frame: 8 – 12 months
- Incremental cost: $200,000 - $300,000

10 OPTION 3B: CONSULTING FIRM ASSISTS VITL MANAGEMENT IN ADVANCING THE VHIE

10.1 OPTION 3B OVERVIEW

Option 3B utilizes consulting services that assist existing VITL management in executing a predefined plan of action to advance the VHIE and meet stakeholder requirements. It depends on finding an experienced set of consultants. It requires continued funding under the current HIT Fund mechanism.

In Option 3B a consulting firm is selected to assist existing VITL management in executing a predefined plan of action to advance the VHIE and meet stakeholder requirements.

The low complexity of this option gives it a high chance of success. However, it may not resolve the issues that caused the contingency plan to be enacted. It will require continued funding under the current HIT Fund mechanism.

10.2 STATE OF VERMONT'S ROLE IN OPTION 3B

This option will require continued funding by the State but is essentially a private process conducted by VITL. The State of Vermont may play an advisory role to VITL management and participate in the development of the RFP and the selection of the successful bidder.

10.3 VITL'S ROLE IN OPTION 3B

VITL will continue operations and will lead the RFP process to select a consultant. VITL management and staff will develop the RFP and conduct the selection process and ultimately award a contract to a suitable organization.

10.4 RISKS OPTION 3B

- **Low Complexity**
- Does not necessarily resolve issues that caused the contingency plan to be enacted
- 6 to 9 Months to complete the process
- Increased operational cost
- Dependent on finding a suitable consulting firm

10.5 TIMEFRAME FOR OPTION 3B

Based on our prior knowledge of corporate RFP and contracting processes, CHA believes this process will take no less than six months to complete and could stretch to nine months if complications develop.

10.6 FINANCIAL CONSIDERATIONS FOR OPTION 3B

- Time Frame: 6 – 9 months
- Incremental Cost: $150,000 - $225,000

10.7 PROCESS FOR OPTION 3B

10.7.1 Develop a budget for the process and proforma budget for consulting services

VITL will need to consider the proper staffing levels and make certain operational and contractual decisions based a proforma budget to guide anticipated funding for the additional cost of the consulting services.

10.7.2 Submit the budget to fund the process to the state for approval

VITL will submit its budget for the RFP process funding to the state for approval and will also submit the proforma budget for the consulting services to advise DVHA on projected costs.

10.7.3 Develop the RFP for Consulting Services

VITL will work together with DVHA to develop the RFP by assembling requirements based on present knowledge and future state planning. In this particular option it will be important to include a requirement for the consulting firms to submit a plan as part of its RFP response for the how it will help improve VITL's operations and future state plans. To enable firms to complete comprehensive plans and successfully respond to the RFP it is conceivable that site visits and interviews with VITL and DVHA will be necessary. The data presented in this contingency plan and in the HTS report will be useful to the RFP writers in crafting the RFP requirements, and to the bidders in crafting their RFP responses.

10.7.4 Develop a list of possible respondents

VITL may choose to develop a list of organizations to target for participation in the RFP process, based on their capabilities and experience, with the aim of ensuring reasonable interest from leading industry players in competing for the business. VITL may ask the State and/or other parties to help with list development.

10.7.5 Route, edit, and approve the RFP; Issue the RFP

VITL will conduct its standard RFP routing and approval process and will issue the RFP. To supplement the RFP posting, VITL may choose to issue formal invitations to participate to organizations on the list developed in the previous step.

10.7.6 Evaluate RFP responses

VITL will evaluate the RFP responses, with assistance from the State. VITL will issue any requests for additional information and may choose to host site visits or in-person interviews with bidders. VITL will evaluate any additional information it receives.

10.7.7 If necessary, conduct a down select process

10.7.8 Issue an apparent winner notice

10.7.9 Negotiate pricing and terms; develop contract and final budget

10.7.10 Sign and formally award contract

10.7.11 Selected organization begins work with VITL

11 OPTION 4: ANOTHER VERMONT-BASED ENTITY ASSUMES HIE OPERATIONS VIA A MERGER

11.1 OPTION 4 OVERVIEW

The option entails another entity in the State of Vermont such as OneCare Vermont or another health care or information technology company assuming operations of VITL via a merger. The acquiring entity would need to have the capability and resources to advance Vermont's data sharing and exchange services and meet stakeholder needs. The process would likely be conducted by VITL management with the assistance of VITL's legal counsel. The State would provide some oversight of this process. As in Option 1 an Investment Bank or M&A intermediary firm would be of value to assist VITL and the acquiring entity in executing a transaction.

In Option 4 a Vermont-based entity such as OneCare Vermont or another health care or information technology company assumes operations of VITL via a merger.

This approach is considered moderately complex and has advantages in that it can be executed in a relatively short amount of time compared to other options, thus lowering overall costs as well as reducing financial and contractual risks as the suitor would assume most or all VITL's existing assets, liabilities, contracts, and possibly a number of its employees. It would then be up to the company to dispose of extraneous items as it sees fit.

It is important to note that CHA did not conduct interviews with, or gather information from, any entity that may be considered a candidate for merger with VITL in the process of developing this plan.

11.2 STATE OF VERMONT'S ROLE IN OPTION 4

This option requires continued funding by the State but is essentially a private process conducted by VITL as a sovereign corporation. The State may choose to play an advisory role to VITL management and participate in the selection of the merger entity. The advantage of the private transaction is that state involvement is limited thereby reducing time to execute the process and the overall cost of the transaction.

11.3 VITL'S ROLE IN OPTION 4

VITL will continue operations and, along with corporate counsel and possibly an M&A advisor, would lead the merger process. It will be imperative for VITL management and board of directors to remain in place during the entire merger until closing.

11.4 RISKS OPTION 4

- **Moderate complexity**
- 4 to 8 months to complete a transaction
- No guarantee that a transaction will be completed
- New operator may change the funding model
- Political and territorial issues may arise

- Dependent on finding a suitable organization within the state to merge with
- Entity may not independently represent the best interests of all stakeholders
- Short list of possible merger partners

- Lease is a financial risk
- Stable funding is required
- Operator may change funding model
- Risk that the new operator lacks capabilities to successfully operate the VHIE.

11.5 Process For Option 4

11.5.1 VITL develops a budget for the merger process

11.5.2 Merger process for in-state merger

This option will require continued funding by the State, however it is essentially a private transaction conducted by the VITL. The advantage of this option is that it may be accomplished privately in the State, without soliciting outside parties. This may reduce transaction costs, although not necessarily operating costs. The potential downside of this option is that the performance of the post-merger entity may not be as strong as if the merger partner was a professional provider of HIE services.

11.5.3 Attorneys for VITL prepare merger documents

Documents are prepared for the merger between VITL and the chosen entity, as well as documents disposing of unnecessary assets post-merger

11.5.4 Closing

The merger is affected by VITL and the merger partner and the newly merged entity continues operation of the VHIE

11.6 Timeframe for Option 4

Given the nature of this option being conducted in-state, likely with known entities, CHA believes this option would take no less than four months and no more than eight months to complete.

11.7 Financial Considerations for Option 4

- Time frame: 4 – 8 months
- Incremental cost: $200,000 - $400,000

12 OPTION 5: THE STATE OF VERMONT ASSUMES VHIE OPERATIONS

12.1 OPTION 5 OVERVIEW

The option entails the State of Vermont's Agency of Digital Services (ADS) assuming the management of VHIE operations and integrating the VHIE into the normal operations of ADS. During contingency plan development CHA conducted an interview with ADS and ADS indicated that the agency would be willing to consider this option.

In Option 5, the State of Vermont's Agency of Digital Services becomes the VHIE operator.

This option is considered complex and has a moderate chance of success. The complexities of this option arise in the transference of VHIE operations, contracts, and certain assets to the State and in the hiring and training of ADS staff. Many of the contracts with companies that provide core services to VITL are transferrable with permission from the vendor. There is some risk in obtaining the permission which could delay the process.

In addition, CHA believes this process would require the VITL BOD to take actions to reduce costs and exposure to the State, related to contracts with vendors that would not be transferred or refused to transfer to the state as well and its building lease. In most cases the contracts and lease could be dealt with by the VITL BOD and Management declaring one of the forms of bankruptcy available to 501(c)(3) organizations. The contracts are detailed in 6.2.1 which shows those essential to VHIE operations and those that are unnecessary.

The viability of this option relies heavily on a continued sustainable funding mechanism. While it is possible to conceive a different business and revenue model it is unlikely that a state agency will have the flexibility to operate outside its normal course of budgetary funding provided by government revenue sources.

For ADS to take on the operations of the VHIE it would have to adjust certain aspects of its current operation and could require additional staffing. It is conceivable that ADS will be able to operate the VHIE with reduced budget requirements because overhead and some operational costs would be lower based on existing technical and physical infrastructure and reduced labor rates and benefits.

12.2 STATE OF VERMONT'S ROLE IN OPTION 5

The State, specifically ADS and DVHA, will participate in assuming the operations and contracts from VITL. The state will also establish internal funding options for ADS to assume, continue, and improve operations of the VHIE.

12.3 VITL'S ROLE IN OPTION 5

VITL would continue operations while it participates with ADS and DVHA to transfer VHIE contracts and operations, train ADS personnel, and deal with any corporate issues that arise.

12.4 Risks Option 5

- **Complex Process**
- 8 to 15 months for the transition to complete
- VITL required to transfer all operational components of the VHIE to the State
- VITL must deal with certain licenses and contracts that may not transfer
- State may have to hire additional people to run the VHIE
- Big brother issue may arise
- Lease is a financial risk
- Political issues may arise
- Stable funding is required
- Risk that the new operator lacks the capabilities to successfully operate the VHIE.

12.5 Process for Option 5

12.5.1 DVHA develops a budget for the transition process

This budget is independent to the new operating budget that funds ongoing VHIE operations at ADS.

12.5.2 If necessary, DVHA seeks reauthorization of the HIT fund from the Legislature

At the time of this writing the HIT fund is set to expire on July 1st, 2019. DVHA will need to work with the Legislature to determine the proper funding mechanism for this option prior to its activation.

12.5.3 Submit transition budget for approval and funding

12.5.4 VITL will be placed in a minor reduced services mode

12.5.5 ADS, DVHA, and VITL jointly develop a plan for transferring operations and assets to ADS

ADS, DVHA, and VITL develop a plan for the transition of operations. This plan takes into consideration VITL's current and future state operational model. It is also informed by the HTS report, this contingency plan, and the HIE/HIT Steering Committee work.

12.5.6 A project manager and transition team are assigned

12.5.7 ADS develops a complete business plan for continuing operations for the VHIE

Like the plan for transferring operations, the business plan for continuing operations takes into consideration VITL's current and future state operational model. It is also informed by the HTS report, this contingency plan, and the HIE/HIT Steering Committee work.

12.5.8 DVHA and ADS develop a budget and funding mechanism for ADS VHIE operations

Working from the financial models provided in this plan, as well as historic and projected financials from VITL, a budget is recast based on state financial aspects and against the long-term operational plan.

12.5.9 VITL and ADS work with vendors to transfer contracts for core VHIE services

Vendors of core VHIE services are listed in the Appendix.

12.5.10Take definitive action to neutralize financial risk to the state

VITL management and BOD work in conjunction with DVHA would need to take definitive action to neutralize financial risk to the State for contracts, services, building rent, and physical assets. In

this plan, information is provided, and recommendations made to enable the parties to act to reduce financial risk to the State.

12.5.11 Review and approve component plans

Each of Option 5's component plans, listed in the steps above, will go through an approval process with the State and BOD of VITL.

12.5.12 Execute all approved plans

12.6 Timeframe for Option 5

Given the nature of this option being conducted with a state agency which has a current IT infrastructure and can be funded by DVHA with relative ease and no contracting is required, CHA believes this option would take no less than eight months and no more than fifteen months to complete.

12.7 Financial Considerations for Option 5

- Time frame: 8 – 15 months
- Incremental costs: $200,000 - $375,000

13 OPTION 6: VITL SHUTS DOWN THE VHIE IN FAVOR OF STAKEHOLDER-LED EXCHANGES

13.1 OPTION 6 OVERVIEW

The option entails VITL shutting down VHIE operations completely, expecting that data sharing and exchange needs will be met by stakeholder groups within Vermont such as the provider and payer community or health service area consortiums**.** As a bridge service the State may consider transferring a certain portion of the VHIE operations to be run as public services.

These bridge services could include the interface infrastructure run on Orion Rhapsody to be used as a message router, the central storage of existing patient data and the anticipated enterprise master patient index. The state could house and maintain these technologies and offer them as ready services to the emerging local exchanges.

Option 6 entails VITL shutting down VHIE operations completely, expecting that data sharing and exchange needs will be met by stakeholder groups within Vermont such as the provider and payer community or health service area consortiums.

This option is considered to be of moderate effort as it relates to VHIE shutdown and the potential transfer of key services. CHA believes that this process would require the VITL BOD to take actions to reduce costs and exposure to the state related to contracts with vendors as well as its building lease. In most cases the contracts and lease could be dealt with by the VITL BOD and Management declaring one of the forms of bankruptcy available to 501(c)(3) corporations. The contracts are detailed in Section 6.2.1.

13.2 STATE OF VERMONT'S ROLE IN OPTION 6

The State of Vermont, specifically ADS and DVHA, will participate in assuming the operations and contracts from VITL that are related to the public service elements of the VHIE. The state will also establish internal funding options for ADS to assume and manage the public service elements of the VHIE.

13.3 VITL'S ROLE IN OPTION 6

VITL will participate with ADS and DVHA to transfer public service elements of the VHIE, train ADS personnel, and deal with any corporate issues that will arise. VITL would operate the VHIE while the transfer of operations takes place, with a major reduction of services and spending.

13.4 RISKS OPTION 6

- **High disruption factor**
- 3 to 6 months to complete a shutdown
- VITL would have to be completely shut down
- Lingering financial and legal ramifications may arise for contracts, licenses and lease
- Some health service areas may not develop exchange capabilities
- Immediate funding for health service areas does not exist
- Turf battles may arise
- State would have to operate some portions of the existing VHIE infrastructure as a public service

13.5 PROCESS FOR OPTION 6

13.5.1 The State develops a budget for the process

13.5.2 VITL is placed into a major reduced services mode of operations

13.5.3 VITL Management and BOD develop plan for shut down of VHIE operations

A. *Address corporate issues*

B. *Address contractual issues*

C. *Transfer or destruction of data*

D. *Transfer of OneCare data mart*

13.5.4 ADS, DVHA, and VITL jointly develop a plan for the transference of the public service elements to ADS

The plan would need to address the core system elements and contracts (listed below). It would also need to address maintenance of existing patient data.

13.5.5 ADS develops a plan for continuing operations of the public service elements (Optional)

13.5.6 DVHA and ADS develop a budget and funding mechanism for ADS public service elements (Optional)

13.5.7 DVHA considers funding mechanisms for alternative HIEs. (Optional)

If the state decides to fund these alternatives in whole or in part, DVHA develops a funding plan and process for applying for and receiving the funds. DVHA works with the Legislature to develop a funding plan.

13.5.8 VITL and ADS work with vendors to transfer contracts for public services (Optional)

Vendor relationships necessary to consider in the transfer of contracts from VITL to ADS are given in the Appendix.

13.5.9 VITL management and BOD develop a plan to neutralize financial risk to the state for contracts, services, building rent, and physical assets.

13.5.10 Review and approval of all component plans by the State and VITL's BOD

13.6 TIMEFRAME FOR OPTION 6

This contingency plan only addresses the shut-down of VITL operations and the potential transfer of certain items to ADS. This plan and timeline do not address the establishment of new HIE infrastructures.

CHA expects this option could be completed in no less than three months and no more than six months. This estimate is based on the moderate effort anticipated for this option. There are no

contracts to develop and the transfer of the public service-related items would be straightforward and carry little risk as VITL would be shutting down operations as opposed to maintaining them for another operator to assume.

13.7 Financial Considerations for Option 6

- Time Frame: 3 – 6 months
- Net (Cost) Savings of Option: $265,000 - ($1,380,000)
    - These are the estimated reduced service mode savings, less any one-time severance payments, contract/license termination fees, rent liability and incremental costs.
    - The $265,000 figure assumes no contract/license termination fees or rent liability while the ($1,380,000) figure assumes worst case with maximum contract/license termination fees and rent liability.

14 LEGAL REVIEW OF VITL ASSETS AND INTANGIBLES

14.1.1 Intellectual Property Review

This Section of the Contingency Plan will assess VITL's ownership interest in intellectual property and other assets used in its business operations including the operation of the VHIE and, to the extent that VITL licenses or leases any intellectual property or other assets, determine whether such assets are assignable to another entity, i.e., an entity that may in the future assume operation of the VHIE ("Future VHIE Operator"). Furthermore, recommendations are provided in regard to what intellectual property and other assets should be assigned by VITL to a Future VHIE Operator. The analysis provided herein is based exclusively upon the information and materials that have been provided to us and assumes the completeness and accuracy of such information and materials.

Research into the ownership of the assets and software licenses in question is complete for the information that was provided for review. The determination of the ownership of some assets and software licenses, and the ability of VITL to assign any rights it may have, can only be determined after an assessment of documentation and contractual agreements executed by VITL and third-party vendors that were not provided for review within the scope of this analysis. As such, the analysis as presented may warrant modification upon evaluation of the documentation that was not provided. Where applicable, a lack of documentation and information has been noted in the text and footnotes of this analysis.

14.1.2 Assessment of Ownership Interests in and Assignability of Intellectual Property and Other Assets

The following will discuss the ownership and/or assignment rights of VITL assets and intellectual property. The VITL assets and intellectual property can be categorized into three distinct groups:

1. **Tangible assets** consisting of various hardware, equipment, and furniture used by VITL in furtherance of its business operations ("VITL Tangible Assets")
2. **Software licenses** for software VITL uses in furtherance of its business operations, and **intellectual property**
3. **Data** VITL maintains consisting of the Protected Health Information (PHI) collected in conjunction with the operation of the VHIE ("VITL Data")

A detailed description of all VITL's assets, software licenses, and intellectual property is provided below. In summary, VITL has an ownership interest in its tangible assets. The majority of VITL's software is licensed from third party vendors and not owned by VITL. No software license is included on the VITL balance sheet.

Much of the software VITL uses can be procured on the open market by a Future VHIE Operator (it is mostly standard off-the-shelf software) and therefore, there is no need to license or assign it from VITL to a Future VHIE Operator unless the economic terms obtained by VITL are viewed as highly favorable and not obtainable in an open market license or the remaining term of the licensed asset presents a financial burden for the state to exit prematurely.

VITL may have an ownership interest in certain Intellectual Property (IP) based upon the circumstances inherent in the development of such IP. The documentation that CHA has been provided is not entirely clear with respect to the chain of title to this IP. Also, VITL is unclear

under which contract or grant IP ownership may have been created and, if created, what the correct chain of title would be for such IP. CHA believes that further investigation would not conclusively resolve the question. The team has concluded that if such ownership in IP were created, and if the IP is required for the operation of the VHIE, then this IP must be licensed by or assigned to a Future VHIE Operator.

With regard to VITL Data, there is nothing in the materials that CHA has been provided for review which would confer ownership in VITL with respect to the VITL Data. The ownership of VITL Data remains with the Health Care Organizations ("HCOs") that use the VHIE, with the individuals from whom the VITL Data was collected by such HCOs, or with the State if it contributed any VITL data. Accordingly, a Future VHIE Operator will need to enter into agreements with HCOs contributing data to the VHIE in order to access and utilize the VITL Data contributed to the VHIE by such HCOs.

Below is the detailed discussion of VITL assets.

14.2 VITL Tangible Assets

VITL has various tangible assets that it controls or utilizes. A list of such tangible assets is presented below:

a) Suite # 249 at the Chace Mill Building: VITL has no ownership right to Suite # 249 at the Chace Mill building.[2] By virtue of its lease agreement with Catamount Holding Co, VITL has a lease right to access and use the office space for business purposes. VITL may not assign or sublet its right to lease and access the suit to another part without the prior written consent of Catamount Holding Co.[3]

b) Office furniture furnishing Suite # 249 at the Chace Mill Building: VITL purchased various items of furniture such as desks, chairs, bookcases, and the like to furnish its office space at the Chace Mill building. The materials we have been provided indicate that VITL purchased the furniture as a capital expenditure (or in some cases, utilizing a grant). There is no lease or other contract to the contrary within the materials we have been provided indicating that these assets have been leased rather than purchased or indicating that any third party has a lien or other interest in these assets. In the absence of evidence to the contrary, with its ownership right, VITL has the ability to dispose of the furniture, such as by donation to charity or a sale to an interested party such as a Future VHIE Operator.

c) Laptop computers currently in use by VITL: VITL personnel currently use 22 laptops for business purposes. The materials we have been provided indicate that VITL purchased the laptop computers as a capital expenditure. There is no lease or other contract to the contrary within the materials we have been provided indicating that these assets have been leased rather than purchased or indicating that any third party has a lien or other interest in these assets. In the absence of evidence to the contrary, with its ownership right, VITL has the ability to dispose of the laptops, such as by donation to charity or a sale to an interested party such as a Future VHIE Operator.

[2] Lease Agreement between Catamount Holding Co and VITL, Section 1. Leased Space.
[3] Lease Agreement between Catamount Holding Co and VITL, Section GC10, Assignment and Subleasing.

d) Laptops computers decommissioned by VITL: VITL currently has on hand 69 laptops that were previously used for business purposes but have now been decommissioned due to age and antiquated capabilities. VITL has plans to destroy these 69 decommissioned laptop computers as opposed to other disposal means due to the sensitive nature of data stored on the hard drives of these laptop computers. The materials we have been provided indicate that VITL purchased these laptop computers as a capital expenditure. There is no lease or other contract to the contrary within the materials we have been provided indicating that these assets have been leased rather than purchased or indicating that any third party has a lien or other interest in these assets. In the absence of evidence to the contrary, with its ownership right, VITL has the ability to dispose of the laptop computers including destroying the computers; provided, however, that any intangible property contained on these laptops that is owned by a third party (e.g., software and data) will be subject to the licenses applicable thereto, and to the ownership interests of the owners thereof; and provided, further, that VITL will be required to comply in full with all applicable laws, rules, and regulations pertaining to the preservation, retention, and destruction of such intangible assets.

e) Servers and other communication items (i.e., switches, routers, VOIP equipment): VITL currently has on hand servers and other communication items used for business purposes. The materials we have been provided indicate that VITL purchased these servers and other communication items as capital expenditures. There is no lease or other contract to the contrary within the materials we have been provided indicating that these assets have been leased rather than purchased or indicating that any third party has a lien or other interest in these assets. In the absence of evidence to the contrary, with its ownership right, VITL has the ability to dispose of the equipment, such as by donation to charity or a sale to an interested party such as a Future VHIE Operator.

f) Equipment located at TechVault: VITL currently has 23 items of equipment located at TechVault, a local secure data center facility which hosts VITL's non-Medicity infrastructure. The materials we have been provided refer to invoice numbers, implying that VITL owns the equipment.[4] VITL is in the process of moving the data from leased hardware hosted by Rackspace to VITL assets either purchased through grant or contract funding and hosted by TechVault. There is no lease or other contract to the contrary within the materials we have been provided indicating that these assets have been leased rather than purchased or indicating that any third party has a lien or other interest in these assets. In the absence of evidence to the contrary, with its ownership right, VITL has the ability to dispose of the equipment, such as a donation to charity or a sale to an interested party such as a Future VHIE Operator. It is important to note that the materials provided state that VITL is in the process of purchasing additional memory and storage as a capital asset for these servers to keep up with the increased memory usage. Thus, additional assets may become material after the drafting of this plan

[4] No invoices were provided in the materials.

g) Equipment leased from Rackspace: VITL currently uses 10 items of equipment located at a Rackspace facility. The materials we have been provided indicate that this equipment is currently leased from Rackspace according to a lease agreement. Pursuant to a lease agreement, VITL generally would have no ownership rights in the 10 items of equipment. Instead, VITL would have a right to use and access the equipment. The relevant lease agreement for the equipment was not provided for review. As such, it is assumed that the lease agreement with Rackspace provides no ownership to VITL regarding the 10 items of equipment. Instead, it is assumed that VITL merely has a right to use and access the equipment.

14.3 Summary of VITL Tangible Assets

VITL has ownership of the furniture used to furnish its office space, the laptops currently used by its personnel, and the laptops that are no longer in use. By virtue of its ownership rights, VITL may dispose of such tangible assets including sale of these tangible assets to a Future VHIE Operator.[5]

VITL has no ownership rights in its office space, the equipment in the current data center provided by the third-party data center operator, or the equipment provided by Rackspace. VITL may assign/sublet its rights to the office space upon prior written permission from Catamount, or a Future VHIE Operator may negotiate a new lease for the office space. Further review of the lease agreements from the data center and Rackspace are needed to determine under what conditions, if any, VITL may assign its rights in the equipment located in the current data center or the Rackspace data center to another party. In any event, a Future VHIE Operator may negotiate a new lease agreement for any data center equipment required to operate the VHIE.

14.4 VITL Software Licenses, Work Products, and Intellectual Property

The software licenses, work products, and intellectual property considered in this review are as follows:

14.4.1 Software Licenses

The materials we have been provided indicate that VITL currently utilizes 31 software products in the operation of its business. The use of these software components is governed by several software licensing agreements, terms and conditions of use, and end-user license agreements. These documents set forth the rights of each party including the ownership of IP. According to the documents governing the use of each software product, VITL does not own any of these software

[5] The financial documentation provided by VITL (including VITL's federal Form 990 filings) indicates that certain equipment and leasehold improvements were depreciated and that such depreciation expense was being claimed by VITL. However, there was no depreciation schedule provided that detailed specifically which tangible assets were depreciated and which were not. Because claiming depreciation of capital assets indicates ownership of such capital assets, further research into financial documentation not provided for review is needed to confirm VITL's claimed ownership rights over the tangible assets indicated above. This could create an inconsistency between the analysis contained in this plan with respect to ownership of tangible assets, and the depreciation expense claimed on VITL's financial statements and Form 990 disclosures. As a result, confirmation is needed to resolve any inconsistencies between the ownership of assets based on the documentation and materials reviewed for this plan and ownership of assets inferred by VITL's depreciation practices.

applications.[6] Instead, VITL has a limited license to use and access each software application pursuant to certain conditions.[7] As indicated by the software documentation, VITL's use of the software applications does not grant VITL any ownership rights to any of the IP associated with such software. VITL's rights to the software are merely a right to use the software for the term of the applicable agreement, and the right to ownership of the software applications remains with the various software vendors with which VITL has contracted.

The assignability of each software license is also governed by the respective software licensing documentation. A more detailed breakdown of the assignability of each software license follows (capitalized terms used in this Section are as defined in the applicable documentation)[8]:

1. 7Zip - 7Zip is free software that includes open source code. The software license can be redistributed and/or modified. If redistributed, the licensee must retain the copyright notice, the list of license conditions, and the disclaimer.[9] The software is readily available for licensing directly by a Future VHIE Operator.
2. Adobe - Adobe is commercial off-the-shelf software. The software license can only be assigned with the prior written consent of Adobe.[10] However, the software is readily available for licensing directly by a Future VHIE Operator.
3. AlertLogic - No licensing documentation regarding the AlertLogic software was provided by VITL. However, AlertLogic is a cloud-based software as a service product that is readily available for licensing directly by a Future VHIE Operator.

[6] No licensing documentation regarding the AlertLogic Software, the CSVed Software, or the Security Audit Manager (Iatric) Software was provided for review.
[7] See 7Zip License for Use and Distribution; Adobe General Terms of Use Sections 2.1 & 2.2; Carbonite General Enterprise Terms of Service Section 5, 6 & 10(a); Cisco Supplemental End User License Agreement Section 1; Cisco End User License Agreement Section 2; CrushFTP Licensing Agreement Section 1; DocuSign Order Form and Master Services Agreement Sections 2.1 & 3.2; Terms of Service for LogMeIn and GoToMeeting Sections 1.1 & 1.4; Health Language Terms of Use Section 1; HL7Spy Software License Agreement Sections 1(a), 1(b), and 4; Microsoft Open License Agreement Sections 2(a), 2(b), and 12(d); Tenable Master Agreement Schedule A Section 2 & Schedule B Section 2; End User License Agreement for NetApp Inc. Software Sections 1 & 5; ManageEngine Password Manager Pro Software License Agreement Sections 2 & 7; Orion Health General Terms and Conditions Sections 1.1 & 1.4; End User License Agreement for Sage 50 Accounting Products Sections 2 & 14.1; SalesForce Master Subscription Agreement Section 7.1; ShoreTel End User License Agreement; Smartsheet User Agreement Sections 1.1, 1.2 & 7; End-User License Agreement for TechSmith Software – SnagIt for Windows and Mach Sections 1.1 & 3; SmartBear Hosted Services Terms of Use Sections 4 & 15; Splunk App End User License Agreement Section 1; Splunk Software License Agreement Sections 2.1. 2.2, 2.3 & 5; Tableau Software End User License Agreement Sections 3.1, 3.2 & 4; Tableau Subscription Agreement Sections 1.3 & 3.1; Trend Micro End User License Agreement Sections 2 & 3(A); WinMerge GNU General Public License, version 2; XML Copy Editor GNU General Public License Version 3 Section 2; Rackspace General Terms and Conditions Sections 23 & 24; and Medicity Master Client Agreement with VITL Sections 3.1.1, 3.4, 3.5 & 3.6.
[8] No licensing documentation regarding the AlertLogic Software, the CSVed Software, or the Security Audit Manager (Iatric) Software was found.
[9] 7Zip License for Use and Distribution. An analysis of the implications of the use of open source code by VITL is beyond the scope of this analysis. However, any Future VHIE Operator must perform a detailed analysis of the implications of the use of such open source code prior to receiving and using open source code in its operations.
[10] Adobe General Terms of Use, Section 16.5

4. Carbonite - Carbonite is commercial off-the-shelf software. The software license prohibits assignment of the license.[11] However, the software is readily available for licensing directly by a Future VHIE Operator.
5. Cisco Anyconnect - Cisco Anyconnect is commercial off-the-shelf software. The software license can only be assigned with the prior written consent of the other party and subject to applicable fees.[12] However, the software is readily available for licensing directly by a Future VHIE Operator or if more economical based on an analysis of the applicable fees, the software can be assigned to a Future VHIE Operator.
6. Crush SFTP - The software license may be transferred to another party provided that VITL does not retain a copy of the software for itself.[13]
7. CSVed - CSVed is a commercially available CSV file editor that allows for the management any CSV file. No licensing documentation regarding the CSVed software was provided by VITL. However, CSVed is readily available for licensing directly by a Future VHIE Operator.
8. DocuSign - The software license may only be assigned with the prior written consent of the other party; however, VITL may assign the software license without prior written consent to an affiliate entity as part of a reorganization or to a purchaser of all or substantially of its assets, provided that: (a) the purchaser is not insolvent or otherwise unable to pay its debts as they become due; and (b) any assignee is bound to the licensing documentation.[14] Notwithstanding this, the software is readily available for licensing directly by a Future VHIE Operator.
9. GoToMeeting and LogMeIn - The software license may only be assigned with the prior written consent of the other party; however, VITL may assign the software license without prior written consent to an affiliate or by operation of law as part of a corporate reorganization, consolidation, merger, or sale of all or substantially all of its assets.[15] Notwithstanding this, the software is readily available for licensing directly by a Future VHIE Operator.
10. Health Language - Specific licensing documentation for the customized Health Language software was not provided for review. However, general terms and conditions indicate that the software license is non-transferable.[16] A Future VHIE Operator will need to resolve issues pertaining to the continued use of the Health Language if such continued use is required before assuming operation of the VHIE including potentially entering into a new agreement with Health Language therefor.
11. HL7Spy - The software that is the subject of the software license may be transferred to another computer a maximum of 3 times.[17] However, the software is readily available for licensing directly by a Future VHIE Operator.
12. Microsoft - The software license may only be transferred (transfer limited to perpetual licenses) to: (i) an Affiliate, or (ii) a third party solely in connection with the transfer of hardware or employees to whom the licenses have been assigned as part of (A) a divestiture of an Affiliate or a division of an Affiliate, or (B) a merger involving Customer or an Affiliate.[18] The transferee must accept in writing, the applicable Product use rights, use restrictions, limitations of liability

[11] Carbonite General Enterprise Terms of Service, Section 22
[12] Cisco End User License Agreement, Section 12.
[13] CrushFTP Licensing Agreement, Sections 2 & 3.
[14] DocuSign Order Form and Master Services Agreement. Section 13.2.
[15] Terms of Service for LogMeIn and GoToMeeting, Section 9.10.
[16] Health Language Terms of Use, Section 1. No specific licensing documentation for the customized Health Language software was provided for review.
[17] HL7Spy Software License Agreement Section 1(c).
[18] Microsoft Open License Agreement, Section 5(a).

(including exclusions and warranty provisions), and the transfer restrictions described in this section. Any license transfer not made in compliance with this section will be void. Accordingly, if a Future VHIE Operator desires to continue to use the Microsoft software, it will need to comply in full with the software license terms or enter into a new license agreement directly with Microsoft.

13. Nessus - The software license may only be assigned with the prior written consent of the other party; however, VITL may assign the software license without prior written consent if done by operation of law in connection with a merger or a sale of all or substantially all of the stock/ownership units of the entity. However, the software is readily available for licensing directly by a Future VHIE Operator.

14. NetApp - The software license may not be transferred without the prior written approval of the other party.[19] However, the software is readily available for licensing directly by a Future VHIE Operator.

15. Password ManagerPro - There was no relevant assignment provision contained in the applicable software licensing agreement. However, the software is readily available for licensing directly by a Future VHIE Operator.

16. Rhapsody - The software license may not be transferred without the prior written consent of Rhapsody.[20] However, the software is readily available for licensing directly by a Future VHIE Operator.

17. Sage 50 - The software license may only be assigned with the prior written permission from the vendor; however, VITL may assign the software license without prior written permission to a party that purchases all or substantially all of the assets of the business.[21] Additionally, Sage 50 is cloud-based accounting software that is readily available for licensing directly by a Future VHIE Operator.

18. Salesforce - The software license may only be assigned with the prior written consent of the other party; however, VITL may assign the software license without prior written consent if done so by operation of law in connection with a merger, acquisition, corporate reorganization, or a sale of all or substantially all of its assets.[22] However, the software is readily available for licensing directly by a Future VHIE Operator.

19. Security Audit Manager (Iatric) - Security Audit Manager is patient privacy breach detection and response software that is commercially available. No licensing documentation regarding the software was provided by VITL.

20. ShoreTel - ShoreTel is a telecommunications services provider. The software license may only be assigned by operation of law in the case of an acquisition or a merger, with prior written consent.[23]

21. SmartSheet - The software license may only be assigned with the prior written consent of the other party; however, VITL may assign the software license without prior written consent if done so by operation of law in connection with a merger or similar transaction or the sale of all or

[19] End User License Agreement for NetApp, Inc. Software, Section 12.
[20] Orion Health General Terms and Conditions, Section 14.6.
[21] End User License Agreement for Sage 50 Accounting Products, Section 3.3(c).
[22] SalesForce Master Subscription Agreement, Section 14.1.
[23] ShoreTel End User License Agreement.

substantially all of its assets.[24] The software is readily available for licensing directly by a Future VHIE Operator.

22. SnagIt- The software license may only be assigned with the prior written consent of the other party.[25] SnagIt is a program that allows for capture of screenshots, video display, and audio output. This software and similar applications are readily available for licensing directly by a Future VHIE Operator.

23. SoapUI - The software license may only be assigned with the prior written consent of the other party; however, VITL may assign the software license without prior written consent if assigning to an affiliate or by operation of law in connection with a merger, acquisition, corporate reorganization, or sale of all or substantially all of its assets.[26] SoapUI is open source software for web service testing application. This software is readily available for licensing directly by a Future VHIE Operator.

24. Splunk - The software license may only be assigned with the prior written consent of the vendor.[27] The Splunk application searches, monitors, and analyzes machine-generated "big data." This software is readily available for licensing directly by a Future VHIE Operator.

25. Tableau - The software license may only be assigned with the prior written consent of the vendor; however, VITL may assign the software license without prior written consent if done so by operation of law in connection with a merger, consolidation, sale of all or substantially all of its assets, or any other similar transaction.[28] This software is readily available for licensing directly by a Future VHIE Operator.

26. Trend Micro - The software licensed cannot be assigned.[29] However, this software is readily available for licensing directly by a Future VHIE Operator.

27. WinMerge - WinMerge is free, open-source software for comparing data and merging text-like files. VITL has broad rights to copy, distribute, and modify the software provided that it conspicuously and appropriately publishes on each copy an appropriate copyright notice and disclaimer of warranty and that the software license is subject to other conditions.[30] This software is readily available for licensing directly by a Future VHIE Operator.

28. XML Copy Editor - VITL has broad rights to copy, distribute, and modify the software provided that it conspicuously and appropriately publishes on each copy an appropriate copyright notice and disclaimer of warranty and that the software license is subject to other conditions.[31] This software is readily available for licensing directly by a Future VHIE Operator.

29. Rackspace - The software license may only be assigned with the prior written consent of the other party.[32] it is not clear based, based on the documentation provided, whether this software application is necessary for the operation of the equipment that is currently leased from Rackspace.

31. Medicity - The software license may only be assigned with the prior written consent of the other party; however, VITL may assign the software license if done so in connection with the sale of its business and VITL may grant sublicenses to health care providers in the exchange network. Medicity provides services that integrate health care information across hospitals.

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[24] Smartsheet User Agreement, Section 17.
[25] End-User License Agreement for TechSmith Software – SnagIt for Windows and Mach, Sections 2.5 & 15.
[26] SmartBear Hosted Services Terms of Use Section 21.
[27] Splunk Software License Agreement, Section 23.3.
[28] Tableau Software End User License Agreement, Section 13.1
[29] Trend Micro End User License Agreement, Section 2.
[30] WinMerge GNU General Public License, version 2, Sections 1 and 2.
[31] XML Copy Editor GNU General Public License Version 3, Sections 4, 5 & 6.
[32] Rackspace General Terms and Conditions, Section 26.

As discussed in detailed above, based on the documentation provided, VITL does not have any ownership rights in any of the software applications it utilizes. Instead, VITL has a limited license to use and access the software applications and the ownership of such software applications remains with the software vendor. VITL's ability to assign its rights and obligations regarding the software applications are varied across the software licenses it maintains. Under some of the software licenses, VITL has the ability to assign the software license to another party. Under other software licenses, VITL must obtain prior written consent from the licensor to properly assign the license, or the transfer of the license must be by operation of law in connection with a merger or acquisition (or similar transaction). Further still, some licenses are non-transferable/non-assignable and any attempt to assign the software license will be prohibited. However, a majority of the 30 applications currently in use by VITL, or accessible by VITL on a "software as a service" basis are readily available for licensing or continued access and use by a Future VHIE Operator via a direct agreement with the applicable vendor if the applicable software is critical to the operation of the VHIE.

14.4.2 Materials Prepared in Conjunction with Various State of Vermont Service Contracts – Deliverables and Work Product

The State of Vermont ("Vermont") has engaged VITL on several occasions to perform certain services for Vermont. VITL entered into several service contracts with Vermont to effectuate the terms of these engagements. Contemplated in furtherance of the service contracts were various materials that were to be prepared and completed in conjunction with VITL's performance of its obligations. According to the terms of various service contracts VITL entered into with Vermont, all deliverables and work product (any materials prepared in conjunction with the service contracts) belonged exclusively to Vermont.[33] The ownership language used in these service contracts is generally not sufficient, in and of itself, to convey ownership to Vermont, but does provide an indication of the intention of the parties to vest ownership of the applicable deliverables and work product in Vermont. Further, there is no indication that VITL sought to retain any ownership rights in the deliverables and work product produced as a result of the service contracts. Moreover, in the event that exclusive ownership rights in any of the work product did not originally vest in Vermont by operation of law or otherwise, the service contracts do indicate that VITL is obligated to unconditionally and irrevocably assign, transfer, and convey any rights, title, and interest VITL may have in the applicable work product to Vermont. Additionally, VITL's ability to assign its rights under the various service contracts is subject to Vermont's prior written consent.[34]

14.4.3 VHIE and VHIE Supporting Infrastructure

Vermont appointed VITL as manager of the VHIE. Pursuant to 18 V.S.A. § 9352, and in connection with the various service contracts discussed above, Vermont granted VITL a revocable, limited, non-transferrable, non-exclusive, royalty-free license to manage, maintain, and operate the VHIE and the VHIE Supporting Infrastructure.[35] Pursuant to this license grant, it does not

[33] See Contract 33799 Attachment D Section 1.3 & Attachment F Section 9; Contract 33798 Attachment D Section 1.3 & Attachment F Section 9; Contract 31204 Attachment D Section 1.3 & Attachment F Section 9; Contract 28155 Attachment 5 Section 10; and Contract 32349 Attachment D Section 1.3 & Attachment F Section 10.
[34] See Contract 33799 Attachment C Section 19; Contract 33798 Attachment C Section 19; Contract 31204 Attachment C Section 19; Contract 28155 Attach C Section 15; and Contract 32349 Attachment C Section 19.
[35] See Contract 33799 Attachment G Section 1(A) and Contract 33798 Attachment G Section 1(A).

appear that VITL obtained any ownership rights in the VHIE or the VHIE Supporting Infrastructure. Additionally, as mentioned above, VITL's ability to assign its license grant is subject to Vermont's prior written consent.[36]

14.4.4 Health Data Management ("HDM") Infrastructure

VITL was appointed by Vermont as the manager of the VHIE. Pursuant to 18 V.S.A. § 9352, and in connection with the various service contracts discussed above, Vermont granted VITL a revocable, limited, non-transferrable, non-exclusive, royalty-free license to manage, maintain, and operate the HDM infrastructure.[37] Pursuant to this license grant, is does not appear that VITL obtained any ownership rights in the HDM infrastructure. Additionally, VITL's ability to assign its license grant is subject to Vermont's prior written consent.[38]

14.4.5 Exclusive VITL Intellectual Property

In performance of VITL's obligations under the various service contracts discussed above, such service contracts contemplated VITL utilizing various intellectual property created by VITL prior to execution of such service contracts in the performance of its obligations under the service contracts. According to the terms of each service contract, VITL retained all right, title and interest in and to any IP created by VITL prior to entering into such service contract.[39] Accordingly, to the extent necessary for the operations of a Future VHIE Operator, such IP owned by VITL would be required either to be transferred or assigned to, or licensed by, the Future VHIE Operator. VITL has stated that no IP existed prior to entering into service contracts with Vermont.

14.4.6 IP Related to Services Agreements between VITL and HCOs

As the appointed manager administrator of the VHIE, VITL entered into services agreements with various HCOs. VITL would provide the HCOs access to the VHIE for the exchange of PHI and other data. According to the terms of the template VHIE Services Agreement[40] provided to us for review, the equipment and communication lines supplied by a party remains the property of the respective party that supplied such equipment and communication lines.[41] VITL or its Data Subcontractor (e.g., Medicity) would retain all IP rights associated with any software contributed by VITL or its Data Subcontractor.[42] Additionally, VITL or its Data Subcontractor would own all IP developed in connection with the VHIE depending on which entity developed the IP. As such, any IP contributed by VITL, or developed by VITL, in connection with the VHIE Services Agreement, would be owned by VITL. Any such IP contributed by VITL's Data Subcontractor, or developed by such Data Subcontractor, in connection with the VHIE Services Agreement,

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[36] See Contract 33799 Attachment C Section 19 and Contract 33798 Attachment C Section 19.
[37] See Contract 33799 Attachment G Section 1(A) and Contract 33798 Attachment G Section 1(A).
[38] See Contract 33799 Attachment C Section 19 and Contract 33798 Attachment C Section 19.
[39] See Contract 33799 Attachment D Section 1.1; Contract 33798 Attachment D Section 1.1; Contract 31204 Attachment D Section 1.1; and Contract 32349 Attachment D Section 1.1.
[40] Please note that we only have access to 167 executed VHIE Services Agreements between VITL and various HCOs, as well as to a template version of the VHIE Services Agreement entered into with HCOs. The ownership and assignability provisions across those specific, negotiated VHIE Services Agreements between VITL and the various HCOs are substantively the same as the template agreement and the analysis above reflects that. For purposes of this analysis, we assume that the terms of any VHIE Services Agreements entered into between VITL and any other HCOs that were not included in the batch of agreements for review are the same as the template version of the VHIE Services agreement provided to us for review.
[41] VHIE Services Agreement – Execution Version Section 5(a).
[42] VHIE Services Agreement – Execution Version Section 5(b).

would be owned by the Data Subcontractor. Under the VHIE Services Agreement, the applicable HCO is granted a non-exclusive, non-transferable, non-sublicensable license to use the IP solely for participation in the VHIE.

Pursuant to the terms of the VHIE Services Agreement, neither party may assign any of their rights under the agreement to any party without prior written approval from the other party to the agreement.

14.4.7 Data

VITL, as the entity appointed by Vermont to manage the statewide health information exchange network for Vermont, has access to various PHI housed within the VHIE and related infrastructure. VITL has access to such PHI by virtue of executed Vermont service contracts (VHIE Services Agreements) between VITL and Vermont, and various VHIE Services Agreements with HCOs. Under the VHIE Services Agreements between Vermont and VITL, any PHI provided by Vermont to VITL remains the property of Vermont.[43] The VHIE Services Agreements between VITL and various HCOs also provide VITL access to PHI provided by the HCOs to VITL. According to the terms of these VHIE Services Agreements, neither VITL nor any of its Data Subcontractors will acquire any rights to any of the HCOs' confidential information provided as part of the VHIE Services Agreement.[44]

Therefore, by virtue of being the manager and administrator of the VHIE, VITL has access to PHI contributed by Vermont and by HCOs, but there is no indication in the materials provided to us for review that ownership rights in such PHI was conveyed to VITL. As between VITL and either Vermont or the applicable HCOs, by virtue of executed VHIE Services Agreements, ownership of the PHI contributed to the VHIE by Vermont and the applicable HCOs, remains with Vermont and the applicable HCOs.

However, a significant issue exists with respect to whether the data subjects (i.e., the patients whose PHI was contributed to the VHIE by either Vermont or the applicable HCOs) retain ownership rights in and to their PHI.

14.5 Legal Review Conclusion

VITL has ownership interests in a number of VITL Tangible Assets by virtue of its purchase of such assets. The majority of these VITL Tangible Assets are furniture and computer equipment. VITL is free to sell these Tangible Assets to any third party, including a Future VHIE Operator. While it may be advantageous for a Future VHIE Operator to purchase these VITL Tangible Assets, it is not critical to the business to do so. Additionally, VITL owns a lease to its office space. The lease is assignable or sub-leaseable upon written consent of the landlord.

VITL uses many software products that it does not own, but rather licenses pursuant to agreements with third party vendors. The VITL software licenses can be divided into two categories: (i) off-the-shelf software products; and (ii) customized software and services. Of the 30 identified VITL software licenses, 28 are off-the-shelf software. With regard to assignment or transfer of rights of

[43] See contract 33799 Attachment E Section 18.5; Contract 33798 Attachment E Section 18.5; Contract 31204 Attachment E Section 18.5; Contract 28155 Attachment E Section 18.5; and Contract 32349 Attachment E Section 18.5.

[44] VHIE Services Agreement – Execution Version Section 5(b).

the off-the-self software, while a few are assignable or transferable to a third party such as a Future VHIE Operator, many of the licenses are either non-assignable or assignable only upon the written permission of the vendor. However, because these are off-the-shelf software, the software products can be procured on the open market by a Future VHIE Operator, and therefore, barring a financial advantage to the transfer of rights, there is no direct business need to assign the off-the-shelf software from VITL to a Future VHIE Operator. The remaining two customized software products/services are: (a) a customized software product named Health Language; and (b) software products that support a hosting service provided by Medicity. Health Language does not allow for the assignment or transfer of the licensed rights and Medicity allows transfer only upon written consent. Any Future VHIE Operator will need to negotiate a license for Health Language and receive written consent for the transfer of Medicity software or negotiate a license with Medicity. VITL may have an ownership interest in certain Intellectual Property (IP) based upon the circumstances inherent in the development of such IP. The documentation that CHA has been provided is not entirely clear with respect to the chain of title to this IP. Also, VITL is unclear under which contract or grant IP ownership may have been created and, if created, what the correct chain of title would be for such IP. CHA believes that further investigation would not conclusively resolve the question. The team has concluded that if such ownership in IP were created, and if the IP is required for the operation of the VHIE, then this IP must be licensed by or assigned to a Future VHIE Operator.

With regard to VITL Data, there is nothing in the materials that CHA has been provided for review which would confer ownership in VITL with respect to the VITL Data. The ownership of VITL Data remains with the Health Care Organizations ("HCOs") that use the VHIE, with the individuals from whom the VITL Data was collected by such HCOs, or with the State if it contributed any VITL data. Accordingly, a Future VHIE Operator will need to enter into agreements with HCOs contributing data to the VHIE in order to access and utilize the VITL Data contributed to the VHIE by such HCOs.

The following are a summary of recommendations for any new VHIE operator for effectively continuing the operation of the business:

1. A Future VHIE Operator will need to inspect and determine which, if any, VITL Tangible Assets owned by VITL it wishes to procure to continue operation of the business. Such VITL Tangible Assets can be obtained by a Future VHIE Operator through an asset sale.
2. With regard to office space, a Future VHIE Operator will need to determine if the business operations will continue at VITL's current offices. If so, the Future VHIE Operator will need to seek written permission of the landlord for the rights to be assigned or sublet to the Future VHIE Operator.[45]
3. A Future VHIE Operator will need to determine which VITL software licenses it wishes to utilize for continued operations.
    a. For each of the 28 off-the-self software products that will continue to be used, the Future VHIE Operator needs to determine if it is more economical to seek an assignment of the license or to procure the rights on the open market.
    b. For Rackspace, the Future VHIE Operator will need to determine if it wishes to utilize the services offered by Rackspace and the software that accompanies those services. If so,

[45] VHIE Services Agreement – Execution Version Section 5(b).

the Future VHIE Operator will need to determine if it is more economical to seek an assignment of the license or to procure the rights on the open market.

c. For Health Language, the Future VHIE Operator will need to negotiate a new license for use of the software product.

d. For Medicity, the Future VHIE Operator will need to negotiate a new agreement to provide hosting services and license the required customized software.

e. VITL will need to assert whether it in fact owns any VITL Intangibles, and If so, the Future VHIE Operator will need to negotiate the assignment or licensing of such VITL.

4. A Future VHIE Operator will need to acquire rights to access the VITL Data. The Future VHIE Operator would need to enter into its own agreements with all relevant HCOs and Vermont in order to obtain the grant of that right.

15 Essentials for Data Sharing & Information Exchange

15.1 Essential Ingredients

The purpose of this contingency plan is to present options for sharing clinical data in Vermont in ways that will meet the needs of Vermont's stakeholders. The essential elements of effective clinical data sharing discussed below incorporate best practices emerging nationally and Vermont stakeholder input.

A clear priority for Vermont stakeholders is establishing routine, automated integration of patient data from an HIE network into their own information systems. The clinical data integrated into stakeholder systems needs to be of sufficient completeness and quality to support care management as well as measurement. To meet these needs, any option, including continuing operations of the current VHIE, must address a set of core components that are essential for sharing reliable clinical data across stakeholders, organizations, and systems. The stakeholder input and experience in Vermont, gathered to assist with the preparation of this contingency plan, reinforced the necessity of addressing these core components in order to meet current and future needs for clinical data exchange.

A clear priority for Vermont stakeholders is establishing routine, automated integration of patient data from an HIE network into their own information systems.

To meet stakeholder needs, any option, including continuing operations of the current VHIE, must address a set of core components that are essential for sharing reliable clinical data across stakeholders, organizations, and programs.

These core components are essential for sharing and using any form of health information including clinical, claims, and the array of relevant data sources that are held by the state as well as community providers offering social, economic, and behavioral services. This is particularly important in the context of Vermont where the state is currently leading a strategic planning process to address Health Information Exchange needs overall, with the sharing of clinical data as one component of overall HIE.

This section of the plan will delineate which of the core components need to be addressed directly by the entity responsible for clinical HIE in order to meet stakeholder needs. We will also highlight where core components need to align closely with the state's overarching strategic planning process, and those which are likely to be addressed by stakeholders other than the entity responsible for clinical HIE.

The core components are adapted from guidance made available by the Office of the National Coordinator for Health Information Technology State Innovation Model Resource Center and are presented in a framework that can be used to help with planning, implementing, and scaling HIE operations for sharing health data. As noted above, this contingency plan will focus on the core components as they apply to the exchange and use of clinical data in the Vermont context. The core components of successful HIE can be considered in three broad categories.

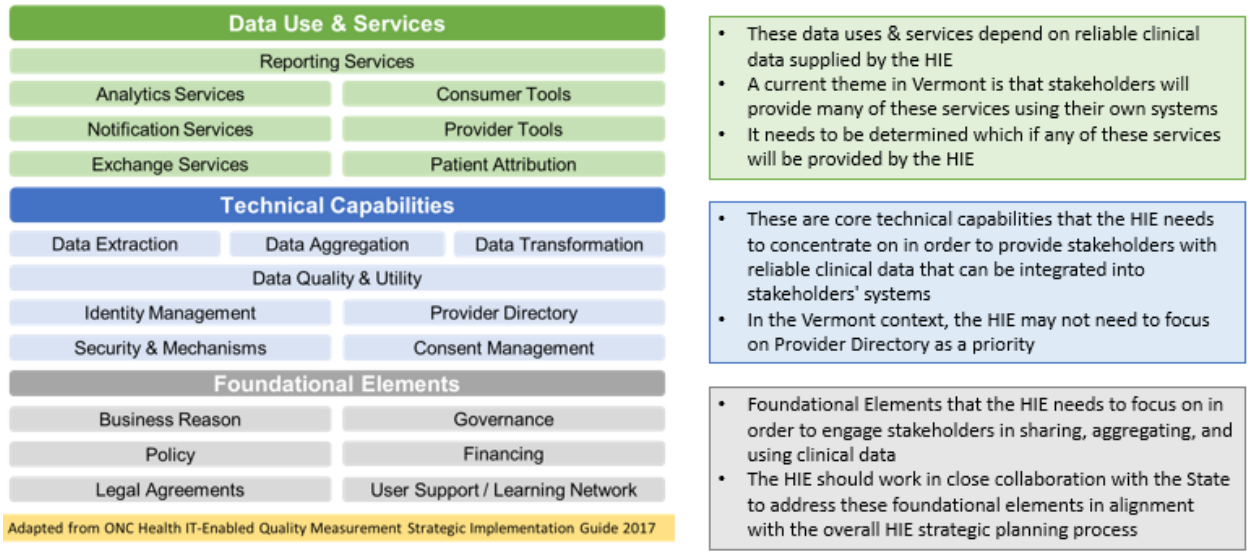
First, there are ***Foundational Elements*** that form the basis for stakeholders to work together and organize data sharing and HIE operations.

The core components of successful HIE can be considered in three broad categories: Foundational Elements, Core Technical Capabilities, and Data Uses & Services.

Next are generally required ***Core Technical Capabilities*** that are needed to aggregate and share reliable clinical data, and to prepare data that can be automatically integrated into stakeholder systems for care management and measurement.

The third category includes ***Data Uses & Services*** that rely on adequate clinical data being available. In Vermont, it still needs to be determined who will provide these services, and which may be provided by the clinical HIE operator. A current theme expressed by stakeholders in Vermont is for the clinical HIE to concentrate on providing reliable clinical data to stakeholders whose systems will use the data to support these services. As such, this contingency plan will highlight the need for the clinical HIE operator to focus on Foundational Elements and Core Technical Capabilities for the purposes of making reliable clinical data available to stakeholders for use in their own systems (**Error! Reference source not found.**).

Figure 1: Core components for data sharing and data use



15.2 Foundational Elements

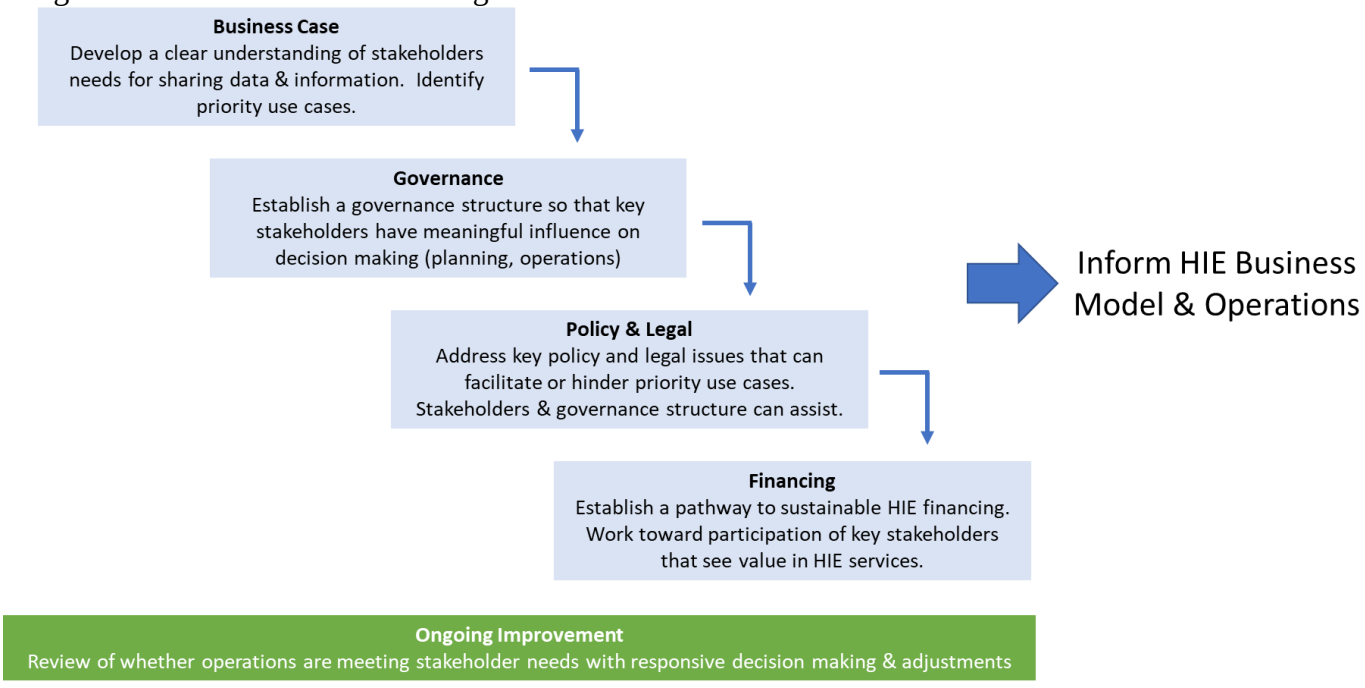
Foundational elements are essential underpinnings for stakeholders to develop the working relationships and trust that is necessary for data and information exchange. Experience with HIE operators across the country suggests that these elements are often not adequately addressed, resulting in data sharing and HIE operations that don't meet the needs of stakeholders, are underused, and ultimately lose support. For Vermont moving forward, it is essential to thoroughly

address these elements regardless of which contingency plan option is selected (and if the contingency plan is not activated) with particular attention to:

a) identifying the compelling business reasons (use cases) for stakeholders to exchange data and information
b) establishing a governance & leadership structure that provides stakeholders who will share and use data with meaningful influence over decision-making and operations
c) addressing key policy and legal issues that may unnecessarily hinder effective data sharing and HIE in Vermont, such as consent policy
d) establishing an adequate financing structure to support sustainable data sharing and HIE operations

If foundational elements are adequately addressed, then an HIE is more likely to develop the core technical capabilities that will provide stakeholders with the clinical data they need for their priority use cases. Although there are many interdependencies between these foundational elements, there is some sequencing to consider when planning. For example, if stakeholders have a compelling business reason to exchange clinical data, they are more likely to participate in a meaningful leadership and decision-making structure (governance) that balances their interests with the interests of other stakeholders. If stakeholders' business needs are met, and their priorities are considered through a meaningful governance process, they are more likely to participate in financing HIE services. Addressing foundational elements should be viewed as an ongoing process where continued stakeholder input into each of these elements informs a responsive and evolving HIE business model.

Figure 2: Framework for addressing foundational elements



As Vermont plans HIE operations, particular attention should be paid to establishing an adequate

HIE governance structure, which is both challenging and essential for effective data sharing and information exchange. The VHIE operator needs to make sure that any governance process they have in place to address clinical data exchange is integrated closely with the overall HIE governance structure that emerges from the state's strategic planning process. This will depend on close collaboration between VHIE and State leadership, and ideally the ultimate governance structure will be informed by the work of the multi-stakeholder Steering Committee that is assisting with the state's strategic planning process.

Vermont's HIE operator must ensure that its HIE governance process includes:

a) active participation of key stakeholders who have a vested interest in sharing and using clinical data to support their operations
b) establishing a governance process where key stakeholders have meaningful influence on decision-making & setting priorities
c) decision-making and priority setting are done through an open and transparent process that builds and sustains trust and addresses stakeholder concerns and business interests
d) stakeholder groups have the ability to work closely with the HIE operator's leadership to maintain alignment on vision, mission, priorities, and measures of success
e) stakeholders are engaged in a plan that leads to their participation in financial sustainability of HIE operations

Several examples of effective HIE governance are available nationally, these should be reviewed carefully as Vermont's planning moves forward.

15.3 Core Technical Capabilities

Stakeholder input and experience suggests that the HIE operator in Vermont needs to focus on the core technical capabilities that will allow them to routinely provide stakeholders with reliable clinical data that they can use for priorities such as care management and measurement. With the delivery of reliable clinical data, key stakeholders such as payers and providers are more likely to help finance ongoing HIE operations and participate in long-term sustainability. Of these core technical capabilities, it is worth noting that the HIE operator in Vermont may not need to prioritize a provider directory since most stakeholders have up-to-date provider information that they use to support their operations including payment models. Instead, stakeholders have prioritized access to more complete longitudinal clinical data, linked at a patient level, for use within their own systems. To meet these needs, the HIE operator should prioritize the other core technical capabilities including: Data Extraction; Data Transformation & Standardization; Data Aggregation; Data Quality; Patient Identity Management; Consent Management; and Security & Privacy. With these core technical capabilities in place, Vermont's HIE operator will be able to serve the following functions:

a) **receive clinical data** feeds, in their native format from a wide array of EHRs and source systems
b) **transform clinical data** from the native state to a more standardized format
c) **provide more complete longitudinal patient data,** using identity management such as a Master Person Index and probabilistic matching to link data from varied sources
d) **quantify the completeness and utility of data** from each source system, and use the information to guide data quality initiatives with stakeholders and source systems

e) **control the re-release and re-use** of data based on consent policy and consent management
f) provide these functions in a **safe and secure** manner

With these technical capabilities and functions in place, Vermont's HIE would support the most common use cases including offering providers the information they need for care delivery and providing providers, payers, and the state with reliable data extracts for analytics and reporting.

15.4 Data Uses & Services

When foundational elements and core technical capabilities are addressed, the HIE operator will be able to provide stakeholders with the clinical data they need to incorporate in their systems and support common uses and services including:

a) Exchange Services
b) Attribution
c) Notification Services
d) Provider Tools
e) Consumer Tools
f) Analytic Services
g) Reporting Services

As noted above, a current theme in Vermont's strategic planning process is stakeholders indicating that they will provide these data uses and services with their own systems, and the focus of the VHIE operator needs to be on the core technical capabilities that will supply them with the clinical data they need. However, planning is still underway, and it is uncertain whether the VHIE operator may provide some of these services. For example, while some organizations may want to incorporate the clinical data into their own systems for care management, there may be some organizations that are unable to achieve this level of integration and they may need the HIE to provide a way to view patient information that they don't have in their systems. Given Vermont's size, the long-standing interest in efficiencies, and the evolving value-based accountable delivery system, it is important that stakeholders work together through a well-organized governance process to plan where various data-dependent services will live. While an HIE operator is expected to be a common source for standardized clinical data, the HIE operator may or may not host the services and tools that use that data. Nationally, the role of the HIE operator varies with respect to hosting these types of services, and it will be important for this role to be clearly established in Vermont. As planning proceeds, it will be important to frame out options such as:

a) the HIE operator may provide access to more a more complete patient health record through an HIE portal and/or the HIE may provide standardized data to providers who upload the data to establish more complete health records that can be viewed in their own systems
b) the HIE operator may offer event notification services directly and/or the HIE entity may provide data to a different entity that uses the data to provide notification services
c) the HIE may offer a consumer portal and/or the HIE provides data to provider groups that offer their own consumer portal

d) the HIE applies algorithms to attribute patients to providers for accountability and measurement and/or the HIE provides data to payers and providers who do their own attribution for accountability and measurement
e) the HIE operator offers care management and decision support information in an HIE-hosted platform and/or the HIE entity provides data to payers and providers that use the HIE-supplied data in their own care management and decision support systems
f) the HIE operator offers analytic and reporting services and/or the HIE provides data to users who conduct their own analytic and reporting services

One theme that has consistently emerged from stakeholder input in Vermont is the desire for Vermont's HIE operator to concentrate on core technical capabilities and to prioritize the ability to provide more complete standardized clinical data that stakeholders can apply in their own systems.

The future capabilities and architecture of Vermont's HIE will best be determined through a governance process that routinely engages key stakeholders in planning and evaluation. One theme that has consistently emerged from stakeholder input in Vermont is the desire for Vermont's HIE operator to concentrate on core technical capabilities, and to prioritize the ability to provide more complete standardized clinical data that stakeholders can apply in their own systems.

15.5 Stakeholder Priorities for HIE in Vermont

Vermont is currently undertaking a multi-faceted process to plan the future for HIE in the state including formation of an HIE Steering Committee to assist with development of an HIE/HIT Strategic Plan, and the development of this HIE Contingency Plan. Each of these planning initiatives has used stakeholder input to identify the top priorities and use cases for key stakeholders. For purposes of the contingency plan, CHA sought structured stakeholder input on specific uses and HIE capabilities needed. The focus was defining future needs vs. evaluating the current state. The stakeholder feedback included in this contingency plan has been collected via a structured online survey distributed to a broad stakeholder group, followed by interviews to expand on survey results with more in-depth qualitative assessment.

CHA also reviewed earlier stakeholder needs assessment work conducted by HTS (as presented in their report), the HIE/HIT Steering Committee, and the Blueprint for Health. Earlier in 2018 the HIE/HIT Steering Committee interviewed stakeholders and developed 44 use cases and user stories to communicate the priority data sharing and information exchange needs, from the user perspective. Additional user experience and user needs information is available from the Vermont Blueprint for Health, which has developed use cases for the Vermont Clinical Registry and has also conducted research to understand how Blueprint field staff and Blueprint-participating practices use data profiles that include information from the VHIE, and what sort of information they most need to guide quality improvement efforts in their communities and practices.

15.6 Process of gathering stakeholder input for the contingency plan

CHA developed a process for collecting input from a broad group of stakeholders, to inform options development and recommendations, ensuring that the recommended options will meet the future needs of Vermont's citizens. Whether or not the Contingency Plan is activated, the findings will also be shared with the HIE Steering Committee to inform planning for the future of HIE in Vermont. The primary method of gathering input was a survey, distributed to a broad stakeholder group. Seventy-eight respondents completed the survey. The following is a summary of the findings. A more detailed explanation of stakeholder recruitment, survey development and survey administration, and the full survey results can be found in the Appendix.

15.7 Survey Findings

The results of the stakeholder survey provide insights that can inform planning for the exchange of clinical data in Vermont for any of the options in the contingency plan as well as continuing with the current VHIE operator.

A strong theme that emerged was that survey respondents see value in having an HIE provide access to clinical data that is not in their own systems, and that they would prefer new and improved methods of accessing clinical data.

More than 70% of respondents said they would like to be connected to a network that provides routine integration of clinical data into their own systems. Only 52% of these same stakeholders, from across organizations and sectors, indicated that there was a compelling reason (e.g. business case) for their organization to share their data with other organizations through an HIE. This suggests a 'value case gap' in Vermont with more stakeholders perceiving value in having access to clinical data than perceive value in sharing their clinical data. As planning for HIE proceeds, it may be important to gain a better understanding of what stakeholders would consider compelling reasons to share their clinical data through an HIE. Full engagement and participation in an HIE depends on users being motivated to both use and share data.

Other themes emerging from the survey result include:

- Currently, stakeholders are relying on traditional methods of communication – fax and phone – for exchanging patient information with other health care and community providers, and they would prefer to use these methods less
- Stakeholders expressed a preference for direct exchange of information with hospitals and ambulatory care providers. As part of HIE planning, it could be helpful to get a deeper understanding of what this means to stakeholders and how the VHIE can best support what is viewed as direct exchange
- As summarized in the Table 9 below, stakeholders recognize a multitude of benefits to having access to data and information not currently in own information systems:

Table 9: Benefits of access to data and health information not available in own systems

Q5. What do you consider the most important benefits of having access to data & health information that is not available in your own information systems? *Select all that apply.*

Targeted information such as medications, lab results, imaging reports & procedure results	72%
Decision support such as risk stratification, gaps in care, event notification	68%
Assemble more complete individual patient records	66%
Shared care plan, navigation, & coordination with other providers	66%
Guide longitudinal care management (complex long-term needs)	59%
More complete measurement (population health, healthcare processes, quality, utilization, expenditures)	56%
Planning & monitoring ongoing quality improvement initiatives	54%
Performance measurement for value-based payment models	52%
Guide episodic care management (unexpected events)	49%
Other, please describe	13%
Access to external data & health information is not important for our organization	10%
Not applicable	3%

- To meet these needs, stakeholders have a strong preference for the HIE to provide routine integration of data into their own information systems, although there is a willingness among a smaller portion of respondents (36%) for other approaches such as using a portal to gain access to patient information and data.
- Stakeholder input reinforces the need for HIE planning to focus on the Foundational Elements and Core Technical Capabilities for data sharing.
    - *Business Case:* while a majority of respondents (52%) indicate there is a business case for their own organization to share its data, this is lower than the proportion of respondents indicating a value case for having access to data that is not available in their own systems. As part of HIE planning, it could be helpful to gain a better understanding of what is needed to strengthen the business case for stakeholders to share their data. This may influence engagement and connectivity with a number of stakeholders.
    - *Governance:* Most survey respondents (70%) expressed uncertainty about the existence and effectiveness of a governance structure for HIE in Vermont. As part of HIE planning, and the state's overall strategic planning, there should be attention to building awareness and confidence in a multi-stakeholder governance process. This may also increase some stakeholders' engagement and the willingness to connect and share data.
    - *Financing:* stakeholders expressed broad agreement (80%) that the current financing structure is inadequate, while many respondents indicated that they'd like to see more than one type of stakeholder contributing directly to funding HIE, including the state, payers, and providers. Multi-stakeholder participation in HIE financing will likely require More confidence in the governance process and a system that more fully addresses stakeholders' priority needs.
    - *Core Technical Capabilities:* survey respondents expressed interest in accessing clinical data not available in their own systems, for the uses enumerated in the answers to Question 5 (Table 1 above) so that they would have more complete information for the uses summarized in **Error! Reference source not found.** above. The core technical capabilities discussed in Section **Error! Reference source not found.** are essential for the HIE to routinely provide stakeholders with access to the more complete clinical data they are asking for. This is the case

whether the data is integrated into stakeholders' own systems or made available to them through another mechanism such as a portal. HIE planning should focus on establishing robust core technical capabilities that will support delivery of reliable clinical data to stakeholders.

15.8 Current State vs. Future Needs for Vermont's HIE

Based on broad stakeholder input, a priority is for the HIE operator to provide users with access to reliable clinical data that they can incorporate in their systems and use to support their operations. Priority use cases for HIE-supplied clinical data include:

a) ability to assemble more complete individual patient records in their systems
b) have access to more complete targeted information such as medications, lab results, imaging reports & procedure results
c) assist with decision support such as risk stratification, gaps in care, and event notification;
d) guide episodic care management for unexpected events
e) guide longitudinal care management for people with complex long-term needs
f) maintain shared care plans, and assist with navigation & coordination with other providers
g) support more complete measurement including population health, healthcare processes, quality, utilization, and expenditures
h) support performance measurement for value-based payment models
i) for planning & monitoring ongoing quality improvement initiatives

To meet these needs, it is important for Vermont's HIE operator to concentrate on the core Technical Capabilities that will enable them to provide the scope and quality of clinical data that is required. Given this input, it seems apparent that long term sustainability for Vermont's HIE is likely to depend on key stakeholders, such as payers and providers, being willing to help finance HIE operations. To support planning, it is important to examine the current status of core technical capabilities in Vermont's HIE as compared to what is needed.

To support planning, it is important to examine the current status of core technical capabilities in Vermont's HIE as compared to what is needed.

Table 10: Core technical capabilities required to support stakeholder needs

	Core Technical Capabilities	Current State	What Is Needed	VITL Progress 2018
Security	Ability to manage data and provide core Technical Services in a safe and secure manner.	HIPAA/PHI/NIST Security in place and audited. In a 2017 review Cynergis Tek determined VITL to be compliant with 78% of the top level NIST-800 security controls.	Continue to partner with the Agency of Digital Services to monitor and address security threats as they arise in the area of cybersecurity.	Monthly security review of the Plan of Action and Milestones (POAM) established with the Agency of Digital Services No high-risk items in the plan are outstanding.
Identity Management	Master persons index (MPI) tuned to achieve acceptable probabilistic matching based on the content available in clinical feeds from EHRs, and potentially additional content received from other sources (e.g. administrative files from payers and providers). Establishes the basis for linking records and a more complete and reliable longitudinal record derived from all available sources.	Currently Medicity provides MPI services for the VHIE. This MPI provides a confidence level of 95% or higher for use in individual patient matching for point of care within VITL Access. The MPI is also used to manage and route patient data. The Medicity MPI is although suitable for point of care patient matching to ensure records are not inappropriately merged is not suitable for population level data aggregation which is essential to meeting stakeholder need. The current MPI configuration results in a large number of duplicates and unmatched records. Currently, there are no services in place to remediate known matching issues and reduce duplicate patient records therefore yielding this data unreliable for longitudinal record creation for population health management,	The Medicity MPI must continue to be enhanced to provide a higher patient match rate and VITL must implement services to manage the matching resolution reducing the duplicates prevalent throughout the system. An ***enterprise*** MPI should be added as part of core technical capabilities and tuned for the highest level of probabilistic matching allowing linkage of all data for aggregation, point of care, analytics, etc.	VITL has updated the patient matching algorithms based on known source data issues. VITL has implemented baseline connectivity criteria to identify potential data source issues that can degrade patient matching. **In progress**: Develop and implement resources to remediate known matching issues and reduce duplicate patient records by 40% by 12/31/18. **In progress:** Evaluate the potential for a shared, enterprise MPI that supports patient matching between disparate systems engaged in HIE, such as the VHIE, VCR, and VDH.

	Core Technical Capabilities	Current State	What Is Needed	VITL Progress 2018
		measurement, and reporting.		
Consent Management	Ability to efficiently and routinely manage re-disclosure of patient data based on consent status.	Automated and manual consent management is available for VITL Access and ENS services. Approximately 35% of the Vermont population have consented to have their data shared in VITL Access. Consent management is not available for sensitive or restricted data types (i.e.: 42 CFR). Currently, there is not a technical solution that addresses current policies and practices in Vermont.	Vermont must develop an HIE Plan that addresses the data governance and policy considerations associated with sharing sensitive data. Vermont is an opt In State which requires patients to choose to share their data and for organizations to manage that consent process. Strong consideration to change to an Opt-Out program as with 48 other States in the US would reduce the burden of consent management and result in significant data availability to providers. The VHIE must develop and manage consent for sensitive and restricted data and provide a secure environment for these data so that it is not co-mingled with other data. Consent for those patients covered under 42CFR Part 2 must address redisclosure management and notification as well as patient revocation.	VITL has increased patient consent of Vermonters with data in the VHIE from 19% to achieve the goal of 35% **In progress**: VITL continues working with two hospitals to develop and implement mechanisms to increase the number of Vermonters who consent to have their data viewable in the VHIE.
Data Extraction	Statewide connectivity with routine feeds of clinical data from sources that are	14 VT hospitals and two non-VT hospitals contribute data to the VHIE. 14 hospitals have ADT,	The VHIE must complete and maintain data collection from current sources using	The VHIE currently has over 1,000 connections to provider locations many of

	Core Technical Capabilities	Current State	What Is Needed	VITL Progress 2018
	sufficient to meet the priority needs and use cases for key stakeholders such as: data feeds from all providers participating in the All-Payer Model, including those providing mental health & substance use services, and data feeds from all providers (medical and non-medical) that are participating in other key programs for the state including those addressing social determinants of health.	Immunization (VXU) and Lab/Pathology interfaces; 13 have Radiology interfaces; 12 Transcription interfaces; and 8 have Continuity of Care Documents (CCDs.) Primary Care Providers have 70 ADT, 57 CCD, and 87 VXU interfaces. The FQHC have 27 ADT, 20 CCD, and 52 VXU interfaces. Specialty Care have 48 ADT, 32 CCD, and 40 VXU interfaces. Home Health Agency have 20 ADT, 17 CCD and 2 lab interfaces. While many of the hospitals and practices are contributing data, often the feeds do not contain structured data necessary to meet the priority needs of the stakeholders. Also, several organizations have EMRs that cannot send clinical data in a HL7 message format. One example is the lack clinical data from eClincalWorks EMR sites.	the newly approved VHIE Connectivity criteria and expand data source collection from all primary, specialty, and home health organizations. Expansion of connectivity to a broader range of sources including Mental Health, Substance Abuse Services, Women's Health Orgs, Corrections data, and non-medical facilities along with other important data sources that contribute to the wellbeing of patients and in support of VT healthcare innovation. The VHIE needs to consider extending data capture capabilities beyond HL7 messages to accept all data types for all sources in order to build a complete and accurate patient record. Policies and technical capabilities must be developed and implemented to allow for data aggregation and the secure management of the data with the ability to share with those who have the rights and permissions to access the data.	which are contributing data to the VHIE. VITL implemented 100 interfaces in FY18. As of August, there are over 100 interfaces in progress to expand providers connection to the VHIE.
Data Standardization	Translation and terminology services	The data in the CCDs from various vendors	Translation and terminology services	VITL has utilized terminology

	Core Technical Capabilities	Current State	What Is Needed	VITL Progress 2018
	that standardize and codify the essential data needed for stakeholder's priority use cases	often does not contain standard codes preventing it from being usable for analytics and populations health reporting. VITL has utilized terminology services to improve a limited set of lab and clinical data for use by the VCR and OneCare Vermont. However, there is a need for standardization and terminology services need to be applied globally within the VHIE. A project is underway to implement terminology service into the production workflow for a limited set of data within the VHIE	are essential for complete and actionable data sets. Accurate and consistent data collection improves patient care analysis and reporting. The VHIE must implement robust terminology services to codify the data and make it usable.	services to improve certain lab and clinical data for use by the VCR and OneCare Vermont. **In progress**: Develop and execute on a plan to use the terminology services engine when processing data rich clinical care summaries (CCDs)
Data Aggregation	Ability to warehouse data in standard formats with records that are received from various source systems and linked at a patient level. Ability to provide users with access to that data for their populations of interest	The VHIE's HDM (Health Data Management) services provides the ability to store, aggregate and parse incoming data for point of care and analytic use. This service is needed as the current Medicity license does not parse all the data and therefore cannot create a longitudinal record for each patient. The VHIE continues to close the gap on the parsed data available in their HDM system, however, linkage at the patient level is not available. A direct	The VHIE must continue to expand its ability to parse the data and create longitudinal records linked at the patient level. This data must be made available to stakeholders based on their populations of interest.	As new data sources are connected, VITL continues to process and aggregate data for use at the point of care and analytics by health reform delivery and payment systems. **In progress**: The assessment of a shared MPI for the HDM and other stakeholder use in HIE in Vermont is being considered to strengthen linkage of data at the patient level.

	Core Technical Capabilities	Current State	What Is Needed	VITL Progress 2018
		effect from the lack of the enterprise MPI discussed above. This data is currently utilized only by OCV and VCHIP via data mart extraction.		
Data Quality	Quantify the completeness and utility of data that is available to stakeholders from the HIE based on priority needs and use cases (e.g. core data elements). Use information to guide data quality initiatives.	Operationally the VHIE currently provides limited reporting to determine if interface feeds are active or inactive. These reports investigate counts of messages sent and does not address the completeness of data in a message. VITL engages in Vermont Clinical Registry Data Quality Sprints to support data quality efforts for onboarding data to the VCR. Currently there is no objective assessment of the availability of core data elements to enable robust data quality review and remediation.	The data quality function of the VHIE needs to include functions beyond alerting if an interface is not sending data. A data quality program must consist of metrics that ensure accuracy, reliability, consistency, timeliness, and completeness of data and the transport mechanisms that relay that data from its source to the VHIE and on to the end user. The VHIE in collaboration with VCR Data Quality Sprints should develop automated tools that review the data based on core data elements and measure sets and alert the sender and the data users when the data changes and provide a corrective plan of action. Widespread use of the approved Connectivity Criteria by all Vermont health care organizations and their EHR vendors along with expanded terminology services are essential to	VITL engages in Vermont Clinical Registry Data Quality Sprints to support data quality efforts for onboarding data to the VCR. **In progress**: Update the existing VHIE Connectivity Criteria to demonstrate the need for structured, codified data and engage health care organizations in providing data that meets the HIE goals in Vermont.

	Core Technical Capabilities	Current State	What Is Needed	VITL Progress 2018
			improved data quality.	

15.9 VITL'S STATEMENT ON THE CURRENT PLAN

VITL provided the following statement about its current plan for the VHIE, for inclusion in this contingency plan document:

VITL's short-term, and inevitably its future long-term, plan for the VHIE, will focus on data, particularly strategies to ensure accurate data delivered in the most efficient, effective and useful manner. This means providing accurate data not only to providers at the point of care, but also, an increasing focus on delivering this data to health organizations, payers and others actively engaged in, or have desire to, reform the delivery of health care in Vermont. This will require entrepreneurial skills to anticipate and develop value-added products and services to Vermont providers and the state of Vermont to improve the quality and reduce the cost of health care in this state.

15.10 HOW THE VHIE WORKS TODAY

The HTS Report "Vermont Evaluation of Health Care Activities" offers detailed explanations of how the VHIE works. CHA offers the following much briefer summary of VHIE functionality, to indicate what needs to be transitioned or replaced, in the event that the contingency plan is activated. The information offered here is drawn from the HTS report, CHA's experience working with the VHIE, and conversations with VITL staff.

The VHIE receives clinical data through interfaces from all Vermont hospitals and two outside of Vermont, along with approximately 90% of primary care practices' electronic health records (EHRs). A limited number of specialty care and home health organizations also contribute data. The completeness of data from these organizations ranges significantly. The most significant data in the HIE is the ADT data. For ambulatory practices this consists of demographic, insurance and provider linkage information and for hospitals it also contains admit and discharge summary data. Data are ingested into a clinical data repository operated by Medicity and are unified there.

Utilizing Medicity's Master Person Index services, data is associated with patient records and, with proper consent, is displayed in the VITLAccess portal for point of care services. While most patients who are asked consent to sharing their data, the manual process for hospitals and practices to consent their patients is laborious. Recently, VITL automated the consent process through an addition to the ADT message. This has resulted in an upswing of data in VITLAccess for display. VITL also provides an on-demand exchange directly into the EHR. As of this writing, this service is limited to one organization.

Data is also sent from the clinical data repository to the Health Data Management (HDM) infrastructure, where additional data validation and data processing happen. Data in the HDM is provided to the State's Immunization Registry, the Vermont Clinical Registry managed by the

Blueprint for Health, the OneCare data mart, the VCHIP data mart, and the Patient Ping event notification system.

Core technical capabilities of the VHIE that would need to be transitioned to or replaced by a new operator are identified in Table 11.

15.11 SUMMARY HIE ESSENTIALS RECOMMENDATIONS

In order to meet stakeholder needs, Vermont's HIE operator will need to address the essential ingredients discussed above regardless of whether a contingency option is selected or VITL continues as the HIE operator. This section provides summary recommendations that should be a focal point for planning HIE operations in order to meet future needs, particularly as Vermont continues to progress its reforms under the value-based all-payer model that depends heavily on sharing data and information for advanced care management and performance measurement.

15.11.1 Organize HIE planning with a focus on Foundational Elements

The foundational elements to focus on include:

a) Understanding the **compelling business needs** that stakeholders have for data sharing and information exchange
b) establishing a decision-making **governance** structure that provides key stakeholders with meaningful input over HIE planning and operations
c) using stakeholder participation to address key **policy issues** in Vermont such as consent policy
d) working with stakeholders to plan a path to **financial sustainability** that includes ongoing investment by payers and providers in return for receiving the clinical data that they need for their operations

15.11.2 Organize HIE planning and operations with a focus on the Core Technical Capabilities

The HIE operator must organize planning and operations in order to deliver the routine and reliable clinical data that key stakeholders need to support their operations. In particular, the technical capabilities listed in Table 11 are essential in order for Vermont's HIE entity to supply **clinical data of sufficient quality and completeness** to support the care delivery and measurement needs articulated by stakeholders.

15.11.3 Consider adding needed data services

Consider adding **data use services** as an HIE offering, but only those that are broadly called for through multi-stakeholder input. An example could be statewide event notification available to all providers, a service which has had broad uptake in other markets. In addition, a significant portion of stakeholder survey respondents selected compelling reasons to log into a health information system other than their own including: a) access to patient information not available in their own systems; b) care management and population health capabilities not available in their own systems; and c) measurement and performance information not available in their own systems. Vermont's HIE operator should engage in a deliberate multi-stakeholder planning process to determine which if any of these services is best provided by the HIE operate, and to which stakeholder groups. It is important to avoid investing in service options that are better provided by other stakeholders and that do not have a clear path to uptake and use.

16 APPENDICES

16.1 APPENDIX A: VITL SOFTWARE LICENSE MATRIX

Software	Comments	Importance	VHIE Ops	Termination	Value	Term	Renewal
7Zip	7-Zip is a free and open-source file archiver, a utility used to place groups of files within compressed containers known as "archives".	**Low**	**No**	**Anytime**		**None**	**None**
Adobe	Software to view, create, manipulate, print and manage files in Portable Document Format (PDF).	**Low**	**No**	**Anytime**		**Perpetual**	**Auto**
Alert Logic	Security-as-a-Service solution that combines Cloud-based software and innovative analytics with expert services to assess, detect and block threats to applications and other workloads. currently performs intrusion prevention / intrusion detection services	Medium	No	6/29/2018	$13,208.00	Yearly	Auto
Carbonite	Cloud backup and recovery software.	High	No	Written Notice prior to renewal	$9,175.20	Monthly	Monthly
Cisco Anyconnect	Secure VPN software.	High	Yes	Anytime		Device - Maintenance is extra.	Per License
Crush SFTP	Proprietary multi-protocol, multi-platform file transfer server.	High	Yes	Perpetual		Perpetual	Perpetual
CSVed	CSVed is a free software tool which enables a user to edit a CSV file.	Low	Yes		Free		
Docusign	Electronic signature tool.	Low	No	30 Days Prior To Expiration of Term	$1,905.00	1 Year	Auto

Software	Comments	Importance	VHIE Ops	Termination	Value	Term	Renewal
7Zip	7-Zip is a free and open-source file archiver, a utility used to place groups of files within compressed containers known as "archives".	**Low**	**No**	**Anytime**		**None**	**None**
Adobe	Software to view, create, manipulate, print and manage files in Portable Document Format (PDF).	**Low**	**No**	**Anytime**		**Perpetual**	**Auto**
GotoMeeting and LogMein	On-line meeting software and remote access administration software	Low	No	30 Days Prior To Expiration of Term		1 Year	Auto
Health Language	Medical terminology services software. This software is more of a custom application rather than an off-the-shelf software.	Med	Yes	60 Days Prior To Expiration of Term - Breach - Bankruptcy	$63,000.00	3 Year 3/22/19	Auto 2 Years
HL7Spy	Software that enables analysts to quickly interpret and characterize very large HL7 2.x message data streams.	Med	Yes	Only by company	$3,367.00	Yearly 11/02/18	N/A - Upgrades
Microsoft	Office (Word, Excel, Power Point, Outlook, etc.) along with Windows server and Microsoft SQL server as well	Low/High	Yes/No	Perpetual/ MSOffice Monthly		Perpetual/ MSOffice Monthly	Perpetual / MSOffice Monthly
Nessus	Proprietary vulnerability scanner. This software is provided to us free as a nonprofit.	Low	Yes		Free to Non-Profit	Expires 2022	End of Term
NetApp	NetApp is our Storage Area Network (SAN) / Network Attached Storage (NAS) at TechVault. It acts as the underlying storage foundation for	High	Yes	User may Term at any time with notice		Perpetual License	Support

Software	Comments	Importance	VHIE Ops	Termination	Value	Term	Renewal
7Zip	7-Zip is a free and open-source file archiver, a utility used to place groups of files within compressed containers known as "archives".	**Low**	**No**	**Anytime**		**None**	**None**
Adobe	Software to view, create, manipulate, print and manage files in Portable Document Format (PDF).	**Low**	**No**	**Anytime**		**Perpetual**	**Auto**
	the virtualization and database infrastructure of the HDM.						
Password ManagerPro	Secure enterprise password management software.	Low	No	Anytime	$848.00	Perpetual License - Annual Support fee- 11/21/18	End of Term
Rhapsody	Integration engine software.	High	Yes	Breach or Bankruptcy	$33,615.00	Expires 6/22/2018	Auto 12months 90 day opt-out notice after initial term
Sage 50	VITL's accounting software.	Med	No	Depends on Type + Breach - Bankruptcy	$1,500.00	11/1/2018	Auto - 7 Days notice opt-out
Salesforce	Customer relationship management (CRM) software, tracks service agreements and tasks such as client interface projects along with functioning as VITL's support ticketing system and secure PHI sharing tool.	Med	Yes	Payment for full term - For Cause - Bankruptcy - All fees due otherwise	$24,960.00	Expires 4/14/19	Auto - Length of subscription – Opt-out 30 days prior
Security Audit Manager (Iatric)	Security Audit Manager for breach detection, monitoring of un-authorized access and use.	Med	No	Payment for full term - For Cause - Bankruptcy - All fees due otherwise	$12,600.00	Expires 9/30/18	Auto 30 Day opt out
Shoretel	Shoretel is a Voice Over IP (voip) solution.	Med	No		$2,885.00	Perpetual License Support Expires 1/1/2019	Auto?

Software	Comments	Importance	VHIE Ops	Termination	Value	Term	Renewal
7Zip	7-Zip is a free and open-source file archiver, a utility used to place groups of files within compressed containers known as "archives".	**Low**	**No**	**Anytime**		**None**	**None**
Adobe	Software to view, create, manipulate, print and manage files in Portable Document Format (PDF).	**Low**	**No**	**Anytime**		**Perpetual**	**Auto**
Smartsheet	Collaboration and work management tool which is used to manage VITL's deliverables on the DVHA contracts.	Low	No	Payment for full term - For Cause - Bankruptcy - All fees due otherwise	$9,891.80	Expires 2/14/19	Auto 12 Months after initial term - Opt-out 30 days
Snagit	Screenshot program.	Low	No	Anytime		N/A	N/A
SoapUI	An open-source web service testing application for service-oriented architectures (SOA) and representational state transfers (REST)	Low	Yes	By Mutual Consent or Breach - Bankruptcy	Free		
Splunk	Security information and event management tool.	Low	No	Breach or Bankruptcy	$885.00	Expires 8/31/19	Perpetual with Annual Maintenance
Tableau	Business intelligence software.	Medium	no	Breach or Bankruptcy	$4,300.00	Perpetual License with Annual Maintenance	Auto 12 Months online after initial term – Opt-out 30 days
Trend Micro	Antivirus / antimalware security software.	High	Partial	Anytime	Depends on Type	One Year Expires 12/21/18	Auto 12 Months online after initial term - Opt-out 30 days
Winmerge	Free software tool for data comparison and merging of text-like files.	Low	Yes				
XML Copy Editor	Free software tool for editing XML.	Low	Yes				

Software	Comments	Importance	VHIE Ops	Termination	Value	Term	Renewal
7Zip	7-Zip is a free and open-source file archiver, a utility used to place groups of files within compressed containers known as "archives".	**Low**	**No**	**Anytime**		**None**	**None**
Adobe	Software to view, create, manipulate, print and manage files in Portable Document Format (PDF).	**Low**	**No**	**Anytime**		**Perpetual**	**Auto**
Medicity	VHIE Primary Technology Vendor	High	Yes	For Cause - Bankruptcy - All fees due otherwise	$1,071,954.03		One year parties must agree to renew in advance of expiration
TechVault	VITL Hosting Environment	High	Yes	Breach	$21,000.00	3 Year Expires 7/1/19	Auto - Length of subscription – Opt-out 60 days prior
RackSpace	VITL Old Hosting Environment	Medium	Yes				

16.2 APPENDIX B: VITL VENDORS PROVIDING CORE VHIE SERVICES

Table 11: Vendors Providing Core VHIE Services

Vendor	Service Provided
Medicity	VHIE core technology
TechVault	VITL hosting
Orion Rhapsody	VHIE shadow interface infrastructure
Cisco Anyconnect	VPN software
Crush SFTP	File transfer server
CSVed	CSV file editor
Health Language	Medical terminology services software
HL7Spy	HL7 data stream analyzer
Microsoft SQL Server	Data mart server software
Nessus	Vulnerability scanner
SoapUI	Web service testing application
Splunk	Security event management tool
Trend Micro	Antivirus software
WinMerge	Text file merge software
XML Copy Editor	

16.3 APPENDIX C: VITL VENDORS HOLDING CONTRACTS RELATED TO PUBLIC SERVICES

Vendor	Service Provided
TechVault	VITL hosting
Orion Rhapsody	VHIE shadow interface infrastructure
Cisco Anyconnect	VPN software
Crush SFTP	File transfer server
CSVed	CSV file editor
Health Language	Medical terminology services software
HL7Spy	HL7 data stream analyzer
Microsoft SQL Server	Data mart server software
Nessus	Vulnerability scanner
SoapUI	Web service testing application
Splunk	Security event management tool
Trend Micro	Antivirus software
WinMerge	Text file merge software
XML Copy Editor	

16.4 APPENDIX D: OPTIONS TABLE

Table 7: Incremental Costs and Savings per Option																					
OPTION:		OPTION 1			OPTION 2			OPTION 3A			OPTION 3B			OPTION 4			OPTION 5			OPTION 6		
RANGE:		Low	High	Month	Low	High	Month	Low	High	Month	Low	High	Month	Low	High	Month	Low	High	Month	Low	High	Month
ESTIMATED IMPLEMENTATION TIME FRAME IN MONTH	(a)	6	12		18	24		8	12		6	9		4	8		8	15		3	6	
REDUCED SERVICE MODE	(b)		NO			NO			NO			NO			NO			NO			YES	major
SAVINGS & (COSTS) PER OPTION in $000s																						
Estimated Svcs Mode Savings (if applicable)																						
- Salaries & Fringe		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$492	$ 983	$ 164
- Operating Expenses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	137	273	46
Total Estimated Reduced Svcs Mode Savings	(c)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	629	1,256	209
Estimated External Incremental Expenses																						
- Banker Fees		(150)	(300)	(25)	-	-	-	-	-	-	-	-	-	(100)	(200)	(25)	-	-	-	-	-	-
- Mgt. Consulting Fees		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Legal Fees		(60)	(120)	(10)	(180)	(240)	(10)	(80)	(120)	(10)	(60)	(90)	(10)	(40)	(80)	(10)	(80)	(150)	(10)	(60)	(120)	(20)
- Project Management		(60)	(120)	(10)	(180)	(240)	(10)	(80)	(120)	(10)	(60)	(90)	(10)	(40)	(80)	(10)	(80)	(150)	(10)	(45)	(90)	(15)
- Accounting/Due Diligence		(30)	(60)	(5)	(90)	(120)	(5)	(40)	(60)	(5)	(30)	(45)	(5)	(20)	(40)	(5)	(40)	(75)	(5)	(45)	(90)	(15)
Total Estimated External Incremental Costs	(d)	(300)	(600)	(50)	(450)	(600)	(25)	(200)	(300)	(25)	(150)	(225)	(25)	(200)	(400)	(50)	(200)	(375)	(25)	(150)	(300)	(50)
Estimated Internal one-time Expenses																						
- Employee Severance	(e)	-	-		-	-		-	-		-	-		-	-		-	-		(212)	(212)	
- Potential Contract/License termination Cost	(f)	-	-		-	-		-	-		-	-		-	-		-	-		-	(1,320)	
- Potential Rent termination Liability	(g)	-	-		-	-		-	-		-	-		-	-		-	-		-	(800)	
Estimated Net (Cost) Savings		$(300)	$(600)		$(450)	$ (600)		$ (200)	$ (300)		$(150)	$ (225)		$(200)	$(400)		$(200)	$ (375)		$267	$(1,376)	

Notes:

(a) The estimated number of months required to implement each option

(b) Whether or not a reduced service mode is preferable for each option.

(c) If applicable, the estimated amount of monthly savings realized from entering a reduced service mode versus the Fiscal Year 2019 Budget.

(d) The estimated one-time incremental costs required to implement each option for each time-frame. These costs include fees paid to Investment Bankers, Management Consultants, Project Managers, Attorneys and Accountants. These costs can be reduced if internal resources can perform the required tasks.

(e) If applicable, the estimated amount of one-time severance costs incurred to enter a reduced service mode or shut down operations (option 6).

(f) Potential maximum cost to be incurred if contracts or license agreements are terminated prematurely.

(g) Potential maximum rent liability if leases are terminated prematurely.

16.5 APPENDIX E: PROCESS OF GATHERING THE STAKEHOLDER INPUT

CHA developed a process for collecting input from a broad group of stakeholders, to inform options development and recommendations, ensuring that the recommended options will meet the future needs of Vermont's citizens. Whether or not the Contingency Plan is activated, the findings will also be shared with the HIE Steering Committee to inform planning for the future of HIE in Vermont.

16.5.1 Stakeholder recruitment

CHA introduced the stakeholder engagement plan to the HIE Steering Committee, emphasizing that this work would build upon other stakeholder engagement work done by the Steering Committee to inform the Committee's HIE plan. DVHA Deputy Commissioner Michael Costa reached out to key stakeholders representing organizations across Vermont that use HIE in clinical practice, population health planning, or both, to make them aware of the contingency planning process and ask for their participation. CHA then contacted the same set of stakeholders, asking them to provide a list of individuals inside their organizations whose input would be useful to the process and plan. This full list was used as the distribution list for the stakeholder survey. The key stakeholders were also asked to help organize interviews with the people they had identified in their organization whose input would be valuable. CHA indicated that these interviews could be one-on-one or in groups, possibly utilizing already existing committees or workgroups.

16.5.2 Survey development and survey administration

The stakeholder survey was designed by CHA to gather feedback about HIE user needs in a structured way, so that the findings would include a clearly articulated and prioritized set of reasons for using HIE and expectations of HIE functionality. The survey instrument is provided in the Appendix of this plan. The survey was administered using Survey Monkey. The first survey invitations were sent on July 6, 2018 and the survey was in the field for a little more than three weeks before closing on July 28, 2018. The surveys were sent directly by CHA to potential respondents and in some cases shared by leaders in the organization with organization staff and/or providers and other professionals in their network. This broadened the reach of the survey, it also makes it impossible to calculate a precise response rate. Survey responses included many types of VHIE stakeholder, as shown below in Table 13.

16.6 APPENDIX F: SURVEY RESPONSES AND SURVEY FINDINGS

Table 12: Survey Invitations and Surveys Completed

Survey Invitations Sent and Surveys Completed	
Survey Invitations Sent	>251
Surveys Completed	78

Table 13: Survey Responses by Organization Type

Organization Type* **Some respondents chose not to provide the name of the organization they work for*	**Responses**
Home Health	14
Hospital	7
ACO	4
Bi-State	3
State	7
GMCB	6
Payers	1
DAs & Vermont Care Partners	13

CHA asked health information and data sharing stakeholders to consider both the current ways they exchange information about patients and the ways they would prefer to exchange such information. One conclusion that may be drawn from the survey data is that providers are continuing to rely on traditional methods of information exchange (fax, mail, conversations and phone calls) and would prefer to use those methods (especially fax and mail) much less.
Most respondents also make use of a more modern method, "direct exchange of information." This method is also the most frequently selected preferred method. "Conversation and phone calls" appears among the top five most frequently selected current methods and preferred methods. "Uploading patient records from the HIE into our own EMR or data systems" was rarely selected as a current method of information exchange, while 25% of respondents said it would be among their preferred methods.

Figure 3: Current methods of information exchange

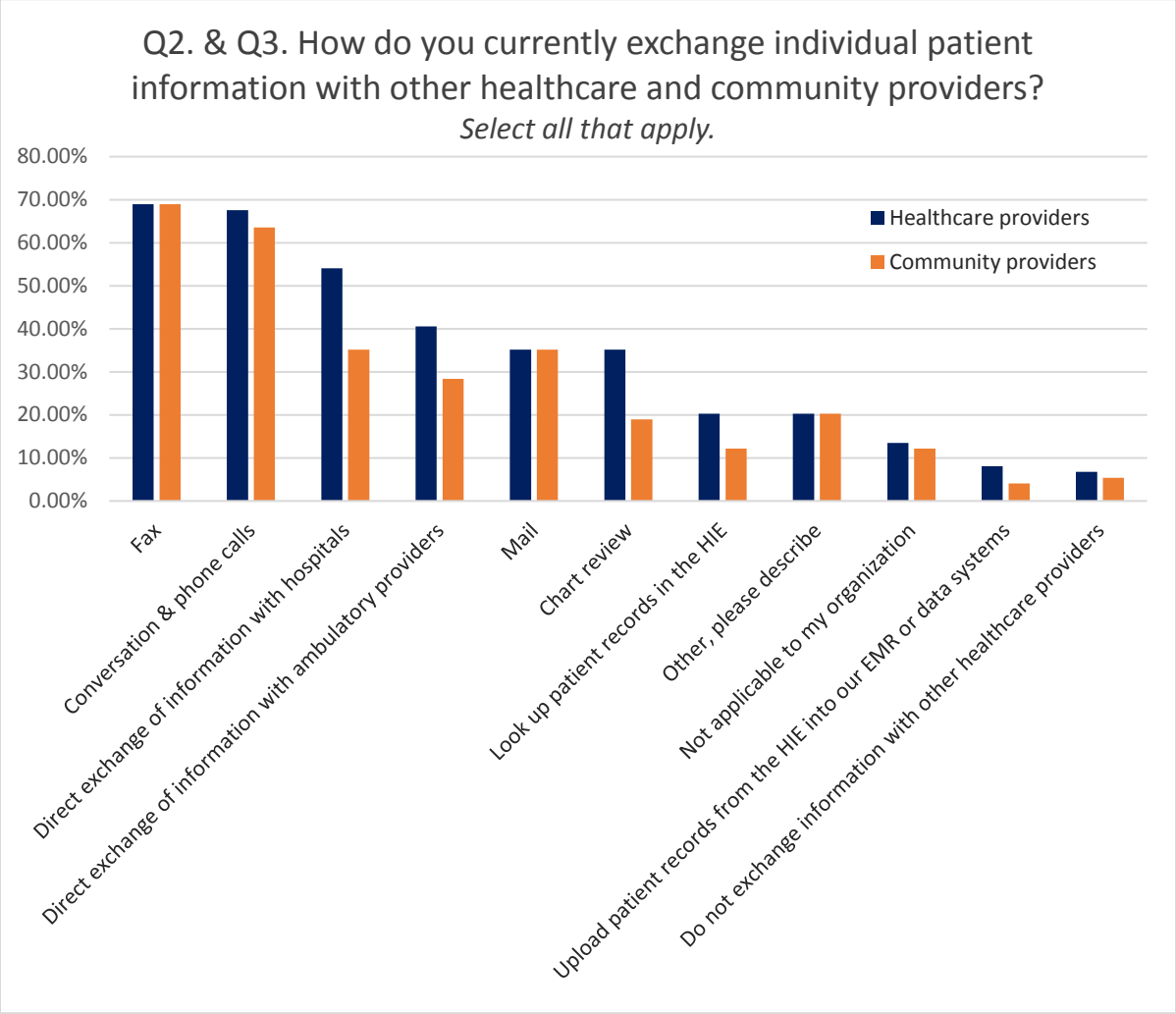


Table 14: Q2. "Other, please describe" response text

Text entered under "Other, please describe" in response to Q2. How do you currently exchange individual patient information with other healthcare providers? Select all that apply.
Oversight of HIE Connectivity activity
Shared EMR, direct access to referring systems EMR
Direct/Secure Messaging from EMR
Most staff have login privileges with our partners
The GMCB data analytical staff provides reports using grouped data from VCURES and Discharge data, among others.
I represent VT's free clinics. Only one of nine uses an EHR and all use a variety of methods to exchange information when they do. Referrals for tests, procedures, or preventive care do happen regularly, mostly by paper or FAX.
View only access to UVMMC inpatient and outpatient records; secure email
Joint weekly or team related meetings ie: The CHT (Community Health Team) with respective ROI's
Epic Care Everywhere permits seeing my patient records when they are cared for at other EPIC facilities

We have read-only access to Epic Link for our patients. We also use Focura which is a vendor that enables us to provide pt orders To MDs for their review and approval.
I don't know what is meant by "direct exchange of information with hospitals" and "direct exchange of information with ambulatory providers."
Although not part of the UVMMC network, my primary care physician has the ability to communicate with them via PRISM. Any lab orders requested or results provided can be through that channel. The HIE is not used for this traffic.
Does not apply in my current role
when sharing with other healthcare providers, hospitals, we typically send information via fax, USP and direct phone calls. If we are seeking information, we have direct access to EMRs for two hospitals, and also receive via fax or USP.
Able to access the RRMC EMR.

Table 15: Q3. "Other, please describe" response text

Text entered under "Other, please describe" in response to Q3. How do you currently exchange individual patient information with other community providers? Select all that apply.
Oversight of HIE Connectivity activity
What is the difference between healthcare and community provider?
do not exchange info with community providers - major hipaa issue
See (2) above
We tend to exchange information as a result of a case conference. HIE information is limited depending on the provider.
secure email
Joint weekly or team related meetings ie: The CHT (Community Health Team) with respective ROI's
We read access to our patients through the UVMMC's Epic Link EMR
Care Navigator (OneCare Vermont's care coordination app) permits communication and shared care plans to be visible with other participating care coordinators who have Care Navigator permissions.
Only if appropriate release is given.
Through our care coordination platform (Care Navigator). Community providers enter data directly into the system as appropriate.
With appropriate consent in place
All only with releases signed
I haven't had this need yet, but if outside of UVMMC, it would probably require fax, or direct conversation.
Does not apply in my current role

Figure 4: Preferred method of information exchange

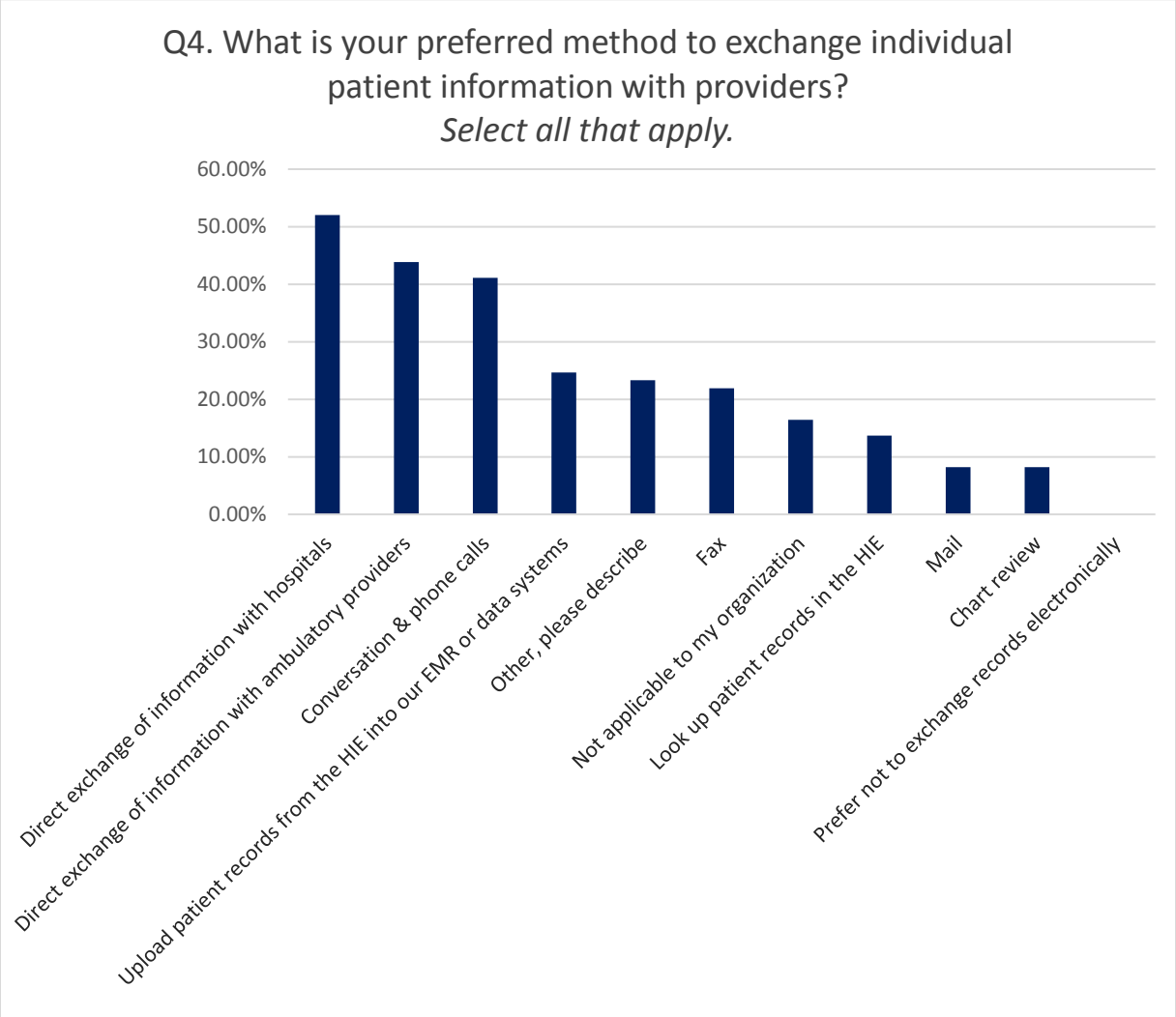


Table 16: Q4. "Other, please describe" response text

Text entered under "Other, please describe" in response to Q4. What is your preferred method to exchange individual patient information with providers? Select all that apply.
The most efficient and effective way which works for both parties.
Oversight of HIE Connectivity activity
social service information is often not in records, direct communication is personal preference.
HIPPA protected email is easiest however not many agencies participate in cross agency HIPPA protected emailing.
Direct Messaging or a functional/complete HIE
if hie was easy & complete
As a Board member, I don't have a preferred method.
Many of the physicians that we work with in Central VT don't use the HIE as a source of information and our hospital is only exchanging limited information. We thought medication information would be helpful but home visiting looking at meds and reconciling to d/c information is best. We then provide a copy of meds to PCP or MDs involved in care.
I like to ask someone to push a button to send and receive information within the EHR. I prefer to have someone else review the information and filter it. There is too much information.

Epic Link works the best for us now. We would like Direct Exchange. We hope to be on the Epic EMR in the future.
Not sure, we only have one direct connection with an FQHC and this is in its infancy, so we only know what we know, which is mail, fax, phone. Ideally electronic would be most efficient.
Again, I don't know what direct exchange means.
With appropriate releases in place
Any electronically inter-operable solution would be the preferred method. Any EHR should have the ability to query a network of data sources for individual patient information with the appropriate consent to view.
Does not apply in my current role
for chart pulls (quality data) would be nice to have access to HIE--currently we do not have such.
We would like to exchange information directly through EMR's, interfaces, etc., but currently use the resources mentioned in prior questions above.

Table 17: Current vs. Preferred Methods of Information Exchange

Top Five Current and Preferred Methods of Sharing Patient Information	
Current Methods (with Healthcare Providers)	**Preferred Methods (with Providers)**
Fax	Direct exchange of information with hospitals
Conversation & phone calls	Direct exchange of information with ambulatory providers
Direct exchange of information with hospitals	Conversation & phone calls
Direct exchange of information with ambulatory providers	Upload patient records from the HIE into our EMR or data systems
Mail	Other, please describe

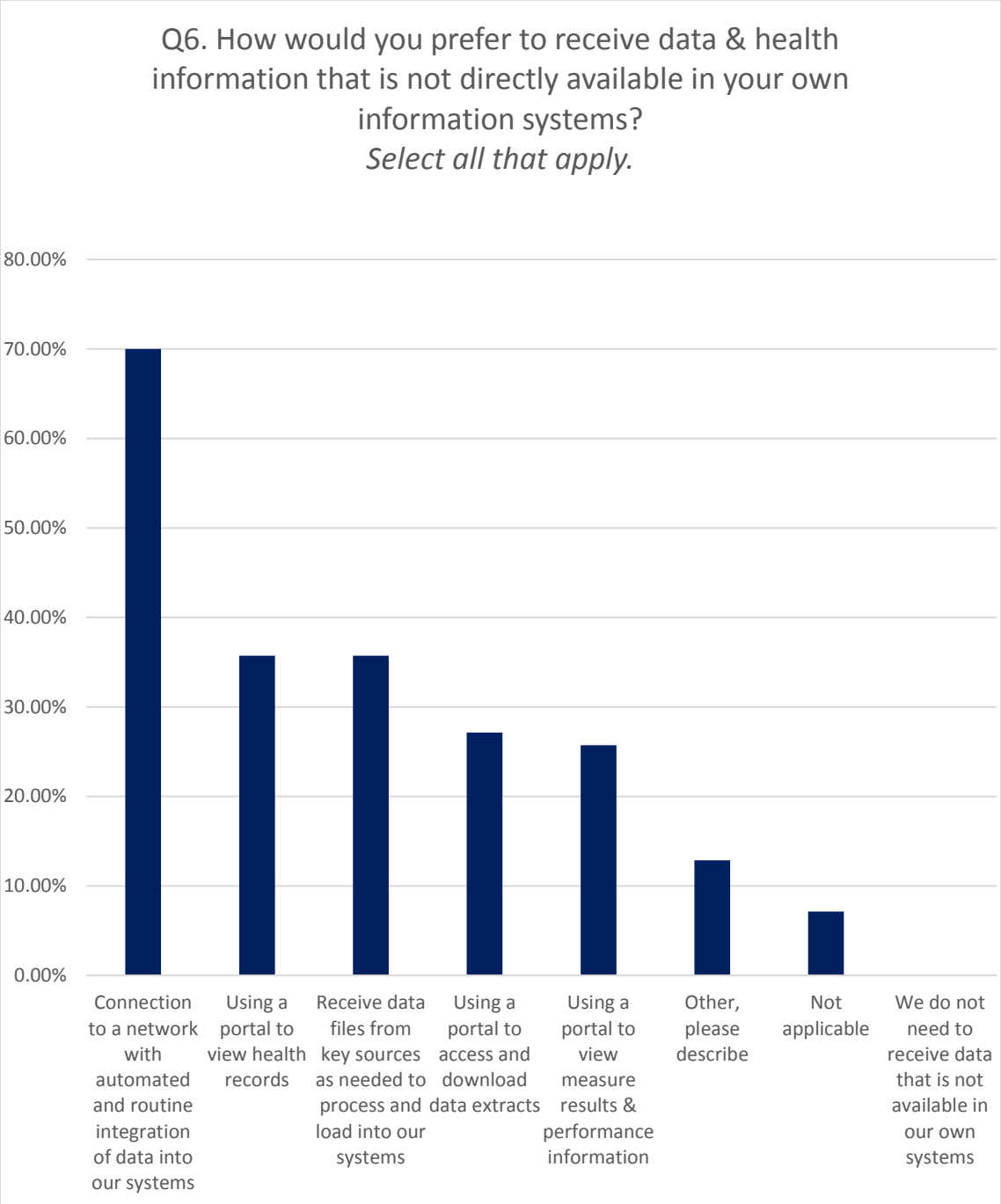


Table 18: Q6. "Other, please describe" response text

Text entered under "Other, please describe" in response to Q6. How would you prefer to receive data & health information that is not directly available in your own information systems? Select all that apply.
Must be easy to use system where all hospitals and providers in our area including those in other states participate.
A system like commonwell integrated with an EMR for viewing or downloading is ideal.
We might just need to see results, but it is possible that we might at some point want to have access to the data.
In general, free clinics are overwhelmed providing basic care and have not had much chance or the necessary resources to consider these questions.

Giving another system for staff to access is quite challenging so having a portal with easy to access targeted information is critical to engage staff to want to use it.
Again, prefer that the data be filtered and addressed by support staff where appropriate.
If using a portal it needs to be one stop for everything, cannot have multiple data bases or software programs to log into.
Direct from provider. Simply viewing diagnostic codes and event entries does not give a clear picture and I am aware of MH and SA diagnostic stigma that occurs. We need to do a great deal of provider education before simply viewing codes without follow up conversation from provider.
The use of a portal or native EHR for point of care that can directly query other systems, or logging into a data environment that allow operations on data that is updated and can also query other systems are the most effective ways to receive health information that is not local to the viewing environment.

In the response to Question 4, 52% of respondents said that "direct exchange of information with hospitals" was one of their preferred methods for exchanging patient information with other providers and 44% said "direct exchange of information with ambulatory providers" was one of their preferred methods. Responses to Question 6 show that "connection to a network with automated and routine integration of data into our systems" is an even more appealing solution, with 70% of respondents indicating that it was one of the ways they would prefer to receive data and health information not directly available in their own information systems. More than a third of respondents (36%) selected "using a portal to view health records" and the same proportion selected "receive data files from key sources as needed to process and load into our systems." While enthusiasm is strongest for automated and routine integration of data into our own systems, there is openness to other approaches. The key, as one respondent put it when selecting "other, please explain" is that any method "must be [an] easy to use system where all hospitals and providers in our area including those in other states participate." Similar flexibility was evident in the explanations of "other" answers to Question 4, with respondents looking for "the most efficient and effective way which works for both parties." Another respondent envisioned using either "direct messaging or a functional/complete HIE." The themes emerging in open-ended responses are less advocacy for any one method and more a need for easy access to complete, high quality information.

Figure 5: Reasons to log on to other data systems

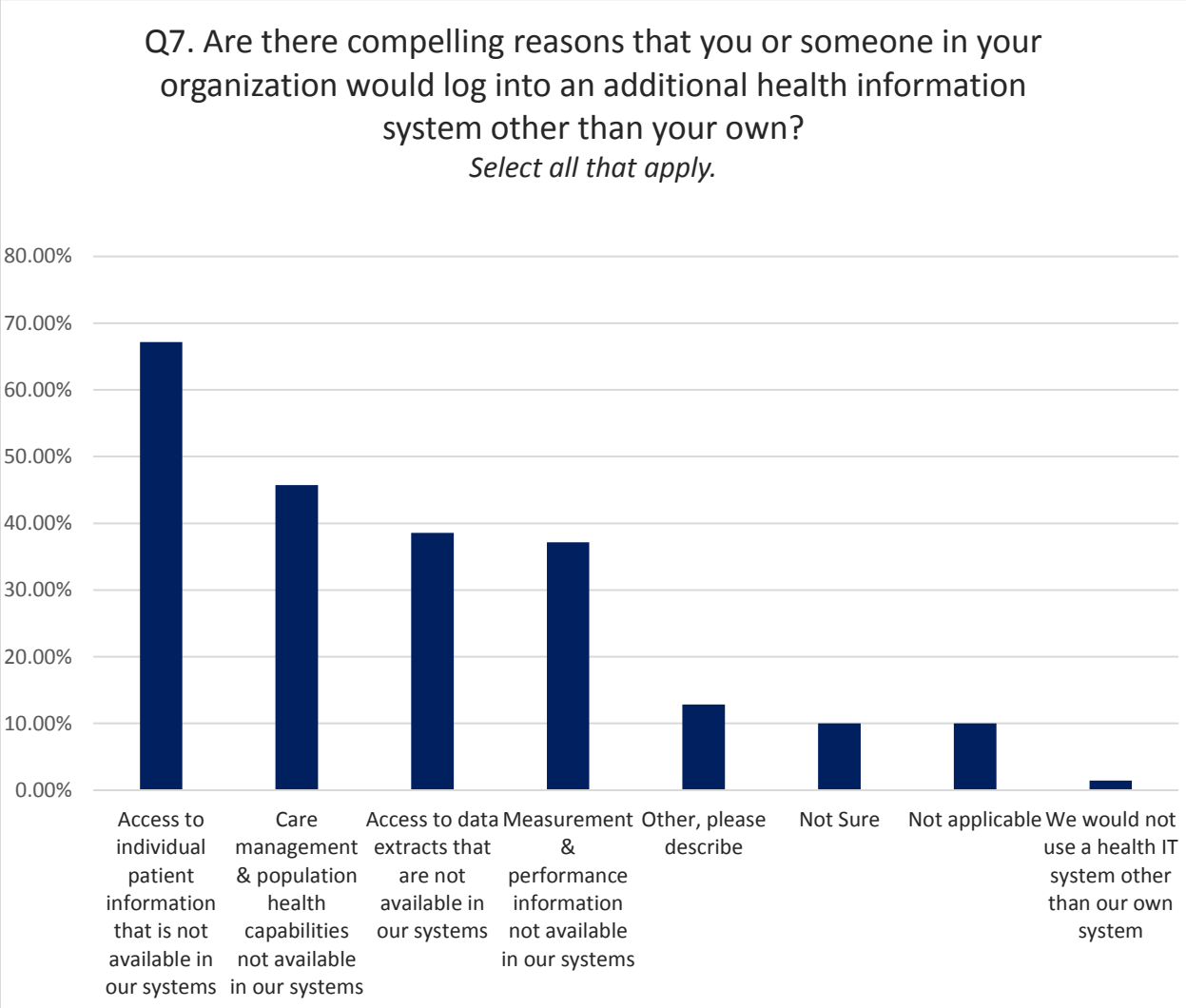


Table 19: Q7. "Other, please describe" response text

Text entered under "Other, please describe" in response to Q7. Are there compelling reasons that you or someone in your organization would log into an additional health information system other than your own? Select all that apply.
We use our repository for aggregated system wide metrics
It is very hard/time consuming to access data outside our ecosystem. We cannot expect care delivery staff to do this, and we cannot afford staff time for someone else to do it. This, fundamentally, is why the HIE fails. We need complete, seamless, integration into the one environment our Providers use (Meaning, our own EHR)
Day to day clinician would not add additional work to access another health information system but intake and clinical managers would be likely to access.
The process is already way too cumbersome and inefficient without going into another system. The importance of the data has really become irrelevant as more and more physicians become burned out and can't deal with the information overload and administrative duties.
It would be a major inconvenience and we currently do not use the HIE very often because it is a separate portal. We look forward to transitioning to the Epic EMR.
Emergency information
Native EHR should have complete access for providers. For patients, there should be a similar software package where all data can be accessed.

External data is currently accessed mostly through extracts (or via contractors who receive and process extracts)
Could be helpful in emergency situations to have more complete picture of person's history and current providers/plans when making decisions for person's safety, including voluntary vs. involuntary treatment.

Survey respondents are very clear that they need information beyond what is available in their own organization's data systems. This was apparent in earlier questions, such as Question 5, where only 10% of respondents selected the answer "access to external data and health information is not important to our organization" and Question 6, where zero respondents selected "we do not need to receive data that is not available in our own systems." Similarly, most respondents found at least one compelling reason to log-in to a data system other than their own. This indicates that a separate portal, outside providers' own EMRs, would be utilized if it was known to have data that supports patient care. Routine and automated integration of data into each provider's own system may be ideal, but a separate portal could also succeed if it contained valuable information.

Respondents recognized many important benefits to having access to data and health information not available in their own information systems. Targeted information such as medications, lab results, imaging reports, and procedure results was selected by 72% of respondents, and eight different benefits were each selected by more than half of respondents.

Table 20: Most important benefits of access to data and health information not available in own systems

Q5. What do you consider the most important benefits of having access to data & health information that is not available in your own information systems? ***Select all that apply.***	
Targeted information such as medications, lab results, imaging reports & procedure results	71.83%
Decision support such as risk stratification, gaps in care, event notification	67.61%
Assemble more complete individual patient records	66.20%
Shared care plan, navigation, & coordination with other providers	66.20%
Guide longitudinal care management (complex long-term needs)	59.15%
More complete measurement (population health, healthcare processes, quality, utilization, expenditures)	56.34%
Planning & monitoring ongoing quality improvement initiatives	53.52%
Performance measurement for value-based payment models	52.11%
Guide episodic care management (unexpected events)	49.30%
Other, please describe	12.68%
Access to external data & health information is not important for our organization	9.86%
Not applicable	2.82%

Table 21: Q5. "Other, please describe" response text

Text entered under "Other, please describe" in response to Q5. What do you consider the most important benefits of having access to data & health information that is not available in your own information systems? Select all that apply
Less paper and more readily available. Less chance of failures if we can get away from faxing and phone calling. An electronic trail of information exchange
I think all of these benefits are important, but my organization is most focused on performance measurement.

For home health it would be great to be able to see MD notes when patient has a visit. Most times it's up to the patient or CG to provide information to home health staff and they have to fill in the gaps between what happened at the visit and if there are a change in meds or treatment orders why. A phone call then is made to the MD but most times get the nurse who's translating for the MD.
It is important to me as a regulator that providers have complete patient information that can be used to guide decisions and improve patient care. It is also important to avoid unnecessary care.
OneCare aggregates claims data on attributed lives but current HIE provides very little clinical data - some labs and radiology reports - but no CCDs.
Point of care use, care coordination, and population health management are all benefits of robust health data exchange.Aggregating episodes of care for a true longitudinal health record that is virtual and can be called on demand is essential.
Note: selections above are specific to how GMCB uses aggregate health information. We recognize that other uses (to support complete patient records, avoid duplicate care, support chronic care management) are also incredibly important in the context of our larger health system.
The question provides insufficient guidance since what is "most important" will be dictated by the individual or agency circumstances at any given time
The Shared care Plan must be easily accessible and helpful for those that are documenting in it.

Through the previous questions, nearly all respondents clearly indicated that they require access to patient information from outside their own organizations to provide optimal patient care and measure performance. The case for receiving information is clear. The case for sharing information is more tenuous. Only 52% of respondents indicated that, yes, there was a "compelling reason (e.g. business case) for your organization to share your data and health information with other organizations through a health information exchange." A total of about 28% said either "no" or that there were reasons, but those reasons were "not that compelling," or that they were not sure and needed more information. Open-ended responses clarified that while sharing information serves the greater good ("We want an integrated system that will really support population health and an integrated health care system") it may not be built-in to the immediate business interests of health care organizations ("Aren't most providers involved in some sort of payment reform effort that is a pay for performance circumstance? This is a compelling reason. Otherwise, under the notion that the practice owns the data, there isn't. The patient should own the data.)

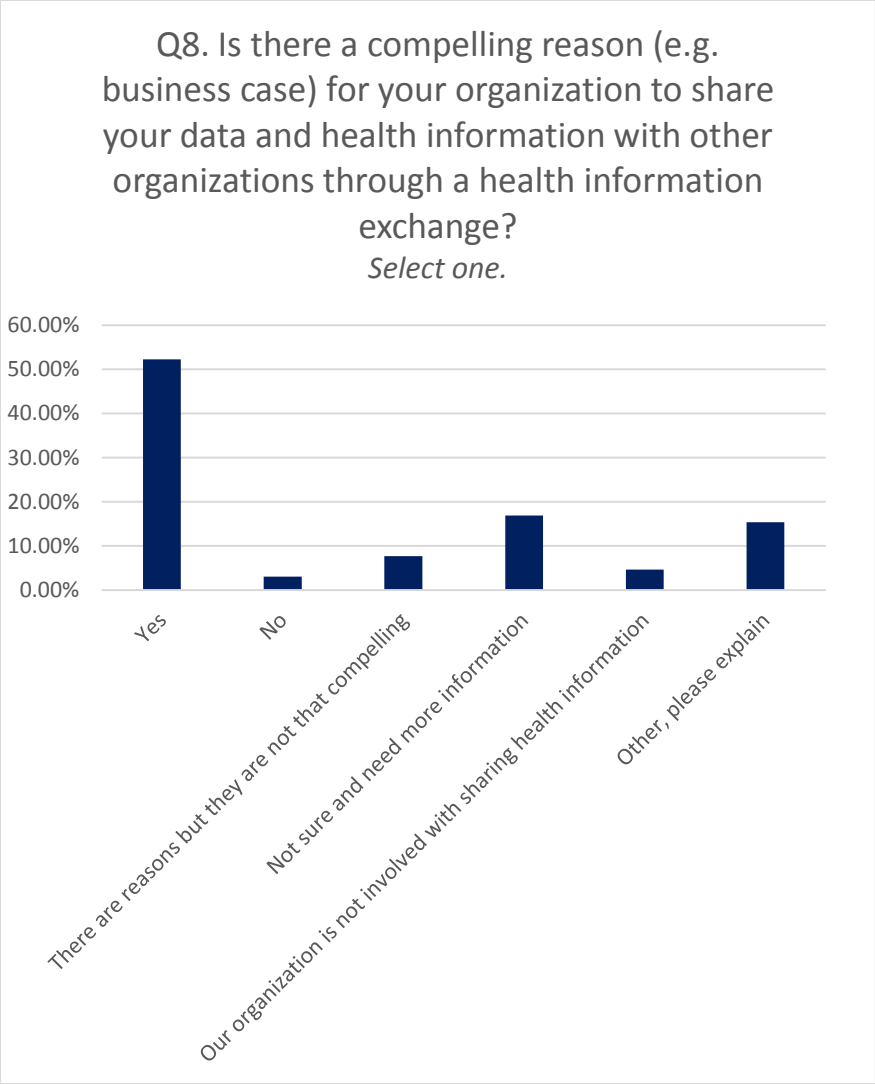


Table 22: Q8. "Other, please explain" response text

Text entered under "Other, please explain" in response to Q8. Business Case: Is there a compelling reason (e.g. business case) for your organization to share your data and health information with other organizations through a health information exchange? Select One.
EHR Incentive Program does not share that level of data, but DVHA clinical unit may.
there probably are, but they have not been made clear to me yet.
VERMONT is behind the curve on value based payment, so right now the business case for doing more work is slim. There's a patient care case to be made, though.
Only if easy and automated. If a system could post results for easy download with notification when they are available if directed towards a provider in our system. Again, like commonwell integrated directly with our EMR (not another site) or sent to the EMR via direct messaging.
We currently share our telemonitoring data with the HIE. Most MD's have no desire to access it because it's going into another system so we continue to fax, etc. The office staff don't even use the portal to access it!
We only get paid if we share information with the ACO.
We want an integrated system that will really support population health and an integrated health care system.
42cfr concerns for substance abuse has been a significant barrier

Aren't most providers involved in some sort of payment reform effort that is a pay for performance circumstance? This is a compelling reason. Otherwise, under the notion that the practice owns the data, there isn't. The patient should own the data.
To have data, quality measures that are solid when it comes to reporting to governing bodies, especially is the age of Pay for Performance.

The remaining questions in the survey focused on some of the foundational elements supporting health information exchange, including governance, policy, and financing. Respondents here indicated a lack of awareness or strong opinion regarding the effectiveness of current governance and policy.

Figure 6: HIE governance and decision-making

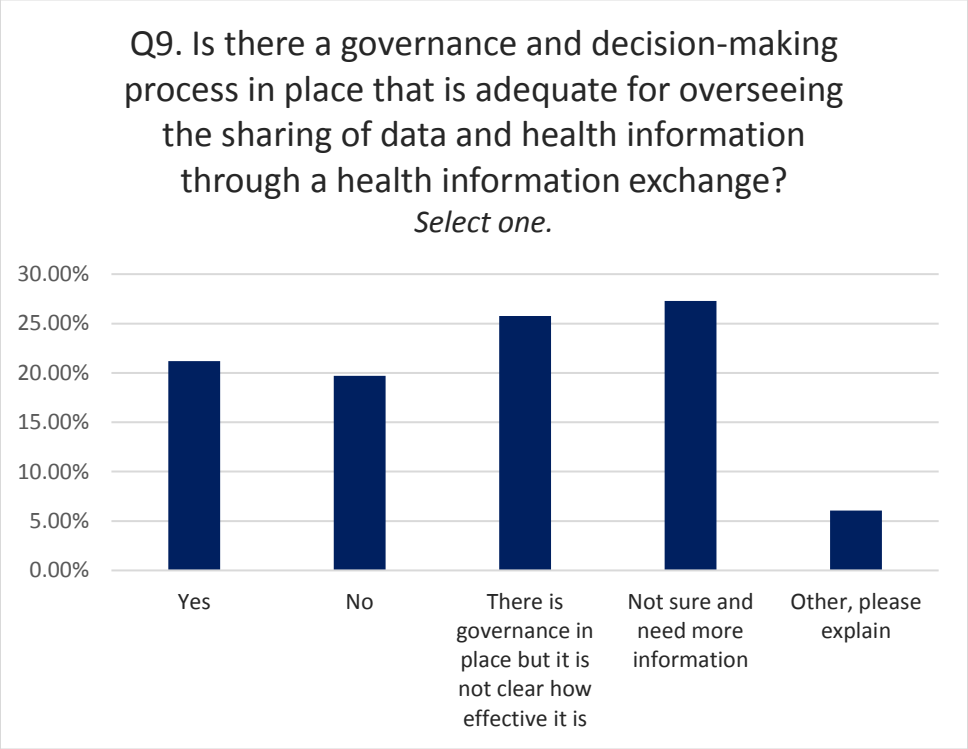


Table 23: "Other, please explain" response text

Text entered under "Other, please explain" in response to Q9. Governance: Is there a governance & decision-making process in place that is adequate for overseeing the sharing of data and health information through a health information exchange? Select one.
We have existing governance structures for other purposes that could serve as a model
Not clear on whether you mean at my organization or at VITL. My organization does have a data governance and decision-making process.
NO. Neither VITL, or the state has effective data governance implemented.
The need for robust HIE governance is clear and it seems like there's a clear path for this to develop. Prior governance was insufficient.

While more respondents indicated that state policies interfere with health information exchange than enhance it, even more respondents are not sure what impact have. Those respondents who offered additional detail about their yes, no, or not sure responses mostly cited the limitations on sharing mental health and substance use disorder information (e.g. 42CFR) or the policies for patient consent to sharing of their individual health data (e.g. opt-in versus opt-out).

Figure 7: HIE policies

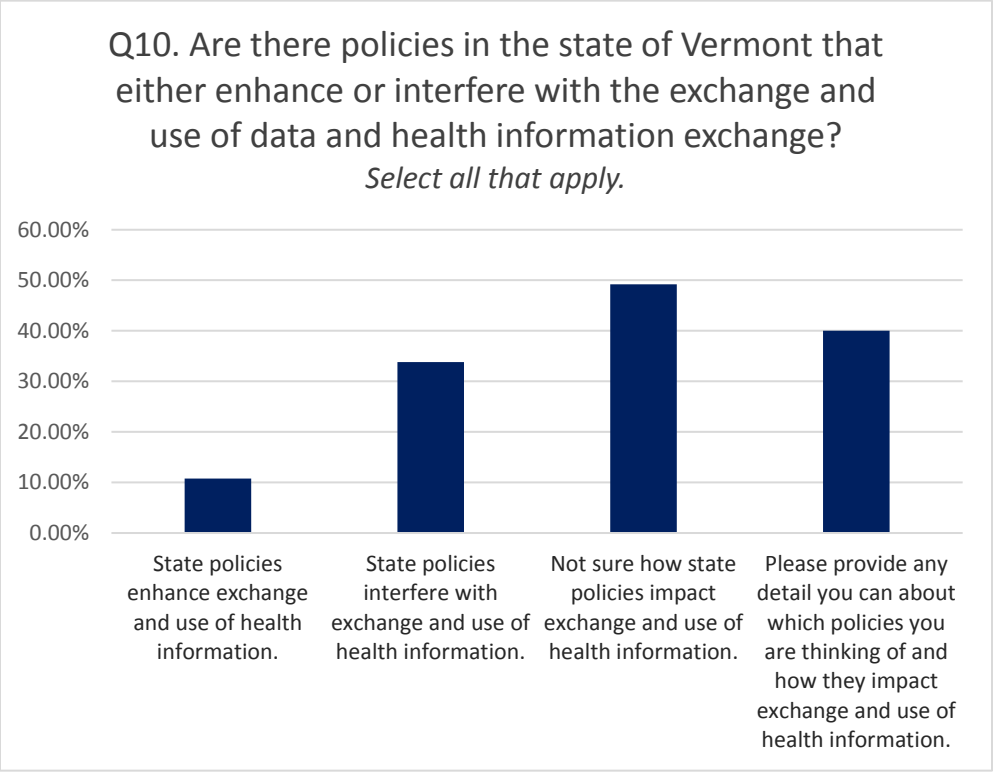


Table 24: Q10. "Please provide any detail . . ." response text

Text entered under Q10. "Please provide any detail you can about which policies you are thinking of and how they impact exchange and use of health information."
42CFR Part 2 Substance use disorder policies
42 CFR part 2, requires patients to control who accesses their SUD treatment information.
Patients providing consent to opt in to a portal for access health information limits the provider and Healthcare organization to medical information and accurate records
but it also seems to be working to some extent
Needs to be an opt out versus opt in policy.
Without funding the only state HIE would not exist therefore it enhances it.
Consent continues to be a challenge
Opt-in vs opt-out relative to individual records being available
I have heard that the consent policies might be a barrier.
42CFR Part 2

Not enough providers are inputting into the VHIE so the information is not as valuable as it could be, certain records are unavailable - ie MAT medications
Long term care data is no where, I.e., case management notes for those individuals in programs overseen by DDAIL - Choices for Care for example. Also, mental health & substance abuse has significant barriers
Mental health and substance use data can not be shared between providers and inhibits our ability to collaborate and make system changes that would improve quality and efficiency while decreasing cost.
The current opt in approach has resulted in low numbers of patients with information in the system. There does not appear to be a uniform and consistent approach to obtaining patient consent at the provider level.
Opt in data sharing is a barrier to effective population health management
mandatory opt in is a huge impediment
Federal law 42 CFR is a barrier, one which we understand clinically, but is a barrier to share electronically
VT patient consent policy and the lack of systems to manage patient consent interferes with exchange of important health information.
The consent policy is a deterrent to the use of health data.It has not been socialized well enough for the population to understand. Designating an HIE operator specifically in statute is a deterrent to the most effective health data exchange.
42CFR, Part 2 interferes with this type of sharing for Substance Use Treatment clients. Sometimes that is positive and sometimes negative depending on patient and provider.
State policies and past financial support have significant growth in information exchange possible; however, other policies, especially the opt-in consent model, hinder uptake.
In emergency situations, we have some leeway with confidentiality/HIPAA in order to make best plans for person's safety and community. It is always a balancing act to define "emergency" and sometimes tricky; for example, when a family member asks for information about placement and person does not want family involved, staff may respond with "person is safe, nothing else we can say at this time." We often ask ourselves & consult with each other about gathering information from others, knowing we can always listen to information offered without staff requesting such, but may be limited to what/if anything we can share in return. Not sure of impact on confidentiality if increased availability of information electronically, could be "double-edged sword."
there needs to be a state-wide initiative that streamlines and enhances the exchange of health information. Currently it is cumbersome and clunky. Too many places to go for information. How about just ONE State EMR?
VITL policies (not necessarily State) prevent sharing of information with payers. Also, consent policies limit data being entered into the state HIE
To some extent
I think that immunizations are still tricky going through the HIE and practices can't get immunization information back into their own systems.

Most respondents (80%) said there is not an adequate financing structure in Vermont to support the exchange and use of data and health information through an HIE. Respondents also seem open to other financing models besides the current approach, based on their answers about the role the state should play in funding an HIE and the role stakeholders should play in funding an HIE.

Figure 8: Adequacy of current financing structure

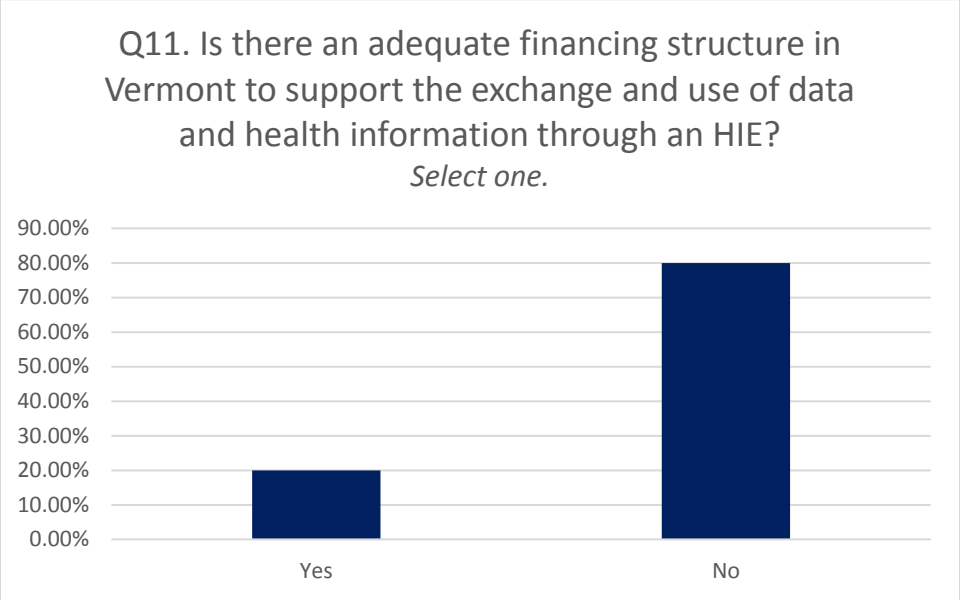


Figure 9: State role in funding an HIE

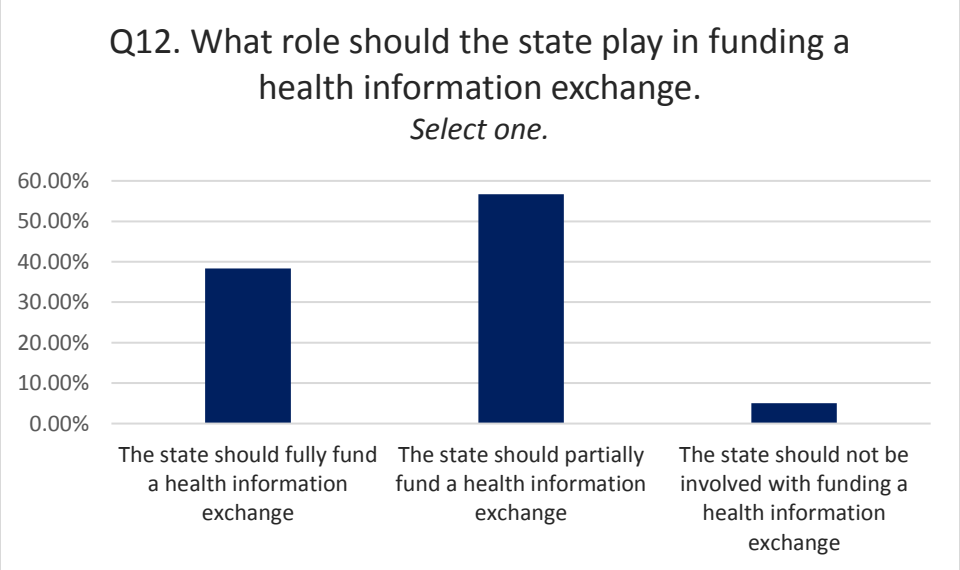


Figure 10: Stakeholder role in funding an HIE

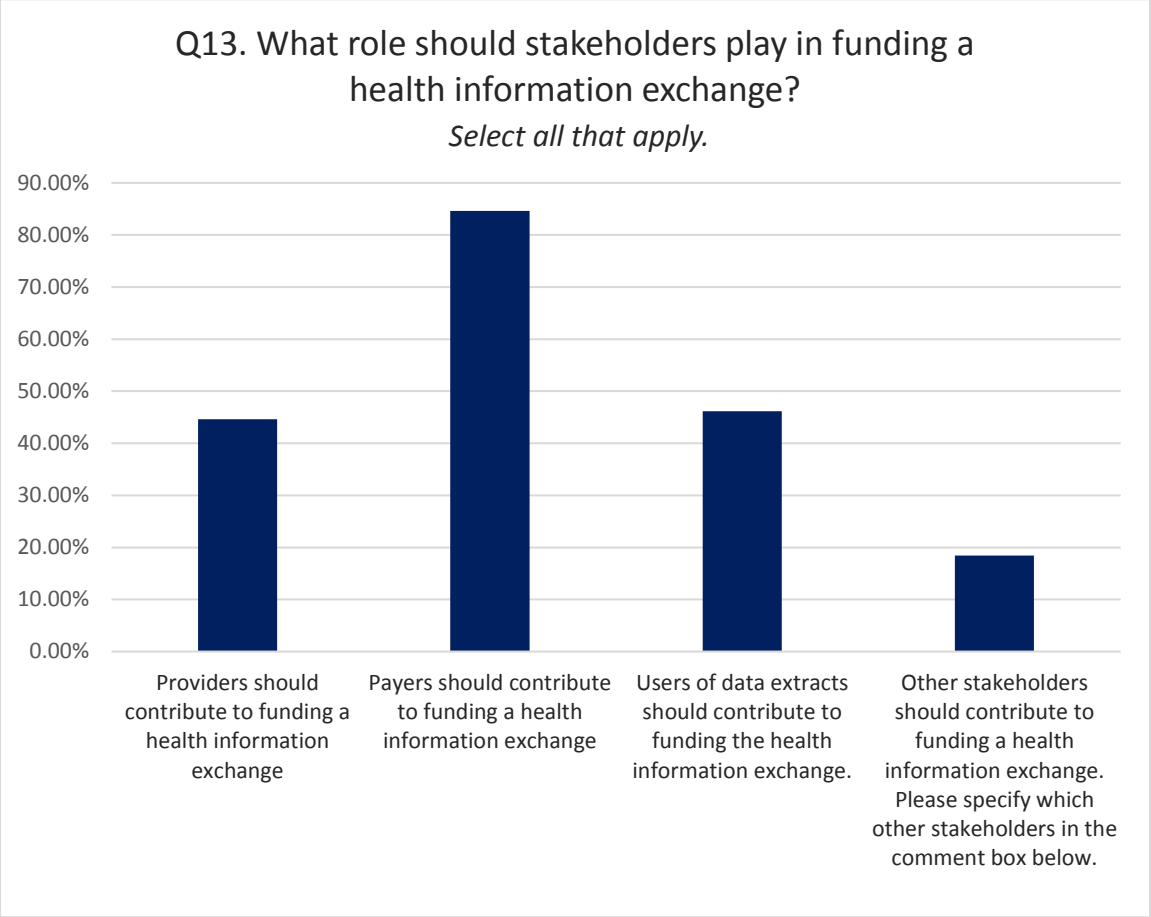


Table 25: Q13. Response text indicating which other stakeholder should be involved in financing

Text entered under Q13. "Other stakeholders should contribute to funding a health information exchange. Please specify which other stakeholders in the comment box below."
The only way to get everyone on the same page is if one entity pays.
other providers of health services
Government
The HIE needs to be valuable enough to users to want to fund.
EMR's should be working towards integration. I think a national model with all EMR vendors mandated to interface would be best.
Some stakeholders (e.g., free clinics or other community providers) would not be in a position to contribute funding.
No one, I don't believe in the need for HIE
hospitals
even state agencies should chip in because they benefit as well
It seems that insurance companies could pay. They have the most money and the desire for the data.
Other users who benefit from clinical data exchange (e.g., ACOs)
if there was a statewide (ONE) EMR or HIE, then providers could pay into that.