ONE BALDWIN STREET
MONTPELIER, VT 05633-5701

TEL: (802) 828-2295
FAX: (802) 828-2483
www.leg.state.vt.us/jfo

GENERAL ASSEMBLY
STATE OF VERMONT
LEGISLATIVE JOINT FISCAL COMMITTEE

Agenda
Thursday, September 27, 2018
Room 10, State House

10:00 a.m. A. Call to order and approve minutes of July 27, 2018 *[doc]* **[Approved]**

10:05 a.m. B. Administration's Fiscal Updates
Adam Greshin, Commissioner, and
Matt Riven, Deputy Commissioner, Department of Finance & Management
1. FY2018 Final Closeout
2. FY2019
   a. Budget Adjustment Pressures
   b. General Fund and Trans. Fund Balance Reserves *[32 V.S.A. § 308c(d)][doc]*
3. FY2020 *[2 docs]*
   a. General Fund 27th payroll and 53rd Medicaid anticipated liability payments *[32 V.S.A. Sec. 308e(a)(2)]*
   b. Budget Development Process, Instructions and Preliminary Gap Analysis

10:45 a.m. C. Agency of Human Services Updates
Al Gobeille, Secretary, and Sarah Clark, Chief Financial Officer, Agency of Human Service [2 docs]
1. Substance Use Disorder Response Initiatives Plan *[postponed from July] [Sec. C.106.2 of Act 11 of SS2018]* **[Approved]**
2. Global Commitment Fund Waiver Trend *[doc]*
3. Designated Agency Staff Retention *[Sec. E.314 of Act 11 of SS2018] [2 docs]*
   Melissa Bailey, Commissioner, Department of Mental Health
   Julie Tessler, Vermont Council of Developmental & Mental Health Services
   a. Administration – Implementation Report
   b. Designated Agencies –Recruitment and Retention Impacts
4. Choices for Care – *Secretary Gobeille*
   [33 V.S.A. § 7602 amended by Sec. E.308 of Act 11 of SS2018]

5. Health IT-Fund Annual Report – Update *[32 VSA § 10301] [doc]*
   Michael Costa, Deputy Commissioner, Health Reform, and
   Emily Richards, Program Director for HIT, Dep.t of Vermont Health Access

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11:45 a.m. D. Grant Request JFO# 2923 - $2,737,091 from the Centers for Disease Control and Prevention (CDC) to the VT Department of Health (VDH) for use towards advancing the understanding of the opioid overdose epidemic and scaling up prevention activities.
Laura Werner, Public Health Preparedness Coordinator, and
Bryan O'Connor, Financial Manager, Department of Health

12:00 p.m. Recess for Lunch

1:15 p.m. Reconvene

E. Introductions of Decarbonization Contractors
Marc Hafstead, Fellow and Director, and
Wesley Look, Senior Research Associate, Resources for Vermont

1:30 p.m. F. Financing Utility Regulation in Vermont Interim Status Report of Public Hearings *[Sec. E.233.1 of Act 11 of SS2018] [doc]*
June Tierney, Commissioner, and
Riley Allen, Deputy Commissioner, and
Stacey Drinkwine, Financial Director, Dept. of Public Service

1:45 p.m. G. Lottery Agent Sales Practices, Integrity, Review Report
[Sec. 114 of Act 1 of SS2018] [doc]
Patrick Delaney, Commissioner, and
Brian McLaughlin, Security Directory, Department of Liquor and Lottery

2:00 p.m. H. Agency of Digital Services Update – Cybersecurity Operations Center
[Requested at July meeting] [Sec. E.105 of Act 11 of SS2018] [doc]
John Quinn, Secretary & CIO, and
Scott Carbee, Deputy Chief Information Security Officer, Agency of Digital Services

2:15 p.m. I. Vermont Economic Growth Incentive Cost-Benefit Model proposed change **[Approved]** *[2 docs] [32 V.S.A. Sec. 3326(b)]*
Megan Sullivan, Executive Director, and
Ken Jones, Economic Research Analyst, VT Economic Progress Council
Brett Long, Deputy Commissioner, Dept. of Economic Development

2:30 p.m. J. Fiscal Officers Report *[doc]*
Stephen Klein, Chief Fiscal Officer, Joint Fiscal Office

2:45 p.m. Adjourn [Next Meeting: Thursday, November 8, 2018]

Notable Dates: All Legislative Briefing on November 28, 2018 at 10:00 a.m. in the Well of the House

Updated 9/27/2018

Statutory Language -- Agenda Items

B2b. — FY2019 General Fund and Transportation Fund Balance Reserves [32 V.S.A. § 308c(d)]

(a) There is hereby created within the General Fund a General Fund Balance Reserve, also known as the "Rainy Day Reserve." After satisfying the requirements of section 308 of this title, and after other reserve requirements have been met, any remaining unreserved and undesignated end of fiscal year General Fund surplus shall be reserved in the General Fund Balance Reserve. The General Fund Balance Reserve shall not exceed five percent of the appropriations from the General Fund for the prior fiscal year without legislative authorization.

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(d) Determination of the amounts of the General Fund and Transportation Fund Balance Reserves shall be made by the Commissioner of Finance and Management and reported, along with the amounts appropriated pursuant to subsection (a) of this section, to the legislative Joint Fiscal Committee at its first meeting following September 1 of each year.

B3b. — FY2020 General Fund 27th payroll and 53rd Medicaid anticipated liability payments [32 V.S.A. Sec. 308e(a)(2)]

27/53 RESERVE

(a)(1) There is hereby created within the General Fund a 27/53 Reserve. The purpose of this reserve is to meet the liabilities of the reoccurring 27th State payroll and the 53rd week of Medicaid payments. These liabilities will be funded by reserving a prorated amount of General Fund each year, before the liability comes due.

(2) Beginning in September, 2016 and annually thereafter at the September Joint Fiscal Committee meeting, the Commissioner of Finance and Management will report on the anticipated liability for the next 27th payroll and 53rd week of Medicaid Payments, provide the current reserve balance and a schedule of annual amounts needed to meet the obligation of these payments.

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C2. — Choices for Care [33 V.S.A. § 7602] [Received]

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§ 7602. CALCULATING AND ALLOCATING SAVINGS

(a)(1) The Department shall calculate savings and investments in Choices for Care and report the amount of savings to the Joint Fiscal Committee and the House Committees on Appropriations and on Human Services and to the Senate Committees on Appropriations and on Health and Welfare by September 15 of each year. The Department shall not reduce the base funding needed in a subsequent fiscal year prior to calculating savings for the current fiscal year.

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C.3 — DESIGNATED AGENCY STAFF RETENTION [Sec. E.314 of Act 11 of SS2018] [Both Received]

(a) To address the compensation gap between the designated agency system and other providers in the health care delivery system the funds appropriated in this section are to enable the Department of Mental Health to increase payments to the Designated Agencies in fiscal year 2019 in a manner to work toward this goal.

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(c) The Department shall report to the Joint Fiscal Committee in September 2018 on the implementation of this section.

(d) Representatives of the Designated Agencies shall report to the Joint Fiscal Committee in September 2018 on the impacts of these resources on recruitment and retention of master's level clinicians and other staff with high levels of credentials and experience.

C.4 — SUBSTANCE USE DISORDER RESPONSE INITIATIVES [Sec. C.106.2 of Act 11 of SS2018]

(a) The sum of $2,500,000 is appropriated from the Tobacco Litigation Settlement Fund to the Agency of Human Services in fiscal year 2018 and shall carry forward for the uses and based on the allocations set forth in this section. These funds shall be used to finance time-limited or self-sustaining substance use disorder initiatives including initiatives relating to prevention, intervention, harm reduction, treatment, and recovery.

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(c) The Secretary of Human Services shall present a plan to fund fiscal year initiatives relating to prevention, intervention, harm reduction, treatment, and recovery for approval at the Joint Fiscal Committee July 2018 meeting.

C.5 — Health IT-Fund Annual Report [32 V.S.A. § 10301. Health IT-Fund]

(a) The Vermont Health IT-Fund is established in the State Treasury as a special fund to be a source of funding for Medical Health Care Information Technology Programs and initiatives such as those outlined in the Vermont Health Information Technology Plan administered by the Secretary of Administration or designee. One hundred percent of the Fund shall be disbursed for the advancement of health information technology adoption and utilization in Vermont as appropriated by the General Assembly, less any disbursements relating to the administration of the Fund. The Fund shall be used for loans and grants to health care providers pursuant to section 10302 of this chapter and for the development of programs and initiatives sponsored by VITL and State entities designed to promote and improve health care information technology, including:

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(g) The Secretary of Administration or his or her designee shall submit an annual report on the receipts, expenditures, and balances in the Health IT-Fund to the Joint Fiscal Committee at its September meeting and to the Green Mountain Care Board. The report shall include information on the results of an annual independent study of the effectiveness of programs and initiatives funded through the Health IT-Fund, with reference to a baseline, benchmarks, and other measures for monitoring progress and including data on return on investments made.

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D. — Agency of digital services [Sec. E.105 of Act 11 (H.16) of SS2018]

(a) Of the internal service funds appropriated in Sec. B.105 of this act, up to $600,000 is appropriated for a 24/7 cybersecurity operations center. These funds may only be spent upon approval of a budget and a spending plan by the Joint Fiscal Committee at its July 2018 meeting.

(1) The Agency shall consult with the information technology consultant to the Joint Fiscal Office in developing the budget and plan.

(2) The Joint Fiscal Office Information Technology Consultant shall present a report to the Joint Fiscal Committee to accompany the Agency's submission to provide an independent recommendation and review of the proposed budget and plan.

E. — SUSTAINABLE FUNDING FOR THE PUBLIC UTILITY COMMISSION AND THE DEPARTMENT OF PUBLIC SERVICE; STUDY [Sec. E.233.1 of Act 11 (H.16) of SS2018]

(a) The Commissioner of Public Service, in consultation with the Public Utility Commission, shall study and make findings and recommendations regarding the gross operating revenue tax on public utilities imposed under 30 V.S.A. § 22, as well as the assessments imposed under 30 V.S.A. §§ 20 and 21. The purpose of the study is to determine whether the existing statutory mechanisms for financing utility regulation in Vermont are appropriate and, if not, how they might be improved to achieve a sustainable general gross receipts tax fund position and to better serve the public interest.

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(b) The Commissioner shall hold two regional public hearings seeking input with regard to the study and report required by this section, and shall present an interim status report on his or her findings and recommendations at the September 2018 meeting of the Joint Fiscal Committee.

(c) On or before November 15, 2018, after consultation with the Joint Fiscal Office, the Commissioner shall report his or her findings and recommendations to the Senate Committees on Finance and on Appropriations and the House Committees on Ways and Means and on Energy and Technology.

F. — LOTTERY AGENT SALES PRACTICES; INTEGRITY; REVIEW; REPORT [Sec. 114of Act 1 of SS2018] [received]

(a) The Commissioner of Liquor and Lottery shall conduct a review of:

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(b) On or before October 1, 2018, the Commissioner shall submit a written report on the findings of the review conducted pursuant to subsection (a) of this section to the Joint Fiscal Committee. The report shall include a recommendation regarding whether a lottery sales agent, the owner or employee of a sales agent, and the members of the immediate household of a sales agent or owner or employee of a sales agent should be prohibited from purchasing lottery tickets from the agent's licensed sales location.

G. — COST-BENEFIT MODEL [32 V.S.A. Sec. 3326(b)]

(a) The Council shall adopt and maintain a cost-benefit model for assessing and measuring the projected net fiscal cost and benefit to the State of proposed economic development activities.

(b) The Council shall not modify the cost-benefit model without the prior approval of the Joint Fiscal Committee.

Other Report Submissions

I. COMPLEX LITIGATION SPECIAL FUND

3 V.S.A. § 167a is added to read Sec. E.200.1 of H.16 of 2018

(a) There is established the Complex Litigation Special Fund pursuant to 32 V.S.A. chapter 7, subchapter 5 to be available for expenditure by the Attorney General, as annually appropriated or authorized pursuant to 32 V.S.A. § 511, to pay nonroutine expenses, not otherwise budgeted, incurred in the investigation, prosecution, and defense of complex civil and criminal litigation. These expenses may include, for example, costs incurred for expert witnesses and for support staff and technology needed to review and manage voluminous documents in discovery and at trial in complex cases.

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(d) The Attorney General shall submit a report of the amount and purpose of expenditures from the Fund at the close of each fiscal year to the Joint Fiscal Committee annually on or before September 1. As part of the annual budget submission, the Attorney General shall include a projection of the Fund balance for the current fiscal year and upcoming fiscal year and may recommend appropriations as needed consistent with the purpose of the Fund.

II. Chapter 225: Tobacco Prevention, Cessation, And Control

§ 9505. General powers and duties

The Board shall have all the powers necessary and convenient to carry out and effectuate the purposes and provisions of this section, and shall:

(1) Establish jointly with the Department of Health the selection criteria for community grants and review and recommend the grants to be funded.

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(9) Conduct jointly with the Secretary a review of the Department's proposed annual budget for the Program, including funds contributed from any outside sources that are designated for purposes of reducing tobacco use, and submit independent recommendations to the Governor, Joint Fiscal Committee, and House and Senate Committees on Appropriations by ***October 1 of each year.***

III. General Assistance Program Report

33 V.S.A. § 2115 is added to read: [amended by Sec. E.321.2 of Act 85 of 2017]

§ 2115. GENERAL ASSISTANCE PROGRAM REPORT

On or before of September 1 of each year, the Commissioner for Children and Families shall submit a written report to the Joint Fiscal Committee; the House Committees on Appropriations, on General, Housing and Military Affairs and on Human Services and the Senate Committees on Appropriations and on Health and Welfare containing:. The report shall contain the following:

(1) an evaluation of the General Assistance program during the previous fiscal year;

(2) any recommendations for changes to the program; and

(3) a plan for continued implementation of the program.

(4) statewide statistics using deidentified data related to the use of emergency housing vouchers during the preceding State fiscal year, including demographic information, client data, shelter and motel usage rates, clients' primary stated cause of homelessness, average lengths of stay in emergency housing by demographic group and by type of housing; and

(5) other information the Commissioner deems appropriate.

IV. CORRECTIONS APPROPRIATIONS; TRANSFER; REPORT

Sec. 64 of Act 68 of 2016 as amended by Sec. 76 of Act 3 of 2017 as amended by Sec. 55 of Act 87 of 2018

(a) In fiscal year 2018, the Secretary of Administration may, upon recommendation of the Secretary of Human Services, transfer unexpended funds between the respective appropriations for correctional services and for correctional services – out-of-state beds. At least three days prior to any such transfer being made, the Secretary of Administration shall report the intended transfer to the Joint Fiscal Office, and at the next scheduled meeting of the Joint Fiscal Committee the Secretary of Administration shall report any completed transfers.

V. Global Commitment appropriations; transfer; report

Sec. 64 of Act 68 of 2016 as amended by Sec. 76 of Act 3 of 2017

(a) In order to facilitate the end-of-year closeout for fiscal year 2019, the Secretary of Human Services, with approval from the Secretary of Administration, may make transfers among the appropriations authorized for Medicaid and Medicaid-waiver program expenses, including Global Commitment appropriations outside the Agency of Human Services. At least three business days prior to any transfer, the Agency shall submit to the Joint Fiscal Office a proposal of transfers to be made pursuant to this section. A final report on all transfers made under this section shall be made to the Joint Fiscal Committee for review at the September 2018 meeting. The purpose of this section is to provide the Agency with limited authority to modify the appropriations to comply with the terms and conditions of the Global Commitment for Health waiver approved by the Centers for Medicare and Medicaid Services under Section 1115 of the Social Security Act.

VI. E-911 SYSTEM; PUBLIC UTILITY COMMISSION; REPORT [Received – 8-31-2018]

Sec. E.234 of Act 11 of SS2018

(a) On or before September 1, 2018, the Public Utility Commission shall submit a memorandum to the Joint Fiscal Committee detailing its regulatory authority with respect to Vermont's Enhanced 911 network, with specific reference to the regulatory authority of both the E-911 Board and the Federal Communications Commission. The memorandum shall include the Commission's recommendations, if any, for ensuring comprehensive regulatory oversight and enforcement of matters pertaining to the E-911 network.

VII. E-911 SYSTEM; RESILIENCY AND REDUNDANCY; REPORT [Received – 8-31-2018]

Sec. E.235 of Act 11 of SS2018

(a) On or before September 1, 2018, the Executive Director of the Enhanced 911 Board shall submit a report to the Joint Fiscal Committee detailing the level of resiliency and redundancy within the E-911 system and explaining any plans for ensuring operational integrity in the event of critical software or hardware failures. The report shall include, with explanation, identification of the locations and services deemed most vulnerable to system outages or call failures, as determined by the Board. The report also shall include a cost estimate for making any recommended system upgrades.

VIII. Bill Back Annual Report [Received 9-14-2018]

18 V.S.A. 9374 as amended by Sec. 23 of Act 154 of 2018

BOARD MEMBERSHIP; AUTHORITY

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(h)(1) Except as otherwise provided in subdivision (2) of this subsection, expenses incurred to obtain information, analyze expenditures, review hospital budgets, and for any other contracts authorized by the Board shall be borne as follows:

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(4)(A) Annually on or before September 15, the Board and the Department of Financial Regulation shall report to the House and Senate Committees on Appropriations the total amount of all expenses eligible for allocation pursuant to this subsection (h) during the preceding State fiscal year and the total amount actually billed back to the regulated entities during the same period. The provisions of 2 V.S.A. § 20(d) (expiration of required reports) shall not apply to the report to be made under this subdivision.

(B) ***The Board and the Department shall also present the information required by this subsection (h) to the Joint Fiscal Committee annually at its September meeting.***

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IX. Vermont Economic Growth Incentive joint report on the incentives

32 V.S.A. § 3340[(a) added in Sec. H.1 of Act 157 of 2016] REPORTING

(a) On or before September 1 of each year, the Vermont Economic Progress Council and the Department of Taxes shall submit a joint report on the incentives authorized in this subchapter to the House Committees on Ways and Means, on Commerce and Economic Development, and on Appropriations, to the Senate Committees on Finance, on Economic Development, Housing and General Affairs, and on Appropriations, and to the Joint Fiscal Committee.

(b) The Council and the Department shall include in the joint report:

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X. CLEAN WATER INVESTMENT REPORT [10 V.S.A. § 1389a]

(a) Beginning on January 15, 2017, and annually thereafter, the Secretary of Administration shall publish a Clean Water Investment Report. The Report shall summarize all investments, including

their cost-effectiveness, made by the Clean Water Fund Board and other State agencies for clean water restoration over the prior calendar year. The Report shall include expenditures from the Clean Water Fund, the General Fund, the Transportation Fund, and any other State expenditures for clean water restoration, regardless of funding source.

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(d)(1) The Secretary of Administration shall develop and use a results-based accountability process in publishing the annual report required by subsection (a) of this section.

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(3) On or before September 1 of each year, the Secretary of Administration shall submit to the Joint Fiscal Committee an interim report regarding the information required under subdivision (b)(5) of this section relating to available federal funding.

XI. PARTICIPANT DIRECTED ATTENDANT CARE (PDAC) PROGRAM [Sec. E.330 of Act 11 (H.16) of SS2018] [Received]

(a) The Department of Disabilities, Aging, and Independent Living shall continue to operate the participant directed attendant care program and shall not reduce an enrolled individual's level of services in fiscal year 2019. The Agency of Human Services shall ensure that adequate funding is available to the Department for the operation of this program for fiscal year 2019 and shall report to the Joint Fiscal Committee in November 2018 any necessary funding transfers from within the Agency needed to meet this requirement.

(b) The Department shall make a determination regarding the clinical and financial eligibility of each currently enrolled individual for the Medicaid Choices for Care program or any other program that could provide the necessary attendant care services. The Department shall report to the Joint Fiscal Committee in September 2018 on the status of these determinations.

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GENERAL ASSEMBLY
STATE OF VERMONT
LEGISLATIVE JOINT FISCAL COMMITTEE

Thursday, September 27, 2018
Minutes
Room 10, State House

Members present: Representatives Ancel, Fagan, Lippert, Toll, and Senators Ayer, Cummings, Kitchel, and Sears.

Other Attendees: Administration, Joint Fiscal Office, and Legislative Council staff, and various media, lobbyists, and advocacy groups.

Representative Janet Ancel, Chair, convened the meeting at 10:04 a.m. Representative Fagan moved to approve the minutes of July 27, 2018, and Senator Cummings seconded the motion. The Committee accepted the motion.

B. Administration's Fiscal Updates – 1. FY 2018 Final Closeout

Matt Riven, Deputy Commissioner, Department of Finance & Management, explained that the FY 2018 fiscal year ended with $11.2 million more in General Funds than the May revenue forecast had estimated. Act 11 of SS2018 prescribed that the additional revenue be deposited into the Teachers' Retirement Pension Fund to pay down the unfunded liability. Senator Kitchel asked for clarification of the total funds in FY 2018 used toward the Pension Fund. Mr. Riven responded there was $15 million previously set aside in FY 2018, plus the $11.2 million in FY 2018 from the additional revenue above forecast, and an additional $10 million in the FY 2019 budget for a total of $36.2 million.

2. FY 2019 – a. Budget Adjustment Pressures

Mr. Riven explained that there were no large known Budget Adjustment (BAA) pressures for FY 2019. A small pressure was a $750k impact to the General Fund in FY 2019 and again in FY 2020 for the State's share of the University of Vermont's bargaining agreement for direct care workers. Another BAA pressure was an unachievable target of $2 million by the Agency of Human Services (AHS) in reducing grants. AHS would develop a plan for the gap in FY 2019 that extended into FY 2020. Senator Sears asked the Joint Fiscal Office to ensure that the minutes reflected the AHS shortfall. Mr. Riven continued by explaining that the big unknown for the State was Medicaid, but the Medicaid consensus group would meet and have a better sense of upward or downward pressures soon.

b. General Fund and Transportation Fund Reserves

Mr. Riven referred to two reports dated September 25, 2018 on the General Fund and Transportation Fund Rainy Day reserves for FY 2018. He stated that the Administration

expected to have in excess of $200 million in General Fund reserves at the end of FY 2019. They anticipated that the Stabilization Reserve at 5% would be up $1 million to about $78 million. The Rainy Day reserve was currently at $12 million and they anticipated an additional $3 million in that reserve. The 27/53 reserve would have about $13 million, and with instructions from Act 11 in SS2018, the Human Caseload Reserve (HCR) would climb to $100 million from $22 million by transferring the Intensive Benefits Management (IBM), also known as the Tail, from the Global Commitment Fund (GCF).

Representative Toll noted an article from the National Council of State Legislatures that Vermont's diligence in compiling reserves was a positive preparation for a downgrade in the economy. Representative Fagan inquired if the Stabilization Reserve funds were transferred to the Education Fund as instructed by Act 11 as the final disengaging of the two funds, and to ensure the Education Fund and the General Fund reserves were brought up to their statutory 5% level. Mr. Riven responded both funds were at their statutory 5% level but there was still some flux on how replacement funds would work in the General Fund reserve. Senator Kitchel noted there was language in Act 11 for the Administration to review all reserves and the statutory amounts for possible revision to ensure they had adequate amounts.

3. FY 2020 – a. General Fund 27th Payroll and 53rd Medicaid anticipated liability payments

Mr. Riven distributed a memorandum and chart reviewing the status of the 27/53 reserve fund. He explained that in order to get to the $24 million needed to cover both expenses due in 2022, the payments for both the FY 2018 and FY2019 obligations were paid from FY 2018 one-time funds. Mr. Riven explained that the fund swap from GCF to the HCR was contingent upon any liabilities that may materialize from incurred but not reported (IBNR) obligations, then the reserve funds in the HCR would be redirected to the 27/53. Any fund swaps would be triggered by the final FY 2018 closeout, which should be known by late fall.

b. Budget Development Process, Instructions and Preliminary Gap Analysis

Adam Greshin, Commissioner, Department of Finance & Management, explained that the FY 2020 budget instructions were sent out the previous week to departments. The departments were asked within the memorandum, dated September 20, 2018, to level fund FY 2020 proposed budgets to the FY 2019 enacted amount in Act 11 of SS2018. The Administration was anticipating upward pressures in FY 2020 of an additional payment of $20 million to State Teachers' Pension Fund and another $6-$7 million for the State Employees Retirement accrued liability payment (Other Postemployment Benefits (OPEB)). The State's Debt Service payment was estimated to increase to about $7 million. This totaled to a $35 to $36 million pressure for FY 2020. Commissioner Greshin stated there was a slight upward pressure in Human Services within the Federal Medical Assistance Percentages (FMAP) where the federal government had reduced the FMAP rate by .03%, which was less of a decline than the State had anticipated.

The Chair inquired as to why there was an increase in the Debt Service. Commissioner Greshin stated that it was normal ebb and flow of payments. Senator Kitchel asked what the second year estimate was for the State Employee pay increase to departments. Mr. Riven responded it was another $7-$8 million pressure on Department budgets that had not yet been factored into FY 2020 budgets. Senator Kitchel noted that with the pay increase to department budgets and the Administration's request for level funding meant that there would have to be

reductions in some budgets. The Senator inquired if the Transportation user fees were due in the upcoming budget and whether the Administration would be submitting a Fee Bill for FY 2020. Commissioner Greshin responded that the Administration was prepared to consider fee requests on a case-by-case basis. Later in the meeting, Mr. Riven confirmed that the Transportation user fees were indeed due in FY 2020.

C. Agency of Human Services – 1. Substance Use Disorder Response Initiatives Plan.

Al Gobeille, Secretary, and Sarah Clark, Chief Financial Officer, Agency of Human Services, distributed two documents. Secretary Gobeille referred to the document on the Substance Use Disorder (SUD) Initiative Funding, and explained that the Agency was requesting the approval of the Committee for its proposed plan to spend the one-time $2.5 million. In addition, the Agency included a required report within the same document regarding the proposed allocation of $7.1 million that could not be implemented until addressed in the FY 2019 BAA.

Secretary Gobeille summarized that within the proposed $2.5 million SUD initiatives, the proposed After School Program's total funding of $600k would be spread out over three years. The funding included a contracted position to do a one-time analysis, and a small amount of additional funding to the actual programs. Senator Ayer asked what the analysis would entail. The Secretary responded the Agency would need to develop a mechanism to ensure the program was viable statewide and that would continue through the three years of the grant. Senator Kitchel asked how much of the grant would be used toward the analysis. Secretary Gobeille responded they estimated about $200k for a position that has a level of knowledge to analyze the data properly, but the Agency had not done the analysis yet on what a contract would cost. The Secretary clarified that any funds beyond the contract would be distributed to the program. Representatives Toll and Lippert showed concern of program funding as one-time, and inquired how the program would be sustained after the grant ended. Secretary Gobeille stated that the Agency had not identified sustained funding past the three years of the grant funding.

Representative Ancel inquired if the analysis of the After School Program would include the review of funding for all similar afterschool programs currently receiving State funds. Secretary Gobeille stated the analysis would include the review of how State and other non-State funds are distributed amongst the various similar programs, including Success beyond Six and universal Prekindergarten programs.

Secretary Gobeille explained the other proposed initiatives of the SUD funding. The amount of $400k would be used to incorporate Addison and Chittenden Counties into the new Nurse Home Visiting model, bringing it statewide. The Clinical Suboxone Harm Reduction program would receive $600k to grow programs around the State in order to expand intervention services. Representative Lippert inquired if there would be a provision for access to Narcan and Suboxone, and if so, how would those integrate with the services. Secretary Gobeille explained that the issue was not whether the State could afford enough Narcan but rather its ability to deliver Narcan to all areas of the State. Distributing more funds to areas such as needle exchange sites where Narcan was supplied to people in need along with safe needles was the best way to address the issue. Senator Ayer inquired if Turning Point was included in the funding distribution. Secretary Gobeille responded that the organization provided peer support and did not have safe recovery centers.

The Secretary explained that the Federal or Other SUD Contingency Initiative was included to address areas of funding that the federal government did not address. There was an additional earmark of $3.2 million under the allocation report. Senator Kitchel inquired if the contingency fund would be enough to address those significant areas of SUD impacting Vermonters. Secretary Gobeille responded the Agency has estimated possible areas for backfilling with State funds such as Planned Parenthood and the COPS grant. Senator Kitchel clarified that the Legislature's intent was to backfill for a temporary loss of federal funding such as the possible funding issue of the Howard Center grant. The Secretary announced that the Howard Center did receive its grant and was not part of the Contingency funding.

Secretary Gobeille explained another SUD funding initiative was to continue the pilot program Screening, Brief Intervention, and Referral to Treatment (SBIRT). In addition, the Agency was negotiating with the federal government to switch SBIRT to Screening, Brief Intervention, and Navigation to Services (SBINS) program that may allow for the use of Medication-Assisted Treatment (MAT) funds.

The Secretary explained the final SUD funding initiative providing services for the treatment of Hepatitis C for those people in Corrections custody. He noted there was an additional proposal of funding for $1.8 million in the Allocation Report. Senator Sears expressed concern that the Joint Legislative Justice Oversight Committee (JLJOC) heard testimony that the State paid the company Centurion $2.2 million for Hepatitis C treatment of people in the custody of corrections, and the Agency was now asking for an additional $1.8 million for the same treatment. Secretary Gobeille referred to a memorandum on the Corrections contract with Centurion that explained the payment structure and methodology between the State and Centurion. He stated that there seemed to be a misunderstanding on the contract since the State had moved away from the fee-for-service contract and was now a value-based contract where the State pays a per-member-per month payment and an administrative fee to Centurion for treatment to its patients in custody of corrections. Senator Ayer asked if the structure was the same as what the State used with the Accountable Care Organizations (ACO), and what the risk corridor was for the contract. The Secretary agreed it was the same structure, and explained that Centurion contract was a more forward-thinking and progressive contract than the ACO contract because it included pharmaceuticals and mental health services.

Senator Sears asked why Vermont was second in the nation for the highest amount spent on medical care. Secretary Gobeille responded Vermont provides better care than some other State facilities making the price tag higher. The Secretary encouraged the Legislature to take a closer look at how the State provides health services to its inmates. Senator Ayer and Representative Lippert inquired if Centurion had met its contract obligations for Hepatitis C. The Secretary stated that the State's standard of care for inmates had changed since the initial contract with Centurion was signed by the previous administration, but he believed the company had met its obligations. He promised to retrieve more details on the contract and the numbers of inmates with Hepatitis C during the time frame in question. Senator Sears expressed concern for MAT treatment as well and suggested that there should be a more robust level of care than what has been reported. Senator Kitchel indicated that JFO was tasked with hiring an independent contractor to analyze health care costs in the correctional industries, and has since hired CGL Companies. The Centurion contract was outdated and an RFP to bid on a new State contract was under development, and she cautioned that any RFP include the concerns of the Committee.

The Chair reminded the Committee that the proposed initiatives funding for SUD was an action item. Ms. Clark clarified that the actual action from the Committee for the Department of Corrections Hepatitis C Treatment was for just the FY 2019 funding of $200k because the health contract was on target to overspend this amount.

The Secretary continued reviewing the other proposed allocations for the FY 2019 BAA. Senator Kitchel inquired why the Opioid Coordination Council was only $137,500. Ms. Clark responded that the smaller amount reflected just the State's share. Representative Toll asked that the Agency summarize, at a later date, what the Opioid Coordination Council would do differently than the duties the Departments are already accomplishing to address opioids; and how would the Legislature know what the funding was paying to achieve. Senator Sears asked what the Opioid Coordination Council's function was besides making recommendations. Secretary Gobeille responded that he was one of three chairs on the Council that analyzes information and sets target areas that are in need of additional work or funding. Senator Sears opined that the State was not responding to deaths as it should with 117 overall opioid deaths, and 63-plus deaths on Vermont's roads due to opioid use in 2017. In addition, since Vermont response teams were using upwards of 2-3 doses of Narcan to revive one person, combating the opioid epidemic should be the number one priority of the State. Senator Kitchel expressed appreciation that there were a couple of preventative areas in the proposed initiatives such as the After School Program, but wanted to also see more on mentoring as well.

Senator Kitchel moved to approve the 3-year plan relating to the Substance Use Disorder Response Initiatives Funding as presented by the Secretary of Administration, and as required by Act 11 of SS2018. Representative Fagan seconded the motion, and the Committee accepted the motion with Senator Sears voting no.

2. Global Commitment Fund Waiver Trend

Secretary Gobeille distributed a presentation reviewing the Global Commitment Fund (GCF) Waiver Trend, and explained that the State had recently updated its 1115 Waiver. The Agency estimated the difference between what the State's spending would have been without the Waiver and with the Waiver as "headroom." The State received a letter from the federal government on August 18 explaining that the State must abide by the GCF Waiver Trend rules and use the lower of the two estimates from the States' growth and the U.S. President's estimates. Senator Kitchel suggested that the Managed Care Organizations (MCO) investments should be reviewed for those investments as opposed to Medicaid funded by General Funds. The Secretary explained that the Agency was reviewing how the different buckets of Medicaid funds interrelate with one another, including the GCF Waiver, the MCO Investment funds, and State plan Medicaid funds. The Secretary advised that the federal changes to the Waiver were a big issue for Vermont. Senator Ayer asked what was new or different with the revised Waiver. Secretary Gobeille responded that "with or without waiver" had changed along with a different growth rate, and the federal government holding the State accountable to that growth rate has changed. The cap for the Medicaid Waiver Trend was very different than in years past.

3. Designated Agency Staff Retention – a. Administration – Implementation Report

Melissa Bailey, Commissioner, Department of Mental Health, gave a summary of the Department report on the implementation of $4.3 million to designated agencies. The

Department reviewed the capacity of Medicaid within the Agency's system and how it was distributed to the DAs. Commissioner Bailey stated that the metrics used showed the Department was on target for 2019.

b. Designated Agencies – Recruitment and Retention Impacts

Julie Tessler, Vermont Council of Developmental & Mental Health Services (VCDMHS), distributed a document in response to the recruitment and retention impacts for the implementation of the $4.3 million to designated agencies, and stated that VCDMHS surveyed its members how the funds would be managed.

4.Choices for Care

Secretary Gobeille and Ms. Clark explained that the current budget bill required the Agency report annually on whether there were savings in the Choices for Care program after a 1% reserve. In FY 2018 there were excess savings in the program available for reinvestment. Extraordinary relief of nursing home payments was included in the calculation because of the language added in the budget. Senator Kitchel stated that the codified language's intent was different than what the Department had determined for how savings were calculated. She suggested there should be more discussion and thought on how those savings were determined. Secretary Gobeille offered that the Agency was open to discussing further how the Agency accounts for distributing relief to nursing homes.

5. Health Information Technology (HIT) Fund Annual Report

Michael Costa, Deputy Commissioner, and Emily Richards, Program Director for HIT, Department of Vermont Health Access, summarized the HIT fund annual report. Mr. Costa gave the background of the steps the Department has made toward getting the HIT program back on track or what was the contingency plan. Representative Ancel inquired if the funding source for the HIT program was up for renewal in 2019, and for the Department to be prepared for questions in the 2019 session on what information the legislative members would receive that would renew confidence in the program. Senator Kitchel stated that the HIT fund was a critical piece of the Blueprint but it did not have the accountability piece, but it was encouraging that staff at the Department was taking the issue very seriously.

D. Grant Request JFO# 2923

Representative Ancel explained that the grant had been previously approved through the expedited review process but a request was made for further discussion.

Laura Werner, Public Health Preparedness Coordinator, and Bryan O'Connor, Financial Manager, Department of Health (VDH), summarized the grant. Ms. Werner explained the grant from the Centers for Disease Control and Prevention (CDC) totaled about $2.7 million begins on September 1, 2018 with funds to be expended by August 2019. The grant funds would be used to advance the understanding of the opioid overdose epidemic and scale up prevention activities. Specific actions would include, but not be limited to, the development of teenage after-school programs, development of a death registry system, improving capacity of rapid treatment delivery services, and improving VDH's communications capacity to support opioid-related requests. Senator Kitchel asked if communication meant content or technology, and who it was directed toward. Ms. Werner explained the Department was increasing staff within the communications office to manage internal and external requests, providing training on

communication at the State information center, and providing a tool kit on the safe disposal of sharps to communities.

Representative Toll inquired how the Department would ensure there was no duplication of services with what the Governor's Opioid Council was developing. Mr. O'Connor responded that the Department had a team to review internal opioid programs for overlap, and they were in constant communication with AHS but have not had any formal discussion at this time with the Council. Senator Ayer asked how the Department would enable the Hospitals to share information on MAT patients admitted into the Emergency Rooms with federal rules disallowing the sharing of information for those instances. Ms. Werner responded that VDH was working closely with the Alcohol & Drug Abuse Program within the Department but have not mapped out how that component of the grant would work. She promised to send additional information to the Senator.

The Committee recessed at 12:20 p.m. and reconvened at 1:20 p.m.

E. Introduction of Decarbonization Contractors

Catherine Benham, Associate Fiscal Officer, Joint Fiscal Office, introduced Wesley Look, Senior Research Associate, and Marc Hafstead, Fellow and Director, Carbon Pricing Initiative, of Resources for the Future (RFF). RFF was hired to analyze and produce a report on the cost and benefit of policies to reduce greenhouse gas emissions in Vermont, per Act 11 of SS2018. Ms. Benham announced there were two public forums scheduled to receive Vermonters' comments on decarbonization efforts.

Mr. Look and Mr. Hafstead gave their backgrounds and qualifications. Mr. Look explained that RFF proposed to do a quantitative analysis using its modeling for at least three possible policy approaches: a carbon tax that would increase the price of energy directly and two cap and trade approaches; joining the Western Climate Initiative; and expanding the Regional Greenhouse Gas Initiative (RGGI) to include the transportation sector as considered in the Transportation Climate Initiative. Mr. Hafstead added that RFF has been in business since 1952 and was an independent and nonpartisan nonprofit with the objective of providing economic analysis with the goal of a healthy environment and economy.

Representative Lippert asked if the analysis would include the agriculture and forestry industries in Vermont. Mr. Hafstead responded the study would review them from a qualitative standpoint.

F. Financing Utility Regulation in Vermont Interim Status Report of Public Hearings.

Senator Kitchel explained that the request for the report came out of concern for the Department's structure of generating revenue that no longer was able to support all the work the Legislature expected, and what was a growing deficit.

June Tierney, Commissioner, Riley Allen, Deputy Commissioner, and Stacey Drinkwine, Financial Director, Department of Public Service distributed a presentation on an interim analysis, and Commissioner Tierney explained that it appeared that the Department had been funding its operations starting around 2015 with reserves, and it now depleted those reserves and created a deficit of about $175k in FY 2018. The shortfall of $800k was projected for FY 2019.

The Gross Receipts Tax (GRT) as it presently exists was no longer aligned with the sectors the Department regulates, and it warrants a comprehensive review of how this tax is administered. Questions to ask could include whether the tax should be increased, should there be a fee for services, or a combination of both. The Department had public hearings scheduled to take comments on the draft analysis. In responding to Representative Ancel, Commissioner Tierney stated that the Department was including its bill-back revenue into the analysis.

Commissioner Tierney referred to the chart on the Gross Revenue Tax and explained the equity issues. There were some necessary additions to the Department including enforcement in some areas but no dedicated funds to follow them.

G. Lottery Agent Sales Practices, Integrity, Review Report

Patrick Delaney, Commissioner, and Brian McLaughlin, Security Director, Department of Liquor and Lottery, summarized the report. Commissioner Delaney explained the Department collected data only on winners above the $500 threshold, but had a comprehensive security system in place to avoid employee scamming of the system. Although the Department did not find any issues with employee scamming, it decided to implement some internal rules and policies through its vendor contracts.

Senator Sears commented that today any digital system was vulnerable to attacks and scamming, and he encouraged the Department to continue its vigilance. Representative Ancel asked for clarification of the Department's new rules. Commissioner Delaney responded that in dealing with the perception, the Department has prohibited employees at vendor locations to cash their own or family members' winning tickets, as well as to refrain from gaming while on duty. Representative Toll inquired if employers were allowed to purchase tickets at their own businesses. The Commissioner responded it was difficult to establish when an owner was on duty because anytime they were on the premises of the business they were considered on duty. The Commissioner opined that it precluded them from gaming in their own establishments, but they should be allowed to buy tickets at other establishments, which was a similar protocol to liquor contracts. Senator Kitchel asked if the new policies were enforceable. The Commissioner responded that the Department intended to utilize 8 compliance officers in the liquor division to enforce.

H. Agency of Digital Services Update – Cybersecurity Operations Center

John Quinn, Secretary and Chief Information Officer, and Scott Carbee, Deputy Chief Information Security Officer, Agency of Digital Services, provided an update on the Cybersecurity Operations Center (COC), and provided a copy of the sole-source waiver between the Agency and Norwich University that was approved by the Secretary of Administration.

Senator Kitchel commented that there were questions at the last meeting of whether there would be additional academic indirect costs from Norwich University with the contract, and the JFO had confirmed that there were no indirect costs. Secretary Quinn confirmed the same.

I. Vermont Equipment Growth Incentive Cost-Benefit Model proposed change

Brett Long, Deputy Commissioner, Department of Economic Development, Megan Sullivan, Executive Director, and Ken Jones, Economic Research Analysis, Vermont Economic Progress Council, distributed a memo explaining the proposed model changes. The Chair entered

the written opinion from the Legislature's Economist, Tom Kavet, into the record. Mr. Jones explained the background of the annual proposed change and summarized the proposal. Senator Cummings moved to approve the VEGI Cost-Benefit Model change as presented and Senator Kitchel seconded it. The Committee approved the motion.

J. Fiscal Officer's Report

Stephen Klein, Chief Fiscal Officer, Joint Fiscal Office, summarized that the tracking of Medicaid had improved from the previous week where the State was $4 million below the estimate. FMAP recently came in slightly better than estimated and was up $.5 million or less as Commissioner Greshin alluded to earlier in the meeting. A concern area was that Moody's assigned a new team to work with Vermont. They raised issues with borrowing against cash flow with the State's 10% program used for areas such as local energy programs, Moody's also had concerns about OPEB health benefits funding. There was a report recently from S&P and Moody's that Vermont General Fund size was the smallest in the nation. Representative Ancel commented that Vermont had many other special funds instead of one large General Fund.

Mr. Klein stated that the State Treasurer's Office was in the process of finalizing the Debt Affordability's Committee on recommendations for bonds that could reduce funding by 7%. In the health care arena, two areas that warrant attention by the Legislature were a potential increase in the employer assessment by 23% if not addressed in the 2019 session, and the reintroduction of association health insurance plans and their potential impact on the small group market. Association health plans (AHPs) allow small businesses to band together to buy insurance. Due to changes under the Affordable Care Act (ACA), AHPs could no longer offer health insurance plans in the Vermont marketplace. However, due to recent changes at the federal level, two new associations will now be offering health plans in Vermont starting in CY 2019.

The Committee adjourned at 2:40 p.m.

Respectfully Submitted,

Theresa Utton-Jerman
Legislative Joint Fiscal Office

B.2.b.

VERMONT

State of Vermont
Agency of Administration
Department of Finance & Management
Pavilion Office Building
109 State Street
Montpelier, VT 05609-0201
www.finance.vermont.gov

[phone] 802-828-2376
[fax] 802-828-2428

Adam Greshin, Commissioner

MEMORANDUM

TO: Joint Fiscal Committee

CC: Susanne Young, Brad Ferland, Matt Riven, Ruthellen Doyon, Steve Klein, Stephanie Barrett and Theresa Utton-Jerman

FROM: Adam Greshin

RE: General Fund Balance Reserve

DATE: September 25, 2018

In accordance with 32 V.S.A. Sec. 308c(d), the balance in the General Fund Balance Reserve is $12,492,340.17 at June 30, 2018.

Please contact me if you require additional information.

VERMONT

State of Vermont
Agency of Administration
Department of Finance & Management
Pavilion Office Building
109 State Street
Montpelier, VT 05609-0201
www.finance.vermont.gov

[phone] 802-828-2376
[fax] 802-828-2428

Adam Greshin Commissioner

MEMORANDUM

TO: Joint Fiscal Committee

CC: Susanne Young, Brad Ferland, Matt Riven, Ruthellen Doyon, Steve Klein, Stephanie Barrett and Theresa Utton-Jerman

FROM: Adam Greshin

RE: Transportation Fund Balance Reserve

DATE: September 25, 2018

In accordance with 32 V.S.A. §308c(d), the balance in the Transportation Fund (TF) Balance Reserve is $1,453,650.50 at June 30, 2018.

Please contact me if you require additional information.

B.3.b.

VERMONT

State of Vermont
Department of Finance & Management
109 State Street, Pavilion Building
Montpelier, VT 05620-0401

Agency of Administration

[phone] 802-828-2376
[fax] 802-828-2428

MEMORANDUM

TO: Joint Fiscal Committee
FROM: Adam Greshin, Commissioner, Department of Finance & Management
RE: 27/53 Reserve Schedule
DATE: September 25, 2018

Pursuant to 32 V.S.A. § 308e(a)(2), the attached spreadsheet provides the anticipated liability for the next 53rd week of Medicaid payments and the next 27th state payroll. The 27/53 Reserve was established during the 2016 legislative session to provide a process to annually reserve funds for known future liabilities to minimize budgetary impact in the years that the liabilities come due.

The next 53rd week of Medicaid payments is also scheduled to occur in FY 2022 and has an estimated General Fund cost of $11.67M. This estimate was derived by taking the FY 2018 Medicaid costs and projecting the FY 2022 costs by a growth rate equivalent to the 3-year average Bureau of Labor Statistics' CPI for Medical Care (Aug 2015 – July 2018), or 2.9%.

The next 27th payroll is scheduled to occur in FY 2022 and has an estimated General Fund cost of $12.07M. This was derived by using the FY 2019 budgeted payroll and applying the FY 2019 & FY 2020 collective bargaining agreement across the board (ABI) and step increases and projecting the FY2021 & FY 2022 payroll costs by a growth rate equivalent to the 12-month percent change of Bureau of Labor Statistics' Employment Cost Trends for State and Local Government Compensation (2nd Quarter of 2018), or 2.3%.

The attached spreadsheet provides a schedule for transfer to the 27/53 Reserve to ensure that there are funds available to help meet future liabilities for the 27th payroll and 53rd week of Medicaid. Based on current estimates and the prior year fund balance, $3.7M should be reserved annually to meet these future liabilities.

Per 32 V.S.A. 308e (b), $3.7M shall be presented as a budgeted transfer in the FY 2020 Governor's Recommended Budget.

27/53 Reserve Contribution Schedule

Presented to JFC September 27, 2018 Per 32 V.S.A. § 308e(a)(2) in millions

Projected Total Contributions	Total Need	Fund Balance	Balance to Allocate	Years until Liability is Due	Annual Deposit
53rd Week	11.67	6.12	5.55	3	1.85
27th Pay Period	12.07	6.41	5.65	3	1.88
Total	**23.74**	**12.54**	**11.20**		**3.7**

53rd Week	Actual 2017	Actual 2018	As Passed 2019	2020	2021	2022
Prior Year Balance	-	2.64	4.36	6.12	7.97	9.82
Close Out Deposit	2.64	-	-	-	-	-
Annual Contribution	-	1.72	1.76	1.85	1.85	1.85
Total Reserved for the 53rd week	**2.64**	**4.36**	**6.12**	**7.97**	**9.82**	**11.67**

Notes: In FY2019 53rd Week Payment is $1.76M per 2018 Act 11 Sec.D104(a)(1), remaining payments will cover the $11.67M obligation due in FY2022. Assumed annual growth rate in Medicaid of 2.9% budget, based on 3 year average (Jul 2015-Jun 2018) of Bureau of Labor Statistics CPI for Medical Care.

27th Pay Period	Actual 2017	Actual 2018	*As Passed 2019	2020	2021	2022
Prior year balance	-	2.64	6.41	6.41	8.30	10.18
Close Out Deposit	2.64	1.79	-	-	-	-
Annual Contribution	-	1.98	* -	1.88	1.88	1.88
Total Reserved 27th Pay Period	**2.64**	**6.41**	**6.41**	**8.30**	**10.18**	**12.07**

**Notes: Last 27th Week Payment was made in FY 2018 for FY 2019, per 2018 Act 11, Sec.C.1000(b)(1). Assumed annual growth rate of 2.3% (FY20 assumes 3.25% per CBA), based on the 12 month % change (2nd Quarter of 2018) of Bureau of Labor Statistics Employment Cost Trends for State and Local Government Compensation.*

Total Projected Reserve Balance	Actual 2017	Actual 2018	As Passed 2019	2020	2021	2022
Prior year balance	-	5.29	10.78	12.54	16.27	20.01
Closeout Deposit	5.29	1.79	-	-	-	-
53rd Week contribution	-	1.72	1.76	1.85	1.85	1.85
27th Pay period Contribution	-	1.98	* -	1.88	1.88	1.88
Total Reserved 27th Pay Period	**5.29**	**10.78**	**12.54**	**16.27**	**20.01**	**23.74**

VERMONT

State of Vermont
Agency of Administration
Department of Finance & Management
Pavilion Office Building
109 State Street
Montpelier, VT 05609-0201
www.finance.vermont.gov

[phone] 802-828-2376
[fax] 802-828-2428

Adam Greshin, Commissioner

MEMORANDUM

To: Agency Secretaries, Commissioners and Business Managers

From: Adam Greshin, Commissioner of Finance & Management

Re: FY2020 Budget Development Guidance & Initial Submissions

Date: September 20, 2018

On behalf of the Vermont Department of Finance and Management, I want to thank you and your teams for your work on the FY2019 budget as enacted. For the first time in years, excellent management, fiscal discipline, and economic growth combined to generate a surplus in FY2018, allowing us to strengthen reserves and hold down property taxes. This positions us to begin the FY2020 budget development season in a stronger position to strengthen the fiscal fundamentals of state government and prioritize investment in strategic priorities.

Goals of the Budget Development Process

In the budget development process, our goals are to:

- Orient our decision-making to the Governor's three strategic goals of growing the economy, making Vermont more affordable and protecting the most vulnerable;
- Contain total spending growth across all funds to the Growth Rate Calculation[1]; and
- Identify specific, measurable system and process improvements -- as well as structural and/or programmatic improvements – to sustain or increase the capacity of state government, while lowering cost growth.

The Crux of the Challenge

In July the Emergency Board approved an upgrade to our revenue forecast for all state funds (General, Transportation and Education) both in FY2019 and in FY2020. Though revenue is growing from sound fiscal management and a strong economy, the day-to-day operational costs of state government and increasing payments to retire unfunded liabilities continue to exceed growth in our economy, average wages, and available tax revenue. In the General Fund, for example, growing payments to meet our retirement obligations to state employees and teachers fully consumes the projected revenue growth in FY2020 at an

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[1] In this stage of budget development, a growth rate calculation of 2.25% is assumed. This growth rate calculation reflects the average rate of growth of wages for Vermonters over the past 6 years. The final growth rate will be available in early December 2018, when the next quarter of wage growth data becomes available. Data to date supports using 2.25% as an initial barometer.

estimated cost of over $30M. (An overview on Vermont's pension liabilities is attached.) We are left with very little capacity to meet normal upward operational costs, such as debt service, caseload pressures and Pay Act.

This challenge becomes more significant, and more important, when we consider that, structurally, this imbalance jeopardizes the capacity to fund existing services Vermonters value and, eventually, core services such as public safety, emergency management and protecting the vulnerable. We must not try to wait this out.

The Department of Finance and Management continues its work to determine the estimated gap between available revenue in FY2020 and the cost of operating State Government. Thanks again to your hard work, the gap will likely be the smallest in over a decade. Nonetheless, beginning the year with a budget gap in a healthy economy illustrates the financial challenge we face.

Preliminary Budget Target

Agencies and departments are asked to submit an initial budget proposal level-funded to the FY2019 enacted budget, Act 11 of the 2018 Special Session. "Level funding" should be understood to include all financial pressures, including annualizing the FY2019 Pay Act. This submittal must contemplate all programmatic, personnel and statutory changes necessary to achieve level funding.

As part of their submission, agencies and departments are asked to submit all upward and downward pressures (the "ups and downs") that would be reflected in a "level-service" budget. This means no management-driven programmatic changes to the FY19 budget as passed. Changes to grants, federal or state statute, etc. should all be considered in the budget development process.

Please note, the Governor has asked the Cabinet to work together to develop enterprise-wide strategies to aid in the accomplishment of the exercise. They will need to work quickly to allow for the appropriate financial analysis in time for the submittal. It is important that Cabinet members utilize their expertise, and that Finance and Management is included in this endeavor.

The following broad guidance may also be helpful to you (additional details in the technical supplement):

- ***Federal Funding*** – Generally, absent clear federal guidance and reasonable certainty, please assume federal funding remains status quo from FY2019. If there are increases to federal funding, be prepared to provide the relevant details behind the increase. Anticipated reductions in federal funding should be met by corresponding reductions in the relevant federal program. This should include reductions in programmatic and administrative costs and associated limited service positions.

- ***Internal Service Funds*** – Please assume, initially, no increase in internal service fund charges and we will communicate changes as necessary.

- ***Fees*** – In your budget submission, you may consider proposing changes to fees. However, the Governor has indicated a continued preference for lowering fees, or maintaining them at their current levels, wherever it is feasible. In the evaluation of fees administered by your agency or department, you should identify fees that you recommend discontinuing or consolidating. Consistent with 32 V.S.A.§ 605, any request for a fee increase must be accompanied by detailed,

data-driven justification for proposed increases. Please be prepared to demonstrate that every reasonable step has been taken to improve efficiency, capacity, and productivity of the program and its processes and systems. Fee requests will be evaluated on a case-by-case basis.

- ***One-Time Funds*** – There are one-time surplus funds available in FY2019 that cannot be used to support on-going operations. Please think creatively and boldly about how your agency or department would use one-time funds to achieve program efficiencies, modernization or program changes that will yield a return on investment in future years. Consider whether these one-time funds could be used as a funding bridge to phasedown or transform an existing program. These ideas should be presented as part of your Agency's budget submission. *Recommendations that create base pressures in future years will not be accepted.*

Strategic Budgeting

As a reminder, one of our strategic goals is to deliver the first strategic budget through a budget development, accounting and financial construct that supports performance management by June 2021. As Executive Sponsor of this initiative, I am committed to achieving this goal and the FY2020 budget will represent the first year of a proposed 3-year rollout prepared in partnership with Sue Zeller, the Agency of Administration's Chief Performance Officer.

The Phase 1 approach in FY2020 is to demonstrate proof of concept to the Legislature using the more than 83+ programs across 34+ units that submitted programmatic performance measure budgets in FY2019. The proposed budget will show a direct linkage between programmatic performance and budget review. This step builds on the great PIVOT work completed to date and will set the stage for future years' outcomes-based budgeting.

If your Agency or Department does not currently report programmatic performance measures to the Chief Performance Officer and the Legislature, please take steps this fiscal year to begin that process.

The Phase 2 strategy includes expansion of programmatic performance measure budgeting in FY2021 to many more programs across state government. Sue Zeller, as always, is available to assist you and your teams to identify programs and performance measures to include in the process.

FY2020 "program budgeting" instructions are provided in the attached technical supplement, and Sue will be providing further communication about the plan to fully link strategic planning to budgeting.

More Cabinet Level Input and Engagement

As suggested above, the Governor has asked the Cabinet to work more closely together, and more directly, on the development of the FY2020 budget. This executive-level leadership will improve each agency's visibility of the budget as a whole and ensure decisions are made, and policy priorities are discussed and set, in the context of available resources and state government's overarching strategic plan.

Conclusion

Initial budget submissions are due on or before October 12, 2018. Agencies and Departments must submit their budget requests to the Governor through the Secretary of Administration using the email folder ADM.budget@vermont.gov.

The Department of Finance and Management is looking forward to working with Agencies and Departments on this important process. If you are in need of assistance or consultation in this exercise, please contact your budget analyst or me.

Thank you.

C.

State of Vermont
Agency of Human Services
Office of the Secretary
280 State Drive
Waterbury, VT 05671
www.humanservices.vermont.gov

[phone] 802-241-0440
[fax] 802-241-0450

Al Gobeille, *Secretary*
Martha Maksym, *Deputy Secretary*

September 26, 2018

To the Honorable members of the Joint Fiscal Committee,

Thank you for the opportunity to discuss the contract between the Department of Corrections (DOC) and the corporation known as Centurion. As you are aware, the Health Care Advocate (HCA) brought questions to light concerning the payment structure and reimbursement methodology during a Joint Legislative Justice Oversight Committee meeting. Questions such as these are important, and the committee, the bodies they represent, and Vermont is best served by these dialogues. It is unfair to Vermonters to offer as transparency the ability to review lengthy contracts or to attempt to understand these matters by reviewing multiple budgets. It is with this interest, that the people may understand their government, that I attempt a plain language explanation of the contracted health services provided at DOC.

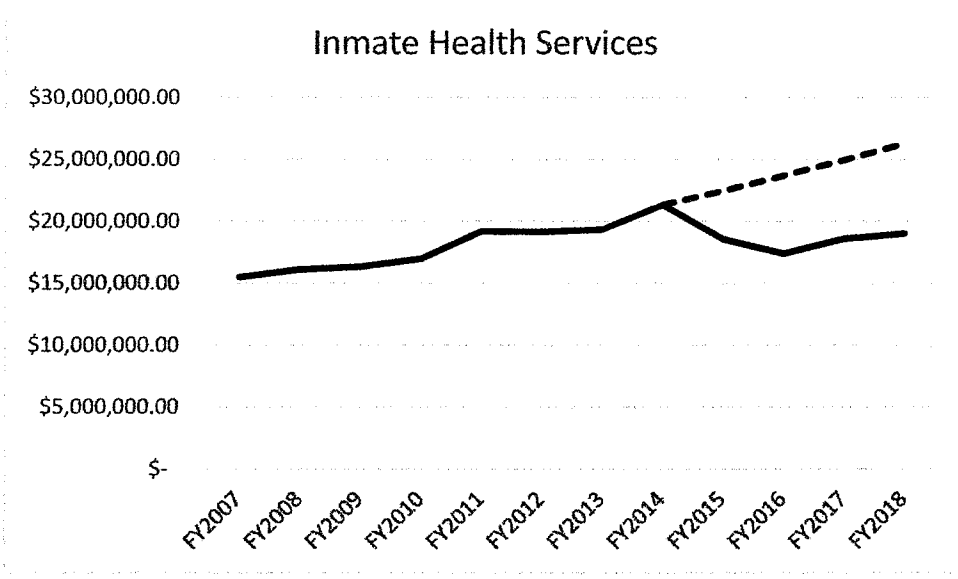
For over 50 years, health care services in the United States have been paid by a fee. For each test, prescription drug, office visit, examination or procedure, providers have submitted a claim and been paid a "usual, customary and reasonable" amount for their time and effort. This is commonly referred to as "Fee for Service" (FFS) medicine. While this method of payment provides 100% reconciliation of payment, it does not answer the questions "Was the procedure necessary?" "Is the patient better off?" or "Could the treatment have been avoided through prevention?" In addition, FFS medicine creates powerful incentives in the provider community to produce a high volume of services, often in direct opposition to the affirmative answers these questions beg for.

Value Based Payments (VBP) have arisen to address the weaknesses of the FFS model. These payment innovations attempt to combine three important components to address the questions raised above.

1. **Change in payment method.** VBP change the way providers are paid. Instead of being paid for every service, providers are paid for the estimated, combined service cost for a given population. Often referred to as capitation, these payments are typically expressed as a monthly estimate of costs referred to as a Per Member Per Month or PMPM.
2. **Quality of care.** Performance measures are created to insure quality of access, patient experience and overall care.
3. **Reconciliation.** A reconciliation process is created to allow payers and policy makers to analyze the delivery of care, and the impacts that changing incentives have on service delivery. The combination of these components gives both the payers of health care services and the providers the fiscal predictability each desire, the aligned incentives to keep people healthy, and the data to determine the efficacy of the health system.

The DOC's plan for correctional health care contracting is a forward-looking effort to move the Department away from FFS, integrate mental and physical health services, improve outcomes, and provide fiscal predictability to the State budgeting process. From Fiscal Year 2007 through Fiscal Year 2014, there was an increase in the inmate health services

contracting cost from $15.5M to $21.3M, which was an average increase of 5.37% annually. Had DOC continued to operate in FFS-based contracts, the cost for providing correctional health care likely would have continued as represented in the dotted line below.



Contract with Centurion

The contract, at a high level, calls for over $20 million dollars in health care spending to be paid to Centurion to meet health system performance goals and measures that are designed to provide high quality health care to the inmate population. With an emphasis on quality of care, the value-based contract establishes a PMPM with a shadow claim reconciliation process. This process compares the total dollars paid in a PMPM to the amount that would have been paid under a FFS agreement.

In the current contract year (Year 4), the capitated amount of $1,181.02 is paid monthly for an estimated average daily population of 1,450 inmates. While there are shared risk limitations on off-site services and pharmaceuticals and limited facility payments, the bulk of the contract is based upon a value-based payment model. Once these financial calculations are made and the contract is signed, the risk moves off the State coffers and onto the contractor to deliver services and manage expenditures, all while meeting performance standards. Examples of performance-based metrics include:

- % of patients with active insurance upon discharge from DOC custody.
- % of patients that are designated as SFI that are seen at least every 30 days.
- % of patients who received the initial healthcare receiving screening within 4 hours of admission.
- % of sick call requests which were seen within the required timeframes.

The data called into question by the HCA, was the reconciliation of some, but not all, components of the PMPM during Year 3 of the contract with Centurion. During calendar year 2017 (Year 3), the capitated payment made for pharmaceuticals and off-site medical services was $4,822,446. The contractor had total shadow claim expenditures of $2,619,129. Per the terms of the contract, the remaining $2,214,317 was utilized for other cost centers within the contract. Our reconciliation of capitated payments to the vendor, minus expenses incurred, yields $445,554 in profit. The contractor, at risk in the contract, retains the profit. This $445,554 is in addition to the corporate overhead (this covers administrative costs and margin) that was built into this contract, which was competitively bid. Centurion was the successful bidder amongst three vendors that responded to the RFP.

In testimony, the DOC team correctly outlined the changes to the vendor contract made earlier this year. While the contract has improved over time, I believe the discussion was not as fruitful as a more considered presentation may have been. Changes to the contract that increase or create risk corridors are not claw-backs or some attempt to retrieve lost money. Risk corridors are usual and customary in provider contracts and reflect upper and lower limits for each partners risk tolerance. In the new contract, the State limits the vendor's lower limit to allow the State to share in some of the impacts of aligned incentives. Again, this is usual and customary in this arena and is not a form of retribution or recognition of some nefarious activity.

Summary

Performance of delivered services versus the PMPM is often expressed as money paid vs. services delivered. While this is a good analysis for future rate setting and examinations of care delivery, it is not representative of services paid for as compared to expenditures of the contractor. Charts labeled as such are inaccurate. The HCA's letter to the Joint Legislative Justice Oversight Committee dated September 20, 2018 shows this comparison and assumes this is a comparison of actual spending. There are no unaccounted for dollars under this contract.

Once the contractor takes the risk of caring for a given population, through a VBP capitated rate, the savings achieved, within the limits of the contract, are the health system's reward for producing high quality care. The State's rewards are improved health for our inmates and not suffering the budget gyrations brought on through FFS utilization spikes. As we change incentives, in the community or through the DOC vendor, it is important to realize that comparing what might have occurred under the old FFS system is illogical, as two incentive systems cannot exist at the same point in time.

As we move to new healthcare payment models, it is discussions like these that demonstrate the DOC's capacity to develop statewide value-based contracting arrangements which will continue to build our knowledge base and provide Vermonters with an ever-increasing understanding of the evolving landscape of health reform.

Sincerely,

Al Gobeille
Secretary, Agency of Human Services

C.1
Agency of Human Servs

ACTION ITEM - SPENDING PLAN - Act 11 of 2018 Special Session, C.106.2:

Item	Total	FY19	FY20	FY21
After School Program	600,000	200,000	200,000	200,000
Nurse Home Visiting	400,000		200,000	200,000
Clinical Suboxone Harm Reduction	600,000	200,000	200,000	200,000
Federal or other SUD Contingency	425,000	125,000	150,000	150,000
DOC - Hepatitis C Virus (HCV) Treatment	200,000	200,000		
Screening, Brief Intervention, and Referral to Treatment (SBIRT)	275,000	275,000		
	2,500,000	1,000,000	750,000	750,000

REPORT - ALLOCATION - Act 11 of 2018 Special Session, C.1000(a)(14)

Item	Total
Nurse Home Visiting	200,000
Opioid Coordination Council (OCC)	137,500
DOC - Medically-Assisted Treatment (MAT)	800,000
Federal or other SUD Contingency	3,150,000
DOC - Hepatitis C Virus (HCV) Treatment	1,812,500
Syringe Services Program	1,000,000
	7,100,000
TOTAL	9,600,000

Agency of Human Services C.1.

Act 11 (H.16) of 2018 Special Session – Substance Use Disorder Initiative Funding

Section	Item	Total	One-time	FY19	FY20	FY21
C.106.2	SUD Response Initiatives	2,500,000		1,000,000	750,000	750,000
C.1000(a)(14)	Medicaid/SUD Carryforward	7,100,000	7,100,000			
	TOTAL	9,600,000	7,100,000	1,000,000	750,000	750,000

ACTION ITEM – SPENDING PLAN – Act 11 of 2018 Special Session, C.106.2
$2,500,000

After School Program
$600,000 ($200,000/year)

These funds will increase access to afterschool programs, with a focus on activities that engage youth while parents are at work.

Nurse Home Visiting
$400,000 ($200,000/year beginning in FY20)

These funds will facilitate the transition to the Maternal and Early Childhood Sustained Home Visiting (MESCH) model as supported evidence-based nurse home visiting practice in Vermont.

Clinical Suboxone Harm Reduction
$600,000 ($200,000/year)

These funds will be used to support and maintain the staff required to provide low-barrier access to suboxone.

Federal or Other SUD Contingency
$425,000 ($125,000/$150,000/$150,000)

These funds will serve as a contingency if the loss of federal dollars or additional needs in SUD investments are identified. It will be spread out over the next three fiscal years.

SBIRT (Screening, Brief Intervention, and Referral to Treatment)
$275,000 in FY19

These funds will be dedicated to sustaining the SBIRT program at the four pilot hospitals since the grant has ended. The funds will be used to maintain SBIRT staff in emergency rooms while a sustainability plan is developed and more comprehensive program is developed.

DOC – Hepatitis C (HCV) Treatment
$200,000 in FY19

This initial investment will treat those who are already in custody and have HCV, which will help prevent the disease from spreading. The rest of the cost will be covered from funds under Sec. C.1000(a)(14)

REPORT – ALLOCATION – Act 11 of 2018 Special Session, C.1000(a)(14) $7,100,000

DOC – Medically Assisted Treatment
$800,000 ($400,000 in FY19 and FY20)

Expanded access to MAT in Corrections is estimated to cost an additional $800,000/year. The FY2019 budget appropriated $400,000 for expanded treatment. An additional $400,000 is required to fully fund the expanded access to MAT in our correctional facilities.

DOC – Hepatitis C (HCV) Treatment
$1,812,500

We currently have approx. 70 inmates in DOC custody that have tested positive for HCV and are anticipated to be in custody long enough to complete a course of treatment. This initial investment will treat those who are already in custody and have HCV, which will help prevent the disease from spreading.

Federal or Other SUD Contingency Funding
$3,150,000

Given uncertainty at the federal level, these funds will serve as a contingency to ensure the financial viability of targeted state programs.

Opioid Coordination Council
$137,500

The FY2019 budget did not allocate funds for the two FTEs tasked with staffing the OCC. These positions will leverage federal funds.

Nurse Home Visiting
$200,000

This initial investment in nurse home visiting will facilitate the transition to the MESCH model as supported evidence-based nurse home visiting practice in Vermont.

Syringe Services Program (SSP)
$1,000,000

This is an additional investment in SSP. SSP includes a broader array of services, including counselling, in addition to the safe exchange of needles.

VERMONT
AGENCY OF HUMAN SERVICES

C.2.

Medicaid and Global Commitment

September 27, 2018 | Joint Fiscal Committee

Al Gobeille, Secretary

Vermont Agency of Human Services

Bottom Line: 1115 Waivers and Budget Neutrality

- Situation
  - New rules govern our 1115 waiver

- Complications
  1. We have to pay attention to the new rules
  2. There is no additional money
  3. We have to manage to the cap

- Recommendations
  - Analyze every Medicaid policy decision against the cap – including investments
    - Each investment pushes us closer to the budget neutrality cap and needs to be examined carefully

The 1115 Waiver Sets How Budget Neutrality is Calculated

- Longstanding CMS policy requires that Medicaid Section 1115(a) demonstrations be budget neutral to the federal government; meaning that federal Medicaid expenditures for a state cannot be allowed to exceed what would have occurred without the waiver.

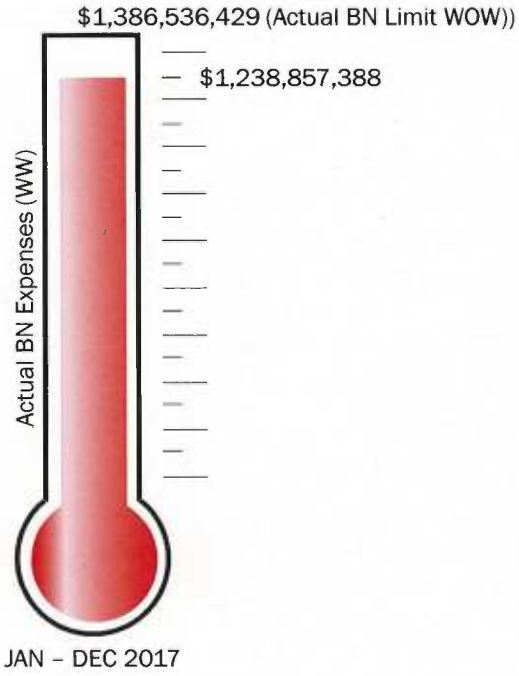
- The "without waiver" budget ceiling is calculated using a CMS and State agreed upon methodology with growth trends that estimate what the cost of Medicaid services would be absent the demonstration.

- For a waiver to be budget neutral, actual Medicaid service expenditures – plus the cost of any expenditure authorities authorized under the demonstration – cannot be greater than the projected "without waiver" expenditures.

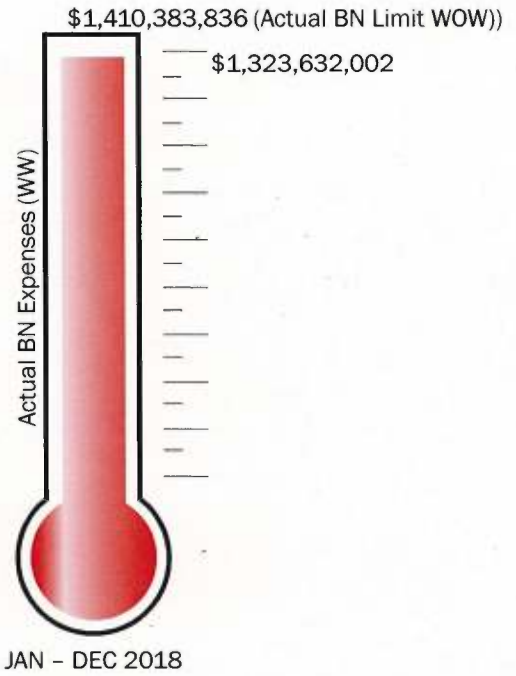
The New Cap is Real and We are Approaching it

- Enrollment (member months) declining (reducing the limit for GC spending)
  - Original CY 2017 enrollment forecast 1,577,559 member months
  - Actual CY 2017 enrollment 1,267,529 member months
- Enrollment mix changed with re-determinations
  - ABD Adults were re-determined as New Adults (quicker eligibility determination process)
  - Existing New Adults were deemed ineligible
  - Cannot accrue budget neutrality savings for New Adults
- **Actual GC expenses are approaching the ceiling – Why?**
  - Increased utilization (DS caseload, Success Beyond Six)
  - Rate increases (DHMC, Brattleboro Retreat, DA wages)
  - New services (Nasal Endoscopy, Colorectal Cancer Screening, additional Cystic Fibrosis test)

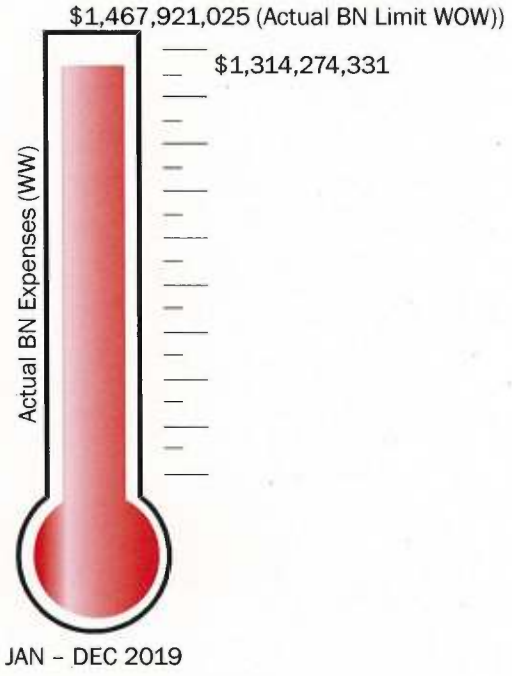
Budget Neutrality



(Difference) Savings:
$147,679,041 or 11%



(Difference) Savings:
$86,751,834 or 6%



(Difference) Savings:
$153,646,693 or 10%

The Problem for Policymakers has Changed from Finding State Match to Managing to the Cap

- The problem to solve has changed:
  - Old 1115 Waiver created plenty of room for spending *if you could find state dollars to get ffp*
  - *New waiver has very little room for spending and leaders need to be mindful of the cap in all decisions*
- We expect this pressure to continue:
  - The next renewal period at the end of CY2021, the GC WOW pmpm rates will be rebased for CY2022-2026
  - The same methodology will apply – MEG pmpm at either the trend rate based on the last 5 demonstration years (2016-2020), or the trend rate based on the President's budget, whichever rate is lower between the two scenarios
  - This could reduce the amount available for Investments, expansion services, and the State's ability to deal with price pressures
- What should you be doing?
  - Use the upcoming budget exercise to evaluate all Waiver spending
  - Scrutinize every Investment

C.3.

VERMONT

State of Vermont
Department of Mental Health
280 State Drive, NOB 2 North
Waterbury, VT 05671-2010
http://mentalhealth.vermont.gov/

Agency of Human Services

[phone] 802-241-0090
[fax] 802-241-0100
[tty] 800-253-0191

MEMORANDUM

TO: Joint Fiscal Committee

FROM: Melissa Bailey, Commissioner, Department of Mental Health

DATE: September 20, 2018

SUBJECT: Report- 2018 Special Session, Act 11, Section E. 314 Designated Agency Staff Retention

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Act 11, Section E. 314 of the 2018 Special Session requires the Department of Mental Health to report to the Joint Fiscal Committee in September 2018 on implementation of increased payments to Mental Health Designated Agencies in fiscal year 2019.

Please see attached, two documents:

1. June 28, 2018 memorandum to Vermont Care Partners and all Designated Agency Executive Directors and Chief Financial Officers describing the methodology for allocation of the $4,328,689 increase.
2. Chart showing Designated Agency funding allocation increase amounts.

State of Vermont
Department of Mental Health
280 State Drive
Waterbury, VT 05671-1000

Agency of Human Services

TO: Vermont Care Partners
Designated Agencies - Executive Directors and Chief Financial Officers

FROM: Department of Mental Health - Melissa Bailey, Commissioner and Shannon Thompson Financial Director

DATE: June 28, 2018

RE: Allocation of FY 19 New Funding - $4,328,068

The allocation of the new funding will be sent to each Designated Agency (DA) within the next week. Since the allocation of $4,328,068 was not based on a straight across the board Medicaid rate increase yet needs to be applied as a Medicaid rate increase we considered a few different factors and will be allocating the funding in the following manner:

- DMH totaled the amount of funding each DA receives in their Exhibit B and within other DA/DMH GC programs that are associated with Medicaid and Global Commitment Investments, as well as other programs that it has been decided will be rolled into the new case rate beginning January 2019.
- DMH then calculated the percent each DA receives of that total funding.
- DMH applied 80% of the $4. 3M total allocation across all Medicaid programs that will be rolled into the new case rate and established a Medicaid rate increase of 3.8%.
- Because up to the remaining 20% ($865,613) can be used by DMH for incentive payments once the case rate begins in January 2019 we have decided that approximately one half of the 20% ($432,806 or first ½ of the 20%) will be rolled into the case rate depending on DA billing to date at start of case rate.
- If there is any remaining funding of the $432,806 or first ½ of the 20% and depending on billing to date it will be distributed into the case rate.
- Keeping the full 20% out will allow us to establish an annualized incentive payment for the new bundle (recognizing this may change based on negotiation between DMH and DAs regarding the funding allowed for an incentive payment in payment reform).
- The funding allocated from the legislature was not based on total amount of Medicaid in the DMH budget regardless of funding source (such as DCF or Success Beyond Six) so it was not applied to those programs however the Medicaid rates for those services will increase by the same 3.8%.

Our intent is to be as fair as possible and provide each DA with the same percent of the new funding as the percent based on Exhibit B and other DA/DMH GC programs that will be part of the January 2019 bundle and is associated with Medicaid and Global Commitment Investment each DA receives. If you have any questions please contact Shannon or Melissa (Shannon.thompson@vermont.gov or Melissa.bailey@vermont.gov).

FY 2019 DA Allocations of $4.3M from Legislature

DA Allocation - % Based on all DA/DMH services	CMC	CSAC	H C	HCRS	LCMH	NCSS	NKHS	RMHS	UCS	WCMH	Total
% of Allocation	5.5%	7.9%	16.6%	17.0%	5.3%	11.4%	7.8%	7.3%	5.3%	16.0%	100.0%
Total Allocation	**$ 236,167**	**$ 341,019**	**$ 718,348**	**$ 734,977**	**$ 229,067**	**$ 492,172**	**$ 339,223**	**$ 316,991**	**$ 229,576**	**$ 690,527**	**$ 4,328,068**
20% for value based annually (For Jan 19 start date (2nd 1/2 of FY) ~ 1/2 rolled into bundle and 1/2 for value based incentive this amount is included in the numbers above	$ 865,614										

* this amount includes all DA/DMH funding for services including other department funding that will be included in the bundle. This does not include SB6, ISBs for Laraway, Eldercare or Reach-up

C.3.

Vermont Care Partners

Report to the Joint Fiscal Committee
Targeted Funds to Designated Agencies
For Increasing Mental Health Staff Recruitment and Retention
September 2018

Distribution of the Allocation by Designated Agencies

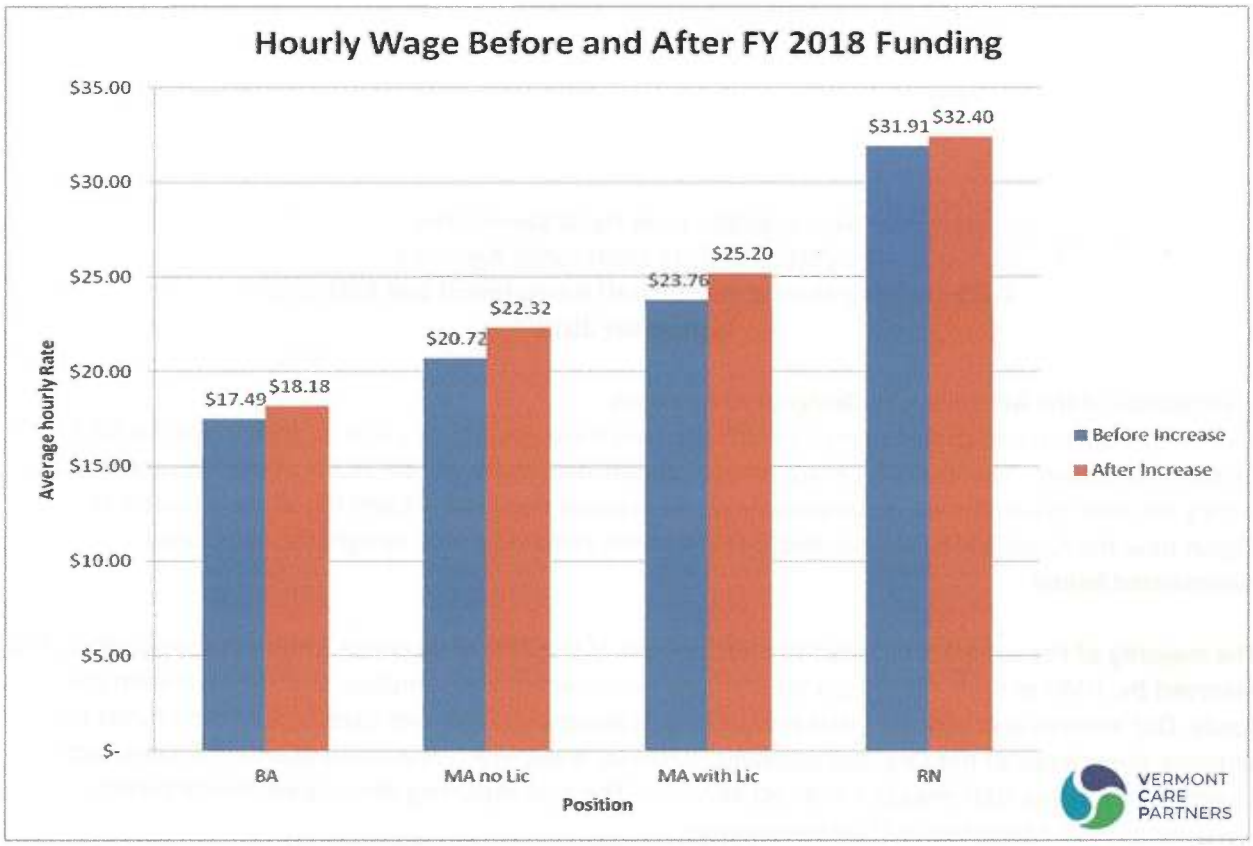
Nine out of the ten designated mental health agencies have developed plans to implement the $4.3 million investment. The Howard Center whose proportional share will be 16.6% of the allocated funds, if they are able to earn them, is currently engaged in union negotiations and therefore is unable to report how the funds will be distributed. Data from the remaining nine designated agencies is summarized below.

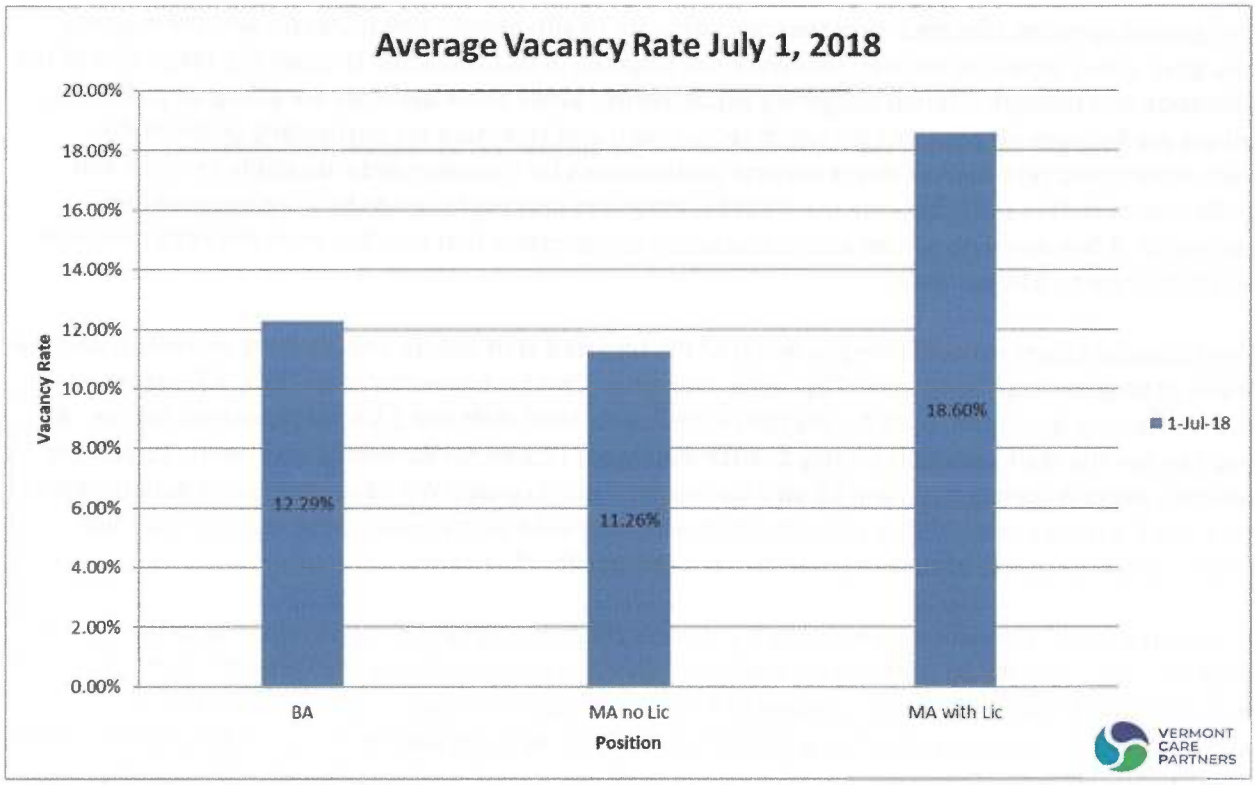
The majority of the agencies included the full amount of the 20% of incentive funds appropriated to, and reserved by, DMH in their allocations for staff pay raises with the assumption that they will earn the funds. Our analysis also indicates that mental health designated agencies used 60% of their funds to improve the salaries of the targeted positions: Bachelor level, Masters without license, Masters with License and nursing staff engaged in direct services. The nine reporting designated mental health agencies gave 663 targeted staff salary increases.

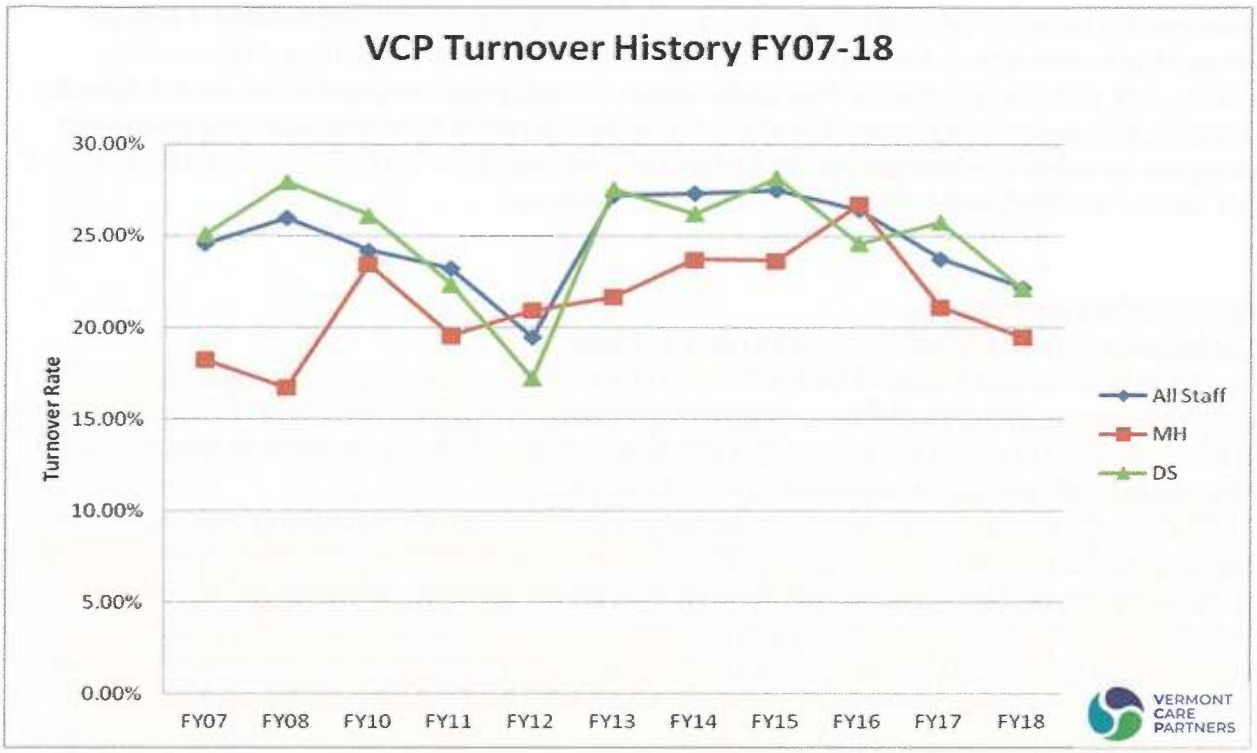
Designated agencies allocated increased resources for health benefit cost increases and the majority also gave salary increases for staff that were not targeted in this allocation through the other 40% of the allocation and through internal budgeting adjustments. While some agencies are giving all staff raises, others are focusing on positions for which recruitment and retention are particularly problematic. Recruitment and retention of direct support professionals for developmental disability services and professional staff in our substance use disorder programs also continues to be a serious problem statewide. A few agencies will be addressing salary compression that resulted from the FY18 minimum wage increase to $14 per hour.

The following charts illustrate the pay levels of the targeted staff before and after the increases, and the levels of targeted staff vacancies. Pay raises averaged: 3.9% for bachelors' level staff; 7.7% for masters without license level staff; 6.2% for masters with license level staff and 1.5% for registered nurses. As you can see the staff vacancies on July 1, 2018 averaged: 12.29% for Bachelors' level staff; 11.26% for masters without license staff; and 18.60% for masters with license. (We have insufficient data to report on nurses' vacancy rates.) We are hopeful that with increased salary levels these vacancy rates will decrease sufficiently to ensure improved access and quality of services.

The chart on staff turnover which covers fiscal years 2007 through 2018 shows recent improvement in staff turnover rates for all staff and for both mental health and developmental disability staff. This indicates that FY2018 workforce investment funds had a positive impact. Agencies also report improvement in turnover rates during FY2017 when a few agencies gave increases in anticipation of the new FY2018 funding. At the end of FY'17 a number of agencies reported improvements in staff morale which correlated with the timing of legislatively approved increases in funding.


Hourly Wage Before and After FY 2018 Funding
$35.00
$30.00
$25.00
$20.00
$15.00
$10.00
$5.00
$-
Average hourly Rate
$17.49
$18.18
$20.72
$22.32
$23.76
$25.20
$31.91
$32.40
BA
MA no Lic
MA with Lic
RN
Position
Before Increase
After Increase
VERMONT CARE PARTNERS


Average Vacancy Rate July 1, 2018
20.00%
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
Vacancy Rate
12.29%
11.26%
18.60%
BA
MA no Lic
MA with Lic
Position
1-Jul-18
VERMONT CARE PARTNERS



All designated and specialized service agencies are challenged to recruit and retain staff due to Vermont's low unemployment level and the limited labor markets in which each one operates. The most significant dynamic noted by each agency is the fierce competition for staff from state government, hospitals, health centers and schools which all offer better benefits and salaries, often more than 20% higher. Most of these competitors offer annual compensation increases which designated agencies cannot match. Therefore it would be beneficial for the State to develop fiscal policy that enables annual funding increases for designated and specialized agencies in the context of annual increases for state employees, health care and school employees.

Vermont Care Partners and the designated and specialized service agencies always strive to meet the needs of Vermonters experiencing mental health and developmental disabilities while maximizing the value of taxpayer dollars. We see the answer to maintaining a qualified, well-trained and experienced workforce as a broader picture than that of adequacy of funding. That's why Vermont Care Partners is working collaboratively with state government on developing value based payments to maximize our resources to flexibly meet the needs of Vermonters. Plus, we are strengthening our innovative partnerships with health care and other community organizations. Workforce training and development, as well as quality improvement initiatives, are also in progress and will complement the impact of the FY2018 and FY2019 workforce investment appropriations.

Given Vermont's fiscal realities Vermont Care Partners is especially appreciative of the Legislature's commitment and investment to our dedicated, hard-working, and knowledgeable workforce. They are the foundation our State's efforts to address the mental health needs of Vermonters. The data suggests that the FY2018 workforce investment appropriation has had a positive impact on staff recruitment and retention. We are optimistic that the FY2019 $4.3 million appropriation will maintain forward momentum, particularly for the targeted mental health staff.

Investment in community-based services is not only sound fiscal policy it is also consistent with the values of Vermonters that chose to close our large institutions in favor supporting citizens to live healthy, safe and satisfying lives in their communities. The designated and specialized service agencies recognize that responsible stewardship of public resources is critical to meeting our obligation as the safety net for vulnerable Vermonters. To be successful we must have the sufficient resources to attract and retain a qualified, well-trained and experienced workforce.

Appropriations Act Language

The language in the Appropriations Act 11 reads as follows:

Sec. E.314 DESIGNATED AGENCY STAFF RETENTION (a) To address the compensation gap between the designated agency system and other providers in the health care delivery system the funds appropriated in this section are to enable the Department of Mental Health to increase payments to the Designated Agencies in fiscal year 2019 in a manner to work toward this goal.

(b) Of the funds appropriated in Sec. B.314 of this act, $4,328,689 shall be used to provide increased payments to the Mental Health Designated Agencies in fiscal year 2019. The Department may allocate up to 20 percent of these funds to be used to address the compensation gap through value-based incentive payments focusing on quality and outcomes. The remaining funds shall be allocated to the base rates for providers. Of these funds, up to 50 percent may be targeted for direct services that are provided by master's level clinicians and other staff with high levels of credentials and experience to reduce the compensation gap for this staff. These targeted funds shall be used to increase recruitment and retention of these levels of professional staff. The Designated Agencies shall assist the Department by providing baseline data.

(c) The Department shall report to the Joint Fiscal Committee in September 2018 on the implementation of this section.

(d) Representatives of the Designated Agencies shall report to the Joint Fiscal Committee in September 2018 on the impacts of these resources on recruitment and retention of master's level clinicians and other staff with high levels of credentials and experience.

Distribution of the Allocation by the Department of Mental Health (per DMH June 26, 2018)

The Department of Mental Health (DMH) increased the funding for Designated Agencies for State Fiscal Year (SFY) 2019 using a fee-for-service rate increase of 3.8 percent. The allocation of the $4,328,068 in new funding was not based on a straight across the board Medicaid rate increase, yet needed to be applied as a Medicaid rate and was allocated in the following manner:

- DMH totaled the amount of funding each DA receives in their Exhibit B and within other DA/DMH GC programs that are associated with Medicaid and Global Commitment Investments, as well as other programs that it has been decided will be rolled into the new case rate beginning January 2019.
- DMH then calculated the percent each DA receives of that total funding.
- DMH applied 80% of the $4.3M total allocation across all Medicaid programs that will be rolled into the new case rate and established a Medicaid rate increase of 3.8%.
- Because up to the remaining 20% ($865,613) can be used by DMH for incentive payments once the case rate begins in January 2019 approximately one half of the 20% ($432,806 or first ½ of the 20%) will be rolled into the case rate depending on DA billing to date at the start of case rate.

- If there is any remaining funding of the $432,806 or first ½ of the 20% and depending on billing to date, it will be distributed into the case rate.
- Keeping the full 20% out allowed DMH to establish an annualized incentive payment for the new bundle
- The funding allocated from the legislature was not based on total amount of Medicaid in the DMH budget regardless of funding source (such as DCF or Success Beyond Six) so it was not applied to those programs, however the Medicaid rates for those services will increase by the same 3.8%. DMH's intent was to be as fair as possible and provide each DA with the opportunity to earn the same percent of the new funding as the percent based on Exhibit B and other DA/DMH GC programs that will be part of the January 2019 bundle and is associated with Medicaid and Global Commitment Investment each DA receives.

FY 2018 DA Allocations of $4.3M

Agency	CMC	CSAC	HC	HCRS	LCMH	NCSS	NKHS	RMHS	UCS	WCMH
% of Allocation	5.5%	7.9%	16.6%	17.0%	5.3%	11.4%	7.8%	7.3%	5.3%	16.0%
Total Allocation	$236,167	$341,019	$718,348	$734,977	$229,067	$492,172	$339,223	$316,991	$229,576	$690,527

C.5.

VERMONT *Agency of Human Services*

Department of Vermont Health Access
Division of Health Care Reform
280 State Drive
Waterbury, VT 05671-1010
[phone] 802-879-5901

MEMORANDUM

TO: Legislative Joint Fiscal Committee

CC: Al Gobeille, Secretary, Agency of Human Services
Cory Gustafson, Commissioner, Department of Vermont Health Access
Michael Costa, Deputy Commissioner, Department of Vermont Health Access
Ena Backus, Health Care Reform Director, Agency of Human Services

FROM: Susanne Young, Secretary, Agency of Administration

DATE: August 31, 2018

RE: Health Information Technology Fund Annual Report per 32 V.S.A. § 10301(g)

Background

This memorandum serves as a report on the State Health Information Technology Fund (HIT Fund) in State Fiscal Year 2018 (SFY18). The HIT Fund is supported by revenue collected through a .0199% tax paid by insurers on each private health insurance claim.[1] Per 32 V.S.A. § 10301, the HIT Fund generally supports electronic health systems, the health information exchange network (operated by VITL), and the Blueprint for Health and like initiatives in their use of information technology (IT). As legislated, the tax revenue that supports the Fund sunsets annually. Act 187 of 2018 moved the previous year's tax sunset to July 1, 2019.

Fund Balance

A year-by-year summary of the Fund's activity is in Table 1, including estimates for the current and upcoming fiscal year. Table 1 shows a slight deviation from the previous year's reporting on the Fund's balance at the end of SFY17. Last year's reporting was based on estimates and was adjusted following the year-end final reconciliation process.

The SFY17 HIT Fund report also included a reference to Act 85 of 2017, and reallocation of monies from the Fund. As stated in Section D.106 *Use of Health-IT Fund Balance,* "...the sum of $500,000 is transferred from the Health IT-Fund to the General Fund and reserved in the Rainy Day Reserve." Section D.106 also includes language pertaining to the use of $2M of the Fund as State match for Global Commitment program expenditures in both SFY18 and SFY19. The previous budget assumed that all referenced amounts would be transferred from the HIT Fund. At this time, there has been a $500,000 transfer to the Rainy Day Reserve. Table 1 below has been adjusted accordingly.

1

32 V.S.A. § 10402 calls for a Health Care Claims Tax in the amount of 0.999 of one percent of all health insurance claims paid by the health insurer for its Vermont members in the previous fiscal year. While .0199% of the collected tax is used for the HIT Fund, the remaining tax revenues are deposited into the State Health Care Resources Fund established in 33 V.S.A. § 1901d.

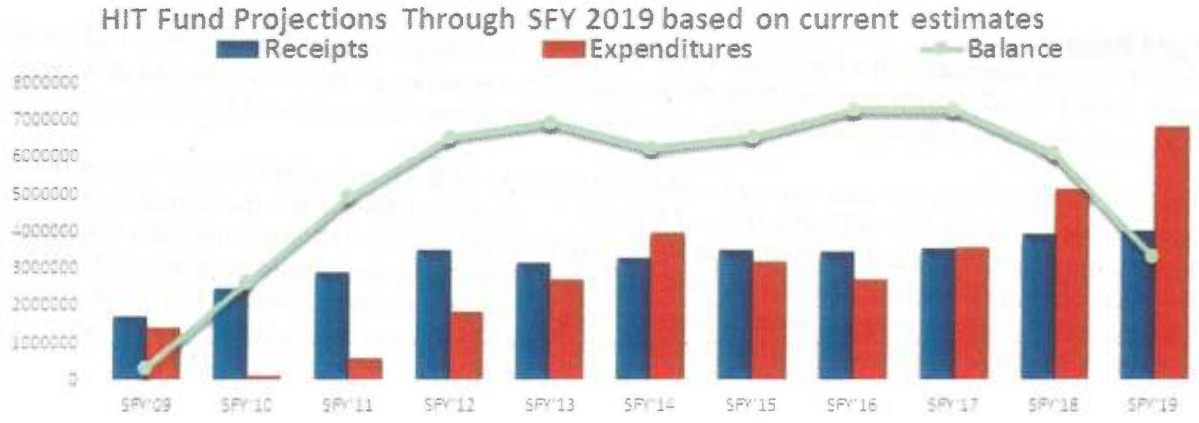
Table 1: HIT Fund Balance Since SFY 2009

HIT Fund Balance Since SFY 2009			
SFY	**Receipts**	**Expenditures**	**Balance**
SFY'09	1,725,505.67	1,404,447.01	321,058.66
SFY'10	2,462,827.92	127,388.62	2,656,497.96
SFY'11	2,877,846.67	589,401.74	4,944,942.89
SFY'12	3,467,955.96	1,856,814.71	6,556,084.14
SFY'13	3,122,198.81	2,721,643.07	6,956,639.88
SFY'14	3,273,051.91	3,964,254.20	6,265,437.59
SFY'15	3,479,090.63	3,183,500.92	6,561,027.30
SFY'16	3,427,185.01	2,691,172.61	7,297,039.70
SFY'17	3,532,426.83	3,541,037.95	7,288,428.58
SFY'18	3,914,003.82	5,090,673.08	6,111,759.32
Total	**31,282,093.23**	**25,170,333.91**	
PROJECTED			
SFY'19	4,000,000.00	6,799,920.06	3,311,839.26

The projected expenditures for SFY19 consist of DVHA's SFY19 HIT Fund initial appropriation of $3,522,585 with an additional appropriation of $506,810.06 of carry-forward funds for expenses incurred but not paid in SFY18. The projection also includes AHS' appropriation of $2,700,525 in HIT Fund dollars for SFY19.

The following graph shows the Fund's actual and projected receipts, expenditures, and balance through SFY19.

Figure 1: HIT Fund Projections Through SFY 19 (*based on current estimates*)



It is important to note that, thanks to the federal HITECH Act, the State Innovation Model, and the Medicaid Global Commitment Waiver, the State has leveraged the HIT Fund to match federal dollars to significantly increase the impact of the Fund. The funding match rates range from 90% to less than 50% depending on the type of activity and who it ultimately benefits, and some activities, such as those related to the State Innovation Model and the Electronic Health Record Incentive Payment program, were 100% federally funded.

Federal HITECH Act funding is slated to expire in FFY 2021. Over the life of the HITECH Act, Vermont and peers in other states have continually built upon federal investment opportunities and grown federal support year-over-year. The ability to maximize the federal match rates has accelerated projects, which span fiscal years. Therefore, investment requests from programs like the Blueprint for Health or VDH's Immunization Registry have grown over time. Due to this acceleration and the increased focus on the importance of health system interoperability, CMS is working with states to determine how to leverage other funding streams to continue HIT development and operational work.

Fund Activities

The following are examples of major initiatives funded by the HIT Fund (See Table 2 for further details):

- **The Medicaid Promoting Interoperability Program (formerly the *Medicaid Electronic Health Record Incentive Program*)** – The Centers for Medicare and Medicaid Services rebranded the Medicaid Electronic Health Record Incentive Program (EHRIP) as part of the Promoting Interoperability Programs (PIP). The HITECH Act funding supports the EHRIP/PIP activities of incentivizing Medicaid providers for the acquisition and meaningful use of electronic health record technology. The PIP requirements continue to be aligned and streamlined, with the goal of moving quality reporting incentives into a new phase of electronic health record (EHR) measurement focused on interoperability and improving provider and patient access to health information. Eligible hospitals and professionals who satisfy the criteria for attestation (meaning that they have met federal requirements) can receive incentive payments. Eligible Hospitals may receive a total of three years of payments, based on a calculated amount derived from their Cost Data Reports. Eligible Professionals may receive a maximum of six years of fixed payment amounts, based on their year of participation. The Vermont Medicaid EHRIP/PIP is supported by 90/10 funding from CMS, with the HIT Fund covering the 10% match for State program software, personnel, and operations. The incentive payments themselves are 100% federally funded but are drawn down and distributed by the State. In SFY18 these direct payments amounted to $3,055,922. To date this program has paid out approximately $55,430,000 to Vermont and New Hampshire hospitals and professional providers, all of whom are registered Medicaid providers in Vermont. For more information about this program, visit: http://healthdata.vermont.gov/ehrip.

- **Vermont Information Technology Leaders (VITL) Health Information Exchange (HIE)** – 18 V.S.A. §9352 designates VITL, a private non-profit corporation, to exclusively operate the statewide Health Information Exchange (VHIE) for Vermont. The VHIE enables the exchange of clinical data from electronic health record systems. This data is used to support providers at the point of care and for population health measurement and analysis by third parties such as OneCare Vermont and the Blueprint for Health. Based on VITL's legislative authority and partnership status with the State, their funding is reviewed and renewed on an annual basis by DVHA as well as reviewed and approved by the Green Mountain Care Board. See Table 2 for a listing of the contracts supported by the HIT Fund, including DVHA's contracts with VITL.

- **Blueprint HIT Infrastructure** – As supported by 32 V.S.A. § 10301, the Vermont Blueprint for Health has made HIT investments for several years to support the program's goals and requirements. The largest of these investments has been in the development and operation of the Vermont Clinical Registry (VCR), formerly called the Blueprint Clinical Registry. In SFY18, the HIT Fund continued to support the program's clinical and claims data aggregation and analytics within the VCR. The Blueprint produces Practice Profile reports, which use data derived from Vermont's all-payer claims database as well as clinical data from the VHIE, allowing individual practices to assess their utilization rates and quality of care delivered compared to local peers and to the state as a whole. The Blueprint also creates profiles at the hospital service area (HSA) level, which is an aggregation of the profiles for all practices within an area. HSA Profiles provide data comparing utilization, expenditures, and quality outcomes within an individual HSA to all other HSAs and the statewide average. In SFY18, the Blueprint began exploring development of the VCR to further enable data-informed quality improvement initiatives, with a focus on sensitive data types such as substance use disorder data. VCR

development activities are expected to begin in SFY19. More information about the Blueprint and its HIT initiatives can found be at http://blueprintforhealth.vermont.gov/.

Table 2: SFY 18 Grants and Contracts Leveraging the HIT Fund

The table below lists the grants and contracts supported in SFY 18 with HIT Funds. The amounts listed are totals for each agreement, and in each case, involve a mix of federal and State dollars. The portion of each agreement that is supported by HIT Fund dollars is noted below.

Grantees/ Contractors	FY 18 Agreement Amounts	% of Agreement funded by the HIT Fund	Summary
Vermont Information Technology Leaders (VITL)	$3,973,471.00	50%	Contract for core operations and management of Vermont's Health Information Exchange (VHIE) and related products and services.
Vermont Information Technology Leaders (VITL)	$1,471,529.00	10%	Contract for VHIE development and expansion projects. This contract leveraged HITECH Act dollars.
Vermont Information Technology Leaders (VITL)	$37,685.00*	10%	Contract for the VHIE to establish a direct data feed connection with DVHA's care coordination tool, primarily utilized by the Vermont Chronic Care Initiative. *The work was completed in SFY19; this amount represents SFY18 only.
Bi State Primary Care Association	$279,999.70	50%	Grant to provide health information technology data analysis, quality improvement, data quality, and project management support to Vermont Federally Qualified Health Centers.
Onpoint Health Data – Blueprint for Health	$1,078,750.00	22%	Contract for analysis and reporting regarding healthcare spending, healthcare utilization, healthcare quality measurement, and healthcare outcomes (healthcare analytic services) for the Blueprint for Health program.
Cathedral Square Corp. – Blueprint for Health	$205,000.00	50%	Grant to provide infrastructure and staffing for the Support and Services at Home (SASH) system as part of the Blueprint's electronic health IT infrastructure.
Capital Health Associates – Blueprint for Health	$968,731.38	50%	Contract that provides data quality project management and consulting services to the currently ongoing statewide end-to-end data quality and transmission initiatives (Blueprint "Sprint"). Also supports on-going operations and maintenance of the VCR.
OneCare Vermont	$3,250,000.00	10%	Federally matched funds included in DVHA's contract with OneCare Vermont used to support the development and roll-out of the Care Navigator care coordination platform.
Stone Environmental	$45,000.00	50%	Contract for operations of a system used to validate criteria for designation as a Blueprint for Health provider.

Additional Considerations

Based on the current state of the Fund, the legislature may consider the following:

1. Section 15 of Act73 of 2017 required that AHS conduct an evaluation of how the State funds, plans for, and supports health information exchange and HIT. Following the release of the evaluation, in 2018, the legislature passed Act 187 to continue oversight of DVHA and VITL's management of health-IT activities. The same Act extended the HIT Fund through SFY19.

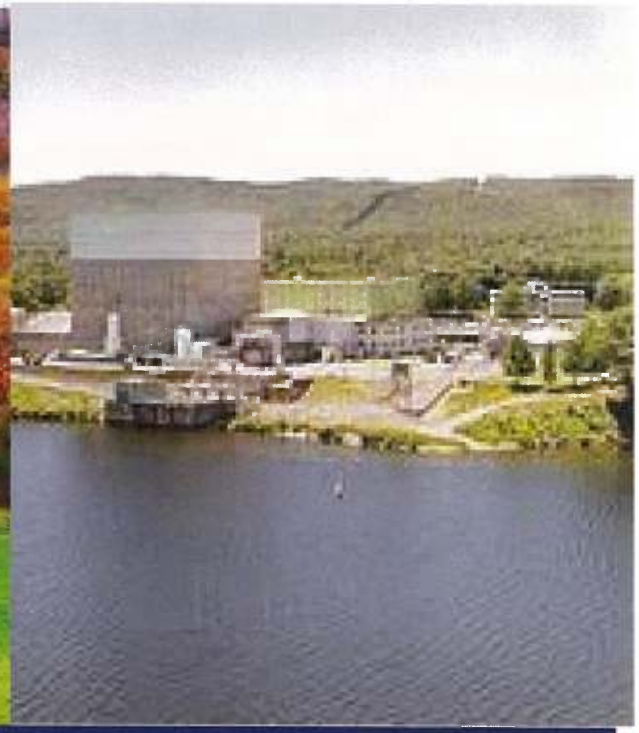
2. By November of 2018, DVHA and the Health Information Exchange (HIE) Steering Committee will produce a state-wide strategic HIE plan. This plan is intended to define specific HIE/HIT goals and establish a mechanism for governing and managing HIE activities, including investments, in CY19 and beyond.

3. There is a modest tension between how the HIT Fund is supported and Vermont's policy goals. The HIT Fund is supported by a tax on health care claims. Vermont has a policy goal of moderating health care costs, which would reduce health care claims. In the long term, this may moderate revenue to the Fund.

F.

Who we are?

- Utility Regulation
- Public Advocacy
- Engineering
- Renewable Energy
- Connectivity
- Consumer Affairs



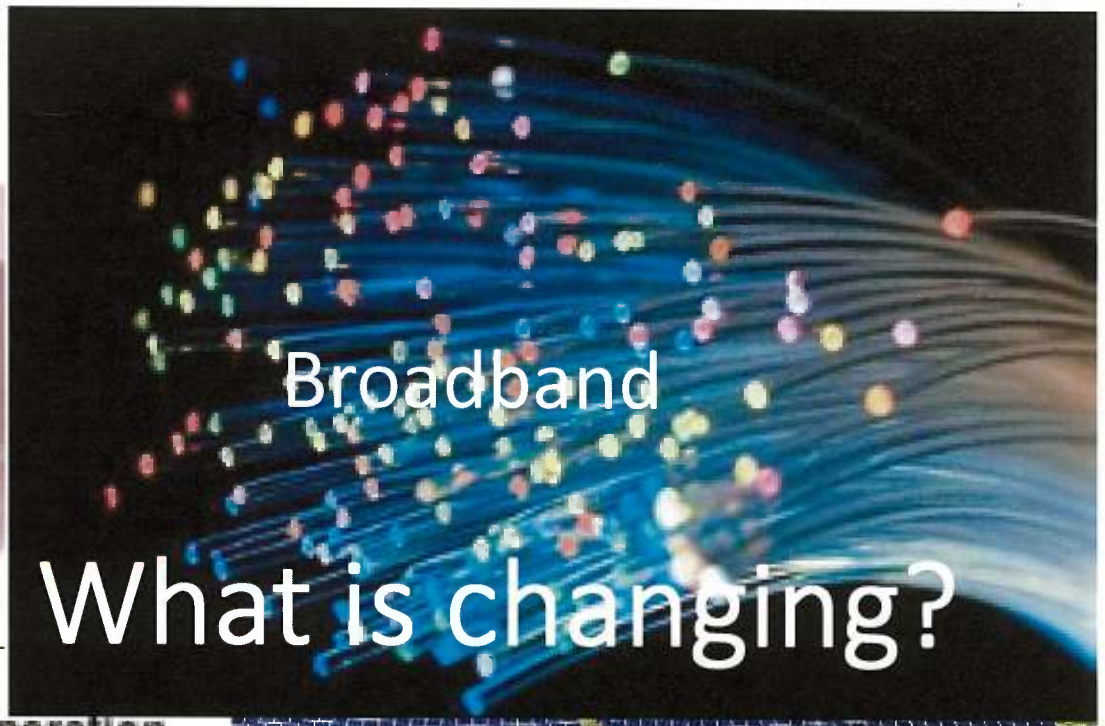
VERMONT
DEPARTMENT OF PUBLIC SERVICE

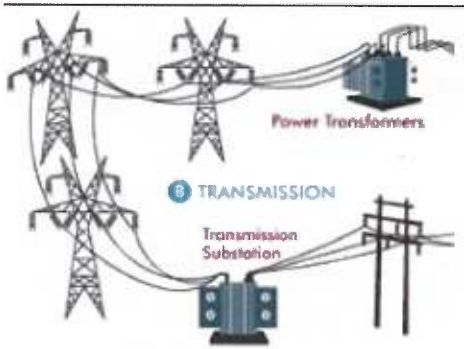
2016 Vermont Comprehensive Energy Plan

HEAT

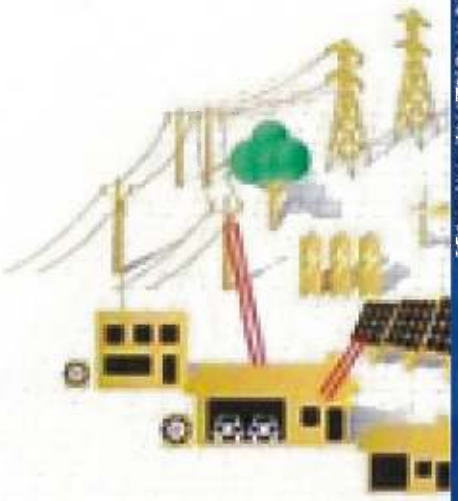
TRANSPORTATION

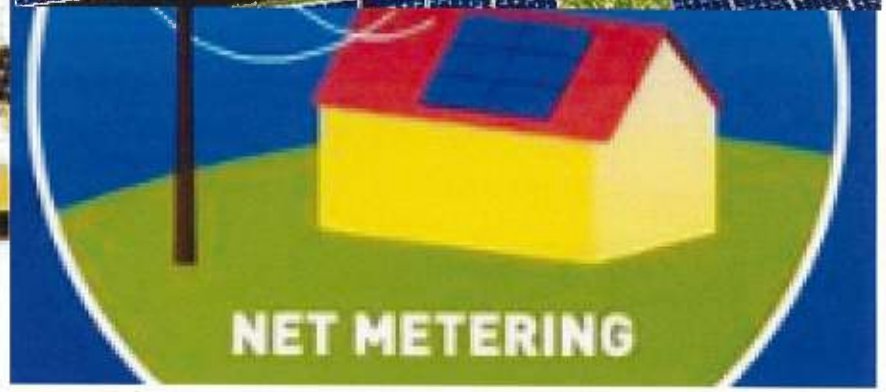
ELECTRICITY





Distributed Generation

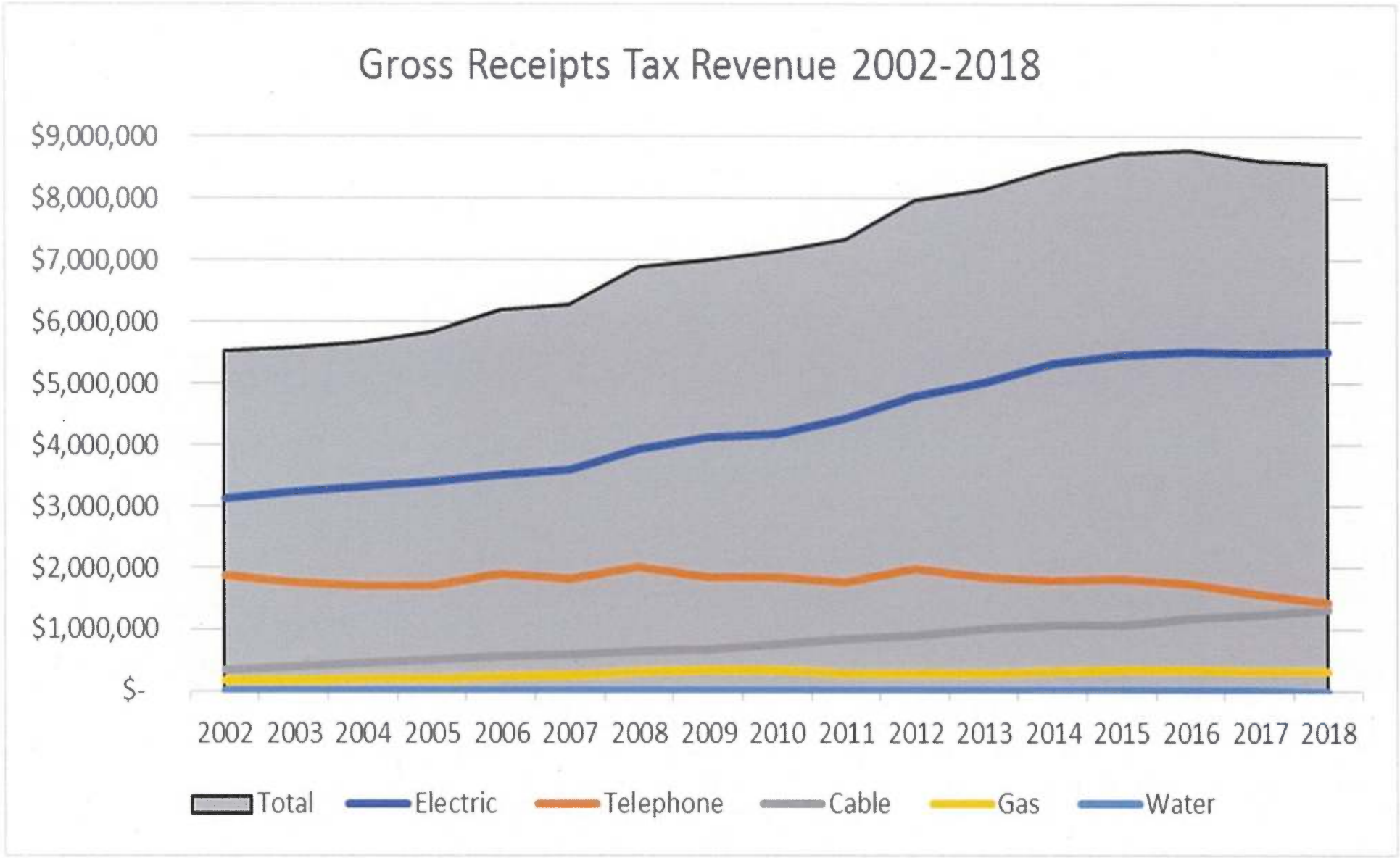




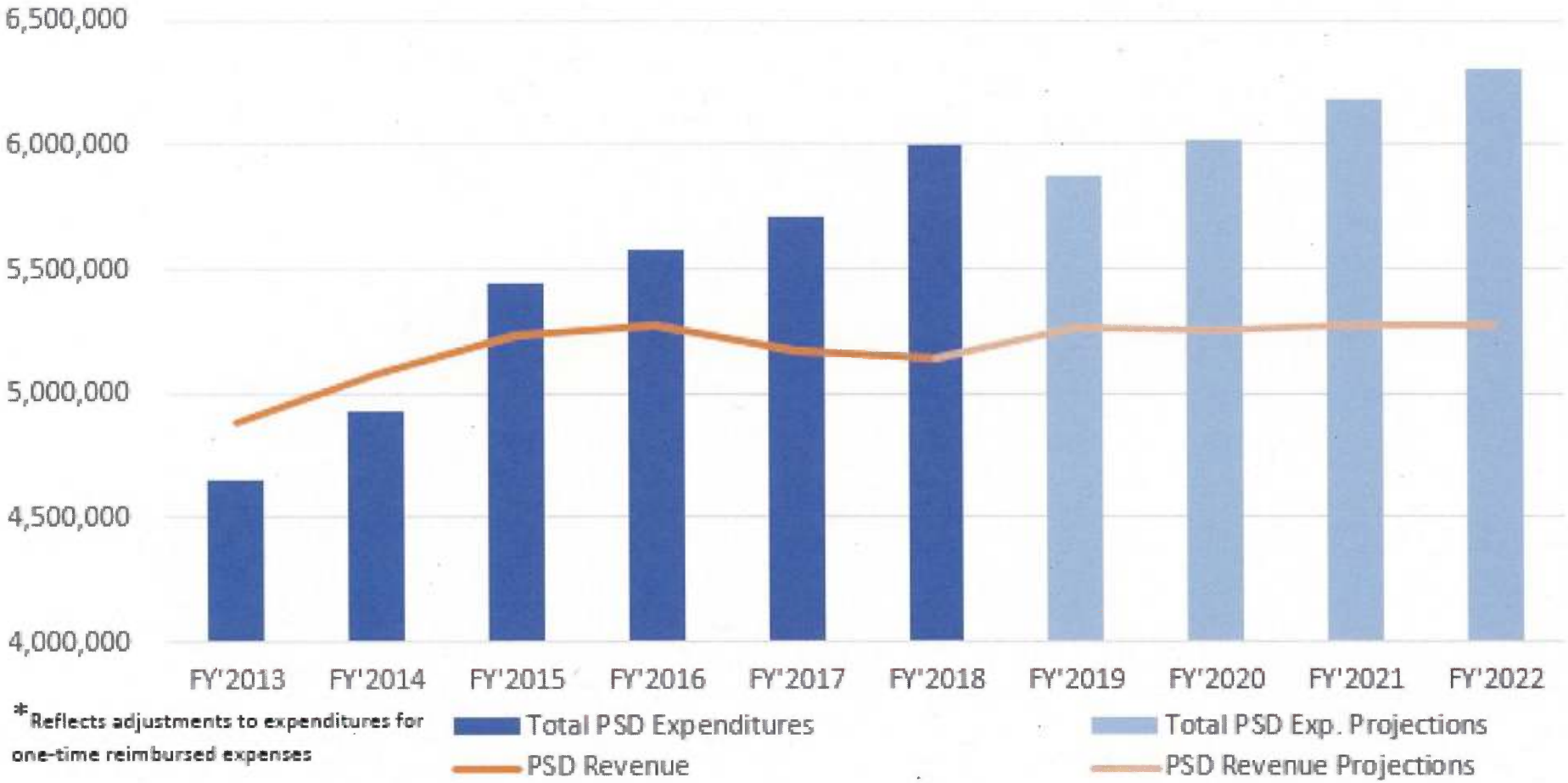
Gross Revenue Tax

		2015	2016	2017	2018	FY 2016 - FY 2018
Electric		5,470,690	5,507,514	5,487,512	5,505,661	0.0%
Telephone		1,826,415	1,747,995	1,571,085	1,419,576	-19%
Cable		1,071,971	1,173,788	1,247,667	1,325,924	13%
Gas		347,410	358,143	302,912	310,285	-13%
Water		1,549	1,304	1,181	1,008	-23%
Total		8,718,035	8,788,743	8,610,357	8,562,453	-2.6%

Department	5,230,821	5,273,246	5,166,214	5,137,472
Public Utilty Commission	3,487,214	3,515,497	3,444,143	3,424,981


Gross Receipts Tax Revenue 2002-2018
$9,000,000
$8,000,000
$7,000,000
$6,000,000
$5,000,000
$4,000,000
$3,000,000
$2,000,000
$1,000,000
$-
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Total
Electric
Telephone
Cable
Gas
Water

Public Service Department
Adjusted Expenditures* vs Revenues FY 2013 - FY 2022



*Reflects adjustments to expenditures for one-time reimbursed expenses

G.

Commissioner of Liquor and Lottery's Report

This report was prepared to comply with H.571 Section 115 (a)

September 27, 2018

Executive Summary

This report has been prepared at the directive of the Vermont legislature. The Vermont Lottery initiated a review of their current winner data as requested in H.7 section 114 (a). A major portion of the data requested in H.7 has proven to be unobtainable. The name of the purchaser is not recorded for sale of individual tickets. Therefore, the individual's ownership stake in a business, employment status, family affiliation is beyond the Lottery's ability to identify and quantify. We have provided statistical data on winner's that collected over $500 because this data was collected and systematically reviewed. The data that is collected by the Vermont Lottery is consistent with the national Lottery industry standards.

Governor Phil Scott also requested that the Vermont Lottery provide responses and recommendations to the media report that purported potential fraud among certain subsets of lottery players. In that report, six individuals were represented as employees or agents who won nine top prizes from instant tickets during a five-year period. The report also highlighted two individuals, also represented as agent's employees that won frequently. After reading the report, prepared by former Executive Director, Danny Rachek, the governor concluded that the reported anomalies were either factually inaccurate or could be explained. The Vermont Attorney General also reviewed the report and concluded that there was no criminal activity detected and no charges would filed.

To fulfill the legislative intent of this reporting requirement the Lottery reviewed the sales, fraud prevention, and security practices of our vendors, manufacturers, and lottery agents to determine whether the policies, procedures and practices that are currently in place were adequate to preserve the integrity of the Lottery and to avoid the appearance of illegitimate winnings by agents, employees or immediate family members.

Based on this evaluation the Department of Liquor and Lottery does not recommend the enactment any new legislation prohibiting agency owners, agency employees or immediate family members from purchasing tickets at the agent's location. The primary reason for this position is that after a thorough review of the media report we don't feel that there is a problem that legislation could address due to the abundance of security features that currently exist to preclude cheating in any form regardless of an individual employment or family status. A law disallowing legal gaming by agents, employees of agents, and immediate family members of agents would ultimately prove to be unenforceable and have a significantly negative impact on education funding due to the exclusion of so many potential players. This type of law would unfairly discriminate against a significant number of individuals that are employed in hundreds of retail businesses throughout the State and the members of their immediate families. The DLL will modify its agent agreement to prohibit owners and employees from playing instant ticket Lottery games at their place of employment.

There are numerous fundamental questions that need to be answered to objectively evaluate the intended and unintended results that would occur if such legislation were to be proposed.

1. **Tickets**- what tickets will be prohibited? Various MUSL games- Power Ball, Mega Millions Pick 3 or Pick 4 or other draw type games are played via terminals. There is no advantage from purchasing one of these tickets at any location. The drawings are not conducted in Vermont or by anyone associated with the Vermont Lottery. The

drawings are subject to a defined draw procedure that include a videotaped 24/7 secure room, draw manager and are witnessed by a CPA.

2. **Employee and family member**- what will the law consider an employee? Will someone working in the butcher department of Hannaford's be prohibited from purchasing a Lottery ticket at Hannaford's? If my son works at Price Chopper collecting carts will I be prohibited from purchasing lottery tickets, there? What about a Dunkin Donuts employee that is co-located in a gas station that sells Lottery- is that employee prohibited? A statutory change would also impact a large segment of the playing population- a supermarket easily has over 100 employees and each with a family. All these individuals would be prohibited from playing at locations where they likely shop.

3. **Law enforcement impact**- The proposed change in the legislation would have a negative impact on potential investigations and identifying theft by the agents.

4. **Ticket theft-** Presently, if an employee is stealing from an unsuspecting winner by lying about a winning ticket there is nothing stopping the employee from cashing the ticket at their own store or at another location. Security would discover the theft by reviewing agent win reports or from a player complaint. The next step would be to determine where the tickets were cashed. The best piece of evidence to prove that the agent stole the ticket is when the agent employee cashes that ticket. So, when the stealing agent cashes the stolen ticket we can pinpoint from lottery records the exact time the ticket was cashed and then we can obtain video of the agent cashing the ticket.

5. **Legislation to prohibit agents from playing will not impact theft-** tickets will still be stolen. However, legislation will take away the best evidence that law enforcement will have to prove the crime- the agent employee cashing the ticket. With legislation enacted the stolen ticket will be given to one or more non-employee co-conspirators (with no ties to the theft or evidence of the theft) to cash because the agent will not be allowed to cash a ticket purchased (or stolen) from his own store. The legislation will move the cashing of stolen tickets one level away from where the theft occurred and one more level away from the best evidence. Making it more difficult for law enforcement to make a case.

6. **Compliance checks**- A more efficient way to curb agent/cashier theft is to conduct additional agent compliance checks and prosecute offenders.

A SNAP SHOT OF DIVISION OF LOTTERY TICKET SALES VOLUME FOR 2017 AND 2018

Fiscal Years 2017 and 2018 ticket sales by individual tickets:

Count of Instant tickets sold by the Vermont Lottery = **49,465,581**

Count of online tickets sold by the Vermont Lottery = 22,709,719

Total count of tickets sold by the Vermont Lottery = **72,175,300**

Instant and Online Tickets	Fiscal Year 17	Fiscal Year 18	Agent/Employee/Family Wins %
Instant	24,653,334	24,812,247	[redacted]
Online/Draw	11,187,888	11,521,831	
Totals:	35,841,222	36,334,078	
FY 17 and 18 Combined	72,175,300		
Winners ($500) and greater	5,690	5,650	
Agent Wins ($500) and Greater	335	345	
	FY 17 = 5.8%	FY 18 = 6.1%	

Total combined agent and employee winners for Fiscal Years 2017 and 2018 exceeding $500.00

Count of individual tickets = six hundred and eighty (680)

In fiscal years 2017 and 2018 there were a total of 11,334 winners $500 or greater, of those 680 were considered agent wins (employees, family of agents, family of employees or related to any of the combination).

The percent of agents wins was 6%.

The percentage of non-agent wins was 94%.

We have recommended improvements that will further strengthen the Lottery's verification processes, as well as potentially assist the state of Vermont in collecting additional revenue, at the end of this report.

CURRENT GAMING SAFEGUARDS THAT PROTECT THE LOTTERY'S INTEGRITY

VERMONT INTERNAL LOTTERY SECURITY FEATURES FOR LOTTERY GAMING

Director of Security

The Vermont Lottery has a Director of Security whose primary responsibility is to ensure that the games offered by the lottery follow the laws and rules governing the industry. These rules are in place to ensure that each player has a fair chance to win the game that they play.

Lottery Security will refer matters to local or state law enforcement when a player or agent/employee is involved with lottery ticket transaction(s) that becomes criminal. Often law enforcement will contact the Lottery to determine where a ticket was purchased and to narrow down the purchase time by reviewing validation records. The lottery gaming system allows for security staff to designate tickets as lost or stolen. The lottery gaming system is set up to alert staff when a stolen or lost ticket has a validation attempt when marked

The Vermont Lottery security practices comply with all industry standards. There are 16 defined security features required to conform with industry standards. Before May 2018 the Vermont Lottery followed 14 of those standards. Following May 2018, the Lottery initiated 2 additional enhancements to our already robust program.

Security Director Brian Mclaughlin recently sorted a winner listing from 2011-2017 by individual names and subtotaled everyone's winnings. Mclaughlin then reviewed the list for individuals that won at least $7,500 and had more than one win during this period. There were approximately 880 winners that met those criteria. Mclaughlin then reviewed the multiple winner list to determine how many agents were among the approximate 880 winners. There were approximately 55 agent/employees, approximately 6.25%, that were multiple winners during this period.

The Vermont Lottery has over 650 agents or stores where lottery tickets are sold. The types of Lottery ticket retailers run the gamut and include gas stations, convenience stores, grocery stores and drug stores. It is estimated that there are on average 10 employees at each store, and that there are approximately 6,500 individuals employed by lottery agents throughout the state of Vermont. As with the public, employees who are 18 and older are permitted to purchase lottery tickets and claim prizes.

It is expected that some of these 6,500 or so employees will win some prizes from the millions of instant tickets that that are sold each year from the 650 outlets. Annually, Lottery tickets purchases earned players prizes totaling between $60-80 million over the last ten years. From 2011 through 2017, the Lottery awarded more than 35,000 individual winning prizes of $500 or more. In addition, the Lottery awarded several million individual prizes that were less than $500 each in the 2011-2017 period.

The Lottery does not maintain records for wins of less than $500, where a check was not issued. This calculation, an average of agent win percentage between 2011 and 2017, 6.48% does not include agent

low tier wins, and it also doesn't include the total low tier player winnings. There are two unknowns to consider when deciding if 6.48% is too large of a percentage for agent wins. These considerations are how many agents/employees and family members play and how much do they spend.

The Agent Compliance Program (ACP)

ACP is a program that is operated by lottery security and staff that gives us an inside look to determine if agents/employees are processing sales and wins appropriately. This program is to determine if agents are halving tickets (buying winners at a discount) or redeeming a winning ticket for less than its value.

Agent Wins Analysis

Agent wins are now linked to the claim rather than the individual- this will enable the Lottery to ensure that all the agent wins are recorded and that the claim information is accurate.

Insufficient Funds Analysis

This data is used to help determine if an agent is getting in trouble with lottery funds. The reoccurring NSF reports will be compared with past investigations and ACP findings to determine further investigation and action.

The lottery validation database for our gaming system for agent wins

Using our gaming system, a report of agent wins is compiled. The report is reviewed for, as well as, high-value wins and high-frequency of wins by agents. If these patterns are discovered, an interview will be conducted. If the player is a store owner, the system is checked against nonsufficient funds (NSF) to determine if the agent owes large amount of monies to the lottery.

High frequency wins are reviewed for a moving 12-month period (12 wins and/or $15k/12-month period)

Suspicious patterns such as- timing of wins, locations of purchases, and winning amounts- for example, one player has numerous $500 wins over a 12- month period but below the threshold of 15. This scenario will be reviewed to determine ticket discounting or cashier theft, etc. The same list is reviewed for agent wins.

An Outstanding Prize Report is compiled

This report tracks how much of a game's tickets were sold and how many prizes remain in each game. This report is also monitored to ensure that agents are not holding back books of tickets. If a retailer/agent has a book or books of tickets and they are not being sold or activated -the Director of Security will further investigate.

A High-Tier Winner's Analysis is conducted

This report shows all winners over $599.00. The report is analyzed to see repeat winners and where the winners are validating. This allows us to review whether a person may have a possible gambling problem and can be used to determine if one area is getting more than the usual wins.

This report is also used to mine for trends in repeat winnings, and to ensure winners are being distributed in a fair manner.

1. Winners complete a questionnaire with Security
2. All winners (claimants) of prizes $25,000 and above are interviewed by Security to determine playing habits and confirm authenticity of the ticket.

Outstanding prize analysis

All available games are checked for the percentage sold and compared to how many large prizes are available. That data is used to see if agents are purposely holding a game to better player odds of winning. An investigation or removal of those tickets will take place if wrongdoing is discovered.

Altered Tickets

In a case where an instant ticket appears to have been altered, security is asked to validate the ticket. An altered ticket is one that appears to have been manipulated to make it a winner. Any damaged ticket will also be reviewed closely. Instant tickets are bearer instruments, meaning the prize is paid to the individual that signs the back of the ticket. Commonly, an altered ticket is when a player signs the ticket and scratches out the name and/or address. There could be legitimate reasons for a signature to be altered on the back of a ticket; inadvertent slip of the pen, signature in wrong spot, or cashing ticket for family member that previously signed the ticket. At times, players are altering a ticket to avoid paying prize money for owed child support or criminal restitution.

When an altered ticket is presented, the retailer staff will notify security. An interview is conducted to see who, when and where the ticket was purchased to verify the rightful owner. Using the gaming system computer, the Lottery can determine approximately when and where the ticket was purchased. Determining who purchased can be done through the agent that sold the ticket, viewing their security cameras, if available. If the name that has been scratched out is visible enough to determine the owner, that person is required to claim the ticket, if the person cannot be verified the ticket is void and cannot be claimed.

Ticket Checkers

Each agent location has a visual ticket checker installed. The ticket checker equipment permits the player to independently verify if they have a winning ticket prior to presenting the ticket to the clerk. In addition, the agents have an audible and visual ticket checker at each counter. If a ticket has a win below $500 the screen will display the winning amount. If the claim is $500 or more, the screen will advise the player to take the ticket to the Vermont Lottery.

Best Practices Policy

Is designed to preserve the integrity of the Lottery game for the player and to educate the player to protect themselves from theft.

Lottery Sales and Marketing Reps

1. Distribute a security best practices brochure for agents

2. Meet with security periodically to review- security practices, and the results of agent compliance operations
3. Act as the eyes and ears of Lottery security – report security concerns back to the main office

Lottery Security Social Media Campaign

1. Consists of a series of tweets, Facebook posts and Instagram messages with player protection tips
2. New tips are disseminated bi-weekly and will be incorporated into the functionality of the Lottery App

Gaming Software Enhancements

The Vermont Lottery's gaming system has built in notifications for certain criteria in validating tickets. For instance, if a stolen ticket has an attempt to cash, the system will notify Lottery Security. Lottery Security can then notify law enforcement. There are notifications that are confidential and proprietary to the Lottery and will not be divulged.

Check A Ticket (CAT) A recent gaming software release changed the printed CAT message to advise the winning player to bring the ticket to the Lotter for a claim, rather than the cashier.

Instant Tickets

Instant tickets, or "scratch tickets," are produced and printed by Pollard Banknote in Lansing, Michigan. Pollard is one of the leading suppliers of instant tickets for over 30 years and serves over 60 lottery and charitable gaming organizations worldwide.

Each ticket has a bar code and a serial number. These items ensure that a player can independently determine if the ticket is a winner. The serial numbers and barcodes are used to scan a ticket for inventory and cash payouts. They also assist with the tracking of inventory, location of the ticket, where it was sold from and when it was received.

The prize payouts for each game are predetermined by senior managers at the Vermont Lottery. Typical pay outs are an average of 62-74% of gross revenues from the ticket quantity or run. More importantly, the location of winning tickets is not known by anyone at the Lottery or Pollard.

The amounts of the prizes vary and are determined by the price point for each ticket and the amount of the tickets that will be sold. The size of the prizes varies from $1 up to $250,000 or more.

A high-tier prize is any prize $500 or higher. The $500 level requires a claim form to be completed. All high-tier prizes are paid by check. In addition to the Vermont Lottery, People's United Bank can process payments up to $5,000.

The Lottery keeps records of all prizes that are paid out for $500 or more. At this prize level the Lottery will verify that the winner is not delinquent with child support payments or criminal restitution. The Lottery also maintains records for any claim that is less than $500 when a check has been issued for payment by the Vermont Lottery or People's United Bank.

There are approximately 60 new instant ticket games introduced each year at different price points. All games have multiple winners and there will be multiple winners claimed during the life of the game. The length of time that the ticket is on the market varies by price point, time of the year, and popularity of the ticket graphics and/or game.

Since July 2010, the Vermont Lottery has had sales of more than $850 million and awarded prizes of more than $548 million.

TRI-STATE AND MULTI-STATE LOTTERY SECURITY FEATURES FOR LOTTERY GAMING

"Online"/Terminal Tickets

The term "online" within the lottery industry and throughout this report does not mean online in the popular sense and it has nothing to do with the Internet. Online refers to games that are sold from a terminal of the lottery gaming vendor. Online or terminal tickets are printed from the terminal at the time of purchase. The online/terminal tickets can be Tri State draw games, such as Megabucks, Pick 3 or Pick 4, or they can be part of larger multi-state games, such as Powerball or Mega Millions.

Pick3/Pick4 are online draw games: The Vermont Lottery participates in the Tri State Lotto compact with Maine and New Hampshire to offer various Tri State games and is also a member of the Multi State Lottery Association (MUSL). As a member of MUSL, the Lottery offers Powerball, Mega Millions and Lucky for Life. These games are sold in Maine, New Hampshire and Vermont. A player purchases a ticket and selects the numbers for the ticket or the computer will randomly generate the numbers for the ticket. A player can bet from 50 cents to $5 per ticket and select different types of number formations: Box, Straight, Front Pair, Middle Pair, etc. – that can earn a larger prize if the numbers are drawn in a certain order. Each different number formation requires an additional payment of $.50 to $5. For Pick 4, the four-digit number can only be selected a maximum number of 8 times for each draw. Because the maximum value of a ticket is limited to $5, a player needs to purchase multiple tickets with the same numbers to bet a larger amount of money.

There are two draws each day, seven days per week for Pick 3 and Pick 4. The Vermont Lottery has no role in awarding prizes for Pick 3 and Pick 4. The draws are managed and conducted independently by the New Hampshire Lottery under the supervision of a Certified Public Accounting firm. Each draw has three witnesses in addition to the independent accountant. The draws are conducted in a draw room that is under lock and key, and only opened to conduct the draw. The room has video cameras to record each draw. In addition, there is a pre-test draw done to ensure that the numbers are coming up randomly and that the draw machine is operating properly. A post-test draw is conducted to ensure that the machine is operating properly, and the numbers were drawn randomly.

Pick 3/Pick 4 draw games are appealing to players because the odds are designed to be better than most games and for a small bet of 50 cents, a player has a chance to win $104. If a player selects a ticket with a maximum of $5 bet, then the winning amount would be $1,040. If the player selected multiple $5 tickets with the same numbers, then each ticket could win $1,040.

The lottery is a game of chance. Playing the games is not a "skill," nor do games rely on the outcome of a sporting event. Every game is designed to have a predetermined number of winners before the game is pulled from the market.

TICKET MANUFACTURER SECURITY FEATURES FOR LOTTERY GAMING PRODUCTS

Ticket Security

As noted above, Pollard is the instant ticket vendor and is the second largest manufacturer of instant tickets in the world. Below are some of the non-confidential procedures that are utilized to ensure that the tickets produced for each game are not compromised. There are certain security measures that are confidential for several reasons to include trade secrets and countermeasure prevention. However, these methods include: image security, printer security, game design, prize distribution, and validation and redemption security.

Facility security

Access control: key activities in the production of instant games are physically and electronically separate. For example, Game Generation and Computer Operations groups are separate from one another within the facility. Those groups are separate from the groups responsible for creating fonts and auditing game data. Separate servers make it practically impossible for any individuals to gain access to data or information for which they do not have access privilege.

Employees receive access only to the areas they must be in to perform their jobs.

Secure validation files

Files of winning validation numbers are provided to the Vermont Lottery. These files identify winning tickets by validation number and prize amount, however, no location information is supplied to the Lottery. Without the necessary computer files, there is nothing in the validation number that identifies a ticket as a winner or non-winner.

Redemption security

Barcodes used to identify the game and to encode the book number, ticket number and validation number are securely imaged at the same time as the variable game data.

Anti-counterfeiting safeguards

Pollard's tickets are created with advanced anti-counterfeiting and validation-security features, which minimize and prevent successful attempts at compromise. Their labs perform an exhaustive variety of experiments on the printed tickets to ensure the performance of these security features.

The first spool of every game is subject to a full security evaluation. If the lab identifies any print flaw that may impact security, they generate an electronic Lab Inspection report that is then tracked to ensure an action has been performed.

Five methods of testing are conducted: mechanical, electrical, chemical, optical and environmental.

1. Mechanical Methods

These typically involve the use of tools or objects to compromise a ticket's security, including:

Lifting and replacing scratch-off using various tools, such as razor blades, paint scrapers, scalpels, etc. Microsurgery or micro-scratching to read game data. Tape-assisted lifting, spray varnish, or chemical solvent assisted lifting methods are also used in attempts to lift the scratch-off material without obvious signs of tampering.

2. Electrical Methods

Using electrostatic testing in combination with various chemicals, Lab personnel determine whether it is possible to read game data through the scratch-off material by running an electric charge over the ticket surface.

3. Chemical Methods

Pollard's lab tests tickets by simulating invasion attempts and allowing common commercial compounds in liquid or vapor forms to contact the tickets. Invasion tactics using these chemicals should ideally result in tickets that are substantially damaged, making ticket invasion attempts obvious.

4. Optical Methods

Lab personnel use high-intensity light through various filters, as well as ultraviolet light, to determine whether game data may be seen through the ticket or the protective overprints.

5. Environmental Methods

Tickets undergo tests in various environmental conditions— such as humidity and thermal tests—to determine ticket reaction. The lab also scrutinizes all products for flaws or discrepancies in certain components, which might allow for picking out or identifying winning tickets.

Ticket storage security

Pollard has secure storage areas for the tickets which are located within their facility based on their stage in production. The areas are locked, restricted-access rooms requiring card key for entry, and are constantly monitored under CCTV surveillance. Ticket stock with "live" game data is covered with multiple layers of voided stock ensuring no live tickets are visible.

Delivery security

Pallets of sealed cartons are stored within a secure area. Tickets are shipped from Pollard to the Vermont Lottery in "exclusive-use" trucks equipped with GPS tracking. Pollard employees load the truck, sealing the truck with a uniquely numbered seal. A bill of lading, which includes the seal number, is then sent to the Lottery so that it can be confirmed when broken upon delivery.

Distribution and packing from the Lottery:

Each box of tickets is off-loaded from the pallet in a defined order. Ticket books are randomly pulled from the boxes and packed in bags/boxes to fulfill Agent's orders. Most of the tickets are shipped via UPS and the remaining tickets are delivered in person by a Lottery Field Sales Representative. There is no person in Vermont or at the manufacturing facility that knows the location of a box or book containing a winning ticket or a top-prize ticket. The winners are randomly placed among the ticket run (ticket quantities or run vary from 180,000 to 600,000) for one game and blindly distributed throughout the state to the 650 agent locations. Not every store is guaranteed of receiving a winning ticket or a mid- or top-tier prize, but every game will award 62%-74% of its sales to winning tickets. The only guarantee is that no one knows where the winning tickets are or where the winning tickets are going.

Distributions of winners- games are distributed throughout the state in no order. Tickets from the same box will end up in multiple locations.

A person must go to the store to purchase the ticket from an agent. This is a random and unpredictable event.

The tickets are tracked electronically throughout the delivery and sales process, much like a UPS or FedEx package. The tickets do not have a cash value until they are activated by a bar code scanner. Each night, the agents are advised to deactivate their entire inventory to prevent theft. Stolen tickets can be flagged to avoid cashing stolen tickets and preventing monetary loss for the lottery or agent.

LOTTERY AGENT/ EMPLOYEES SECURITY REQUIREMENTS

Lottery Agent Security

On the inventory tracking system, the lottery tickets are described as "In-transit" until the tickets are scanned received by the agent. The tickets are not activated by the agent until the tickets are placed in the display counter and are ready for sale. Each evening or at the close of business, the tickets should be deactivated by the agent to avoid monetary loss to the agent. We are proposing to make this requirement mandatory through a revision to our agent contract.

Vermont Agent Win Statistics

The Vermont Lottery asks each claimant of $500 if they are a lottery retailer, related to a retailer or an employee. If an individual wins while they are not an employee and then wins the next year when they are an employee, both wins would be considered agent wins. The same would be true if a winner wins as a clerk of a store, and the next year they win while they are not employed, both winnings would be considered an agent win.

Currently, the Lottery does not ask the winning agent/employee where they purchased the winning ticket, where they were employed, or if they are a relative of a lottery retailer and live in the same household. Therefore, the claim amounts in the table below are an estimate. The totals include both instant and online tickets. The Vermont Lottery has requested that the gaming vendor modify its program to associate the agent win with the claim instead of the individual. This change will ensure that future queries of agent win totals would be more accurate. The amounts below and the percentages calculated were from all claims where a check was issued to winner. Most of the claims

were $500 and greater. However, there were instances when a check was issued for smaller claims processed.

Second Chance Winners

2nd Chance drawing allows the player to enter a non-winning ticket into a quarterly drawing for some large cash prizes. The prizes can be as much as $200,000. Before September 11, 2018 each player was limited to entering 100 tickets per day into the 2nd Chance website. These are non-winning instant tickets that a player can submit to enter the second chance drawing, winning tickets are not eligible. To increase their chances of winning, players collect non-winning tickets in several ways, including garbage picking and solicited non-winning tickets from other players to submit for second chance prizes. This allows people to submit thousands of tickets for the quarterly drawings. There are multiple prizes given out. The tickets are entered through player's accounts that are accessed through our website. The drawings are conducted by our instant ticket vendor, Pollard.

The 100 ticket per day submission was established in approximately 2014. The Lottery staff decided to lower the daily limit of ticket submissions from 100 to 10. It was agreed by the Department that the 100-ticket limit was too high. This change will help limit the ticket stuffers that are entering the drawings and level the odds for all the second chance players. The new submission limits went in effect starting September 11th, after they was messaged to the players and agents.

The Lottery currently does not have the ability to determine if a prize was a 2nd Chance win or if it was the result of a winning ticket. The claim is recorded, and the prize is paid out. However, the Lottery believes that by reducing the 2nd Chance entries (by 90%) down to 10 per day that it will mitigate the advantage for 2nd Chance entries that agents and their employees have over the typical player. The agent/cashier can collect discarded tickets from the store that they work at and enter these tickets in 2nd Chance. The typical player usually submits tickets that they purchased, not tickets that have been discarded. The modification to the 2nd Chance game will reduce agent wins.

Lottery Mobile Application

The development and deployment of a lottery mobile application will improve the player experience in many ways. The immediate and most important way will be increased security. The App will serve as a personal check a ticket (CAT) machine. The app will potentially remove any question of the value of a winning ticket. Currently, CATs will not display or announce the amount of the winning ticket because the ticket is a bearer instrument. The Lottery does not wish to expose the winner to potential criminal behaviors of those individuals that are within the vicinity of the CAT. The app will allow the player to privately verify the winning amount and bypass the cashier or the risk of the cashier stealing the ticket.

Agent play legislation restrictions

In Vermont there is no state statute that prohibits an employee of an agent or an agent from playing the lottery. When a claim of $500 or more is being processed, Lottery staff will ask winners, under penalties of perjury, "Are you a Vermont Lottery retailer, related to one, or do you work at a location that sells Vermont Lottery tickets?" The responses to these questions are associated with the player. The information is used by the Vermont Lottery Security to review agent winnings and unusual claim patterns.

Based on our recent survey results the clear majority of our Lottery retailers place their own restrictions on employees, such as, only permitting employees to play the lottery on their premises during their off-duty hours.

Vermont Lottery employees and family members are not permitted to play the Vermont Lottery, multi-state games or Tri State games within Vermont. The prohibition for family members only extends to family members that reside within the same household. Therefore, employee's siblings, adult children, ex-spouses, etc., are all permitted to play the lottery if they do not live in the same household.

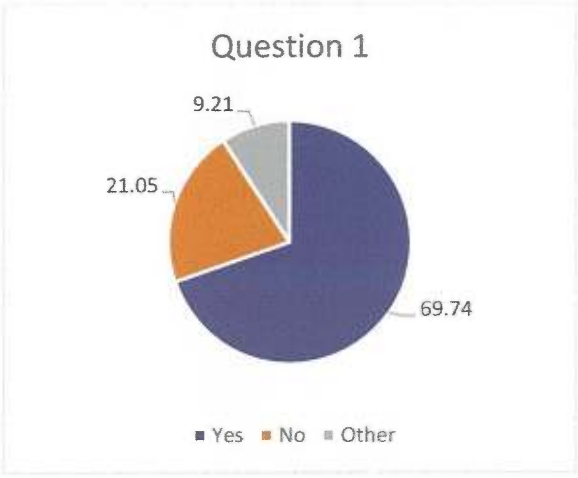
In June 2017, the North American Association of State and Provincial Lotteries (NASPL) conducted a poll of US member lotteries to determine the limitations that were placed on employees of lottery retailers. Responses were obtained from 44 US lotteries. Three states placed restrictions on employees from playing instant tickets:

> **Arizona**: Lottery rules state retailers may not play during work hours. Also, retailers and their employees are asked to declare their winnings on a claim form for any prizes of $600 or more. Lottery staff will review the claim.
>
> **New Hampshire**: As part of the state's lottery retailer agreement, retailers and retailer's staff shall not play lottery games during their working hours.
>
> **Indiana:** Retailer employees and relatives living in the same household may not make lottery purchases where they work.

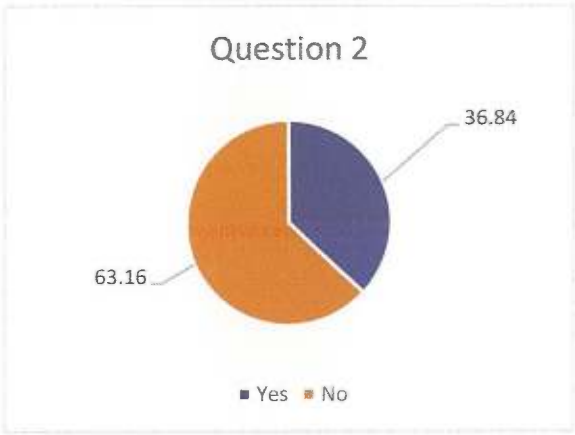
AGENT SURVEY RESULTS

A survey was recently conducted with all of Vermont Lottery's Agents. A terminal message was sent to all Vermont Lottery retailers. 9 questions were asked of those 7 were security related. Vermont currently has 626 retailers, of those, 76 responded and completed the survey. The results of the survey are posted below.

- Question 1. Is it your store policy to deactivate lottery tickets at the close of business each day? The respondents that answered in the "other" category were 24/7 operating stores.

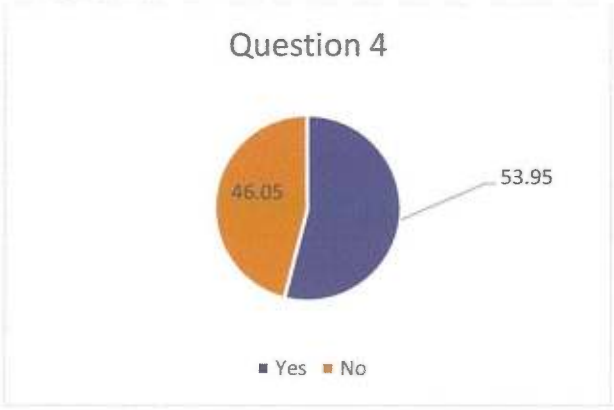


- Question 2. Has your store ever been victimized or an employee suspected of a crime involving lottery tickets?

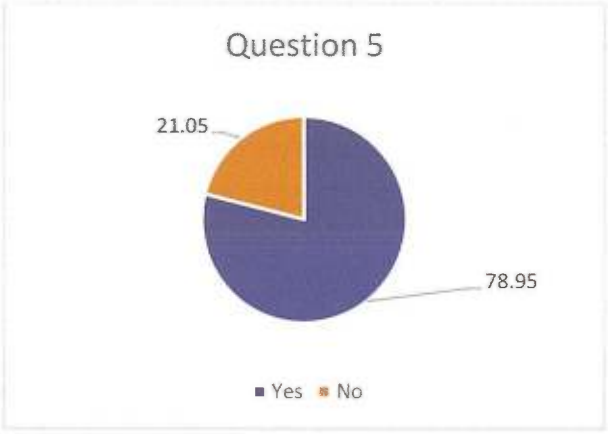


- Question 3. If yes, did you report it to (indicate all that apply):

- Question 4. Are you aware of who to contact at the Vermont Lottery, if your store is victimized?

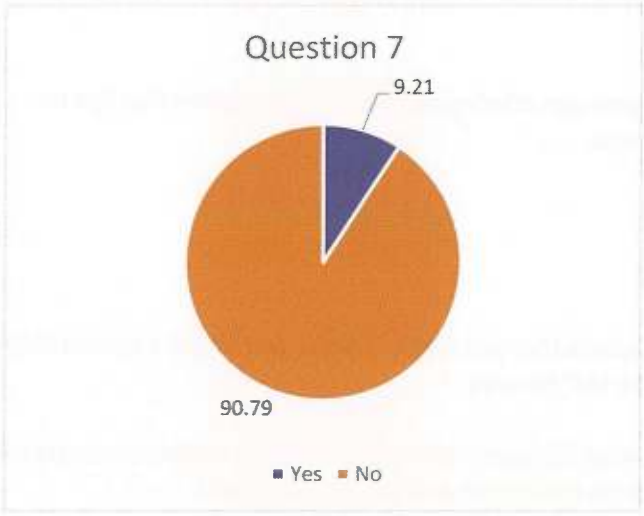


- Question 5. Do you allow employees to purchase lottery tickets at the location where they work?



- Question 6. If yes, are employees permitted to purchase tickets while working?

Question 7. Are employees permitted to purchase or validate/cash their own lottery tickets?



The review of internal Lottery policies and procedures has resulted in the following modifications:

COMPLETED

Instituted procedures to more frequently review prizes claimed by Lottery agents and their employees.

Utilizing an expanded claim form for agent/employee/immediate family wins to collect information about any relationship a claimant might have with Lottery agents and their employees.

Reduced the 2nd Chance player limits from 100 entries to 10 entries per day per person.

Reviewing all top prizes greater than $25,000. This policy aligns our procedures with the policies and procedures that are used by the Multi-State Lottery Association.

The DOL recently completed a project with gaming vendor to attach the agent/employee status to each claim instead of the individual claimant.

The DOL recently updated the messaging on its customer facing self- service ticket checkers in all our agent locations to better inform players on where to redeem winning tickets over $499.

Implemented a social media campaign offering bi-weekly player protection tips on Facebook, Twitter, and Instagram.

IN DEVELOPMENT

Set a standard where the individuals that win multiple times and above a certain amount will trigger a closer inspection by VLC Security.

Adopt best practice Lottery training for agent employees handling Lottery products and incorporate it into DLL certification training on and off- line programs.

Modify our current lottery retailer license agreement to:

cite an anti- ticket discounting policy (to be written) in new licensing. Ticket discounting is a practice where individuals and agents find a third party to cash their winning tickets to avoid criminal restitution or owed child support payments.

Conduct an annual survey of Lottery retailers to determine if they have had any type of ticket thefts within the past year?

Conduct a periodic survey of retailers regarding suggested security enhancements that they would like to see in our new gaming policies.

The Vermont Lottery is working with our instant ticket vendor to provide a mobile application that will permit players to check the winning status of their own tickets. It will become available by the end of the year.

Have gaming vendor issue an email alert to Vermont Lottery Security for unusual validation patterns.

Conclusions

The recent article that was published by a local media outlet could be fairly described as sensational and troubling; if the assertions had been proven to be true. The responses, as presented in the media report, from senior managers at the Lottery were disturbing and inappropriate considering the

seriousness of the accusations. I cannot speak to the circumstances that surrounded either the article or the responses from Lottery leadership because its release preceded my affiliation with the DOL.

The assertions presented in the article did serve as a catalyst for the Vermont Lottery Division to launch a thorough investigation of the individuals and businesses highlighted in the article. I would like to acknowledge the thorough and professional investigation of these accusations by past Executive Director Danny Rachek. The report was compiled and presented at a level that I would have expected from a past F.B.I. professional with over 20 years of investigative experience. The article did encourage the Division of Lottery to take a close look at its policies and procedures with an eye towards improvement

I was encouraged that the findings of the internal investigation refuted the suggestion that the Vermont Lottery and its retailer partners were in some way flawed and compromised. My personal review of Lottery's history, practices and procedures, an examination of the multitude of security features throughout the ticket manufacturing, distribution and retail channels was very enlightening. The results of this in-depth review have provided me with assurances that the Vermont Lottery provides all players with fair and uncompromised opportunities to recreate and win at all our games of chance.

The investigation and creation of this report has also provided affirmations that the Vermont Lottery Division is operated by a very professional and committed group of State employees. This group of dedicated individuals insure that the Division consistently operates within State statutes and regulations, and consistently exceeds all industry standards and procedures. This consistency of approach ensures that all Vermonters, that choose to play the lottery, can do so with the assurance that the Lottery games are not compromised in any way.

The article never clearly states any specific winning advantages that store owners and their employees had when purchasing lottery tickets. However, it does describe scams that had occurred in other states without offering evidence that they have ever occurred within Vermont. The article suggests but does not offer any evidence that any of the winners have done anything illegal or fraudulent in winning but claims that the dream of winning is more likely "if you own or work at one of the state's lottery agents."

There has not been any demonstrated advantage by agents or their employees to playing an online/terminal game from the store where they are employed. All terminal/online games have a drawing that is conducted outside of Vermont that is administered by another lottery. Each of these drawings has specific draw policies in place and are observed by independent auditors. The numbers from each draw are selected by a computerized random number generator or from draw balls randomly selected. It is impossible that any agent/employee/immediate family member would be able to independently manipulate the outcome of one of the multi-state drawings.

The citizens of our great State should recognize the consistent level of commitment and professionalism demonstrated by the team that runs the Division of Lottery and acknowledge their contributions to funding an education system serves our entire statewide community.

H.

VERMONT

State of Vermont
Agency of Digital Services
133 State Street, 5th Floor
Montpelier, VT 05633-0210

John Quinn III, Secretary and State CIO
Shawn Nailor, Deputy Secretary

[phone] 802-828-4141

TO: **Susanne Young, Secretary, Agency of Administration**
John Quinn, Secretary, Agency of Digital Services

FROM: **Scott Carbee, Deputy Chief Information Security Officer, Agency of Digital Services**

DATE: **September 19, 2018**

RE: **Sole Source Waiver Request**

Name of Entity: Norwich University Applied Research Institute (NUARI)
Nature of Service: Security Operations Center (SOC) Infrastructure
Contract Period: 12 Months from Date of Execution

In accordance with Agency of Administration Bulletin 3.5, Procurement and Contracting Procedures, Section VIII, D. 2, the Agency of Digital Services (ADS) respectfully request a sole source waiver request for this contract. Specifically, ADS is seeking a waiver to the Standard Bidding Process as outlined in Section VIII, B. due to the compelling urgency to protect the State's technology infrastructure, the personal and confidential information of Vermonters, and to assure the continuity of State operations. Norwich University is uniquely positioned from a technology and geographic perspective to provide this service. Failure to provide immediate protection in these areas continues to leave the State and Vermonters vulnerable to malicious cyber attacks.

For ADS to carry out the Governor's priorities to grow the economy, make Vermont more affordable, and protect the most vulnerable, ADS has identified the need for a security operations center (SOC). The purpose of a SOC is to have a facility or functional area that monitors, assesses and defends our data, applications, and network. Compromises of computer networks often happen in minutes and the State is not structured to identify and respond in our current configuration. The State currently operates in a traditional "eight to five" environment which is no longer adequate given the sophisticated cyber threats that states face today. Attacks have become more targeted, malicious, persistent, and are designed to acquire valuable information. They have the potential to cause millions of dollars worth of damage due to compromised records and network failure. Attacks on government entities are so pervasive and sophisticated that anyone can become a victim. The SOC is a necessary component of being able to monitor and protect our assets twenty-four hours a day, seven days a week. Every day we are without twenty-four-hour coverage we increase our risk of an unnoticed attack and potential data breach. I cannot stress enough the urgency and importance of moving on this contract quickly. Failure to do so continues to expose the State and its residents to significant financial consequences, loss of personal and confidential information, and a disruption to the continuity of State operations. We have been at high risk for far too long. We have an obligation to Vermonters to do our best to keep their information safe.

During the 2018 legislative session, ADS worked with the Legislature to secure funding to start a SOC implementation in FY19. A detailed implementation plan was delivered to the Legislature in June and approved in July outlining ADS' approach and spending strategy. We briefed the Joint Fiscal Committee on our plan to utilize Norwich at that time.

While researching SOC models in other states, it quickly became evident that we would need to create a public-private partnership to keep costs low and staff the center 24x7. Vermont is fortunate to have two universities with information assurance and cybersecurity capabilities. Norwich University is nationally recognized for its work and affiliations with the Department of Defense and Department of Homeland Security for its work in cybersecurity. They are a center of excellence for the National Security Agency in information assurance. Norwich's SOC is operational 24 hours a day, seven days a week. Champlain College is a recognized leader in cyber forensic work with the Department of Justice and others focused on cybercrimes. Champlain's SOC is operational eight hours a day, five days a week. The Agency of Digital Services Security Operations Center needs tightly align with the cybersecurity and threat detection capabilities that Norwich University offers. Their experience in providing cyber threat monitoring for Super Bowl L combined with the resources already in-place as a result of this work allows ADS to provide more initial service for a lower starting cost. If threats are identified, immediate incident response is critical to mitigating the adverse effects. Norwich's location, its 24/7 offering, and its ability for SOC staff to travel to Montpelier in minutes is crucial for supporting ADS in any incident response scenarios. Response time to Montpelier is one of the reasons having a local partnership is crucial. Several other states have realized the importance of proximity and are starting to work with colleges in their home states to set up similar alliances for cyber services. Furthermore, with Norwich working with the States of Colorado and Washington on a national pilot for state information analysis, Vermont's participation would bolster that effort, and we would benefit from the accomplishments of the pilot program. Our best choice for addressing our vulnerabilities as quickly and effectively as possible is to partner with Norwich University Applied Research Institute (NUARI) and Norwich University.

Norwich is effective at interfacing with multiple federal agencies and receives funding for cybersecurity research and operations through grants, allowing the State to take advantage of a low cost of entry in addition to inclusion in programs for which the State would not otherwise qualify. The price of this contract is $399,664, approximately 65 percent of the allocated amount, which leverages our participation in event management, threat intelligence, and cybersecurity information sharing with other state and federal entities.

Any delay moving forward with this proposed sole-source contract will continue to leave Vermonters vulnerable, disrupt plans, and delay implementation for a SOC, which is intended to reduce potentially costly intrusions and security breaches, and directly supports citizens privacy, safety, and livelihood.

Approved by: e-Signed by Bradley Ferland on 2018-09-20 15:25:26 GMT Date: _____
Suzanne Young, Secretary of Administration

Approved by: _____ Date: 09/19/2018
John Quinn, Secretary of Digital Services

H.

Vermont Security Operations Center Progress Report

September 27, 2018

Background:

The Agency of Digital Services (ADS) was provided funding, in the budget, to initiate a security operations center or SOC. The goal of a SOC is to detect, analyze, and respond to cybersecurity incidents using a combination of people, process, and technology to provide situational awareness of threats to information systems. ADS recognized that the current workday coverage was insufficient and without a SOC, and the expansion of coverage to 24/7 operations, the State risked an off-hours incident becoming more severe before remediation could begin. ADS opted to partner with the Norwich University Applied Research Institute (NUARI) to leverage their experience, industry connections, and available workforce to provide a quicker and less expensive path to establishing a SOC.

What progress have we made?

It has been a busy three months since we began this project. ADS received notice that the Secretary of Administration's office approved the NUARI sole source waiver. ADS has hired a senior analyst to perform as the SOC coordinator for all the State portions of the SOC partnership. NUARI has appointed a SOC manager, and those key individuals are working through the details on technologies and processes that will be the basis for the SOC. In addition to the hiring progress, ADS has been working on asset verification and assessing the logging capabilities of our current equipment. To date, we have not spent any of the 600,000 dollars allocated for this project. Once we have a signed contract with NUARI, we will have a better timeline of when spending will occur.

Next Steps:

We have started to meet regularly with NUARI to work out contract details. Even though it's taking a little longer than we expected, both sides feel that we are making good progress and that we'll have a signed contract soon. Once complete, ADS can set the training plan and get their employees scheduled for training.

Further Action:

After the start of the calendar year 2019, system setup and initial network and internet traffic analysis will begin. Process evaluation and notification lists will be implemented. NUARI will start incorporating their personnel into our processes and ADS will begin sharing log files. We expect to start slowly and build the volume incrementally until we are in full operation.

I.

To: Megan Sullivan, Executive Director, Vermont Economic Progress Council
From: Ken Jones
Date: September 26, 2018
Re: Annual Update: Fiscal Cost-Benefit Model, Calendar Year 2018

I. Background

The completion of calendar year 2018 will mark the twelfth full year of operations for the Vermont Employment Growth Incentive (VEGI). VEGI is the current economic development incentive program overseen by the Vermont Economic Progress Council (VEPC). VEPC has provided oversight for the state's economic development incentive programs since 1999 when the Economic Advancement Tax Incentive (EATI) program was passed by the Vermont General Assembly. The EATI program was replaced by the 2006 General Assembly with the current VEGI program. As part of the new program, a VEGI Technical Working Group – including representation from VEPC, the Legislature and the Vermont Department of Taxes – was formulated to monitor, assess, and evaluate the implementation of the new VEGI program. This process was undertaken given the implementation experience with the EATI program.

II. Purpose of Memorandum

This memo is intended to document the process of the annual update of the VEGI model for use during calendar year 2018. As we have done in the past, changes in the economy necessitate annual updates of the VEGI analytical model in order to maintain the model's validity. Re-calibrating these models with new data prevents erroneous conclusions, as outdated assumptions and values of key indicators will undoubtedly lead to over-or under-estimation of the potential economic and fiscal impact of program incentives. As the Vermont economy continues on its labor market recovery from the recession of 2007-2009, the new long-term economic and fiscal consensus forecasts of the Vermont Joint Fiscal Office and the Agency of Administration continue to form the basis of the fiscal cost-benefit model assumptions and other parameters included in the model which apply to calendar year 2018. This annual update of the VEGI model incorporates all of the most recent consensus forecasts and all of the latest fiscal information available as of July, 2018. All of the key fiscal and demographic data in the model which informs the conversion from economic impact concepts into relevant fiscal data used in the cost/benefit scorekeeping have been updated.

As part of this annual update, I carried out a comprehensive review of the REMI model and its recent changes to identify what assumptions about the impacts of Vermont business growth will have on key economic indicators.

III. Standard Annual Model Updates

a. Firm Data Page

The basic components of the analysis are entered into this page. This basic information provides context to the calculations of the model, setting high-order calibrations in order to capture such important variables as industry classification and project location. On this page, the only edit was to change the application year from 2017 to 2018 to reflect the calendar year. As a dynamic variable, this change carried through to the rest of the model.

b. Project Data and Modular Settings Page:

The Project Data Page is where the specifics regarding number of jobs, total payroll, and capital investment expenditures proposed by the applicant's project are entered. This page also contains several statistics used in the various calculations of costs and benefits found throughout the model. The Modular Settings Page consists of support calculations metrics for some the data which flows through to the Project Data Page. The following is a list of the specific items updated on these pages which are consistent with all previous annual updates.

1. Property Value Inflator: The property value inflator is relevant to the calculation of an applicant's benefits to state revenue, specifically in the calculation of the effects on the Education Fund. It is used to measure the growth of property values resulting from an applicant's project. The difference between education fund revenues with and without the applicant's project is calculated. As has been the practice in past model updates, this figure was obtained from the most recent Consensus Forecast for Education Fund concepts of the Legislative Joint Fiscal Office and the Agency of Administration. The prior model's figures are updated with the new forecast figures. This statistic is used in conjunction with the Projected Statewide Grand List Growth Rate. The figure is used as a projected measure of growth of the statewide grand list and used in the calculations of changes in property values as a background rate growth.

2. Statewide School Tax Rate for Residential and Nonresidential Property: These metrics are used in the calculation of the revenue generated from the proposed project which will be contributed to the Education Fund Based on both residential and nonresidential property improvements. The original data source for this update was the Vermont Department of Taxes (for fiscal year 2018).

3. State & Local Government Price Deflator: This figure is used in the calculation of various costs and benefits associated with an applicant's project. It is used in the formula which projects the growth of the various funds' costs and revenues forward in time. This figure was obtained from

the same Consensus Forecast of the Legislative Joint Fiscal Office and the Agency of Administration referred to in #1 above.

4. Estimated per Student Grant, Estimated Special Education Per Equalized Pupil: These figures are used in the calculation of changes in education costs associated with the applicant's project. The calculation is based on the total education fund expenditures divided by the total enrollment published by the Agency of Education to arrive at a per pupil expenditure.

5. Vermont Estimated Population: As this update takes place in an inter-censual year, the figure used in this update of the cost/benefit model is the population estimates for the state of Vermont embedded in the REMI input-output model. This figure is used when converting any of the data in the cost-benefit model into per capita figures.

6. FY General Fund Expenditures, FY Expenditures Fund Appropriations: These figures are used to calculate the changes in General Fund and Transportation Fund costs associated with the change in population related to an applicant's project in the most recent fiscal year. The figures are converted to a per capita basis and used in conjunction with the change in population associated with each applicant's project. The updated figures are obtained from the Vermont Department of Finance and Management and the Legislative Joint Fiscal Office.

7. Corporate Revenue/Nonfarm Supervisory Job: This figure is used to estimate revenues associated with a change in employment from an applicant's project. It relates levels of corporate income tax to a per job basis. This can then be used to estimate the incremental corporate income tax associated with a change in employment related to an applicant's project. This figure is obtained from the most recent total corporate tax revenue divided by the BEA's concept of employment data (and includes both full and part time jobs and also proprietors). The BEA employment series data is used as a predictor of future revenues in the model and is preferred for this model since it is the most inclusive data for proprietors and workers in the farm sector.

8. Per Capita Other General Fund Revenues, Per Capita Other Transportation Fund Revenues: These figures are used to capture the 'Other' category for revenues found in the General and Transportation Funds. They are converted to a per capita basis and used in conjunction with the change in population associated with an applicant's project. The updated figure is obtained from the 2017 Calendar year tax revenues divided by the population.

9. State Personal Income Tax Rate, State Sales & Use Tax Rate, State Gas Tax Rate, State MVP&U Tax Rate, Background Statewide Education

Property Tax Rate: These figures are used to determine part of the forecasted revenues over the forecast impact period from the new demand from an applicant's proposed project. They are applied to the changes in consumption associated with an applicant's project to yield projected incremental tax revenues. These figures are obtained from the most recent fiscal year data available on total taxes received. These data are then applied to various REMI consumption items to complete the bridge between REMI economic output data and the state's fiscal cost-benefit concepts.

c. REMI Economic Output Page

In addition to being the recipient of the output of the REMI input/output model, there are several embedded REMI control variables which are updated as part of the annual model review. Consistent with the previous year's updates, the equilibrium data from the REMI control is updated for the year of application. These variables include several consumption related factors such as overall consumption, general price indices, as well as specific price indices by consumption category.

d. Qualifying and Non-Qualifying Jobs & Wages Pages

As a result of the change in the model's base year from 2017 to 2018, the lookup function which finds the REMI input-output anticipated level of compensation by industry was updated to ensure accurate future wage levels were taken into account.

e. Present Value Calculations Page

This page calculates the present value of the total benefits and costs associated with a project. The updated present value discount rate was obtained from the analysis of the three year moving average of the Muni Bond Advisors index: General Obligations Bonds: 20-Years to Maturity.

Bond rates from http://www.munibondadvisor.com/market.htm

2010	4.6
2011	4.4
2012	4.1
2013	4.1
2014	4.1
2015	4.1
2016	3.7
2017	3.6

f. 'NAICS Row' Lookup Page

No changes have been made to this page that prescribes background growth rates.

g. Regional Differential

The Regional Differential effect embedded within the model, governing the different economic impact of an applicant project depending on its location, remains unchanged for CY 2018. This determinant is only re-evaluated as new data becomes available from the Vermont Department of Labor, typically during the summer, and no changes have been made for this update.

I.

Kavet, Rockler & Associates, LLC
985 Grandview Road
Williamstown, Vermont 05679-9003 U.S.A.
Telephone: 802-433-1360
Fax: 866-433-1360
Cellular: 802-433-1111
E-Mail: tek@kavet.net
Website: www.kavetrockler.com

Memorandum

To: Steve Klein, Chief Fiscal Officer, Joint Fiscal Office

From: Tom Kavet

CC: Ken Jones, ACCD

Date: September 26, 2018

Re: Review of Proposed VEPC Cost-Benefit Model Update

As requested, I have reviewed the memo of September 26, 2018 from Ken Jones to Megan Sullivan that describes proposed model changes to the VEPC Cost-Benefit Model used to calibrate business award levels as a part of the VEGI program.

The model updates proposed in the memo represent no changes to the underlying REMI model and consist only of the utilization of more recent data from Consensus JFO and Administration economic and revenue forecasts, State expenditures, updated discount rate data and Tax Department rate information for selected taxes. All of the proposed changes in Ken Jones' memo are regular annual model updates that will improve model output and should be approved.

While these model updates are standard adjustments made each year, there are still some outstanding methodological issues discussed last year that Ken Jones and I are working to resolve. Based on this work, we expect to have a number of more fundamental consensus recommendations for model changes at this time next year.

Please let me know if you or others have any questions regarding these changes or the ongoing methodological work in connection with the VEGI Cost-Benefit Model.

J.

Joint Fiscal Office

One Baldwin Street • Montpelier, VT 05633-5701 • 802) 828-2295 • Fax: 802) 828-2483

MEMORANDUM

To: Representative Janet Ancel, Chair
Senator Ann Cummings, Vice Chair
Senator Jane Kitchel
Representative Kitty Toll
Members of the Joint Fiscal Committee

From: Stephen Klein, Chief Fiscal Officer

Date: September 21, 2018

Subject: September 2018 – Fiscal Officer's Report

What follows is an update of recent developments, some of which will be on the agenda for the September 27 meeting of the Joint Fiscal Committee.

1. FY 2018 Revenue Collection Status

Preliminary revenues exceeded targets in the General Fund and the Transportation Fund and were just below target in the Education Fund after the first two months of the fiscal year. September will be a more informative month since that is when estimated tax payments come due for the first quarter of the fiscal year for both the corporate tax and income tax. After the first two months, General Fund revenues were $3.4 million, or 2%, higher than forecasted. The Transportation Fund revenues were $2.6 million or 5.5% above target, while the Education Fund revenues were off by $800,000, or 1% below the target.

Contributing factors:

a. General Fund – The strength is in personal income and corporate taxes, which are somewhat offset by weaker estate tax revenues. Within personal income tax, the withholding tax, paid taxes, and estimated taxes are all higher than the forecast. Refunds were also higher. September is an important month with corporate and income tax receipts projected to be higher due to estimated tax payments.

b. Transportation Fund – The strength is in the Department of Motor Vehicles (DMV) fees, Vermont's purchase and use tax, and "other" revenue. Gas and diesel taxes are essentially on target.

c. Education Fund – A small weakness during the first two months in sales tax revenues is partially offset by strength in Vermont's purchase and use tax receipts and lottery proceeds.

2. Medicaid Trend

Medicaid expenditures through September 14, the first two and a half months of the fiscal year, are trending slightly above the amount budgeted. In gross dollars (State and Federal) spending is about $6.59 million, or 3.4%, over trend. Expenditures change weekly so it is too early to know if there is an issue emerging. Overall, the following categories drive most of the variance in spending compared to the benchmark.

- $2.45 Drug rebates, under-collected (correlates to overspending)
- $3.91M net over spending in Choice for Care and Regular claims
- $501K Buy In, overspent
- $268K Clawback, underspent

3. Other Medicaid Issues

Several issues may be presented at the meeting that impact Medicaid and the Global Commitment Waiver.

a. **Employer Assessment Increase:** Under 32 V.S.A. § 105031, the amount of the health care fund contribution (a.k.a. the employer assessment) is "adjusted annually by a percentage equal to any percentage change in premiums for the second lowest-cost silver-level plan in the Vermont Health Benefits Exchange." Because it is indexed to a silver plan 'in' the exchange, it appears to be tied to a silver-loaded plan rather than the less expensive equivalent "reflective" silver plan that is not in the Exchange. The cost of this silver-loaded plan will result in a 23% increase in the employer assessment rate. The impact of this increase on the employer assessment might be an issue to address in the FY 2019 Budget Adjustment.

b. **Global Commitment Waiver Room:** The Global Commitment (GC) Waiver allows Vermont to fund activities that would otherwise not be Medicaid eligible up to a total expenditure cap. The cap is based on the difference between Vermont's actual Medicaid spending and projected spending for Medicaid program participants; this is known as budget neutrality. We refer to this capacity as cap room in the waiver — in the current calendar year the amount of cap room is projected to decline significantly from initial estimates made when the Waiver was renegotiated two years ago. This is mostly due to lower caseload and therefore fewer member months to use under the newly required Centers for Medicare and Medicaid Services (CMS) neutrality calculation. Cap room is also impacted by program spending decisions. One example is Success-beyond-Six in which schools contract with Designated Agencies (DAs) for services to students that has grown recently. While this issue does not demand immediate fiscal resources, in considering budgetary decisions, the long-term impact on cap room should become part of our analytic frame.

[1] https://legislature.vermont.gov/statutes/section/32/245/10503

4. De-carbonization cost benefit work. Public Forums

Resources for the Future (RFF) will be in Montpelier Wednesday through Friday September 26-28. They will hold two public forums Wednesday and Thursday evenings from 5:00 to 6:30 at the State House and at the Billings Farm, respectively. The press release is HERE.

The consultants will also be at the Joint Fiscal Committee meeting on the 27th.

5. Federal Transportation Funding

In the annual August redistribution of unobligated FHWA funds, Vermont was awarded a record (for Vermont) of $33.5 million. Over the past 5 years, Vermont has received an average of $15 million a year from this source. The Agency of Transportation's (AOTs) annual budget assumed that a portion of the amount would be awarded to Vermont, and a fraction of this new money is already accounted for in the fiscal year 2019 budget. The balance of the redistribution will be allocated in the fiscal year 2020 budget.

Vermont also received a "Discretionary" Grant of $6.3 million for the rehab of the northeast and southeast aprons at Burlington Airport.

6. Education Funding

The process has begun within the Administration in consultation with the Joint Fiscal Office to develop the education tax rates that the Administration will include in a letter to the Legislature on December 1. The added revenues from the sales tax switch to the Education Fund and should lower the amount of any tax rate increase. By the November meeting, we should have a sense of the spending projections. As in the past, prior to the legislative session, the Administration may make proposals, and during the session, the Legislature may take steps to address any increase in education tax rates.

7. State Employees' and Teachers' Retirement Funds

As you may know, the assumed rates of return for the retirement system, which are used in actuarial calculations, were reduced from 7.9% to 7.5% for FY 2018. Actual returns for fiscal year 2018 were between 6.5 and 6.7% which is below projected amounts. While the Legislature added funds to the teacher's retirement fund, this lower return may offset some of the new revenue. In mid-October, we expect to see the actuarial analysis of these funds to see if there has been an improvement in funded ratios.

8. LIHEAP

Recent Congressional action indicates that the federal LIHEAP block grant is likely to be level funded. The caseload and cost of fuel for the coming heating season is currently being estimated by the Department for Children and Families (DCF), which will impact the average benefit level.

9. Studies

The Vermont Tax Structure Commission: While the Tax Structure Commission has yet to be appointed, we have begun the process of finding staff for the Commission. We hope to have someone hired by December for this 2 1/2 year Commission. The job description can be found on the Joint Fiscal Office and the Legislative Website.

a. **The Correctional Health Care Study:** CGL Companies was hired to do the Correction Health Care Study. A copy of their contract is HERE. They were here in VT for an initial visit on the 20th of September and we are working to have them include a review of the draft DOC Healthcare Services RFP.

b. The **Livable Wage Study** and the **Tax Expenditure Study** are both underway and should be in place at the start of the session.

c. **NCSL** will be in town next week on September 24 as they are working on the study of Vermont's Legislative staff structure and remuneration. Staff will be interviewed next week.

10. Joint Fiscal Office Updates

a. **Several Issue Briefs are under development. These include**:

1. The review prepared by Nolan Langweil of the projected increase in costs for the employer assessment.

2. An issue brief being prepared by Joyce Manchester on Babies Born in Vermont with Exposure to Opioids.

3. A review by Graham Campbell of the Capital Gains Tax Expenditures, which is being done as part of the Tax Expenditure study.

b. **Redevelopment of the JFO website:** The Joint Fiscal Office is working with the Blue House Group, who developed and manages changes to the Legislature's website. This work will improve the JFO website by better visually aligning and improving the interaction with the Legislature's site. We hope to have the revised website up before the legislative session in January.

112 State Street
4th Floor
Montpelier, VT 05620-2701
TEL: 802-828-2358

TTY/TDD (VT: 800-253-0191)
FAX: 802-828-3351
E-mail: puc.clerk@vermont.gov
Internet: http://puc.vermont.gov

State of Vermont
Public Utility Commission

MEMORANDUM

To: Joint Fiscal Committee

From: Kyle Landis-Marinello, General Counsel, Vermont Public Utility Commission

Re: Memorandum ordered by Section E.234 of Act 11 of the 2018 Special Session regarding the Vermont Public Utility Commission's regulatory authority with respect to Vermont's Enhanced 911 network

Date: August 31, 2018

In Section E.234 of Act 11 of the 2018 Special Session, the Vermont Legislature ordered the Public Utility Commission to file a memorandum with the Joint Fiscal Committee:

> On or before September 1, 2018, the Public Utility Commission shall submit a memorandum to the Joint Fiscal Committee detailing its regulatory authority with respect to Vermont's Enhanced 911 network, with specific reference to the regulatory authority of both the E-911 Board and the Federal Communications Commission. The memorandum shall include the Commission's recommendations, if any, for ensuring comprehensive regulatory oversight and enforcement of matters pertaining to the E-911 network.

Act 11, § E.234 (2018 Special Session). This memorandum responds to that request.

The Commission appreciates the Joint Fiscal Committee's interest in Vermont's Enhanced 911 ("E-911") network. It is critically important that Vermonters have access to E-911 services. As the Commission noted in a recent order, "we are troubled by the possibility of even a single person being delayed in contacting 911 in an emergency situation."[1]

Regarding the Committee's specific request for an explanation of the scope of our regulatory authority, versus that of the E-911 Board and the Federal Communications Commission ("FCC"), it is difficult for us to fully address that question at this time. This is for two reasons. First, while some jurisdictional matters have been settled, many others remain unsettled, both as a matter of federal law and state law. The Public Utility Commission expects to issue rulings on some of these jurisdictional matters in the next few months. That said, the final word on these matters may end up coming from the Vermont Supreme Court (for questions

[1] *Petition of Vanu Coverage Co.*, Case No. 18-1543-PET, Order of 6/18/18, at 2.

of state law) or the federal courts (for questions of federal law). Second, as a quasi-judicial body, the Commission must provide due process to the parties that appear before us in contested matters, and we currently have three pending proceedings that directly raise some of these same jurisdictional questions. We expect that the Commission will issue rulings in those cases before the end of the year. Those rulings—which we will provide to the Joint Fiscal Committee as soon as they are issued—should resolve some of the uncertainty regarding these jurisdictional issues.

Uncertainty Regarding Jurisdiction over E-911

Depending on their situation, Vermonters are likely to use one of the following three methods in the event that they need to access E-911 services: (1) a traditional landline; (2) a cell phone; or (3) Voice over Internet Protocol ("VoIP").

Regarding traditional landlines, the State of Vermont has jurisdictional authority over the businesses providing these services and all aspects of the services, terms, and conditions. State law requires that local exchange telecommunications companies provide continuous access to E-911 to each residential dwelling, even if that residence no longer receives other telecommunications services.[2]

The State's regulatory authority over cell phones is more limited. Under federal law, which preempts state law wherever the two are in conflict, states cannot "regulate the entry of or the rates charged by any commercial mobile service or any private mobile service."[3] Vermont therefore does not have authority to require cell phone service providers to ensure cell phone coverage to Vermonters. This is so even for situations where someone has abandoned their landline and uses only a cell phone: if that person does not have cell phone reception at their home, then they will not have access to E-911. Similarly, if someone is traveling along an area that does not provide cell phone coverage, and thus does not have access to E-911, the State cannot mandate that a company provide coverage in that area. This issue arose earlier this year when Vanu CoverageCo was providing cell phone service through "microcells" that depended on digital subscriber line ("DSL") services provided by Consolidated Communications. When CoverageCo failed to pay its bills, Consolidated cut off DSL services (and thus CoverageCo's wireless services as well), resulting in some Vermonters losing E-911 access in certain areas. The Commission held that although the situation was regrettable and worrisome, federal law preempts states from forcing Consolidated to provide CoverageCo with DSL services:

> The Federal Communications Commission ("FCC") has held that the specific service Consolidated provides to CoverageCo – DSL service, a broadband service that the FCC classifies as an information service – cannot be regulated by state public utility commissions. The federal courts have accepted this distinction and agreed with the FCC that a purely information service cannot be regulated by

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[2] *See, e.g.*, 30 V.S.A. § 7055(a); Commission Rule 7.100. The Commission's Rules are available at http://puc.vermont.gov/about-us/statutes-and-rules/current-rules-and-general-orders.

[3] 47 U.S.C. § 332(c)(3).

states. We agree with Consolidated and the Department that we lack jurisdiction in this matter.[4]

That said, Vermont does retain authority over "the other terms and conditions of commercial mobile services."[5] Vermont has exercised that authority to require cell phone companies to provide their customers with access to E-911 wherever those customers have cell phone coverage.[6]

Regarding VoIP services, the jurisdictional landscape is unsettled, particularly with regard to whether federal law allows Vermont to regulate the provision, terms, and conditions of VoIP services. As explained below, this is one of the three matters currently pending before the Commission.

Pending Matters that Raise Jurisdictional Questions

Three matters that are currently pending before the Commission directly or indirectly raise jurisdictional issues regarding access to E-911 services.

First, as mentioned above, the Commission has before it a motion for reconsideration regarding whether the Commission has jurisdiction to regulate VoIP services. On February 7, 2018, the Commission issued an order concluding that state jurisdiction exists to regulate VoIP services just as the State can regulate other telecommunications services.[7] This would mean that the State could regulate the provision of E-911 services from VoIP providers without being preempted by federal law. The Commission expects that it will issue a ruling on the motion to reconsider its decision in that matter by the end of the year.

Second, the Commission has before it a pending investigation into E-911 reliability and planning.[8] In that investigation, the petitioners and other parties to that proceeding have explicitly raised numerous issues regarding the scope of the State's jurisdiction over the provision of E-911 services. The Commission expects that it will issue a ruling on that matter by the end of the year.

Third, the Commission has before it a pending investigation regarding specific instances in which the disruption of call traffic prevented Vermonters from accessing E-911 through traditional landlines.[9] The Commission expects that it will issue a ruling on that matter by the end of the year.

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[4] *Petition of Vanu Coverage Co.*, Case No. 18-1543-PET, Order of 6/18/18, at 2.

[5] 47 U.S.C. § 332(c)(3).

[6] *See, e.g.*, 30 V.S.A. § 7055(a); Commission Rule 7.100.

[7] *Investigation into Regulation of Voice over Internet Protocol ("VoIP") Services*, Docket No. 7316, order of 2/7/18, *motion for reconsideration pending.*

[8] *Petition for Investigation re 911 Reliability and Planning*, Docket No. 8842.

[9] *Investigation pursuant to 30 V.S.A. § 209 into Telephone Operating Company of Vermont LLC, d/b/a FairPoint Communications, and its network design and delivery of 911 calls in Vermont*, Docket No. 8850.

Conclusion

As noted above, some jurisdictional matters are settled and some remain uncertain. Given the three matters that are currently pending before the Commission, it would deprive the parties to those proceedings of due process if the Commission were to resolve jurisdictional matters outside of those proceedings. In light of this obligation of the Commission as a quasi-judicial independent body, it is difficult for the Commission to say much more about these jurisdictional matters, or to make any specific recommendations regarding E-911 services, until those proceedings have concluded.

That said, the Commission appreciates the interest of the Joint Fiscal Committee in this crucial matter, and the Commission will make sure to notify the Committee immediately once it has issued decisions in the matters mentioned above. Those decisions should provide additional guidance regarding the Commission's position on its jurisdiction over access to E-911 services.

Redundancy and Resiliency in Vermont's 9-1-1 System

Barbara Neal, Executive Director
Vermont Enhanced 9-1-1 Board
100 State Street, 4th Floor
Montpelier, VT 05620-6501
802-828-4911
800-342-4911 (VT only)
802-828-5779 (TTY)

August 2018

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State of Vermont
Enhanced 9-1-1 Board
100 State Street, Ste. #400
Montpelier, VT 05620-6501
E911.info@vermont.gov

[phone] 802-828-4911
[fax] 802-828-4109
[TTY] 802-828-5779
[800 VT] 800-342-4911

MEMORANDUM

TO: Joint Fiscal Committee

FROM: Barbara M. Neal, Executive Director bmn

DATE: August 31, 2018

RE: Report on Redundancy and Resiliency in Vermont's 9-1-1 System

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As required by Act 11 of the 2018 Special Session, this report, *Redundancy and Resiliency in Vermont's 9-1-1 System*, is presented to the Joint Fiscal Committee by the Vermont Enhanced 9-1-1 Board. The purpose of the report is to:

- detail the level of resiliency and redundancy within the 9-1-1 system;
- explain plans for ensuring operational integrity in the event of critical software or hardware failures;
- include, with explanation, identification of the locations and services deemed most vulnerable to system outages or call failures, as determined by the Board;
- include a cost estimate for making any recommended system upgrades.

The information in this report is supported by detailed technical documentation. Every effort has been made to provide a sufficient level of detail to address the report requirements without compromising the security and integrity of the statewide 9-1-1 system.

The Enhanced 9-1-1 Board has established strong relationships with multiple partners who have the shared goal of ensuring the reliable delivery of Vermont 9-1-1 calls. We are committed to working with these partners, the legislature, and all stakeholders, to ensure the integrity of Vermont's statewide 9-1-1 system.

The Enhanced 9-1-1 Board welcomes your questions and comments on this report or any aspect of the statewide 9-1-1 system.

Thank you.

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Executive Summary

Introduction

As required by Act 11 of the 2018 Special Session, this report, *Redundancy and Resiliency in Vermont's 9-1-1 System*, is presented to the Joint Fiscal Committee by the Vermont Enhanced 9-1-1 Board. The purpose of the report is to:

- detail the level of resiliency and redundancy within the 9-1-1 system;
- explain plans for ensuring operational integrity in the event of critical software or hardware failures;
- include, with explanation, identification of the locations and services deemed most vulnerable to system outages or call failures, as determined by the Board;
- include a cost estimate for making any recommended system upgrades.

The information in this report is supported by detailed technical documentation. Every effort has been made to provide a sufficient level of detail to address the report requirements without compromising the security and integrity of the statewide 9-1-1 system.

Multiple Networks Involved in the 9-1-1 Call Delivery

A discussion of redundancy and resiliency within the 9-1-1 system must begin with an understanding of the networks involved in 9-1-1 call delivery. When a call is placed to 9-1-1 in Vermont, it will traverse many networks before being answered by a Vermont 9-1-1 call-taker. These networks can be grouped into three categories:

Originating Service Provider (OSP) Networks – The OSP networks are owned and operated by the service providers that offer calling services to customers such as cellular plans, VoIP or traditional wireline service.

9-1-1 Tandem/Legacy Network Gateway (LNG) Environment – The 9-1-1 tandems serve as the aggregation point for all 9-1-1 traffic from the OSP networks. The aggregated traffic is converted from Time Division Multiplex (TDM) to Internet Protocol (IP) in the LNG for delivery into the Next Generation 9-1-1 system.

Next Generation 9-1-1 (NG911) System – The NG911 system processes and selectively routes 9-1-1 calls to Vermont's six Public Safety Answering Points (PSAPs) and provides associated data to allow the call-taker to effectively assist an emergency caller.

Resiliency and Redundancy in Each Network

OSP Networks
VoIP and Cellular OSPs – Primary and secondary routes are available for the delivery of 9-1-1 calls from VoIP and cellular OSPs to the two geo-diverse 9-1-1 tandems in Vermont. Failure of

both routes results in the calls being delivered directly into the NG911 system via a third dedicated route.
Wireline OSPs – Two routes are available for the delivery of wireline 9-1-1 traffic to the geo-diverse 9-1-1 tandems. In some cases, a third and fourth route also exist.

9-1-1 Tandem/LNG Environment – There are two geo-diverse 9-1-1 tandems in Vermont. Each tandem has five Time Division Multiplexing (TDM) routes for 9-1-1 call processing. Two geographically diverse switches in the LNG environment convert the calls from TDM to IP for delivery into the NG911 system. Each switch has two possible IP routes and one TDM route into the NG911 system. If all routes fail, 9-1-1 calls are delivered to a dispatch line in one of the six PSAPs via a dedicated direct inbound dial (DID) number.

NG911 System – Once a 9-1-1 call is received by the NG911 system from the 9-1-1 tandem/LNG environment, it is routed to the primary PSAP based on the caller's location. If the primary PSAP is unavailable, the call is automatically rerouted to an available call-taker at one of the five remaining PSAPs. The NG911 system is supported by two redundant geo-diverse data centers. A failure of both data centers or a loss of connectivity to all PSAPs results in the delivery of the 9-1-1 call over a dedicated DID number that delivers the calls to a PSAP dispatch line(s).

Identified Vulnerabilities in Each Network, Existing Mitigation, Recommendations for Change and Associated Costs

The table below summarizes the Board's findings related to vulnerabilities in each network involved in 9-1-1 call delivery and provides the existing mitigation for each vulnerability, Board recommendations for any changes, and an estimate of associated costs.

Identified Vulnerabilities in Originating Networks	Mitigation	Recommendation	Costs
Central Office Isolation	Emergency Stand Alone where available	Continued discussion and research of potential mitigation steps	None at this time
Backhaul connectivity for cellular base stations	Overlapping cellular and/or wi-fi signals where available	Encourage continued growth of cellular coverage in Vermont by commercial carriers	N/A
Identified Vulnerabilities in 911 Tandem/LNG Environment	Mitigation	Recommendation	Costs
LNG Environment – Factors contributing to January 5, 2016 event	Final Route to DID	Await PUC investigation results	None at this time
Identified Vulnerabilities in NG911	**Mitigation**	**Recommendation**	**Costs**
Physical diversity to each PSAP	Holistic system design delivers calls to alternate PSAPs when a primary PSAP is offline	None – this vulnerability is mitigated by system design	None

The Vermont 9-1-1 system, and the various networks involved in 9-1-1 call delivery, are resilient and have redundancy throughout. Mitigation steps are in place to lessen the risks of known vulnerabilities.

The Enhanced 9-1-1 Board has established strong relationships with multiple partners who have the shared goal of ensuring the reliable delivery of Vermont 9-1-1 calls. These partnerships also allow the Board to identify the appropriate course of action in the event of any concerns about, or failures of, 9-1-1 call delivery. The Vermont Enhanced 9-1-1 Board is committed to working with these partners, the legislature, and all stakeholders, to ensure continued redundancy and resiliency in the statewide 9-1-1 system.

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Introduction

Overview

This report was developed in response to the requirements of Act 11[1] of the 2018 Special Session of the Vermont General Assembly. Act 11 requires that on or before September 1, 2018, the Executive Director of the Enhanced 9-1-1 Board provide a report to the Joint Fiscal Committee that:

- details the level of resiliency and redundancy within the 9-1-1 system;
- explains plans for ensuring operational integrity in the event of critical software or hardware failures;
- includes, with explanation, identification of the locations and services deemed most vulnerable to system outages or call failures, as determined by the Board;
- includes a cost estimate for making any recommended system upgrades.

This report will focus on the resiliency and redundancy of the networks involved in the delivery of 9-1-1 calls from a service provider's originating network, through the 9-1-1 tandems/Legacy Network Gateway (LNG) environment, and into Vermont's Next Generation 9-1-1 (NG911) system.

The information presented in this report is supported by detailed technical documentation where available. In many cases, the supporting documentation contains proprietary information and/or technical details related to system security. In this report to the Joint Fiscal Committee, every effort has been made to provide a sufficient level of detail to address the report requirements without compromising the security and integrity of the statewide 9-1-1 system.

Background and Current Environment

30 V.S.A Chapter 87[2] established the Vermont Enhanced 9-1-1 Board as the single governmental agency responsible for the statewide 9-1-1 system. The Board consists of nine members, appointed by the Governor, representing state, local and county law enforcement, emergency medical and fire service, municipalities, and the public. Ten Board staff members are responsible for day-to-day oversight and management of the system and system provider, GIS and database management, training, quality control, public education, and administrative functions.

The Board has developed, and relies upon, effective partnerships with multiple stakeholders to fulfill its responsibility for management and oversight of the statewide 9-1-1 system. The Board works closely with many agencies and organizations – both public and private – to ensure the reliable and effective operation of the 9-1-1 system. Stakeholders include, but are not limited to, Vermont's Agency of Digital Services, Public Service Department, Department of Public Safety,

[1] Act 11 - An act relating to making appropriations for the support of government, financing education and vital records, Sec. E.235, (2018 Spec. Sess.), https://legislature.vermont.gov/assets/Documents/2018.1/Docs/Acts/ACT011/ACT011%20As%20Enacted.pdf

[2] 30 V.S.A §7051-7061, (1993 Adj. Sess.), https://legislature.vermont.gov/statutes/chapter/30/087

Department of Health, regional dispatch centers serving as Public Safety Answering Points (PSAPs), emergency response agencies and their dispatch centers, wireline, cellular and VoIP telephone service providers, and municipal 9-1-1 coordinators in every Vermont town.

Currently, the Board contracts with Consolidated Communications for a fully-hosted NG911 system. Approximately 200,000 9-1-1 calls per year[3] are processed by the system and routed to fully trained and certified 9-1-1 call-takers in six geo-diverse PSAPs[4] in the state. The answering PSAP may provide dispatch services for any given emergency or may transfer the call to one of nearly fifty dispatch centers serving Vermont.

[3] Enhanced 9-1-1 Board, *2017 System Statistics*, January 2018, http://e911.vermont.gov/2017 Stats

[4] Enhanced 9-1-1 Board, *PSAP Configuration Map*, updated November 7, 2017, http://e911.vermont.gov/vermont_911

Redundancy and Resiliency in 9-1-1 Call Delivery

Networks Involved in Delivery of 9-1-1 Calls

When a call is placed to 9-1-1 in Vermont, it will traverse many networks before being answered by a Vermont 9-1-1 call-taker. These networks can be grouped into three categories:

Originating Service Provider (OSP) Networks – OSP networks are owned and operated by the service providers that offer calling services to customers such as cellular plans, VoIP or traditional wireline service.

9-1-1 Tandem/Legacy Network Gateway (LNG) Environment – The 9-1-1 tandems, once the selective routers of the original 9-1-1 network in the State of Vermont, now serve only as the aggregation point for all 9-1-1 traffic from the OSP networks. In the LNG, the aggregated traffic is converted from Time Division Multiplex (TDM) to Internet Protocol (IP) and delivered into the state's NG911 system. The tandems and LNG environment also provide service to other Public Switch Telephone Network (PSTN) traffic, such as long distance and subscriber to subscriber calls.

Next Generation 9-1-1 (NG911) System – The NG911 system processes and selectively routes 9-1-1 calls to the PSAPs, queries and delivers Automatic Location Identification (ALI) with the call, provides geo-spatial mapping to the call-taker, identifies the correct emergency response agencies based on caller location, provides text to 9-1-1 capability, stores historical 9-1-1 call data and recordings, allows for ALI and Geographic Information System (GIS) discrepancy processing, and provides access to municipal coordinators for addressing database additions and maintenance.

Figure 1, on the following page, provides a high-level illustration of these networks in Vermont.

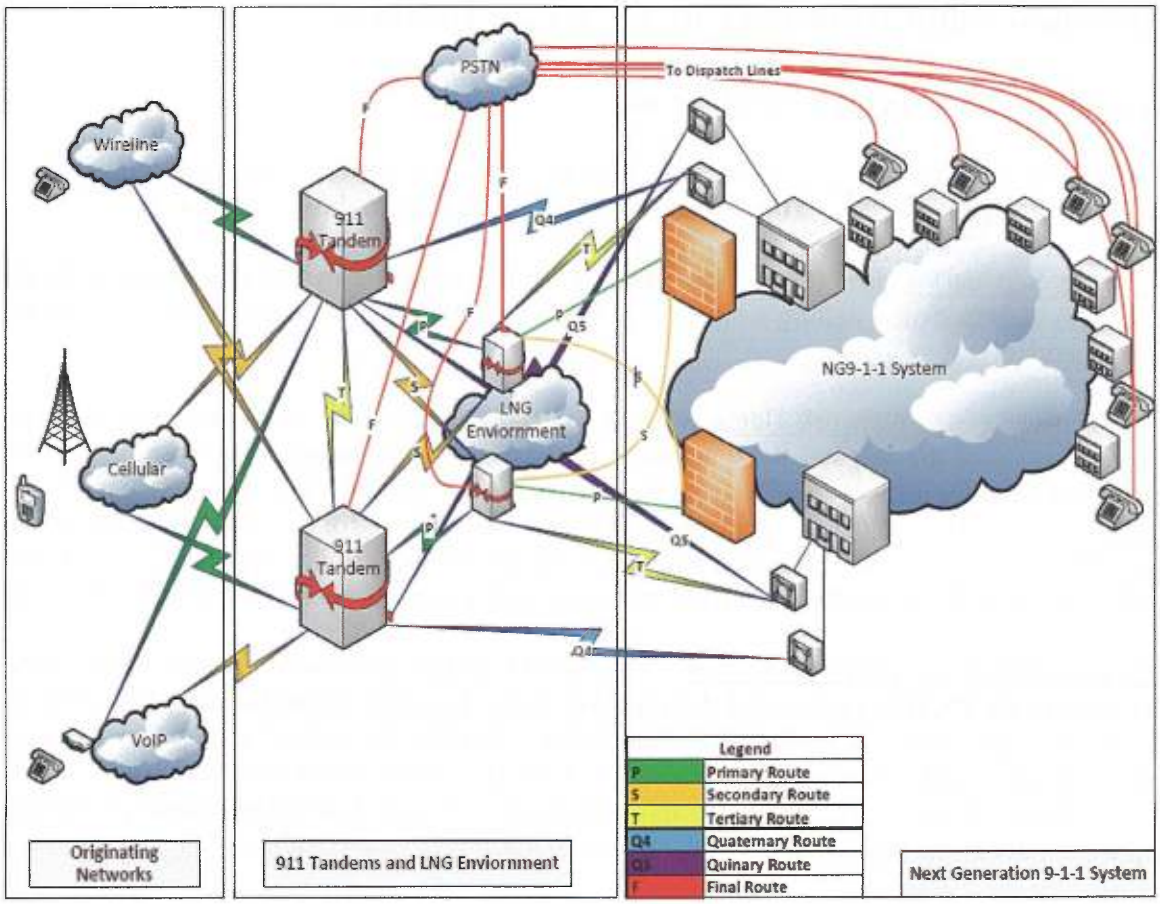

Figure 1 – High Level 9-1-1 System Diagram from Caller to Call-taker

Differences exist in the OSP network architectures, however all 9-1-1 calls in Vermont traverse the 9-1-1 tandem/LNG environment and are delivered into the NG911 system where the calls are answered by certified Vermont 9-1-1 call-takers.

The following sections of this report will discuss resiliency and redundancy within each of the three network categories and identify locations and services within each category that the 9-1-1 Board has determined are most vulnerable to system outages or call failures.

Originating Service Provider (OSP) Networks

Call Flow

Each 9-1-1 call starts within the originating service provider's network. When the digits 9-1-1 are dialed from the user equipment, the call traverses the OSP network and is delivered to one of the two geo-diverse 9-1-1 tandems in Vermont. From there, the call enters the LNG environment and is converted from TDM to IP. Finally, the call is delivered to a certified call-taker at a PSAP within Vermont's NG911 system.

A high-level illustrative overview of call flow from each type of OSP is discussed on the following pages and shown in Figures 2 - 4.

VoIP OSP Call Flow

Call flow begins when a 9-1-1 call is placed on user equipment connected to VoIP service. The 9-1-1 call travels to the VoIP Service Provider (VSP) call server. The VSP call server interacts with the VoIP Positioning Center (VPC) which checks the caller's telephone number for the registered address. The 9-1-1 call is then routed to an Emergency Service Gateway (ESGW) which sends the call over dedicated and redundant 9-1-1 trunk groups to one of the two geo-diverse 9-1-1 tandems in Vermont. The call is then delivered into the Vermont NG911 system. In 2017, VoIP calls accounted for approximately 10% of 9-1-1 call volume.

Primary and secondary trunk groups provide redundancy from the ESGW to the 9-1-1 tandems. If there is a failure of both trunk groups, the call is routed to the VSP's 24 x 7 call center which then manually transfers the call into the Vermont NG911 system. Failures of the VPC route information or the existence of an invalid registered address will also result in the call being routed to the VSP-provided call center for manual delivery into the NG911 system.

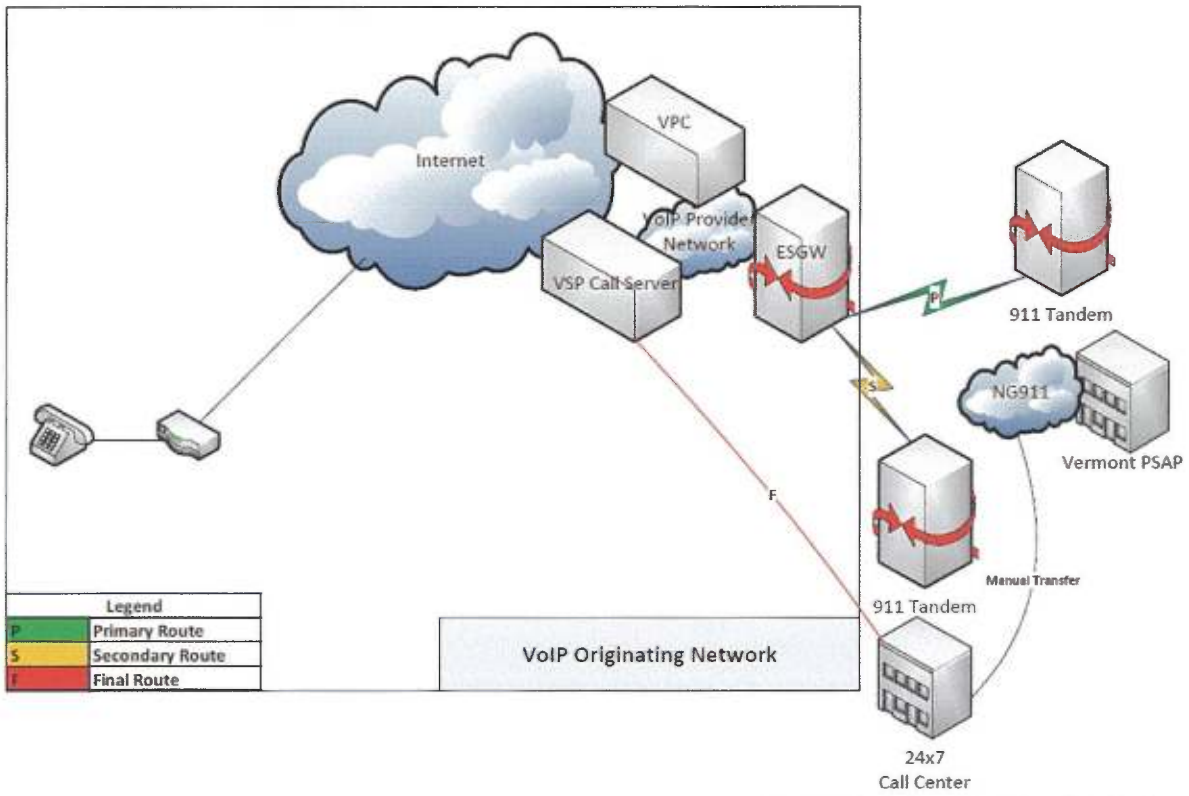

Figure 2 – VoIP Call Flow Illustration

Cellular OSP Call Flow

When a 9-1-1 call is placed by a device connected to a cellular network, the call travels over the cellular OSP's network to the Mobile Switching Center (MSC). The call is then delivered over dedicated and redundant 9-1-1 trunk groups to one of the two geo-diverse 9-1-1 tandems in Vermont before being delivered to the state's NG911 system. Cellular calls make up approximately 66% of Vermont's annual 9-1-1 call volume.

As with VoIP calls, primary and secondary trunk groups provide redundancy from the cellular OSP networks to the Vermont 9-1-1 tandems. Failure of both trunk groups will result in the MSC attempting to deliver the call to Vermont's NG911 system using a pre-programmed direct inbound dial (DID) number that is part of the NG911 system.

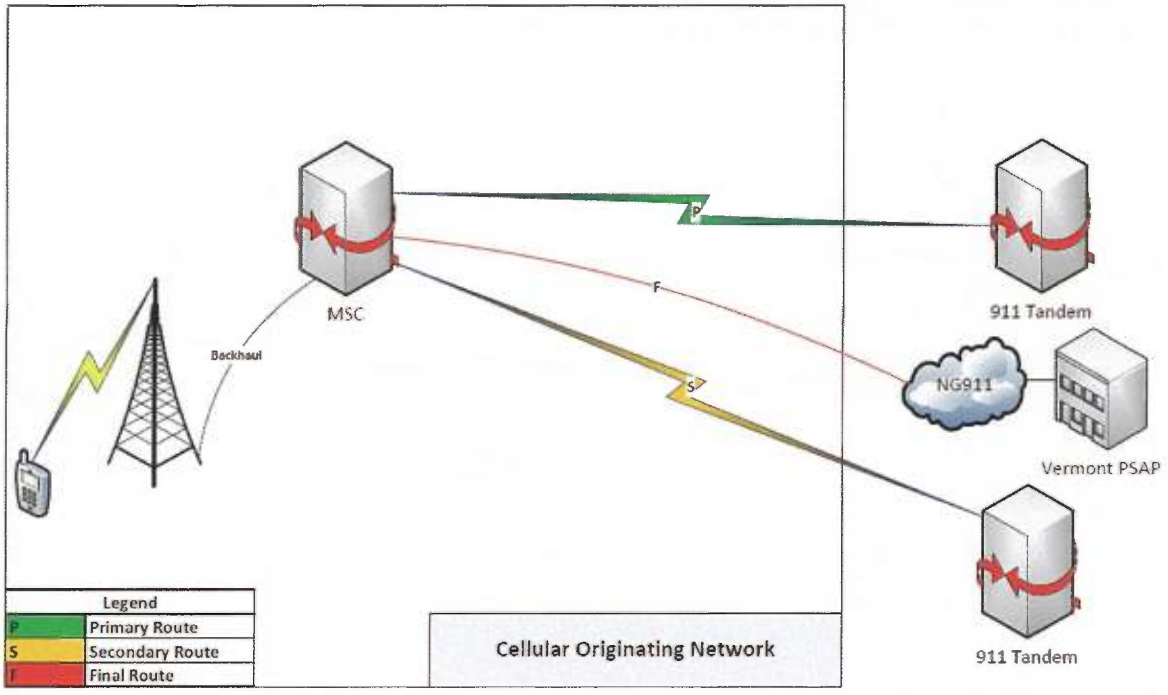

Figure 3 – Cellular OSP Call Flow Illustration

Wireline OSP Call Flow

A 9-1-1 call is placed on user equipment connected to wireline service. The call travels through the central office serving that customer and is delivered over dedicated and redundant 9-1-1 trunk groups to one of the two geo-diverse 9-1-1 tandems in Vermont before being delivered into the NG911 system. Approximately 20% of Vermont's 2017 call volume was from wireline callers.

If the delivery of the call from the dedicated 9-1-1 trunk groups to the 9-1-1 tandems fails, the serving central office has a tertiary route to the Traffic Operator Position System (TOPS)[5]. TOPS uses analog switching to send the call to a TOPS site. In some cases, this may involve a human operator manually routing the call to the appropriate 9-1-1 tandem.

If the TOPS route is unavailable, a quaternary route may exist to send the call to a local 24 x 7 public safety agency, if one served by the same central office switch exists. Due to consolidation of dispatch centers and dispatch centers migrating to other dial tone providers, there are very few instances where the quaternary route is a viable option.

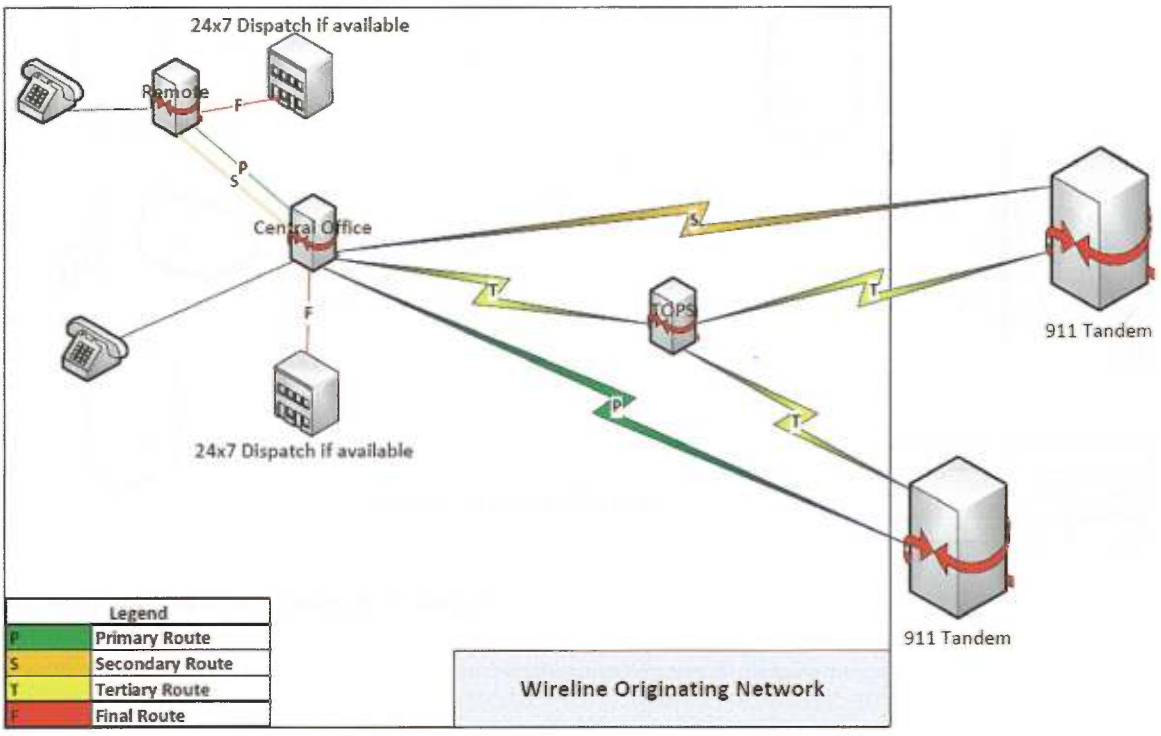

Figure 4: Wireline Call Flow Illustration

[5] The Tertiary TOPs route only exists in the incumbent local exchange carrier's network. All other LECs serving Vermont have just a primary and secondary route to the two geo-diverse 9-1-1 tandems.

Vulnerabilities in OSPs

VoIP and Cellular OSP Networks

The Federal Communications Commission (FCC) requires interconnected VoIP and cellular service providers to transmit their customers' 9-1-1 calls to Public Safety Answering Points[6]. Many of these providers voluntarily adhere to the Communications Security, Reliability and Interoperability Council's (CSRIC) network reliability best practices. CSRIC's mission is to "provide recommendations to the FCC to ensure, among other things, optimal security and reliability of communications systems, including telecommunications, media, and public safety"[7]. The FCC also requires all originating service providers to report system outages meeting certain conditions.

Interconnected VoIP and cellular OSPs are not currently subject to the same state regulatory authority as traditional wireline service providers. This regulatory environment, along with the proprietary nature of OSP network information, prevents the Enhanced 9-1-1 Board from determining with certainty whether specific single points of failure exist within the VoIP and cellular originating networks. In general terms, however, single points of failure may exist due to failures at a cellular base station when there is not overlapping signal, failures of backhaul connections and/or loss of internet/transport for VoIP customers.

Additional information regarding the FCC requirements for interconnected VoIP service providers can be found on the FCC website.[8]

Wireline OSP Networks

The Vermont Public Utility Commission supervises the quality of service of Vermont's public utilities, including wireline service providers, as defined in 30 V.S.A[9]. These providers are also subject to requirements related to 9-1-1 call delivery outlined in the 9-1-1 Board's Technical and Operational Standards[10].

Known single points of failure have existed in the wireline network since the inception of 9-1-1 in Vermont. These vulnerabilities are due to the host-remote architecture which, in some cases, allows for the possibility of the isolation of a central office. A central office isolation limits calling only to numbers within the affected exchange. Calls to numbers outside the local exchange, including calls to 9-1-1, are not possible during isolation events.

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[6] 47 C.F.R §9.5(b)(2), (2005), https://www.law.cornell.edu/cfr/text/47/9.5 and 47 C.F.R. §20.18(b), (1998), https://www.law.cornell.edu/cfr/text/47/20.18

[7] "CSRIC III", Federal Communications Commission, accessed August 17, 2018, https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-1

[8] "VoIP and 9-1-1 Service", Federal Communications Commission, last updated/reviewed September 8, 2017, https://www.fcc.gov/consumers/guides/voip-and-911-service

[9] 30 V.S.A., https://legislature.vermont.gov/statutes/title/30

[10] Technical & Operational Standards for Enhanced 9-1-1, 31-010-002 Vt. Code R. § 1 (Lexis Advance through July 18, 2018)

In July 2018, the 9-1-1 Board requested current information about host-remote vulnerabilities from all wireline providers in Vermont. A precise count of the at-risk locations could not be determined based on the responses; however, the information received indicates host-remote vulnerabilities remain in eleven Vermont counties. A report produced in 2009, indicated approximately sixty host-remote isolation vulnerabilities in the wireline network in Vermont[11].

Recommendations and Cost Estimates for OSPs

VoIP and Cellular OSP Networks

There are no specific recommendations related to VoIP and cellular network changes at this time. Senior staff at the Enhanced 9-1-1 Board meet regularly to review FCC actions and inquiries related to VoIP and cellular network requirements and will continue to monitor the reliability of the delivery of 9-1-1 calls from these OSPs. The Board will engage with the FCC to address any reliability concerns that are identified.

Wireline Networks

Additional information is needed to fully understand the feasibility and costs associated with design changes in the wireline networks to remove or reduce host-remote isolation vulnerabilities. Potential next steps could include conducting cost studies[12] to determine the amount required to build in redundancy in these vulnerable host-remote locations and/or continued discussions with each service provider to determine an alternate solution to mitigate an isolation event.

[11] Enhanced 9-1-1 Board, *C.O. Isolation Solution*, September 2009

[12] Estimates for cost studies from one service provider range from $55,000 - $75,000.

9-1-1 Tandems and LNG Environment

The 9-1-1 tandems, once the selective routers of the original 9-1-1 network in Vermont[13], now serve only as the aggregation point for all 9-1-1 traffic from the OSP networks.

All 9-1-1 calls from OSPs that serve Vermont customers are delivered to one of the two geo-diverse 9-1-1 tandems. The tandems have multiple routes to deliver the call to the NG911 system, as shown in Figure 5.

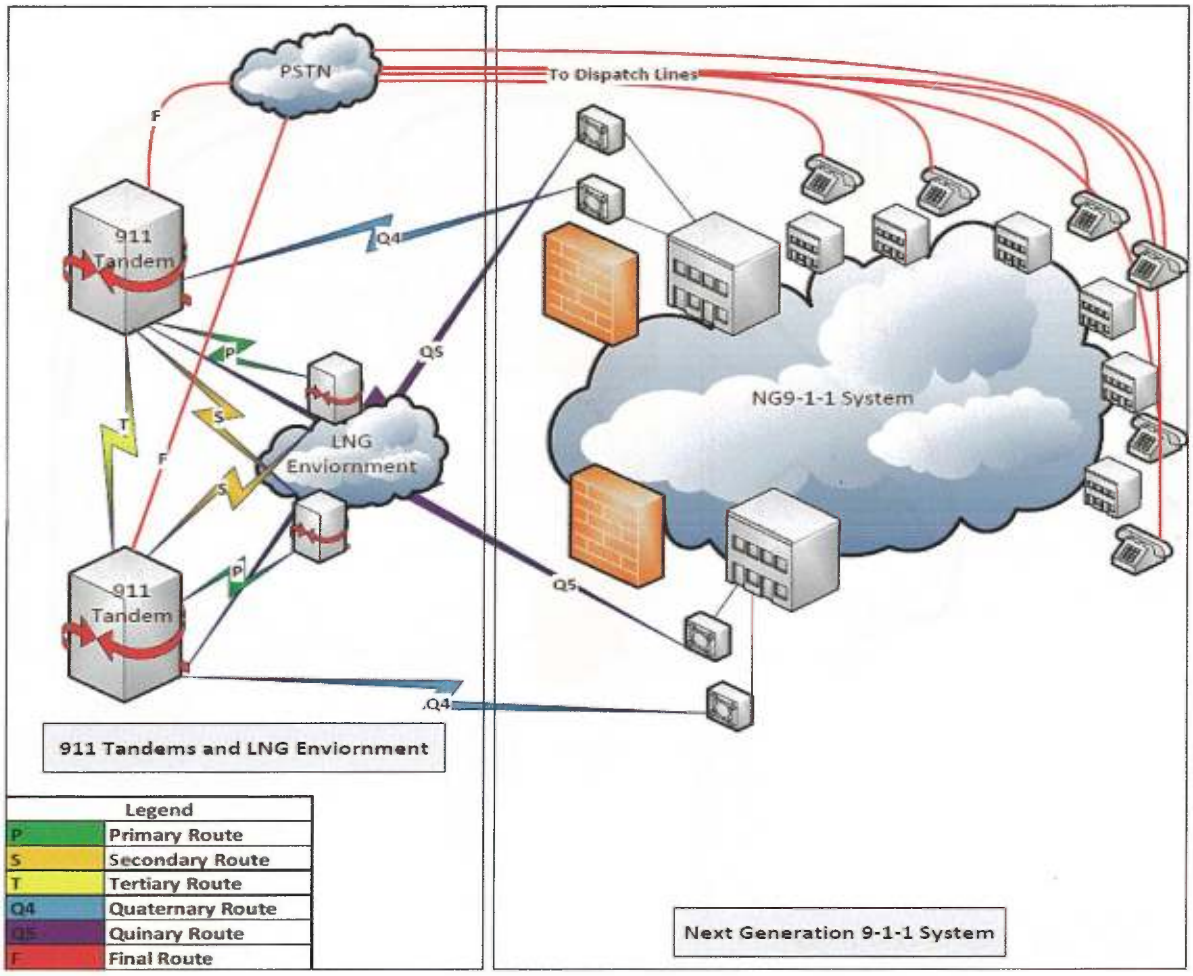

Figure 5: 9-1-1 Tandems and LNG Environment

Each tandem has a primary Time Division Multiplexing (TDM) route, a secondary TDM route, a tertiary (inter-tandem) route, a quaternary TDM route, and a quinary TDM route. If all these routes fail, the call will be delivered to a DID number that will distribute the 9-1-1 calls to PSAP dispatch lines.

[13] The selective routing of Vermont 9-1-1 calls is now handled by the NG911 system.

The LNG environment consists of two geographically diverse switches that convert 9-1-1 calls from TDM to IP and deliver the calls to the NG911 system.

As shown in Figure 6, each LNG switch has one primary and one secondary IP connection, as well as a tertiary TDM backup route. If all these routes into the NG911 system fail, the call will be delivered to a DID number that will distribute the calls to PSAP dispatch lines.

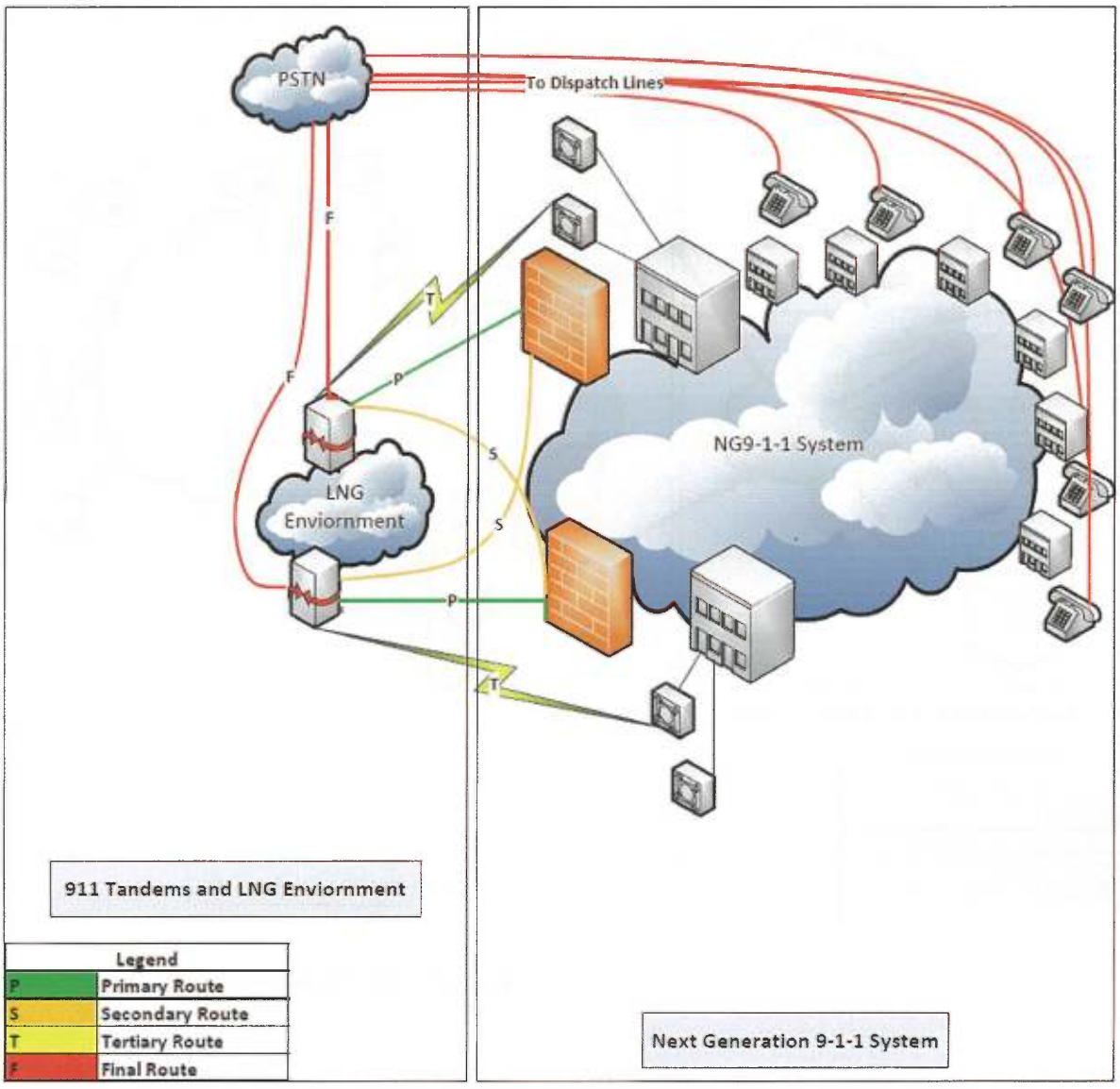

Figure 6: LNG Environment

Vulnerabilities in the 9-1-1 Tandem/LNG Environment

An assessment of the call delivery process and its ability to failover properly - and in an automated manner - was conducted in September 2016.[14] The assessment identified an area of concern within the LNG environment which had, in January 2016, contributed to an event in which the LNG utilized its final route to deliver 9-1-1 calls to PSAP dispatch lines, rather than into the NG911 system as expected. A petition for a Vermont Public Utility Commission (PUC) investigation[15] into the January 5, 2016 event was initiated by the Public Service Department in consultation with the Enhanced 9-1-1 Board. The on-going investigation may include recommendations for change(s) within the LNG environment to improve its reliability and redundancy[16].

There are no other known single points of failure in the 9-1-1 tandems or the LNG environment. Operational integrity is upheld in the tandem/LNG environment through redundancy and diversity.

Recommendations and Cost Estimates for the 9-1-1 Tandem/LNG Environment

The Enhanced 9-1-1 Board must wait for the completion of the PUC investigation before determining next steps and/or recommendations.

[14] FairPoint Communications, *NG911 Automatic System Failover Report (proprietary)*, September 2016

[15] Public Utility Commission, Docket 8850, *Petition of the Vermont Department of Public Service for an investigation into the 1/5/16 FairPoint Network incident that disrupted delivery of calls into the Vermont 911 system*

[16] As of the final review of this report, 8/29/18, the PUC investigation was still ongoing.

Next Generation 9-1-1 System

The NG911 system consists of a managed and secure IP network with six geo-diverse PSAPs and two geo-diverse data centers. Redundant call processing equipment within the system meets the requirement for 99.999% hardware system availability[17]. The data centers are equipped with fully redundant networking equipment and have two technology-diverse physical connections between them and at least one connection to each PSAP.

Once a 9-1-1 call is received by the NG911 system from the 9-1-1 tandem/LNG environment, it is routed to the primary PSAP based on the caller's location. If the primary PSAP is unavailable due to a failure or because no call-taker is available, the call is automatically rerouted to an available call-taker at one of the five remaining PSAPs within the NG911 system.

Automatic failover to the redundant PSAP connections is handled by the networking equipment. If neither data center is able to route the call to any PSAP due to failure or because no call-takers are available anywhere in the statewide system, the call will be delivered over a DID number that is pointed to a PSAP dispatch line.

Figure 7, on the following page, illustrates the NG911 system design.

[17] Solacom Technologies Inc., *Systems Engineering Technical Brief – Reliability Analysis Vermont System (proprietary)*, February 2015

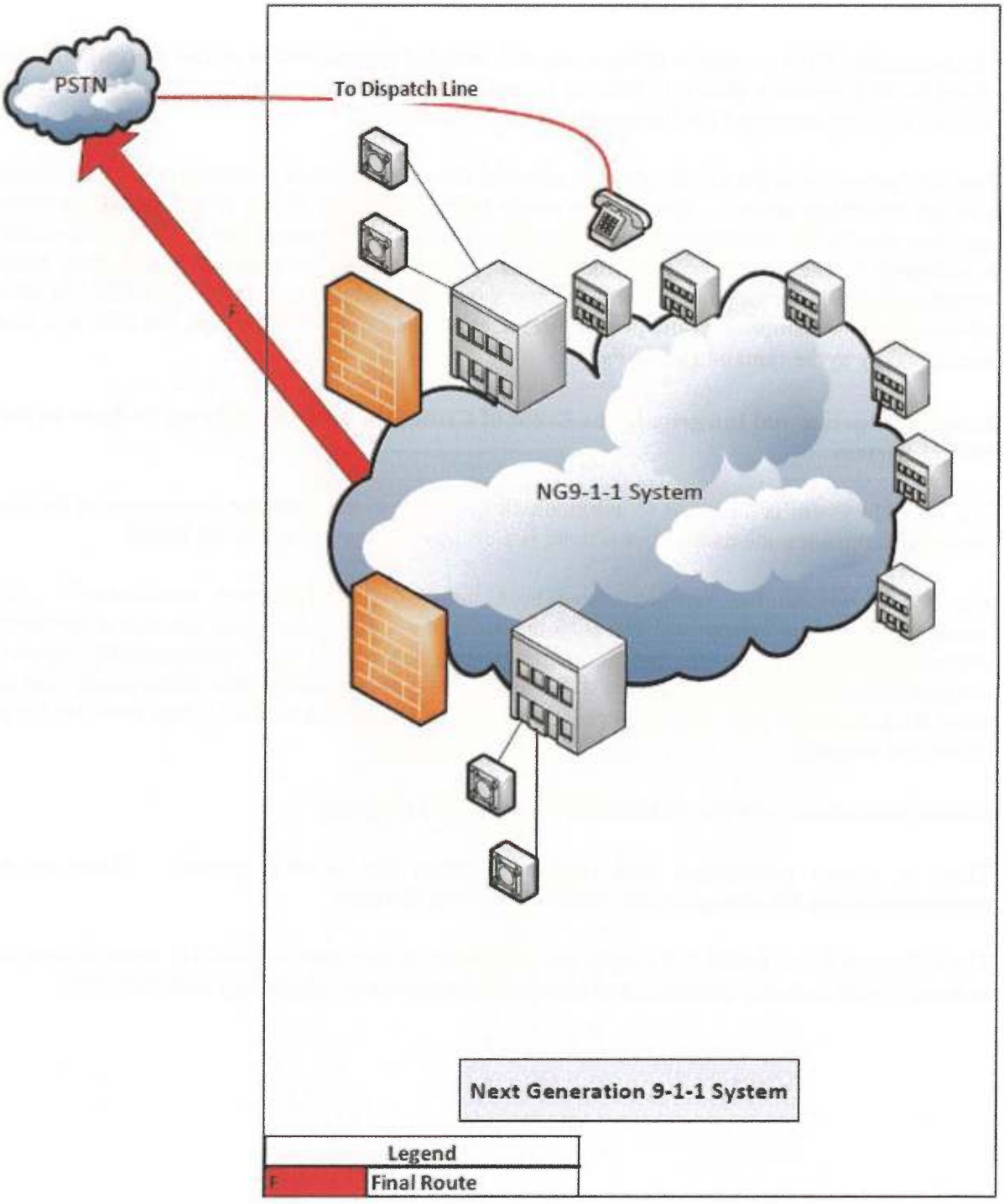

Figure 7: NG911 System Design

Vulnerabilities in the NG911 System

The September 2016 automatic failover report[18] included an assessment of call delivery in terms of the NG911 system's ability to failover properly and in an automated manner. There were no areas of concern identified for Vermont's NG911 system.

Four of Vermont's six PSAPs do not have physical diversity into their buildings or are served from a single switching center. This creates single points of failure if one of the switching center facilities were to fail or if there was a disruption to the physical connections. This vulnerability is mitigated by the geo-diversity of the PSAPs. No two PSAPs are served by the same single switching center, so a loss of a switching center would only impact one PSAP. If a PSAP is taken off-line due to a disruption of the physical connection and/or switching center, the calls will flow automatically to the remaining PSAPs.

Ensuring Operational Integrity in the Event of Critical Software/Hardware Failures in the NG911 System

The NG911 system is designed to automatically failover to the alternate component in the data center or to the alternate data center if there is a critical software or hardware failure.

The NG911 system has comprehensive host, network and application monitoring[19]. This monitoring provides operational integrity in that it alerts the system provider that a redundant component has failed. In addition, an internal testing process has been implemented to regularly confirm that critical call processing is stable and capable of processing calls. If the check does not come back correctly after two attempts, a critical alarm is raised to the system provider for an immediate response.

Recommendations and Cost Estimates for the NG911 System

There is robust redundancy and resiliency within the NG911 system. There are no recommendations for changes to the NG911 system at this time.

The Enhanced 9-1-1 Board will ensure that any future procurements of NG911 systems continue to comply with industry standards and best practices related to redundancy and resiliency.

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[18] FairPoint Communications, *NG911 Automatic System Failover Report (proprietary)*, September 2016

[19] Solacom Technologies Inc., *Vermont* [redacted] *Monitoring List*, October 2016, NOTE: The document name contains sensitive technical telecommunication information, the disclosure of which could make the 911 system vulnerable to cybercrimes and potential interference threatening the safety of persons and the security of public property. This information is exempt pursuant to 1 V.S.A. §317(c)(25).

Conclusion

Summary Table of Vulnerabilities and Recommendations

The table below summarizes the identified vulnerabilities in each of the three networks involved in the delivery of a 9-1-1 call to a Vermont 9-1-1 call-taker. Also provided is the existing mitigation for each vulnerability, the Enhanced 9-1-1 Board's recommendations for changes and associated costs of those changes.

Identified Vulnerabilities in Originating Networks	**Mitigation**	**Recommendation**	**Costs**
Central Office Isolation	Emergency Stand Alone where available	Continued discussion and research of potential mitigation steps	None at this time
Backhaul connectivity for cellular base stations	Overlapping cellular and/or wi-fi signals where available	Encourage continued growth of cellular coverage in Vermont by commercial carriers	N/A
Identified Vulnerabilities in 9-1-1 Tandem/LNG Environment	**Mitigation**	**Recommendation**	**Costs**
LNG Environment – Factors contributing to January 5, 2016 event	Final Route to DID	Await PUC investigation results	None at this time
Identified Vulnerabilities in NG911	**Mitigation**	**Recommendation**	**Costs**
Physical diversity to each PSAP	Holistic system design delivers calls to alternate PSAPs when a primary PSAP is offline	None – this vulnerability is mitigated by system design	None

The Vermont 9-1-1 system, and the various networks involved in 9-1-1 call delivery, are resilient and have redundancy throughout. Mitigation steps are in place to lessen the risks of known vulnerabilities.

The Enhanced 9-1-1 Board has established strong relationships with multiple partners who have the shared goal of ensuring the reliable delivery of Vermont 9-1-1 calls. These partnerships also allow the Board to identify the appropriate course of action in the event of any concerns about, or failures of, 9-1-1 call delivery. The Vermont Enhanced 9-1-1 Board is committed to working with these partners, the legislature, and all stakeholders, to ensure continued redundancy and resiliency in the statewide 9-1-1 system.

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Glossary

9-1-1 Tandem – The Central Office that provides the tandem switching of 9-1-1 calls. It controls delivery of the voice call with ANI to the PSAP.

Automatic Location Identification (ALI) – The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone and supplementary emergency services information of the location from which a call originates.

Automatic Number Identification (ANI) – Telephone number associated with the access line from which a call originates.

Central Office – The Local Exchange Carrier facility where access lines are connected to switching equipment for connection to the Public Switched Telephone Network.

Communications Security, Reliability and Interoperability Council (CSRIC) – An advisory body of the FCC which provides recommendations to the FCC to ensure, among other things, optimal security and reliability of communications systems, including telecommunications, media, and public safety.

Direct Inbound Dialing (DID) – Telephone company facility that allows an outside caller to connect directly to an inside extension of an office without the help of an attendant or operator.

Emergency Service Gateway (ESGW) – The Emergency Services Gateway (ESGW) is the signaling and media interworking point between the IP domain and conventional trunks to the E911 SR that use either Multi Frequency (MF) or Signaling System #7 (SS7) signaling. The ESGW uses the routing information provided in the received call setup signaling to select the appropriate trunk (group) and proceeds to signal call setup toward the SR using the ESQK to represent the Calling Party Number/Automatic Number Identification information.

Federal Communications Commission (FCC) – An independent U.S. government agency overseen by Congress, the Federal Communications Commission regulates interstate and international communications by radio, television, wire, satellite and cable in all 50 states, the District of Columbia and U.S. territories.

Geographic Information System (GIS) – A system for capturing, storing, displaying, analyzing and managing data and associated attributes which are spatially referenced.

Host Switch – An end office with an internal controller or intelligent process used to complete calls. A host switch controls the function of one or more remote switch units (RSU) via a central "control" or "processor" resident within the host switch.

Internet Protocol (IP) – The method by which data is sent from one computer to another on the Internet or other networks.

Legacy Network Gateway (LNG) – An NG911 Functional Element that provides an interface between a non-IP originating network and a Next Generation Core Services (NGCS) enabled network.

Mobile Switching Center (MSC) – The wireless equivalent of a Central Office, which provides switching functions from wireless calls.

Municipal Coordinators – A contact determined by each municipality participating in the enhanced 9-1-1 system to serve as the liaison to the Board and the system provider on all issues regarding 9-1-1 service.

Next Generation 9-1-1 (NG911) – A system comprised of Emergency Services IP networks (ESInets), IP-based Software Services and Applications, Databases and Data Management processes that are interconnected to Public Safety Answering Point premise equipment. The system provides location-based routing to the appropriate emergency entity. NG911 provides standardized interfaces for call and message services, processes all types of emergency calls including non-voice (multi-media) messages, and acquires and integrates additional data useful to call routing and handling for appropriate emergency entities. NG911 supports all E911 features and functions and meets current and emerging needs for emergency communication from caller to Public Safety entities.

Originating Service Provider (OSP) – An entity that provides telecommunications services to an end user placing a call.

Public Safety Answering Point (PSAP) – An entity responsible for receiving 9-1-1 calls and processing those calls according to a specific operational policy.

Public Switch Telephone Network (PSTN) – The network of equipment, lines, and controls assembled to establish communication paths between calling and called parties in North America.

Remote Switch – A small switching system that is located at a remote point from a host switch. All or most of its call processing capability is obtained from an electronic type host office. The remote is connected to the host by umbilical circuits providing message and signal handling capabilities.

Selective Router – The Central Office that provides the tandem switching of 9-1-1 calls. It controls delivery of the voice call with ANI to the PSAP and provides Selective Routing, Speed Calling, Selective Transfer, Fixed Transfer, and certain maintenance functions for each PSAP.

Time Division Multiplexing (TDM) – A digital multiplexing technique for combining a number of signals into a single transmission facility by interweaving pieces from each source into separate time slots.

Traffic Operator Position System (TOPS) – A computerized operator telephone switchboard.

VoIP – Technology that permits delivery of voice calls and other real-time multimedia sessions over IP networks.

VoIP Positioning Center (VPC) – The VoIP Positioning Center (VPC) is the element that provides routing information to support the routing of VoIP emergency calls and cooperates in delivering location information to the PSAP over the existing ALI DB infrastructure. The VPC supports access to the routing data in the ERDB.

[END OF REPORT]

Theresa Utton

From: Clark, Sarah <Sarah.Clark@vermont.gov>
Sent: Wednesday, September 05, 2018 11:47 AM
To: Theresa Utton; Stephanie Barrett
Cc: O'Connell, Tracy E; Elmquist, Candace; D'Agostino, Matt; Donahey, Richard
Subject: RE: Confirmation of OOS Beds - Correctional Services Transfers

Thank you!

From: Theresa Utton <TUTTON@leg.state.vt.us>
Sent: Wednesday, September 05, 2018 11:46 AM
To: Clark, Sarah <Sarah.Clark@vermont.gov>; Barrett, Stephanie <sbarrett@leg.state.vt.us>
Cc: O'Connell, Tracy E <Tracy.OConnell@vermont.gov>; Elmquist, Candace <Candace.Elmquist@vermont.gov>; D'Agostino, Matt <Matt.DAgostino@vermont.gov>; Donahey, Richard <Richard.Donahey@vermont.gov>
Subject: RE: Confirmation of OOS Beds - Correctional Services Transfers

That is correct Sarah. I will save this email to confirm that there were no transfers in case someone asks. Thank you, ~Theresa

---

From: Clark, Sarah [mailto:Sarah.Clark@vermont.gov]
Sent: Wednesday, September 05, 2018 11:41 AM
To: Theresa Utton; Stephanie Barrett
Cc: O'Connell, Tracy E; Elmquist, Candace; D'Agostino, Matt; Donahey, Richard
Subject: Confirmation of OOS Beds - Correctional Services Transfers

Theresa,

Can you confirm that no transfer report is needed between correctional services and out-of-state beds for SFY18 since no transfer was made?. Similarly, I don't believe we provided a report for SFY17 when a transfer was not needed as well.

Thank you and I hope you are enjoying the last days of summer!

IV. CORRECTIONS APPROPRIATIONS; TRANSFER; REPORT
Sec. 64 of Act 68 of 2016 as amended by Sec. 76 of Act 3 of 2017 as amended by Sec. 55 of Act 87 of 2018
(a) In fiscal year 2018, the Secretary of Administration may, upon recommendation of the Secretary of Human Services, transfer unexpended funds between the respective appropriations for correctional services and for correctional services – out-of-state beds. At least three days prior to any such transfer being made, the Secretary of Administration shall report the intended transfer to the Joint Fiscal Office, and at the next scheduled meeting of the Joint Fiscal Committee the Secretary of Administration shall report any completed transfers.

VERMONT

State of Vermont
Green Mountain Care Board
144 State Street
Montpelier VT 05602

Report to the Legislature

REPORT ON THE TOTAL AMOUNT OF ALL EXPENSES ELIGIBLE FOR ALLOCATION PURSUANT TO 18 V.S.A. § 9374(h) AND § 9415, AND THE TOTAL AMOUNT ACTUALLY BILLED BACK TO REGULATED ENTITIES DURING STATE FISCAL YEAR 2018

In accordance with 18 V.S.A. Sec. 9374 as amended by Sec. 23 of Act 154 (H.895) of 2018

Submitted to the
House Committees on Health Care, Ways & Means, and Appropriations; the Senate Committees on Health & Welfare, Finance, and Appropriations; and the Joint Fiscal Committee

Submitted by the
Green Mountain Care Board & the
Department of Financial Regulation

September 15, 2018

Introduction

Act 79 of 2013 requires that the Green Mountain Care Board (Board) and the Vermont Department of Financial Regulation (Department) submit a report showing **"the total amount of all expenses eligible for allocation pursuant to 18 V.S.A. §§ 9374(h) and 9415 during the preceding state fiscal year and the total amount actually billed back to the regulated entities during the same period."** 2013, No. 79, § 37c(a). This report must be submitted annually on or before September 15 to the House Committee on Health Care, Ways & Means, the Senate Committees on Health and Welfare and on Finance, and the House and Senate Committees on Appropriations. *Id.* The Department and the Board must also provide this information to the Joint Fiscal Committee at its September meeting. *Id.* at § 37c(b). The report is listed on the non-action portion of the Joint Fiscal Committee's September meeting agenda, and is being submitted to satisfy that agenda item as well as § 37c(b) of Act 79.

Background

In 1996, the Legislature first conferred billback authority to the Health Care Authority as a means of funding its duties and activities. When the Health Care Authority moved into the Vermont Department of Banking, Insurance, Securities and Health Care Administration (BISHCA), this authority was transferred to BISHCA (now the Department).

In 2012, the Legislature authorized the newly-formed Board to bill back to hospitals and insurance carriers the costs of certain activities related to health care system oversight. 2012, No. 171 (adj. sess.), § 5. The law provided that "[e]xpenses incurred to obtain information, analyze expenditures, review hospital budgets, and for any other contracts" that are authorized by either the Department or the Board would be borne according to the following allocation:

- 40 percent by the State;
- 15 percent by the hospitals;
- 15 percent by nonprofit hospital and medical service corporations;
- 15 percent by health insurance companies; and
- 15 percent by health maintenance organizations.

18 V.S.A. §§ 9374(h)(1); 9415(a) (repealed 2015). In other words, for each dollar that the State billed back pursuant to this statutory authority, the regulated entities, as a group, would pay 60 cents, with the State remaining responsible for the other 40. The 60/40 allocation has not changed and remains in effect at present.

In a February 2013 report, the Board and the Department advised the Legislature that since the inception of the billback authority, the State had not billed back the full scope of expenses made eligible by the authorizing legislation; for example, in fiscal year 2013 (FY13), the Department and the Board billed back for $395,117, although eligible regulatory activities exceeded $3 million and the regulated entities' full percent share would have been at least $1.8 million. In response, the Legislature mandated annual reporting and gave the Board and the Department discretion over the scope and the amount of the billback. 2013, No. 79, §§ 37a - 37c. The Legislature also expanded the scope of the billback to include funding for the Office of the Health Care Advocate (HCA). *Id.* at § 37d. Finally, the Legislature required the Department to

transfer one position and its associated funding to the Department of Health for the purpose of administering the hospital community reports in 18 V.S.A. § 9405b and to continue to collect funds for the publication of these reports under its billback authority. *Id.* at § 50(c).

In 2015, the Legislature repealed the statute giving the Department billback authority, 18 V.S.A. § 9415, while leaving intact the Board's authority under 18 V.S.A. § 9374(h) to continue to utilize the 60/40 billback formula "if, in the Board's discretion, the expenses to be allocated are in the best interests of the regulated entities and of the State." 2015, No. 54, § 61.

Effective July 1, 2016, the Legislature established a specific allocation for the billback of expenses incurred by the HCA for services related to the Board's and the Department's regulatory and supervisory duties. 2016, No. 134, § 28. The allocation is as follows:

- 27.5 percent by the State from State monies;
- 24.2 percent by the hospitals;
- 24.2 percent by nonprofit hospital and medical service corporations licensed under chapters 123 and 125 of Title 8 of the Vermont statutes; and
- 24.2 percent by health insurance companies licensed under chapter 101 of Title 8.

In 2017, the Legislature changed the allocation of the billback to hospitals and insurance carriers "for fiscal year 2018 only." 2017, No. 73, §15a. The law provided that eligible expenses would be borne:

- 40 percent by the State;
- 15 percent by the hospitals;
- 45 percent by nonprofit hospital and medical service corporations; health insurance companies; and health maintenance organizations.

As the fiscal 2018 billback allocation change expired June 30, 2018, effective July 1, 2018 the Legislature amended Section 9374(h) of Title 18. The law authorized the Board to assess and collect from each regulated entity the actual costs incurred by the Board in carrying out its regulatory duties. It also changed the billback allocation of the Board's eligible expenses as follows:

- 40 percent by the State from State monies;
- 30 percent by the hospitals;
- 24 percent by nonprofit hospital and medical service corporations; health insurance companies; and health maintenance organizations;
- six percent by certified accountable care organizations.

2018, No. 167, §17.

The Board deposits monies it receives from regulated entities in the Green Mountain Care Board Regulatory and Administrative Fund, which provides financial support for the Board's operations. 18 V.S.A. § 9404(d). This special fund "may also be used by the Department of Health to administer its obligations, responsibilities, and duties as required by chapter 221 of

[title 18]," and since the Department of Health assumed responsibility for hospital community reports in 2013, the Legislature has appropriated money from the fund to support this activity.[1] Because the Board does not include expenses incurred by the Department of Health in its annual billback, however, any continued appropriations to the Department of Health from the fund—absent a corresponding expansion in the scope of the billback authority—may eventually strain the fund.

Fiscal Year 2018 Billback

In FY18, the Board billed back approximately $3,668,628, as shown in Appendix A of this report. The significant increase in the billed back amount over FY17 offsets a decrease in appropriations for Global Commitment and federal funds for FY18, and fulfills the Board's pledge to bill back 100 percent of the industry portion of its FY18 budget. The increase was adjusted downward by $1,095,105 for the FY17 actual spend, versus the Board's budget adjustment. Below, Tables 1 and 2 show the breakdown among the hospitals and insurance companies that can be billed under 18 V.S.A. §§ 9374(h)(1).

Table 1: Hospital Assessment FY18

HOSPITAL	Amount Billed
Brattleboro Memorial Hospital	$ 23,931
Grace Cottage Hospital (Carlos Otis)	$ 1,702
Central Vermont Medical Center	$ 58,927
Copley Hospital	$ 26,116
Gifford Medical Center	$ 18,838
Mt Ascutney Hospital	$ 5,178
Northeastern Vermont Regional Hospital	$ 19,009
North Country Hospital	$ 20,314
Northwestern Medical Center	$ 36,925
Porter Medical Center	$ 21,690
Rutland Regional Medical Center	$ 89,071
Southwestern Vermont Medical Center	$ 48,202
Springfield Hospital	$ 27,917
University of Vermont Medical Center	$ 274,887
Total	**$ 672,706**

[1] For example, the FY 2018 appropriation to the Department of Health (VDH) from the fund for the administration of the hospital community reports was $75,000s.

Table 2: Insurance Carrier Assessment FY18

CARRIER	Amount Billed
Blue Cross and Blue Shield of Vermont	$ 1,471,149
MVP Health Insurance Company	$ 122,150
MVP Health Plan Inc	$ 111,033
Cigna Health & Life Insurance Company, Inc.	$ 80,684
The Vermont Health Plan, LLC	$ 61,447
UnitedHealthcare Insurance Company	$ 22,665
Aetna Life Insurance Company	$ 18,303
MVP Health Services Corp	$ 6,281
4 Ever Life Insurance Company	$ 2,560
State Farm Mutual Automobile Insurance Company	$ 2,081
QCC Insurance Company	$ 2,077
United States Life Insurance Company in the City of New York	$ 168
Metropolitan Life Insurance Company	$ 110
AXA Equitable Life Insurance Company	$ 82
Golden Rule Insurance Company	$ 17
Total	**$ 1,900,805**

In comparison, the State billed back approximately $395,000 in FY13, $890,000 in FY14, $1,474,300 in FY15, $1,546,407 in FY16, $1,560,353 in FY17, and $2,573,511 in FY18. The Board's approved FY19 budget includes a projected billback amount of $3,995,409. *See* Appendix A, cell F21

To place the FY18 figures in context, Appendix A breaks out the Board's total expenses by category, and for each category indicates the maximum amount eligible to be billed back under Vermont law. For example, of the $3,610,760.50 that was budgeted for personal services in FY18, the Board determined that up to $2,354,505.79 was eligible to be billed back under 18 V.S.A. § 9374(h). *See* Appendix A, cells D3, D4. The next three blocks of information present analogous information relative to operating expenses, grants, and contracts.

The final block (Personal Services, operating, grants, contracts), shows the maximum amounts that could have been billed to regulated entities under the statutory 60/40 formula, the amounts budgeted to be billed back, and the actual amounts billed back. As shown, the Board billed back $3,668,616, or approximately 100 percent of the potential industry portion of $3,668,616, less the adjustment for the previous year actual spend versus budget. *See* Appendix A, cells D20, D21

In addition, Appendix A shows that based on its approved FY19 budget, the Board

projects it will bill industry $3,995,409 in FY19. *See* Appendix A, cell F21. This represents 100 percent of the potential industry portion.

Both the budgeted FY19 increase and the increases in the amounts actually billed back to industry from FY13 to FY18 ($395,000 in FY13; $890,000 in FY14; $1,474,300 in FY15; $1,546,407 in FY16; $1,560,353 in FY17; and $2,573,511.00 in FY18) demonstrate the Board's commitment to utilize its billback authority consistent with legislative intent. While the Board acknowledges the need to defray certain categories of expenses through the billback function, however, it also acknowledges that it must also utilize its discretion when appropriate to limit the burden on regulated entities, which ultimately pass these expenses on to Vermont health care consumers. The Board will continue its work to maximize funding from other sources when available, including federal grants, for activities that may otherwise be funded through the billback function. In other words, to the extent an expense eligible for billback is being funded through federal or other grants, the Board uses its discretion under 18 V.S.A. § 9374(h)(2) to exclude those dollars from the billback actually charged to industry.

APPENDIX A

TO GMCB FY 2018 BILLBACK REPORT

Green Mountain Care Board
Kevin Mullin, Chair
9/15/2018

	A	B	C	D	E	F
	BILLBACK DETAIL		Projected Budget FY 2018	Actual Budget FY 2018	Actual Expended FY 2018	Total Projection FY 2019
1	Total Expenses		$10,516,299.79	$10,439,318.24	$ 9,393,766.34	$ 9,433,737.92
2						
3	Personal Services		$ 3,610,760.50	$ 3,610,760.50	$ 3,582,939.73	$ 3,359,726.00
4	Total Billback		$ 2,354,505.79	$ 2,354,505.79	$ 2,568,229.13	$ 2,398,879.00
5	Industry Portion		$ 1,383,370.91	$ 1,383,370.91	$ 1,532,916.87	$ 1,498,636.00
6						
7	Operating		$ 790,676.62	$ 747,546.62	$ 658,555.88	$ 345,108.00
8	Total Billback		$ 521,754.63	$ 478,624.63	$ 577,278.53	$ 224,545.00
9	Industry Portion		$ 307,468.37	$ 290,216.37	$ 197,305.66	$ 130,989.00
10						
11	Contracts		$ 6,114,937.87	$ 6,081,011.12	$ 5,152,270.73	$ 5,728,903.92
12	Gross Potential Billback*		$ 6,114,937.87	$ 6,081,011.12	$ 5,152,270.73	$ 5,728,903.92
13	Alternate Funding		$ (2,817,816.46)	$ (2,817,816.46)	$ (2,602,500.81)	$ (1,693,312.24)
14	Net Potential Billback		$ 3,297,121.41	$ 3,263,194.66	$ 2,549,769.92	$ 4,035,591.68
15	Total Billback		$ 3,297,121.41	$ 3,263,194.66	$ 2,549,769.92	$ 4,035,591.68
16	Industry Portion		$ 2,028,967.50	$ 1,995,028.75	$ 1,545,900.97	$ 2,321,720.17
17						
18	Pers Services, operating, grants, contracts					
19	Total Net Potential Billback		$ 6,173,381.84	$ 6,096,325.09	$ 5,695,277.58	$ 6,659,015.68
20	Potential Industry Billback		$ 3,704,029.10	$ 3,668,616.03	$ 3,276,123.50	$ 3,995,409.41
21	Budgeted Industry Billback		$ 3,704,029.10	$ 3,668,616.03	$ 3,276,123.50	$ 3,995,409.41
22						
23	Adjustment for Previous Year Actual spend vs. Budget			$ (1,095,105.03)		
24	Final billback		$ 3,704,029.10	$ 2,573,511.00	$ 3,276,123.50	$ 3,995,409.41
25	Budgeted Industry Billback as % of Potential		100%	100%	100%	100%
26						
27	Variance		$ -	$ -	$ -	$ -

Notes:

These amounts may be adjusted if additional information becomes available.

Actual 2018 reflects amounts billed to industry based upon budgeted plans.

Report to
The Vermont Legislature

Report on:
Participant Directed Attendant Care (PDAC)

In Accordance with SS2018 Act 11 Sec. E.330 (b)

Submitted to: Joint Fiscal Committee

Submitted by: Monica Caserta Hutt, Commissioner

Prepared by: Megan Tierney-Ward, Adult Services Division Director

Report Date: September 15, 2018

AGENCY OF HUMAN SERVICES
Department of Disabilities, Aging and Independent Living

Act 11, Section E.330 PARTICIPANT DIRECTED ATTENDANT CARE (PDAC) PROGRAM required that the Department of Disabilities, Aging & Independent Living (Department) "make a determination regarding the clinical and financial eligibility of each currently enrolled individual for the Medicaid Choices for Care program or any other program that could provide the necessary attendant care services." Following that determination work, the Department was required to draft a report on our findings to submit to the Joint Fiscal Committee in September 2018.

This report describes some demographics, the work completed by the Department, and our findings on the status of the individuals currently enrolled in the PDAC program.

Demographics and Information

In January 2018, a profile of participants in the general fund PDAC program showed the following:

Average Plan Cost Per Person	$29,500 year
Under 60 years old	34%
60-70 years old	33%
70 years and older	34%
Females	55%
Males	45%
Married	48%
Program pays spouse	36%
Lives alone	20%
Employed	15%

Historically, most participants chose the PDAC-Attendant Services General Funds option because it allowed them to continue working, did not require Medicaid eligibility and enabled them to pay their spouse to provide their care as their attendant.

Currently, the PDAC- Attendant Services Program (ASP) regulations require that to be eligible for the General Funds option, applicants must "Be ineligible for any other Medicaid or state - funded programs." All ASP applicants are required to apply for Medicaid when they initially submit an application for the program. Each year, a reassessment of clinical needs is completed, and General Funds participants are asked if they subsequently applied and were found eligible for Medicaid. People who are found eligible for Medicaid are transferred to the ASP Medicaid option. Participants have not been required to re-apply for Medicaid, thereby maintaining a generally stable set of participants on the General Fund program.

Work Completed

In January 2018, all General Funds Participants received a letter from the Department and a phone call describing the proposal for elimination of the PDAC-ASP general fund program and checking to be sure they were not Medicaid eligible or interested in applying for Medicaid or Choices for Care. Most participants voiced that they were confident they were still not eligible or did not want to apply because they had applied once before and been found ineligible. An additional barrier to application was that current participants believed they would have to pay a monthly patient share if they transitioned to Choices for Care. A patient share would require an out-of-pocket contribution to the costs of care and is determined by the Department of Vermont Health Access as part of financial eligibility determination. This is required for Long-Term Care Medicaid eligibility if a person's income is above the institutional income standard, after allowable medical deductions and income disregards.

In March 2018, the Department initiated an agreement with the Vermont Association of Area Agencies on Aging (V4A) to perform a home visit and screening with all General Funds participants to determine if they were potentially eligible for Medicaid or Long-Term Medicaid through Choices for Care. Visits were completed by June 30, 2018 and results from the V4A analysis provided to the Department.

Findings

- Out of 44 participants, 32 people were screened by the regional Area Agency on Aging (AAA) and 12 people (27%) refused the screening.
- Of the 32 people screened by the regional AAA:
    - 11 (34%) pay their spouses to provide attendant care.
    - 25 (78%) were likely to be clinically eligible for CFC.
    - 14 (44%) were likely to be both clinically and financially eligible for CFC based on self-reported information. Five of the 14 agreed to apply for CFC, only if required by the state. It was estimated that most, if not all, of the 14 would likely have a monthly patient share if they applied for CFC. (see table #1)
    - 2 (6%) were likely to be Community Medicaid eligible based on self-reported information. These two are also counted in the 14 who are both clinically and financially eligible for CFC. However, one of the two individuals refused to apply for Medicaid. The other individual was already on Medicaid and received an exception in order to pay her spouse under PDAC-ASP General Funds.

During conversations with participants, at least one person said their family would provide care if they were no longer able to participate in the General Funds option. Others reported having a relatively large amount of assets ($100,000+) and others refused to reveal their income and assets during the screening upon advice from their financial advisor. As of this report, one participant has passed away, bringing the total number of ASD General Funds participants (both active and inactive) to 43.

Possible Impacts of Potential Program Changes for Current Participants

- Financial cost to a family if a patient share is required
- Loss of income to a family if spouse could no longer be paid
- Loss of caregiving if spouses cannot be paid and alternate caregivers cannot be identified
- Loss of caregiving or loss of caregiving hours if patient share become prohibitive
- Potential loss of employment, independence, and community access if caregivers are lost

Summary

Since 2014, the ASP General Funds option has been "frozen" to new participants. During that time, an average of 7.5 participants per year have come off the program by either transitioning to the Medicaid ASP or Choices for Care option or passing away. In SFY18, six participants came off the program, bringing the current number of active and inactive ASP General Funds participants to 43 as of August 2018. The average cost of care, per person for home-based CFC services is roughly the same as the average cost of care, per person, for ASP General Funds at approximately $29,500 per person, per year. The SFY19 blended Medicaid state share is 46.21%

As of August 11, 2018, assuming status quo with no attrition, the anticipated ASD General Funds expenditures for SFY19 are $1,491,028.00. This is $603,762.00 above the current SFY19 appropriation of $771,266.00, which will be covered by AHS per section E.330 a. of Act 11.

Attachments:

Table #1: ASP General Funds - Summary of AAA Screening Results as of 7/1/18

Table #2: Inventory of ASP General Funds Participant Information following AAA Screening

Table #1: ASP General Funds - Summary of AAA Screening Results as of 7/1/18

Summary of Participants:	Enrolled in ASP as of 7/1/18		Spouse paid by ASP		# of Participants	# of Participants
	#	%	#	%	Screened by AAA	Declined Screening
Likely Clinically eligible fo CFC	35	80%	12	71%	25	11
Maybe Clinically eligible for CFC	2	5%	0	0%	2	0
Likely Not Clinically eligible for CFC	7	16%	5	29%	5	1
Totals:	**44**	**100%**	**17**	**100%**	**32**	**12**

Results for the 32 people who received screening:

	Likely Community Medicaid Eligible - Paid Spouse	Agreed to apply for Community Meidicaid	Likely CFC Clinical and Financial Eligible	Agreed to Apply for CFC
# of participants	2	0	14	5 (If required.)
% of total screened	6%	0%	44%	16%

	Bi-Weekly Ave. Expenditures	Annual Ave. Expenditures
Estimated reduction in program expenditures if 5 people transitioned to CFC:	$ 5,673	$ 147,500
Estimated reduction in program expenditures if 14 people transitioned to CFC:	$ 15,885	$ 413,000

NOTES:

1. As of 8/28/18, 43 Active (1 deceased)
2. The CFC LTC Medicaid eligible counts include the people who would also be Community Medicaid eligible.
3. Two of the people who are likely Community Medicaid eligible also pay their spouse, which is not allowed on the ASP Medicaid option. Paying spouses is allowable under Choices for Care.
4. Acutal average expenditures for General Funds ASP participants is $29,500 per person, per year.

Table #2: Inventory of ASP General Funds Participant Information following AAA Screening

#	Likely CFC Clinically eligible	Veteran	Employed	Active Community Medicaid	Married	Spouse Paid by ASP GF	Authorized Budget $ per 2 wks	AAA Screening completed	Likely Community Medicaid Eligible	Agreed to apply to Community Medicaid	Likely Long-Term Care Medicaid Eligible	Agreed to apply to CFC
1	Yes	N	N	No	No	No	$1,039.33	Yes	No	No	No	No
2	Yes	N	N	No	Yes	Yes	$1,661.85	No - Declined	Don't know	No	Don't know	No
3	Yes	N	N	No	Yes	No	$1,292.55	Yes	No	No	Yes	Yes
4	Yes	N	Y	No	No	No	$713.98	Yes	No	No	No	No
5	Maybe - Deceased	N	N	No	Yes	No	$947.87	Yes	No	No	Yes	Yes - Deceased
6	Yes	N	N	No	Yes	Yes	$1,120.21	Yes	No	No	No	No
7	Yes	N	N	No	Yes	Yes	$625.35	No - Declined	Don't know	No	Don't know	No
8	Yes	N	N	No	No	No	$1,331.45	Yes	No	No	No	No
9	No	N	N	No	No	No	$732.45	Yes	No	No	No	No
10	Yes	N	Y	No	No	No	$1,421.81	Yes	No	No	No	No
11	Yes	N	N	No	Yes	Yes	$818.62	No - Declined	Don't know	No	Don't know	Yes
12	Yes	N	N	No	Yes	Yes	$532.41	Yes	No	No	No	No
13	Yes	N	Y	No	No	No	$1,166.37	Yes	No	No	No	No
14	Yes	N	N	No	Yes	Yes	$972.49	Yes	No	No	No	No
15	Yes	N	N	No	No	No	$1,240.23	No - Declined	Don't know	No	Don't know	No
16	No	N	N	Yes - paid spouse	Yes	Yes	$947.87	Yes	Already on	Already on	Yes	No
17	Yes	N	N	No	No	No	$2,240.42	No - Declined	Don't know	No	Don't know	No
18	Yes	N	N	No	No	No	$1,421.81	Yes	No	No	No	No
19	Yes	N	N	No	Yes	Yes	$2,954.40	No - Declined	Don't know	No	Don't know	No
20	Yes	N	N	No	Yes	Yes	$1,194.07	Yes	No	No	No	Yes
21	No	N	N	No	Yes	Yes	$665.97	No - Declined	Don't know	No	Don't know	No
22	Yes	N	N	No	No	No	$2,240.42	No - Declined	Don't know	No	Don't know	No
23	Yes	N	N	No	No	No	$1,070.97	Yes	No	No	Yes	Yes

#	Likely CFC Clinically eligible	Veteran	Employed	Active Community Medicaid	Married	Spouse Paid by ASP GF	Authorized Budget $ per 2 wks	AAA Screening completed	Likely Community Medicaid Eligible	Agreed to apply to Community Medicaid	Likely Long-Term Care Medicaid Eligible	Agreed to apply to CFC
24	Yes	N	N	No	Yes	Yes	$1,507.98	Yes	No	No	No	No
25	Yes	N	N	No	No	No	$1,551.06	No - Declined	Don't know	No	Don't know	No
26	Yes	N	N	No	Yes	No	$1,464.89	Yes	No	No	Yes	No
27	Yes	N	N	No	Yes	Yes	$1,249.47	Yes	No	No	No	No
28	Yes	N	N	No	No	No	$1,274.09	Yes	No	No	Yes	Yes
29	Yes	N	N	No	No	No	$1,329.48	Yes	No	No	No	No
30	Yes	N	Y	No	Yes	Yes	$1,354.10	Yes	No	No	No	No
31	No	N	N	No	Yes	Yes	$689.36	Yes	No	No	No	No
32	Yes	N	N	No	Yes	Yes	$972.49	No - Declined	Don't know	No	Don't know	No
33	No	N	N	Yes	No	Yes	$775.53	Yes	Yes	Already eligible.	Yes	No
34	Maybe	N	N	No	No	No	$960.18	Yes	No	No	Yes	Yes
35	Yes	N	Y	No	No	No	$2,240.42	Yes	No	No	No	No
36	Yes	N	N	No	No	No	$861.70	Yes	No	No	Yes	No
37	Yes	N	N	No	No	No	$2,240.42	No - Declined	Don't know	No	Don't know	No
38	Yes	N	N	No	No	No	$1,181.76	Yes	No	No	Yes	No
39	Yes	Y	N	No	No	No	$861.70	No - Declined	Don't know	No	Don't know	No
40	No	N	N	No	Yes	Yes	$2,240.42	Yes	No	No	Yes	No
41	Yes	N	N	No	Yes	No	$849.39	Yes	No	No	Yes	No
42	No	N	Y	No	Yes	No	$517.02	Yes	No	No	No	No
43	Yes	N	N	No	No	No	$464.70	Yes	No	No	Yes	No
44	Yes	N	Y	No	No	No	$1,169.45	Yes	No	No	Yes	Yes

Contingency Plan for the Vermont Health Information Exchange

AUGUST 29, 2018

1 CONTENTS

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**
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 Timeframe	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.

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

10.7.10Sign and formally award contract

10.7.11Selected 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

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

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.

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.

12.5.11Review 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.

12.5.12Execute 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.

13.5.10Review 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.

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[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.

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[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

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[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

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[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

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[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

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[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.

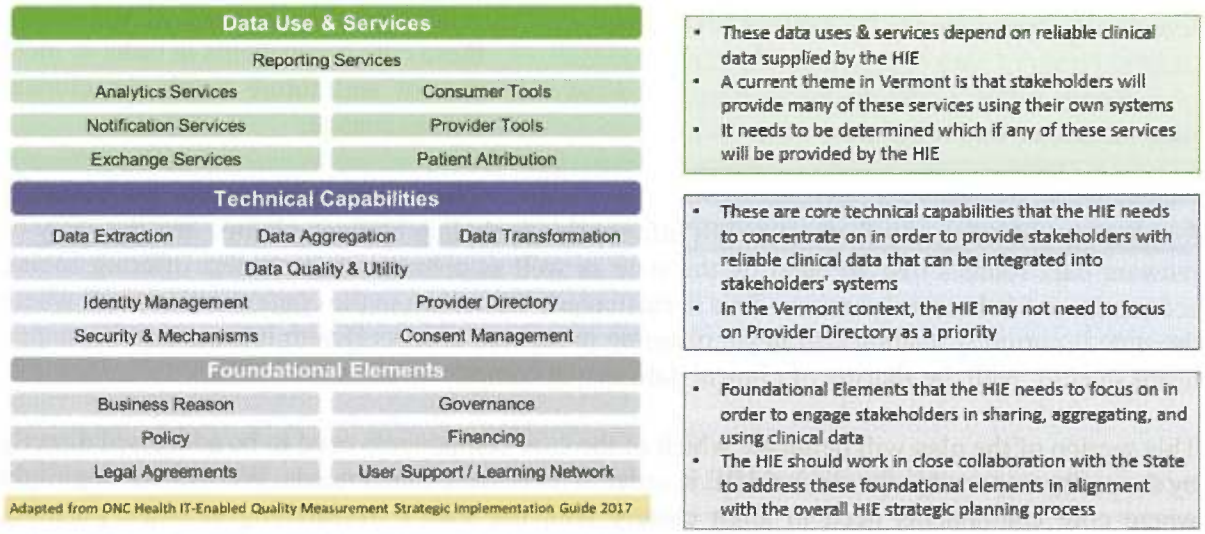
First, there are ***Foundational Elements*** that form the basis for stakeholders to work together and organize data sharing and HIE operations.

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

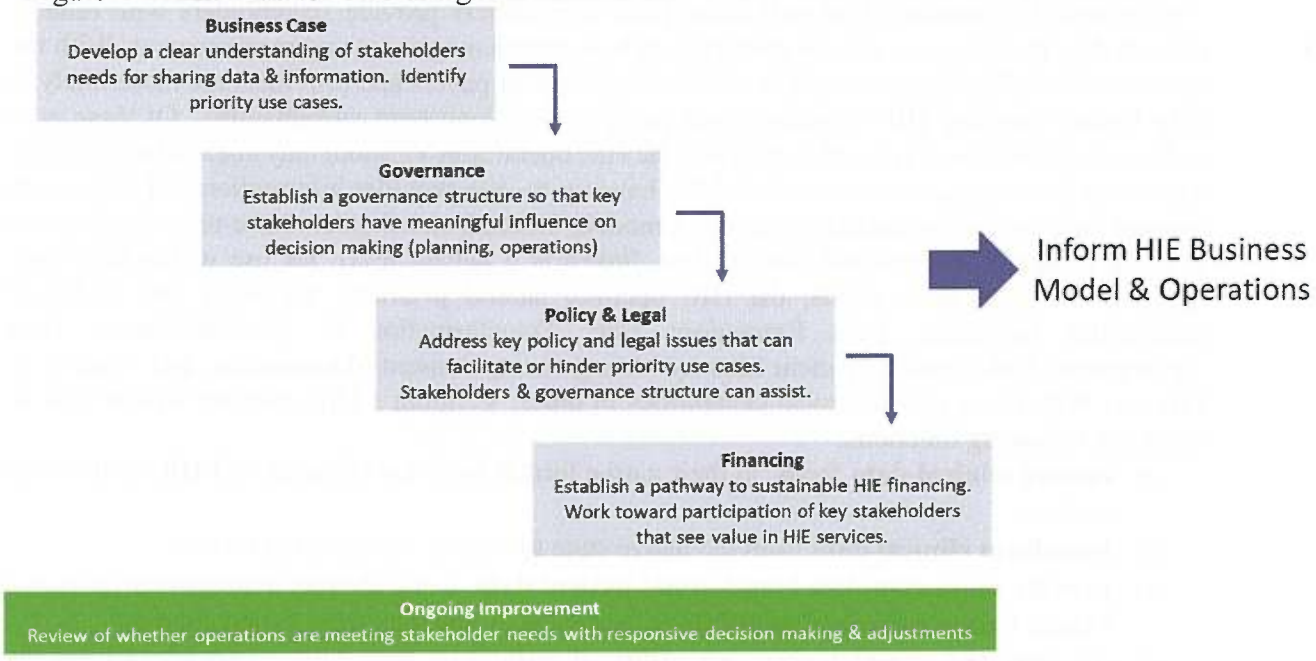
Foundational elements are essential underpinnings for stakeholders to develop the working relationships and trust that is necessary for data and information exchange. Experience with HIE operators across the country suggests that these elements are often not adequately addressed, resulting in data sharing 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.

15.11.1Organize 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

15.11.2Organize 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.

15.11.3Consider 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

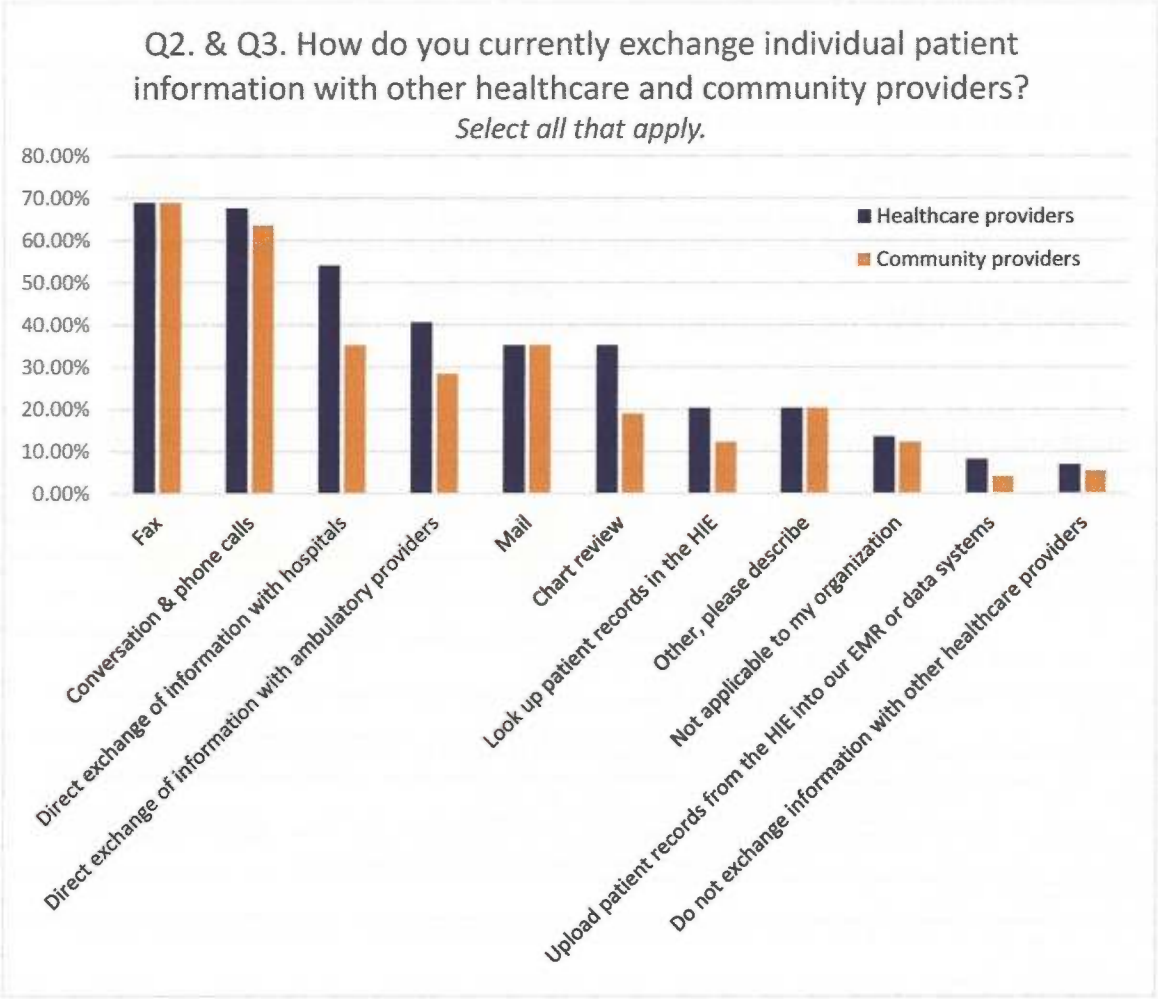


Table 14: Q2. "Other, please describe" response text

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

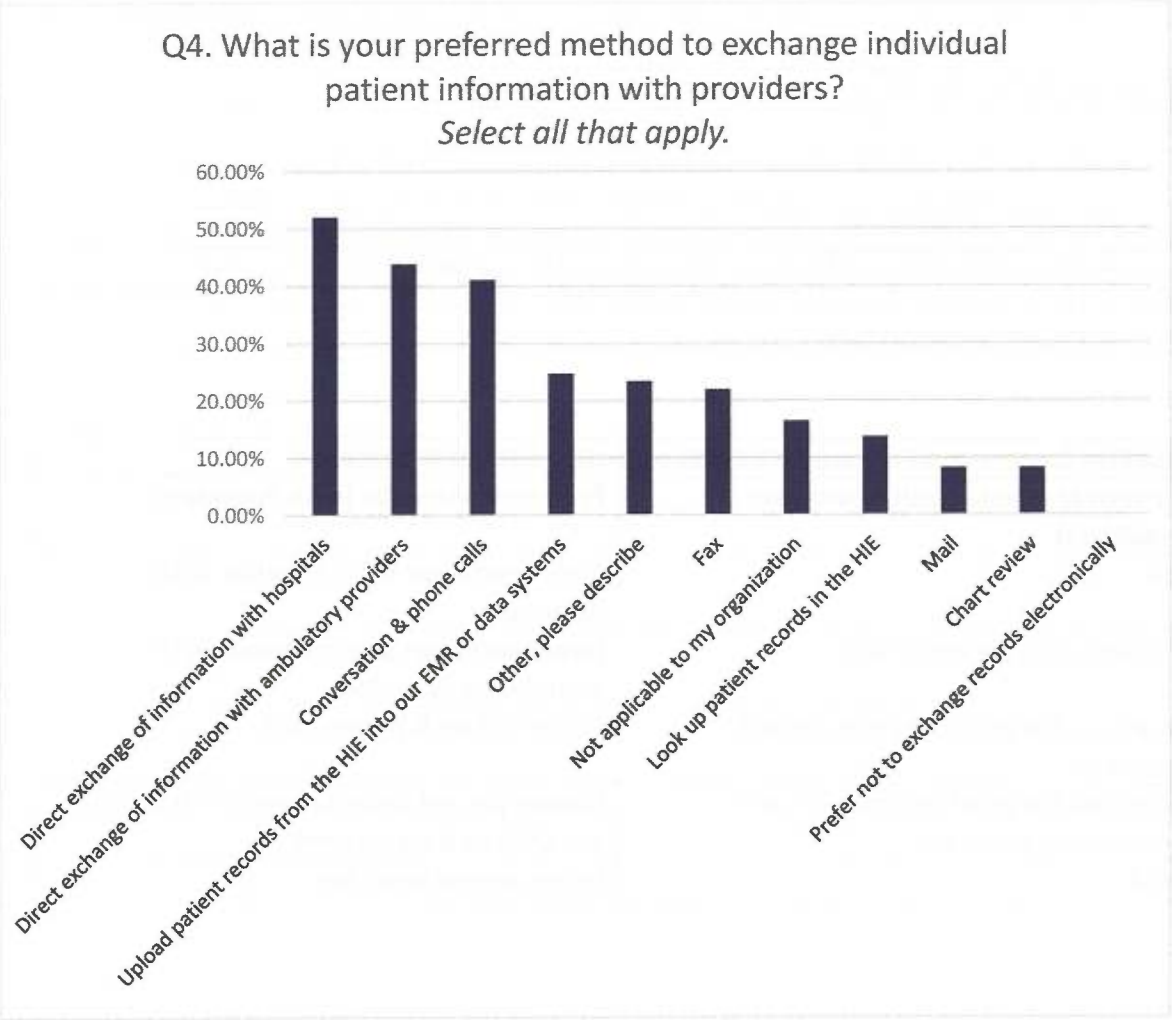


Table 16: Q4. "Other, please describe" response text

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

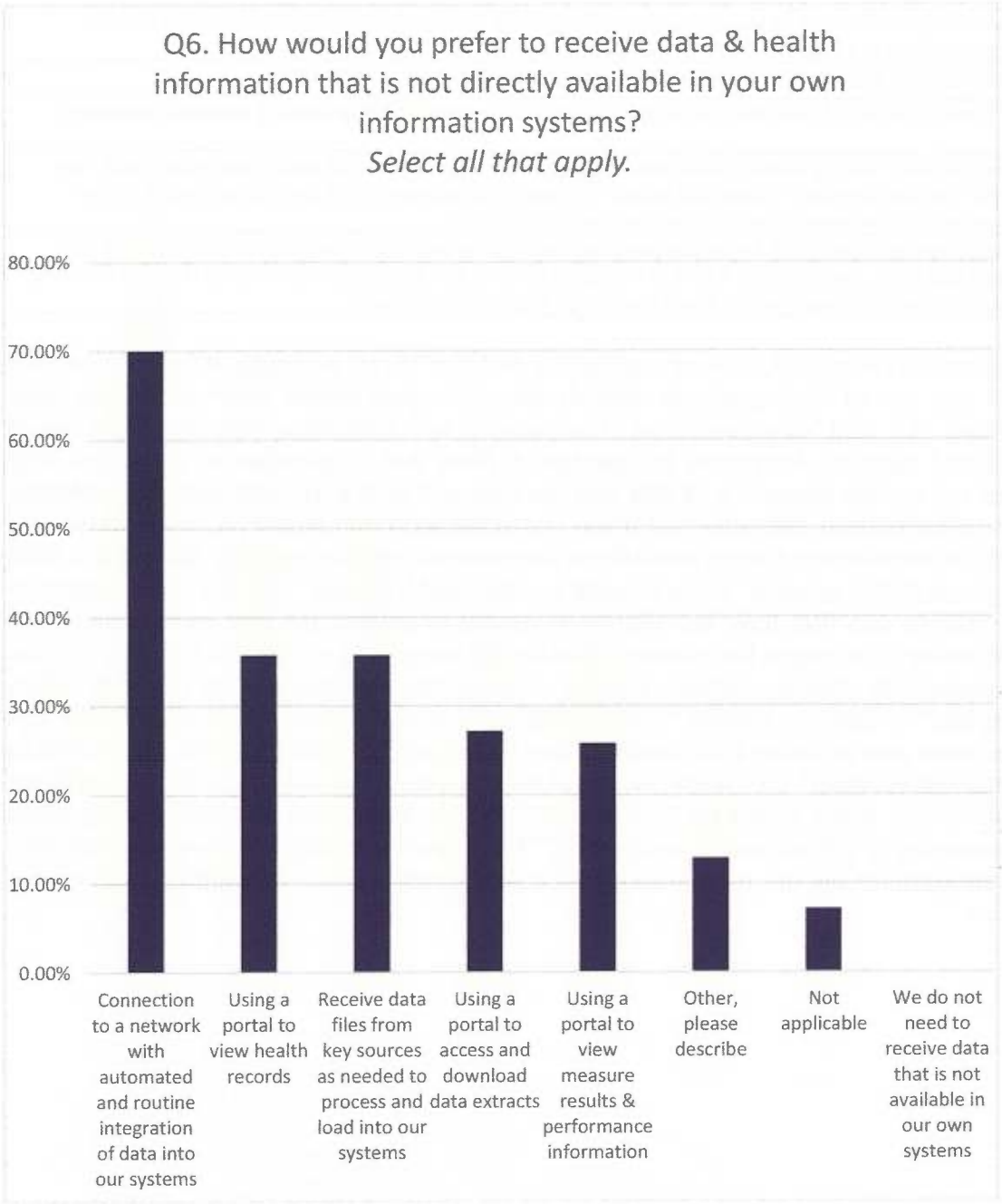


Table 18: Q6. "Other, please describe" response text

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

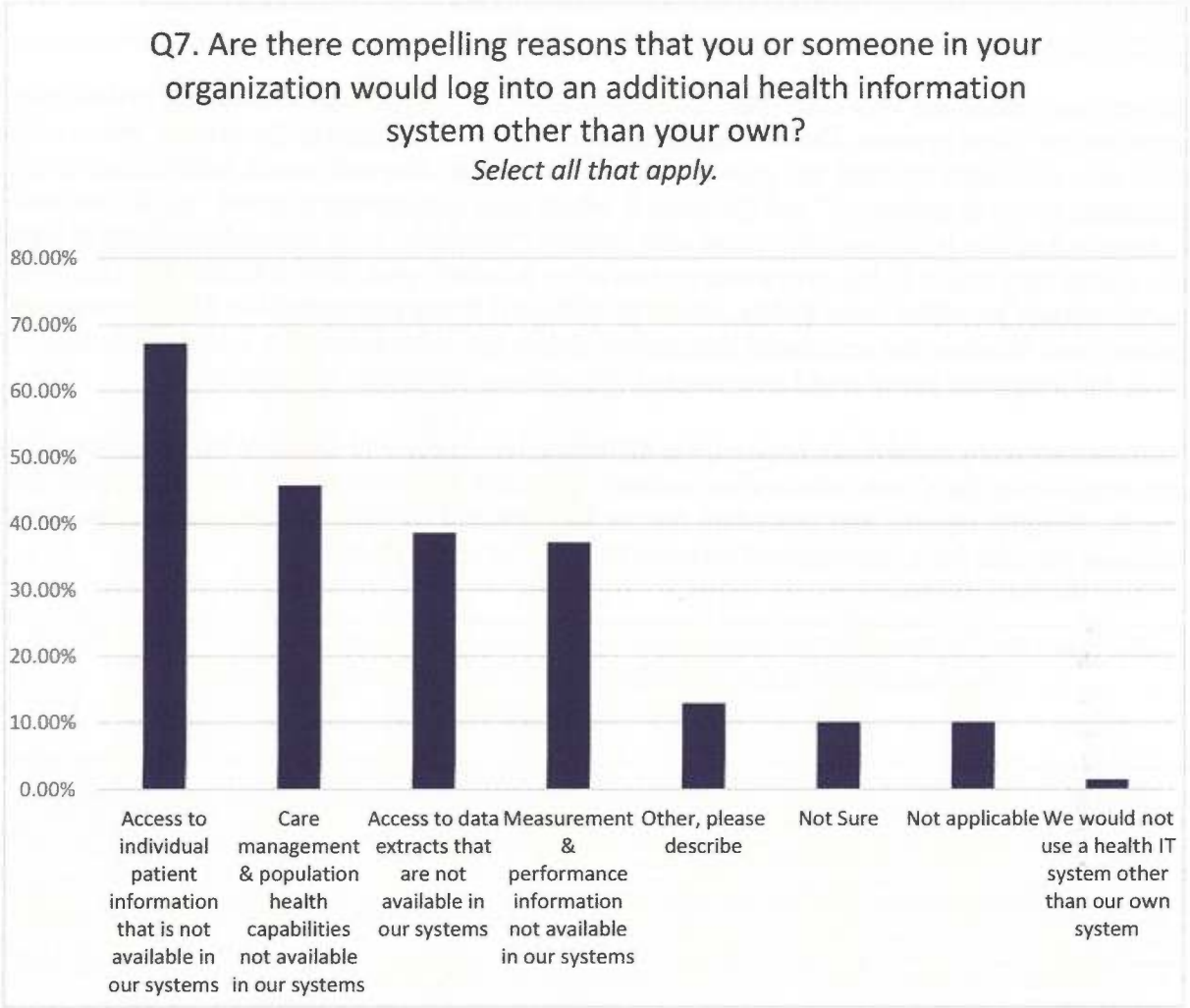


Table 19: Q7. "Other, please describe" response text

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.)

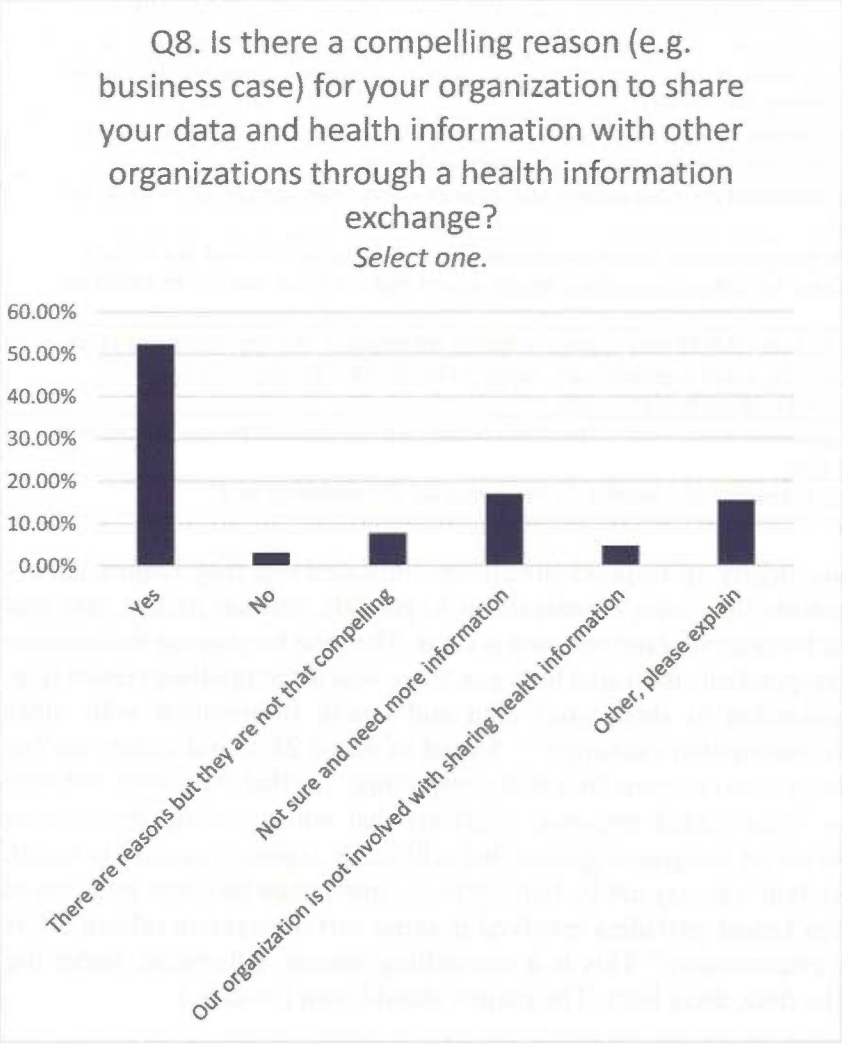


Table 22: Q8. "Other, please explain" response text

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

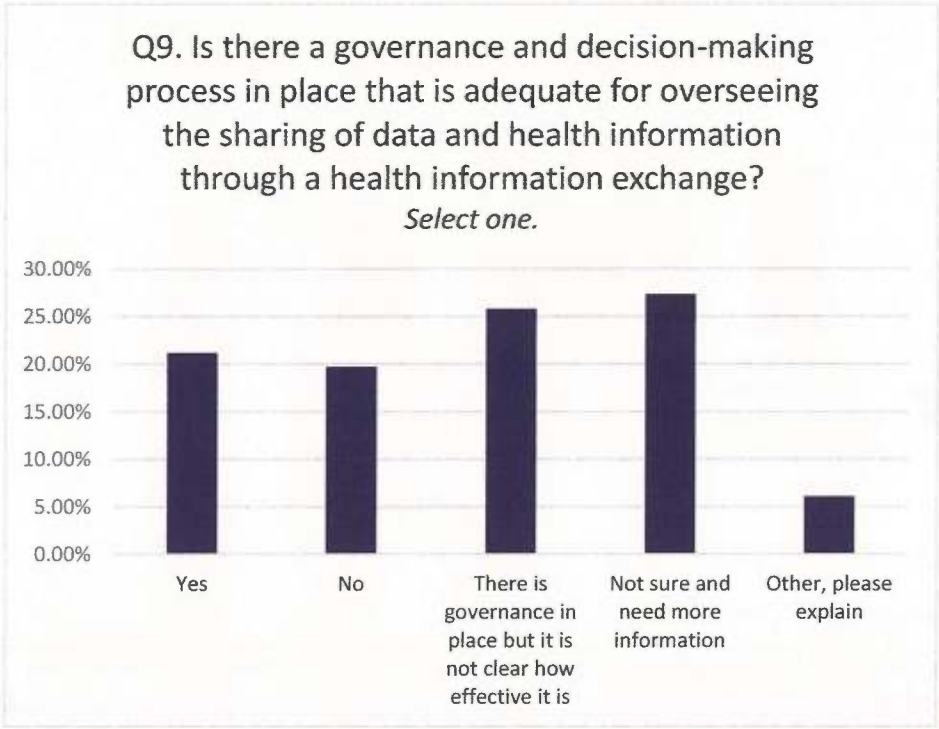


Table 23: "Other, please explain" response text

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

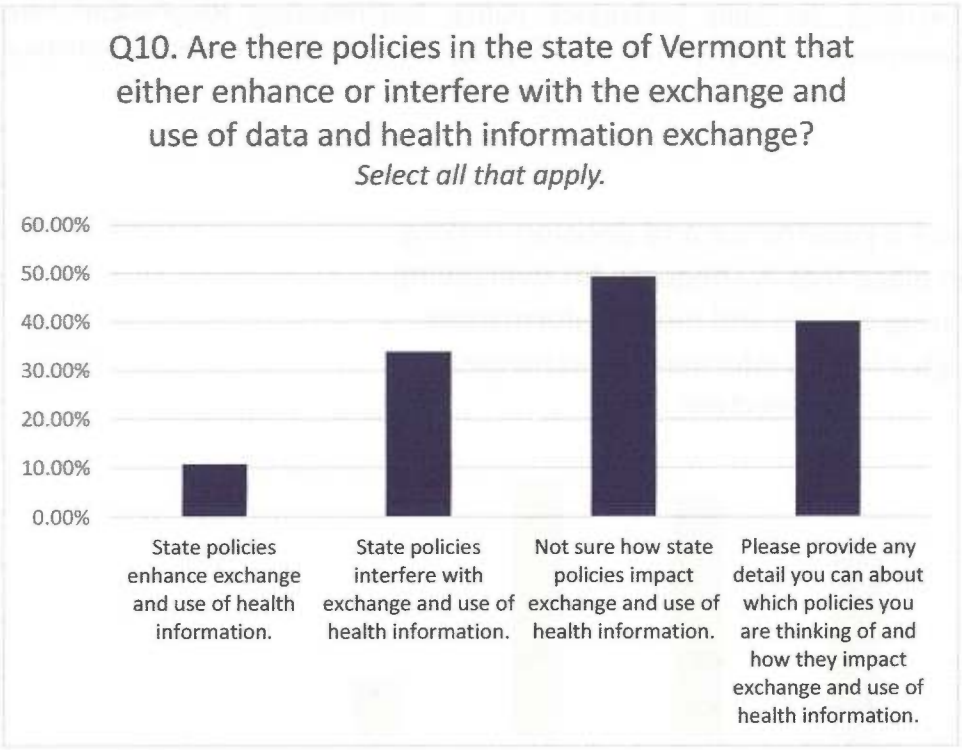


Table 24: Q10. "Please provide any detail . . ." response text

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

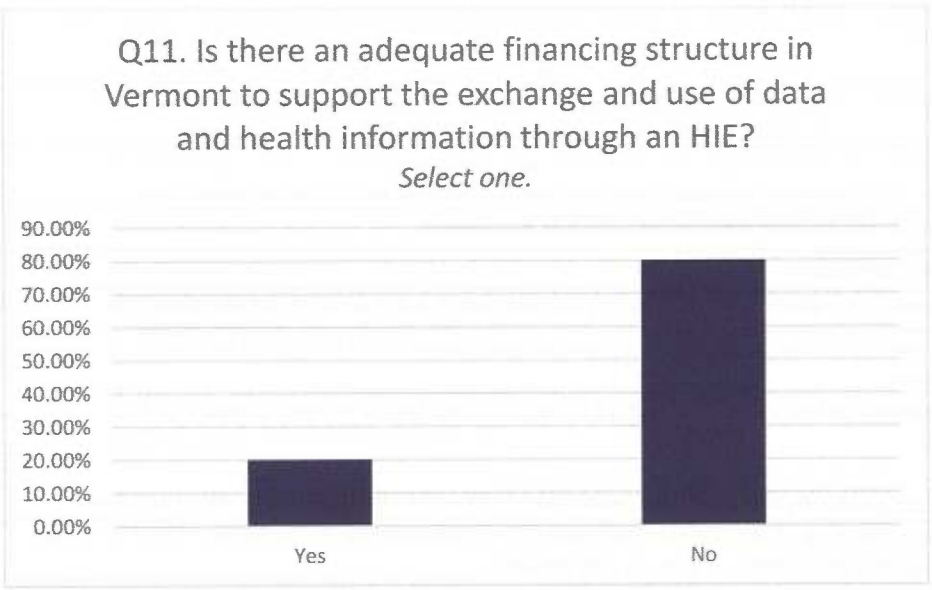


Figure 9: State role in funding an HIE

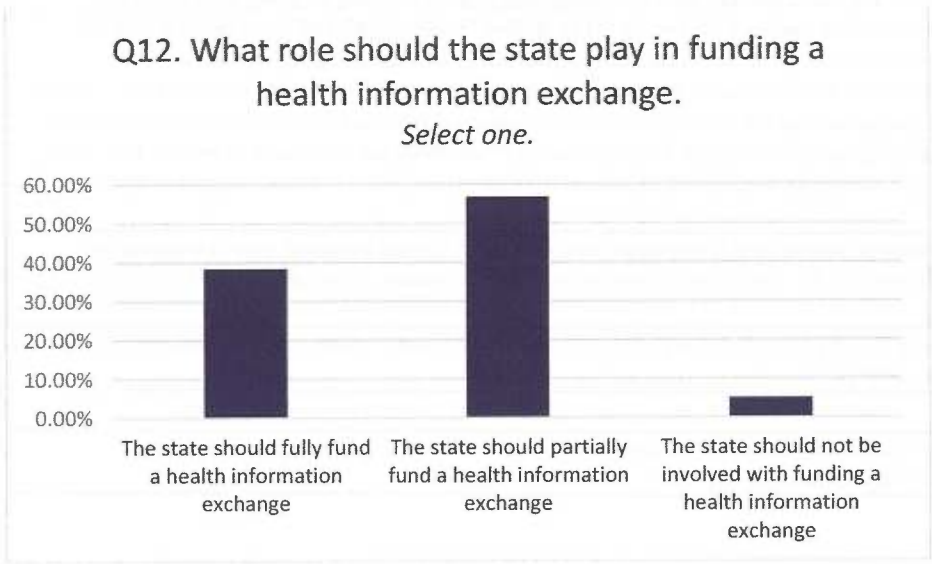


Figure 10: Stakeholder role in funding an HIE

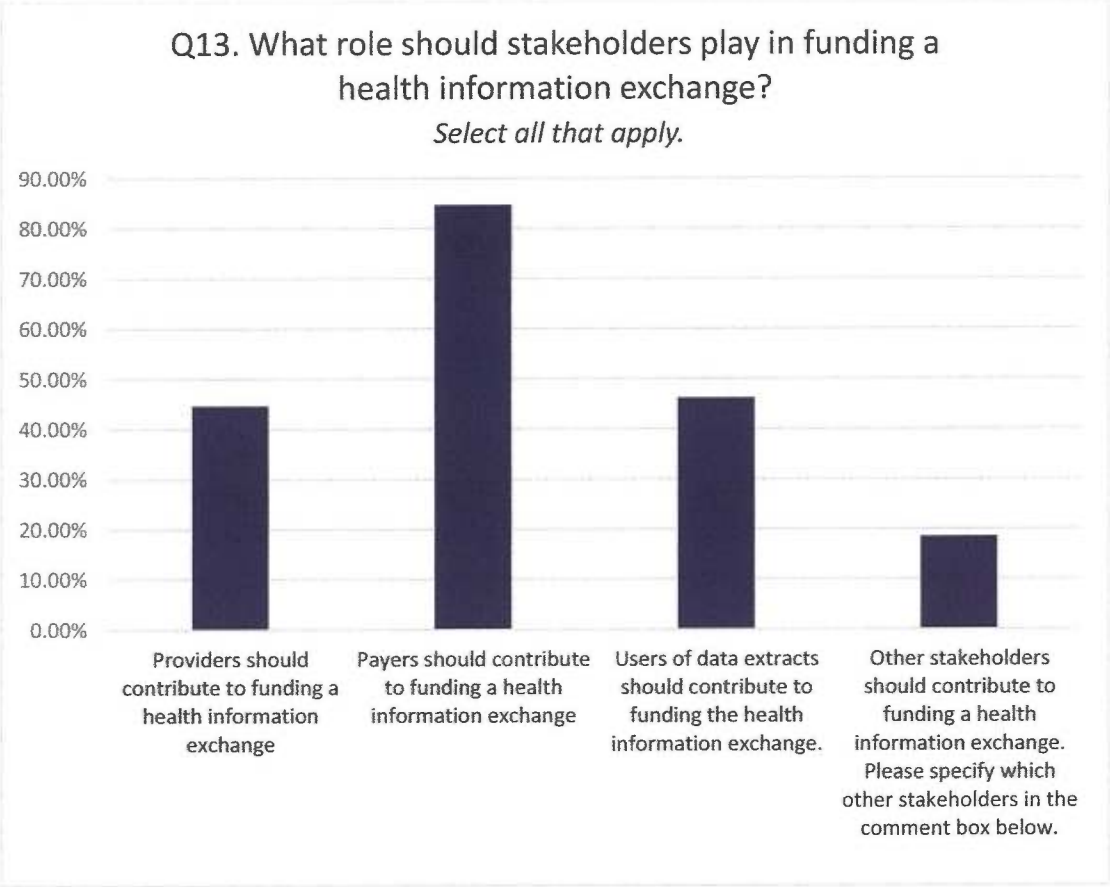


Table 25: Q13. Response text indicating which other stakeholder should be involved in financing

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.