

State of Vermont



State Medicaid Health Information Technology Plan (SMHP)

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Department of Vermont Health Access,
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Revision History

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PREFACE TO THE CURRENT DRAFT

Vermont has made significant progress with Health Information Technology (HIT) adoption, implementation, and utilization in the two years since the first State Medicaid HIT Plan (SMHP) was approved in September of 2011. A successful Electronic Health Record Incentive Program (EHRIP) has been launched, with payments totaling \$28,500,000 having been awarded so far. Of those providers who successfully attested to Adopting, Implementing or Upgrading (AIU) their EHR systems in 2011 (the first program year for attestors in Vermont), 58% have now successfully attested to the Meaningful Use of their systems. Health Information Exchange (HIE) has continued to progress in Vermont, with substantial numbers of providers signed up for connection to Vermont's HIE (VHIE) operated by Vermont Information Technology Leaders, Inc. (VITL). This is the result of a successful Regional Exchange Center (REC) program operated by VITL as the grantee of an Office of the National Coordinator (ONC) REC grant.

Vermont has new programs that have been or will soon be initiated, many of which require the expanded utilization of HIT and HIE to succeed. These programs address care delivery, cost control, and payment models that in general give consideration to the continuum of care and care providers involved in an episode of care for an individual. A DUALS (Dual-eligible beneficiaries for Medicare and Medicaid) program will focus on care coordination as a methodology to reduce costs and improve outcomes. A "Hub and Spoke" model for addressing opiate substance abuse and any associated mental health issues is underway. A State Innovation Model (SIM) grant will be implemented in the fall to test three different payment models, requiring the infrastructure of HIT and HIE to support the specific goals of this grant. The SIM grant proposal includes incorporating the full continuum of providers, including those beyond primary and specialty care, into the payment reform models. These providers include Vermont's designated agencies (DAs) who deliver behavioral health (BH), mental health (MH) and substance abuse (SA) services; home health services (HH), and long term support services (LTSS) which includes long term and post – acute care providers (LTPAC). All of these "full continuum" providers struggle to afford the EHR systems and the VHIE connections that will make them full participants in the State's health reform efforts. Many of them are also lacking the technical expertise required to implement and maintain HIT/HIE solutions. Vermont's Blueprint for Health (VBH) program continues to expand as the flagship for healthcare delivery reform in Vermont. As the VBH expands to incorporate more providers into the program it also expands in the types of medical conditions and associated clinical data that need to be accumulated into Vermont's clinical data registry (CDR). Additional information about these and other changes in Vermont's landscape of health care reform is presented in the As-Is and To-Be sections of this SMHP.

As progress is made with HIT and HIE, and with adding more types of provider organizations to the ranks of participating providers (as challenging as that will be), the role of information emerges as the key to achieving the outcomes of the Triple Aim: a better experience of care for the individual, improved population health, and reductions in the cost of health care. This has been recognized all along, of course, in all of Vermont's planning documents and is typically reduced to being stated as "having the right information at the right place at the right time" when needed for care delivery or decisions. The emphasis in these early years of reform has been on establishing the infrastructure of systems and exchange to support the generation and transmission of data related to health care. Now we recognize the remaining work required to transform the ever-expanding volume of data into meaningful information to service a variety of needs related to the different aspects of the Triple Aim. On the national level, a part of this work involves solving the remaining and very challenging hurdles to make the EHR systems truly interoperable with the data that should

be exchanged between them. The success of the EHRIP in Vermont, and plans to capture e-CQM (electronic Clinical Quality Measures) from providers, will result in substantial measure data that should be reconciled with other measure data captured through the BP and the VHIE. Claims and payment data are also being captured and should be considered in parallel with clinical and measure data in all aspects of analysis, from case management to population health analysis and payment reform evaluations.

Vermont has initiated an update to its Health Information Technology Plan (VHITP) but is recognizing the primacy of information in the health care reform equation and will be calling its next plan the Vermont Health Information Strategic Plan (VHISP). This change in emphasis of the plan from HIT to the more strategically important layer of Health Information is significant. It is Health Information that will realize the triple aim, subject to timing, location, accuracy, and completeness. Health Information Technology is essential to the extent that it supports data capture, flow, storage, and presentation of information derived from the data. There will still be an HIT plan, but the HIT planning component is a subset of the VHISP, as information derives from data, and data is generated and transported through the components of HIT and HIE.

There are many other major efforts underway in Vermont, each with some aspect of HIT or HIE, but ALL of which share the need for timely accurate information, and they also overlap with each other to varying extents. The major project areas include the Health Benefit Exchange (HBE), or Vermont Health Connect (VHC), which began operation on October 1, 2013; Medicaid Management Information Systems (MMIS) work which includes developing an RFP (Request for Proposals) for a system replacement as well as a MITA (Medicaid Information Technology Architecture) Self-Assessment; an Integrated Eligibility (IE) solution; and the expansion of a Health Services Enterprise (HSE) architecture. The fifth major area of effort – HIT, HIE, and Health Information – is more the subject of this SMHP.

Vermont manages the coordination of these efforts, including the many areas of overlap, through an enterprise Project Management Office (PMO) structure. Vermont manages the Federal funding associated with all of this work through a consolidated IAPD (Implementation Advance Planning Document), or “Jumbo” funding request, which includes the funding requests associated with this SMHP.

Much has been accomplished in the HIT-HIE space in Vermont, and much remains to be done to expand the universe of equipped and connected providers of all types. The EHRIP and HIE expansions are essential elements of the continuing work, but new work is now being identified to make optimum use of the information that can be derived from the HIT and HIE following implementation. This SMHP describes the Vermont As-Is and To-Be landscapes in more detail, and provides specific information about the operation of the State’s EHRIP, including the audit function. The final section presents a roadmap of the HIT and HIE-related projects and describes those projects for which we will be seeking Federal Financial Participation.

Preface to the First Version (September 3, 2011)

Much has happened in the state of Vermont in the few months since the initial draft was submitted at the end of December, 2010, and now. Significant planning progress has been made in several HIT-related areas, including the selection of vendors and the completion of contract negotiations for our Core Components (SOA) architecture; the receipt of proposals for our Medicaid Enterprise System (MMIS replacement); the development of a project charter for development of a Provider

Directory; the anticipated delivery of the initial phases of the MAPIR project to accommodate our EHR incentive payment program; and the receipt of an Innovation Grant for an Insurance Exchange for which Vermont is a collaborating state with the other New England states.

Most significantly, Vermont has received an anticipated Health Reform study, commissioned by the legislature and completed by Dr. William C. Hsiao, PhD, FSA, K.T. Li Professor of Economics, Harvard University School of Public Health. With a team of specialists including Steven Kappel, MPA, Principal, Policy Integrity, LLC and Jonathan Gruber, PhD, Professor of Economics, MIT, Dr. Hsiao provided the legislature with three options and a preferred recommendation for how Vermont could move to a Single Payer System. The initial steps along this path are currently reflected in legislation being considered for passage in the Vermont legislature. This Bill (H.202) emerged from the House Health Care committee after nearly two months of testimony and hearings, went through two extensive days of floor debate, and has passed to the Senate for its review.

The policy directions implied in the current bill (which are not expected to change substantially in the Senate) will have significant impact on Vermont's planning for an Insurance Exchange, for an Eligibility System, and for the potential expansion of existing and planned systems, including MES, to support this reform. We feel fortunate that the Core Component work is underway and can support the kind of change envisioned in the House Bill. Similarly, the architectural underpinnings of the MES requirements provide sufficient flexibility to be a viable consideration for application to Insurance reform.

Elsewhere in the state, the Blueprint for Health continues to show measureable progress as reflected in a recent annual report¹. The Vermont Information Technology Leaders recent annual report² reflects the progress of the state's HIE and Regional Exchange Center. A CHIPRA grant has funded work now underway to score pediatric practices against NCQA standards for specific conditions, and this work is being coordinated with the introduction of these practices into the HIE. We are working more closely with the Mental Health / Behavioral Health / Substance Abuse programs to include them more directly into HCR/HIT initiatives.

The amount and pace of activity, in fact, has caused us to take stock of our capacity to manage and align these efforts to insure effective outcomes and to sequence the work so as to accommodate the interdependencies that are present. Our response to this capacity issue is two-fold: we are seeking a Project and Operational Portfolio Management contract to address issues of coordination and staffing requirements development; and we are seeking the development of a 5-6 year roadmap for the portfolio. Both of these efforts will not be limited to HIT related specifically to Health Care Reform, but must of necessity be expanded to include the Agency of Human Services which has other loosely related projects and systems and is a source for staffing much of this cross-cutting work. Further, some of the work in the portfolio extends to the state level, involving the Department of Information and Innovation, which is within the separate Agency of Administration.

All of this activity calls for expanded comments in the SMHP, and a future iteration will do just that. For now we are anxious to arrive at an approved SMHP as a milestone supporting the implementation of our EHR Incentive Payment program, fundamental to the ARRA/HITECH goals of promoting Health Care Reform while stimulating the economy. To that end, this update to the Draft version:

¹ http://hcr.vermont.gov/sites/hcr/files/final_annual_report_01_26_11.pdf

² http://hcr.vermont.gov/sites/hcr/files/VITL_2011_Progress_Report_0.pdf

- Incorporates responses to the set of comments received from CMS related to the first version of the draft SMHP
- Adds a Table of Contents and a Table of Figures, Tables, and Diagrams
- Updates the Staffing table to reflect changes in our understanding of staffing and resource needs
- Makes several editorial fixes, mostly minor grammatical changes
- Provides several updated diagrams giving a visual depiction of the contemplated To-Be and an understanding of the systems themes related to HCR, HIT, the Agency systems, and the Agency infrastructure.

We remain enthused, committed, and dedicated to maintaining a fast pace for HIT-assisted Health Care Reform in Vermont.

Introduction

While the formal purpose of the State Medicaid HIT Plan (SMHP) is to describe the State initiatives relative to implementing Section 4201 of the American Recovery and Reinvestment Act (ARRA), Vermont's integration of broad health reform initiatives within Medicaid provide the SMHP with an important, perhaps uniquely among the states, harmonized perspective on HIT and health care system and coverage reform. In addition, with the release of a State Medicaid Directors (SMDL) letter (SMDL# 11-004, May 18, 2011) Re: Use of administrative funds to support health information exchange as part of the Medicaid EHR Incentive Program, it is appropriate to include initiatives related to that potential stream of funding in the SMHP.

ARRA (The American Recovery and Reinvestment Act) and its HITECH Act (Health Information Technology for Education and Clinical Health) subsection provide a historically substantive and expansive policy and financial framework for advancement of Health Information Technology (HIT) and Health Information Exchange (HIE). In Vermont, where HIT and HIE have been embedded in state health care reform initiatives since passage of the state's landmark 2006 legislation, HITECH was greeted as validation of State policy and immediately embraced as a vehicle for accelerating change.

The overarching goal – digitization of the health care and human services information ecospheres – is not about technology for its own sake; it is to improve safety, quality, integration, and performance, to improve care and coordination, and ultimately, to transform the health care and human services delivery systems.

Vermont's vision is to operate a system of care and services where fragmentation is a “Never Event.” Just as performing a surgical procedure on the wrong limb should never happen, a hospital discharge or other transition event that leads to an inappropriate readmission should never happen in a high functioning, high quality system.

One of the leading causes of fragmentation of care and lack of coordination is poor or incomplete communication. HIT and HIE, when effectively deployed and utilized, provide the means for comprehensive communication of information across the continuum of care, services, and providers.

The challenge Vermont has embraced is to build a modern, comprehensive communication and information infrastructure across the domains of health care and human services, taking full advantage of opportunities provided under ARRA and leveraging other more traditional state and federal resources to undertake transition from the current “as is” environment to the envisioned “to be” state in a remarkably short period of time.

As detailed in the pages that follow and in the *Vermont Health Information Technology Plan*, approved in October of 2010 by the Office of the National Coordinator (ONC) and in the Vermont Strategic and Operational Plans (SOP) Document approved by ONC June 13, 2013, Vermont is articulating an aggressive plan to move from a fragmented system with disparate, disconnected and/or non-existent systems to a fully integrated system. Vermont envisions a system that weaves together health care delivery sites and professionals, public health, human services staff, programs and support, mental health and substance abuse services, home health, and long term care services

and institutions into a cohesive, comprehensive, interconnected whole designed to more effectively serve the citizens of Vermont.

Significantly, Medicaid is at the center of, and is driving, many of these changes. However, it is critical to note that this transformed system is designed to support an infrastructure for all Vermonters, not only those who happen to be on public programs at a given moment in time. Hence, the Vermont SMHP reflects the implementation of the incentive program for Eligible Providers' and Eligible Hospitals' adoption, implementation, upgrade, and meaningful use of Electronic Health Records (EHR) and other HIT, but it also reflects larger systems changes both inside state government and in community settings across the state.

The Department of Vermont Health Access (DVHA) – home of Vermont Medicaid – includes the Blueprint for Health Program, which has responsibility to provide oversight and coordination across state government, and with other public and private partners, to foster collaboration, inclusiveness, consistency, and effectiveness in health care reform. So in a very real sense, Medicaid is at the heart of state health reform initiatives. More recently, as part of Vermont Act 48, The Green Mountain Care Board (GMCB) has been established to be responsible for payment and delivery system reform, including evaluating payment reform pilot projects. GMCB also reviews and approves the State HIT Plan and has rate oversight of Insurance and Hospital rates in Vermont. Act 48 also established a Director of Health Care Reform role in the Agency of Administration with responsibility for coordination of health care system reform efforts among executive branch agencies, departments and offices, and for coordinating with the GMCB. Act 48 also moved the eligibility unit to the DVHA and established the Health Benefit Exchange as a Division within DVHA. DVHA, which includes Medicaid services, the HBE, the VBH, the EHRIP, and related HIT-HIE planning and operations oversight, together with the GMCB and the Director of Health Care Reform in the agency of Administration work closely together to achieve the health reform goals as legislated. Governance occurs through the specific interactions spelled out in legislation (e.g., the GMCB reviews and approves the State HIT Plan, developed by DVHA), as well as through the PMO which oversees all major projects. DVHA itself is a Department within the Agency of Human Services which contains most other organizational entities involved in the delivery of major human services.

DVHA is also the state lead for Health Information Technology policy, planning and oversight. As such, it is both the recipient of the ONC Cooperative Agreement for HIE and has responsibility for development of the SMHP. In addition, the Vermont Blueprint for Health (VBH), an integrated approach to multi-insurer supported Advanced Primary Care Practice medical homes, community health teams, and payment reforms, is located at DVHA. In 2010, the legislature created a Director of Payment Reform position within DVHA, and which is focused on broad system reforms to payment structures and incentives led by Medicaid but including multiple commercial payers (and potentially, Medicare). With the passage of Act 48, this position and responsibility was moved to the GMCB.

These combined responsibilities provide Vermont with a powerful engine for delivery system change, as well as creating a focused perspective for managing the comprehensive IT and other systems changes being led by the Department. Many of these system changes affect the state Agency of Human Services as a whole, and indeed affect many private and community organizations. Accordingly and appropriately, the “to be” Agency IT design architecture reflects a Service Oriented Architecture (SOA) enterprise approach to systems' development, integration, and efficiency.

With passage of the Affordable Care Act (ACA) and the need for the development of Health Insurance Exchange (HIX) infrastructure in states not interested in defaulting to a federal HIX, Vermont has identified an additional opportunity to integrate development of the insurance exchange infrastructure with eligibility and enrollment systems for public benefit programs. Vermont was already launched on an effort to modernize that process for Medicaid and other state programs but has now undertaken initial planning steps to pair public and private insurance enrollment infrastructure, utilizing the SOA components and principles.

The breadth and depth of these systems changes is, from one perspective, daunting. At the same time, given the scale of Vermont, the opportunity to implement changes in multiple dimensions simultaneously will enable the state to transform from the “as is” to the “to be” environment more rapidly than a less integrated approach.

Specifically, Vermont is undertaking a robust combination of health reform, HIT, and IT initiatives:

- build out of the statewide HIE network to provide connectivity for clinical and financial data transfer, not just for Eligible Providers and Eligible Hospitals, but for all Medicaid providers – including Home Health, Mental Health/Behavioral Health/Substance Abuse Providers, and Long Term Care – to ensure comprehensive clinical messaging and electronic claims processing across the continuum of care;
- implementation of core components of SOA infrastructure to support the Agency of Human Services and its partners. This is referred to as the Health Services Enterprise (HSE) architecture;
- re-procurement of the Medicaid Management Information System (MMIS) as a more comprehensive and integrated solution;
- statewide outreach to and support for EHR adoption, implementation, upgrade and meaningful use, including close collaboration of Medicaid and the ONC-funded Regional Extension Center (REC);
- development and implementation of the MAPIR (Medical Assistance Provider Incentive Repository) provider portal in collaboration with other states to support Eligible Provider/Eligible Hospital enrollment, attestation, and audit trail connecting the CMS National Registration & Attestation System (NLR) and state MMIS;
- statewide expansion of the Blueprint for Health medical home / community health team / multi-insurer payment reform model that includes the build out of a statewide clinical data registry, decision support, and clinical messaging system integrated with HIE and EHR systems to support both Meaningful Use and implementation and evaluation of delivery system reforms;
- development, implementation, testing, and production environment roll-out for Immunization Registry and other public health reporting functions through the HIE;
- deployment of the Blue Button through the Blueprint’s clinical data registry to enable downloads for Personal Health Records;
- Integrated Eligibility (IE) for modernization and upgrade of the Agency’s eligibility and enrollment systems, including development of capacity for those systems to support a state Health Insurance Exchange (HIX) as envisioned by the Affordable Care Act;
- expansion of CSME (Central Source for Measurement and Evaluation), the Agency wide data warehouse to support Medicaid and other Agency program operations, reporting, evaluation, and planning;
- integration of Children’s and Family services across categorical programs and departments to ensure a child- and family-centered focus to improve communication, reduce bureaucratic overlap and confusion, and eliminate program and resource redundancies; and

- the development of broad based, system level payment reform pilot strategies (such as Accountable Care Organizations) to expand delivery system payment reforms to the full continuum of care.

All of this fits under the framework of Vermont’s unique Global Commitment to Health 1115 waiver and its public entity Managed Care Organization model which provides additional opportunity for leveraging of resources. Such expansive change might be impossible to achieve in a larger state in the timeframe contemplated by Vermont, but both the state’s scale and the work done on health reform and development of many of the initiatives listed above over the preceding seven years make Vermont an ideal laboratory for change.

In the following pages, the SMHP addresses both the specific framework outlined in CMS guidance and Vermont’s expansive HIT-HIE and IT systems and Health Information planning.

It is also important to acknowledge the iterative planning and implementation underway in Vermont and represented in this document. This is a dynamic process, and it is anticipated that this document will continue to be updated many times throughout the coming years. An iterative strategic and planning driven approach to achieving Vermont’s long-term goals in health reform while adapting to changes in regulation, funding, and new developments is illustrated in the following Cycle of Transformation diagram.

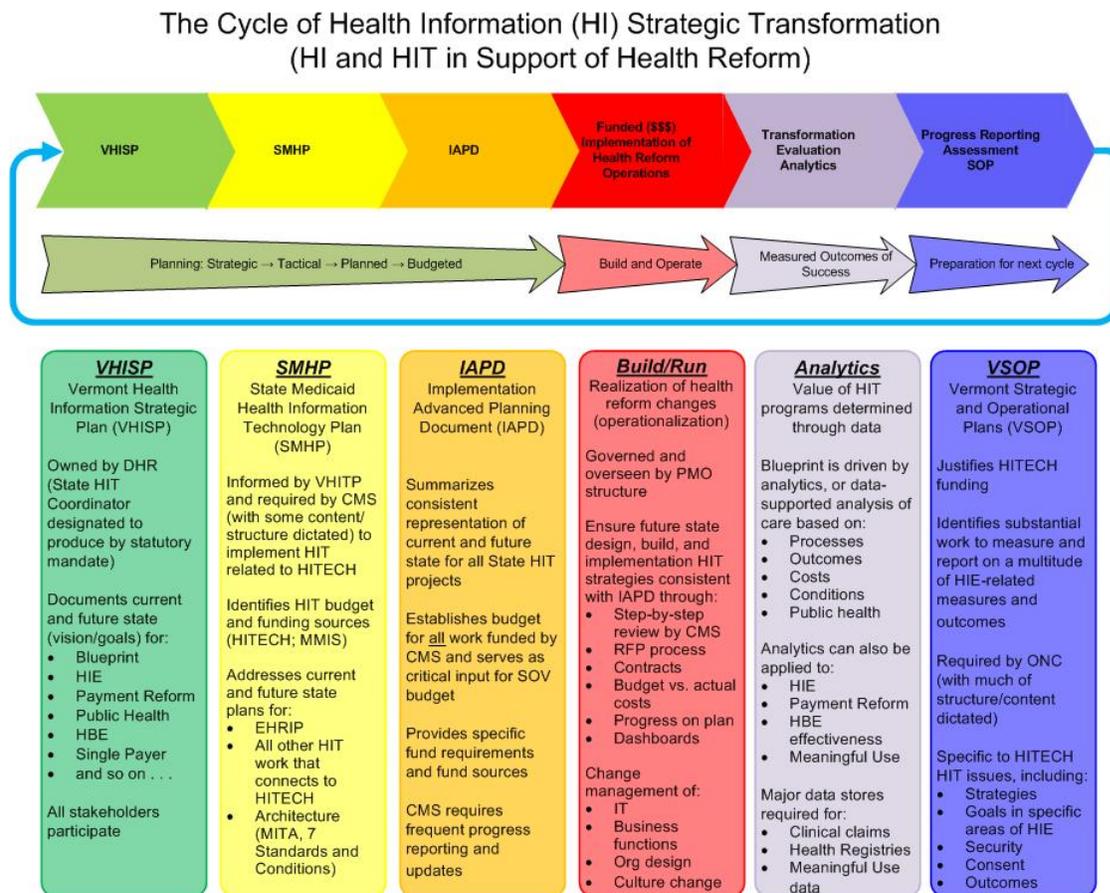


Figure 1.1: Cycle of Health Information Strategic Transformation

What follows is a beginning framework for extended conversation both within the state and with Vermont's federal partners to achieve:

- Support for implementation of the Section 4201 Provider Incentives Program,
- Integration of comprehensive Health Information Exchange for all Medicaid providers,
- Implementation of the Medicaid Enterprise Solution (MES) in an Agency-wide Service Oriented Architecture environment,
- Implementation of an integrated Medicaid Eligibility Determination and Enrollment System with a Health Insurance Benefit Exchange,
- Upgrade and modernization of an Agency-wide Data Warehouse, and

Transformative health care delivery system reforms through the Blueprint for Health and other state reform initiatives.

SECTION A: The State’s “As-Is” HIT Landscape

I. The State’s “As-Is” HIT Landscape:

In this section of the SMHP we describe Vermont’s As-Is Landscape as it relates to Healthcare Reform (HCR), particularly Health Information Technology (HIT) and Health Information Exchanges (HIE). Topics included in this section are:

1. Electronic Health Record (EHR) technology adoption rates;
2. The role of Broadband in Vermont’s HIT/E efforts;
3. Federally-Qualified Health Center (FQHC) networks;
4. Status of Veterans Administration (VA) clinical facilities;
5. Identification of stakeholders engaged in existing HIT/E activities;
6. HIT/E relationships with other entities;
7. Governance structure of Vermont’s existing HIE;
8. Role of MMIS in our current HIT/E environment;
9. Current activities underway to plan and facilitate HIE and EHR adoption;
10. Relationship of the State of Vermont’s Medicaid agency to the State HIT Coordinator;
11. Any potential impact of state laws or regulations on the implementation of the EHRIP;
12. HIT activities that cross state borders;
13. Current interoperability status of the State Immunization (IZ) Registry and Public Health Surveillance reporting database; and
14. Other HIT-related grants.

These items are as specified in the SMHP template provided by CMS. However before providing the specific responses to these topics, it is important to understand the larger context of HCR and HIT/HIE in Vermont. Establishing that context requires a description of Vermont’s Blueprint for Health program (VBH, or the Blueprint), and interactions with the state’s existing and expanding Vermont Health Information Exchange (VHIE) network.

Eligible health care providers *are not required* to participate in the Blueprint in order to obtain assistance under Section 4201 or to meet Meaningful Use, but the State’s approach to supporting HIT is embedded in its broader health reform initiatives and the general response from the provider community is that the Blueprint will help enable Eligible Providers to meet Meaningful Use requirements more easily. The Vermont Environment as it relates to HIT/HIE is described in the latest version of the *Vermont HIT Plan*, dated October 26, 2010.

The Vermont Environment

Vermont is recognized as a national leader in the alignment and integration of Health Information Technology (HIT), Health Information Exchange (HIE), and reform of the health care delivery system. The state stands ready to expand HIT adoption and HIE connectivity statewide, building on a six year base of planning, consensus building, governance refinement, and creation and early implementation of a standards-based technical architecture.

Funding and authorization for the Vermont Information Technology Leaders, Inc. (VITL), a 501c3 not-for-profit corporation charged with developing statewide HIE, was included in the 2005 Budget Act and appropriations have continued in each subsequent annual state budget. Passage of the HITECH Act and other components of the American Recovery & Reinvestment Act (ARRA)

supporting investments in HIT and HIE, as well as additional federal health reforms enacted in the Affordable Care Act (ACA), position Vermont to build on its work to date and to dramatically expand the scope, scale, and speed of the state’s HIT-HIE and health reform implementation.

Health information exchange and technology are a consistent focus of Vermont health policy attention, but always in the broader context of enabling transformative delivery system change. Because of that systems approach, meaningful use of HIT has been built into Vermont’s vision from the outset. For instance, the Vermont HIE (VHIE) network operated by VITL, is a critical conduit for the Vermont Blueprint for Health IT infrastructure, enabling both personalized and population-based care coordination and management for the Blueprint’s integrated primary care medical homes and community health teams. Figure 2 depicts a high-level diagram of the Blueprint Health Information Infrastructure, featuring this critical role of the VHIE.

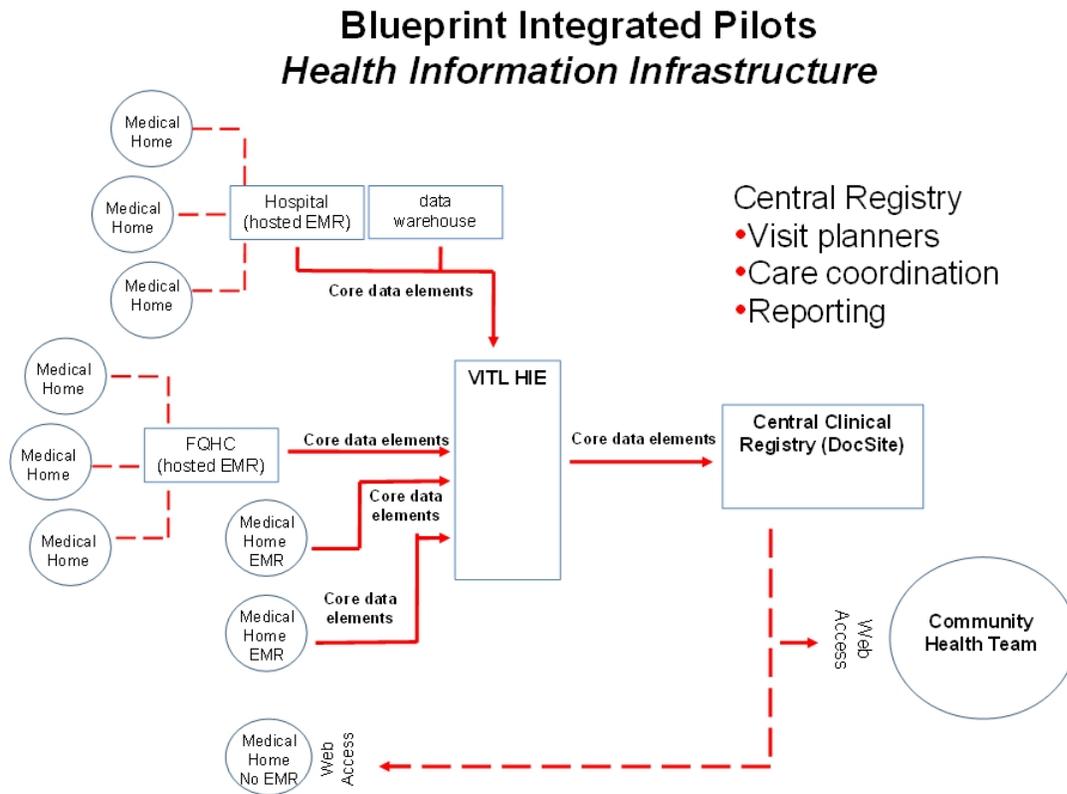


Figure 1.2: Blueprint For Health – Health Information Infrastructure

More generally, Figure 1.3 depicts the HIE components of the VHIE network operated by VITL.

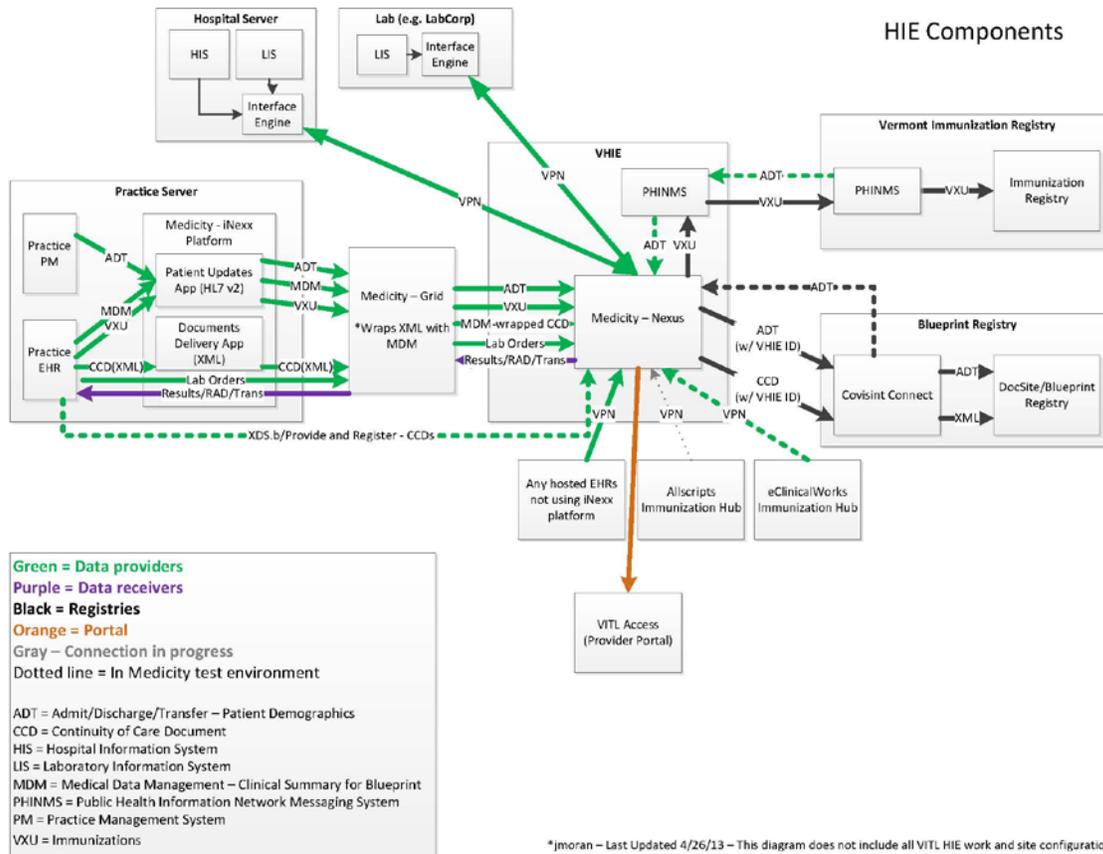


Figure 1.3: VHIE Components

The current version of the *Vermont HIT Plan (VHITP)* is the continuation of a roadmap and a vision resulting from a six year public/private collaboration. The original VHITP was delivered in July 2007 after a series of 31 public meetings to engage stakeholders. That VHITP detailed the health care environment in Vermont and laid out key objectives for the use of health information technology in supporting health care reform. While much has transpired in the time since the plan was originally developed, the key foundational elements have remained remarkably stable and resilient, including five core values:

- I. **Vermonters** will be confident that their health care information is secure and private and accessed appropriately.
- II. Health information technology will improve the care Vermonters receive by making health information available where and when it is needed.
- III. Shared health care data that provides a direct value to the **patient, provider** or **payer** is a key component of an improved health care system. Data interoperability is vital to successful sharing of data.
- IV. Vermont’s health care information technology infrastructure will be created using best practices and standards, and whenever possible and prudent, will leverage past investments and be fiscally responsible.

- V. Stakeholders in the development and implementation of the health care technology infrastructure plan will act in a collaborative, cooperative fashion to advance steady progress towards the vision for an improved health care system.

With the passage of Act 48 Vermont's general assembly adopted the following principles as a framework for reforming healthcare in Vermont:

1. The State of Vermont must ensure universal access to and coverage for high-quality, medically necessary health services for all Vermonters. Systemic barriers, such as cost, must not prevent people from accessing necessary health care. All Vermonters must receive affordable and appropriate health care at the appropriate time in the appropriate setting;
2. Overall health care costs must be contained and growth in health care spending in Vermont must balance the health care needs of the population with the ability to pay for such care;
3. The health care system must be transparent in design, efficient in operation, and accountable to the people it serves. The state must ensure public participation in the design, implementation, evaluation, and accountability mechanisms of the health care system;
4. Primary care must be preserved and enhanced so that Vermonters have care available to them, preferably within their own communities. Other aspects of Vermont's health care infrastructure, including the educational and research missions of the state's academic medical center and other postsecondary educational institutions, the nonprofit missions of the community hospitals, and the critical access designation of rural hospitals, must be supported in such a way that all Vermonters, including those in rural areas, have access to necessary health services and that these health services are sustainable;
5. Every Vermonter should be able to choose his or her health care providers;
6. Vermonters should be aware of the costs of the health services they receive. Costs should be transparent and easy to understand;
7. Individuals have a personal responsibility to maintain their own health and to use health resources wisely, and all individuals should have a financial stake in the health services they receive;
8. The health care system must recognize the primacy of the relationship between patients and their health care practitioners, respecting the professional judgment of health care practitioners and the informed decisions of patients;
9. Vermont's health delivery system must seek continuous improvement of health care quality and safety and of the health of the population and promote healthy lifestyles. The system therefore must be evaluated regularly for improvements in access, quality, and cost containment;
10. Vermont's health care system must include mechanisms for containing all system costs and eliminating unnecessary expenditures, including by reducing administrative costs and by reducing costs that do not contribute to efficient, high-quality health services or improve health outcomes. Efforts to reduce overall health care costs should identify sources of excess cost growth;
11. The financing of health care in Vermont must be sufficient, fair, predictable, transparent, sustainable, and shared equitably;
12. The system must consider the effects of payment reform on individuals and on health care professionals and suppliers. It must enable health care professionals to provide, on a solvent basis, effective and efficient health services that are in the public interest;
13. Vermont's health care system must operate as a partnership between consumers, employers, health care professionals, hospitals, and the state and federal government;

14. State government must ensure that the health care system satisfies the principles expressed in this section.

Realizing the state's ambitious goals could not be achieved without more formal, systemic investment in HIT, Vermont instituted its Health IT Fund in 2008. A fee (2/10ths of 1%) paid on all health insurance claims generates annual revenues for the state Fund which then provides grants to support HIT and HIE. The Fund was to sunset after seven years, but legislation this year extends the Fund through 2017. The fund is a source of matching dollars for new federal resources, enabling Vermont to maximize opportunities coming from ARRA and HITECH. (Details on the Fund, including an FAQ, are at: http://hcr.vermont.gov/hit/IT_fund.)

This evolution of governance reflects an understanding that emerged over time and was ratified in 2009 legislation, with both private and public HIT stakeholders agreeing that policy guidance and coordination rests with the state, while operation of the state level HIE is best done outside state government. 18 V.S.A. chapter 219 § 9352 designates VITL, a private, non-profit corporation, as the exclusive statewide HIE for Vermont. The law also reserves the right for local community providers to exchange data.

The Governor and the General Assembly each appoint a representative to serve on the VITL Board, underscoring the close working relationship VITL has with state government. This collaborative approach ensures alignment of the organization's mission with state policy. VITL's Mission statement, updated in the summer of 2009, is "to collaborate with all stakeholders to expand the use of secure health information technology to improve the quality and efficiency of Vermont's health care system."

VITL's updated Vision is of "a transformed health care system where health information is secure and readily available when people need it, positioning Vermont as a national example of high quality, cost effective care," reflecting the state's comprehensive vision of HIT-powered health delivery system reform.

A logical diagram presenting the entities participating in VITL's vision of a transformed health care system is presented in figure 3 below.

VITL State-Wide Logical Architecture

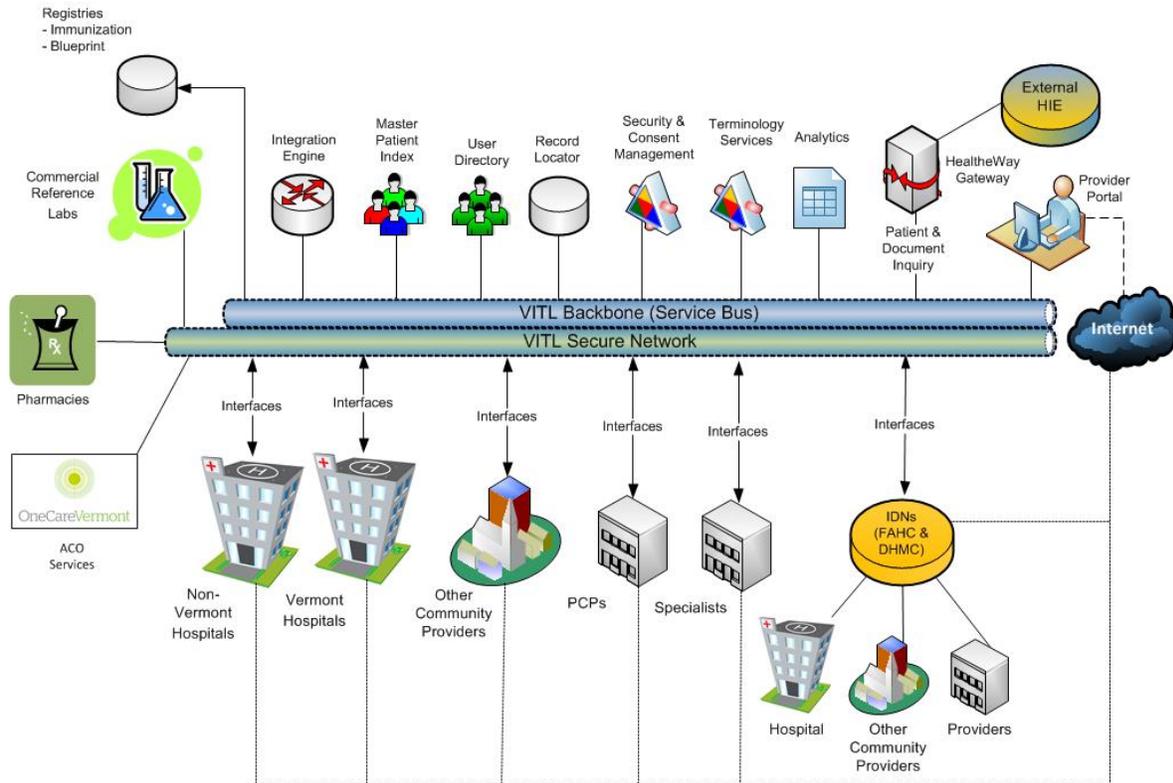


Figure 1.4: VITL Logical Architecture

The scope of Vermont’s HIT-HIE vision and the state environment is synchronous with the larger system reform agenda. Guiding legislation calls for a highly coordinated and integrated approach to healthcare statewide, with an emphasis on wellness, disease prevention, care coordination, and care management, with a particular focus on primary care.

Vermont’s Blueprint for Health is leading this transformation through an integrated delivery model that includes patient centered medical homes supported by community health teams, and financed through a multi-insurer payment reform structure. These teams include members such as nurse coordinators, social workers, and behavioral health counselors who provide support and work closely with clinicians and patients at the local level. The teams also include a public health specialist dedicated to community assessments and implementation of targeted prevention programs.

The Blueprint model is designed to be scalable and adaptable, from small independent practices to large hospital based practices and from rural to urban settings. The long term financial sustainability of the Blueprint model is based on reducing avoidable emergency room and acute care, reducing hospital readmissions, improving clinical transitions, and on shifting insurers’ expenditures from contracted disease management companies to local community health teams. The Blueprint forms the basis of a system of integrated, coordinated care that now extends statewide. In fact, Vermont’s Act 128 called for the Blueprint to expand statewide to all willing primary care practices – including pediatric practices – by October 1, 2013. The program has expanded to all providers who were ready and could get in the queue to meet the timeline. Practices that were not ready are currently in the queue.

Cost effective care depends on health information being available when and where it is needed, so Vermont's system reforms are built on the premise of ubiquitous, multi-dimensional health information exchange. In addition to encouraging EHR adoption and HIE linkages to labs and hospitals, the Blueprint has invested in the creation of a web-based clinical registry and visit planning templates, as well as population reporting tools linked to EHR and PHR systems through the HIE.

The statute also requires hospitals, which operate most of the clinical laboratory services in the state, to maintain interoperable connectivity to the HIE network as a condition in their annual budget approval process. As critical hubs of health care activity, the state's community hospitals play an essential role in supplying health information to the Blueprint practices and patients, and to the health care system as a whole. Taken together, the state's delivery system reforms and HIT-HIE policy create a supportive environment for eligible Vermont providers to meet the meaningful use requirements established by ONC and CMS.

In short, the environment for the HIT-HIE growth to be supported by ONC and CMS could not be better. Key policy decisions for advancing and expanding HIE and delivery system reform throughout the state are made. Funding from the State HIE Cooperative Agreement program has been instrumental in expanding the VHIE. Medicaid IT resources detailed in this plan will enable the state and VITL to continue expanding the VHIE to the full continuum of providers and provider organizations engaged in health care delivery.

VITL's support of provider EHR deployment will continue creating the end user capability to contribute to and meaningfully use information available through the HIE. Funding through the Regional HIT Extension Center (REC) Sec. 3012 Cooperative Agreement has been instrumental in signing up providers and getting them on the road to Meaningful Use. Although the REC grant runs out soon, the State intends to support the continuation of this effort and will also utilize the expertise of this team to help improve the data quality associated with EHR utilization.

1.1 EHR Adoption Rates

1.1.1 Survey data

The 2009 Physician Survey of primary care practices concluded 20%-25% have EHRs in various stages of implementation. Survey data has not been completed on specialists, but based on anecdotal evidence it is believed that the same 20-25% range applied to them at the time of the primary care survey. There are approximately 1,000 primary care providers and an equal number of specialty providers. VITL reports that there are now 911 functional EHRs and that 42% of primary care practices are now contributing data to, and extracting data from, the VHIE. Further, 77% of Office-based physicians in Vermont are now using EHRs (Source: CDC/NCHS, National Ambulatory Medical Care Survey, December 2012). This is depicted in the figure below.

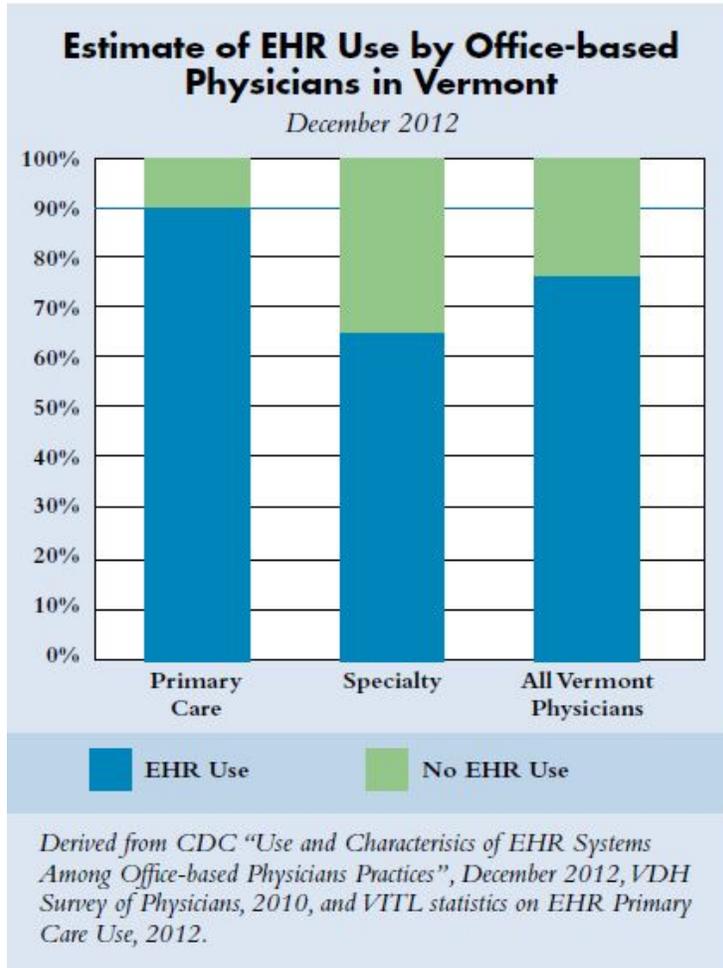


Figure 1.5 EHR Use – Office-based Physicians

VITL has also reported on the types of EHR installations by primary care providers and that information is worth noting.

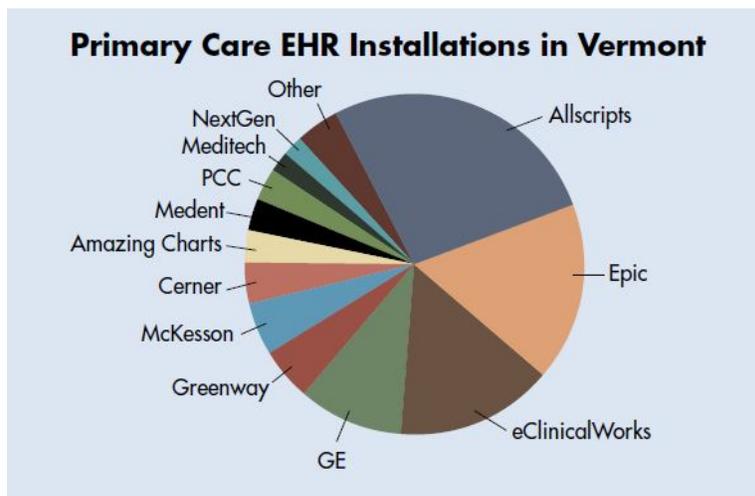


Figure 1.6 – Primary Care EHR Installations in Vermont

Tracking EHR adoption by types of provider is related to and impacted by the accuracy of a Provider Directory. The Provider Directory problem precedes HITECH / ARRA, but the renewed focus on this problem as a result of HIT implementation requirements is serving as the tipping point for solving this problem. While we have been delayed in undertaking a Provider Directory project, it is now back on our horizon.

The following discussion is included to cover technology implementation related to

- e-Prescribing Infrastructure
- Hospitals
- Home Health
- Mental Health/Behavioral Health/Substance Abuse providers
- Long Term Care
- Public Health
- Legislative aspects
- And related State-based academic research

E-prescribing Infrastructure:

Surescripts report that 96.6% of pharmacies in Vermont are accepting electronic prescribing and refill requests. There are just a few pharmacies not participating at this time and there is no significant effort to address these few. Market forces seem to be acting to bring them into the ranks of the participating pharmacies. The percentage of prescriptions being submitted electronically is 49.85% (per Surescripts data).

Hospitals:

Vermont's hospitals have all recently upgraded or replaced their HIT systems, or they are currently in the process of doing so. All 14 of Vermont's hospitals are currently exchanging lab data with the VHIE. The following figure provides a summary of the HIE status of all Vermont hospitals.

HOSPITAL INTERFACE STATUS

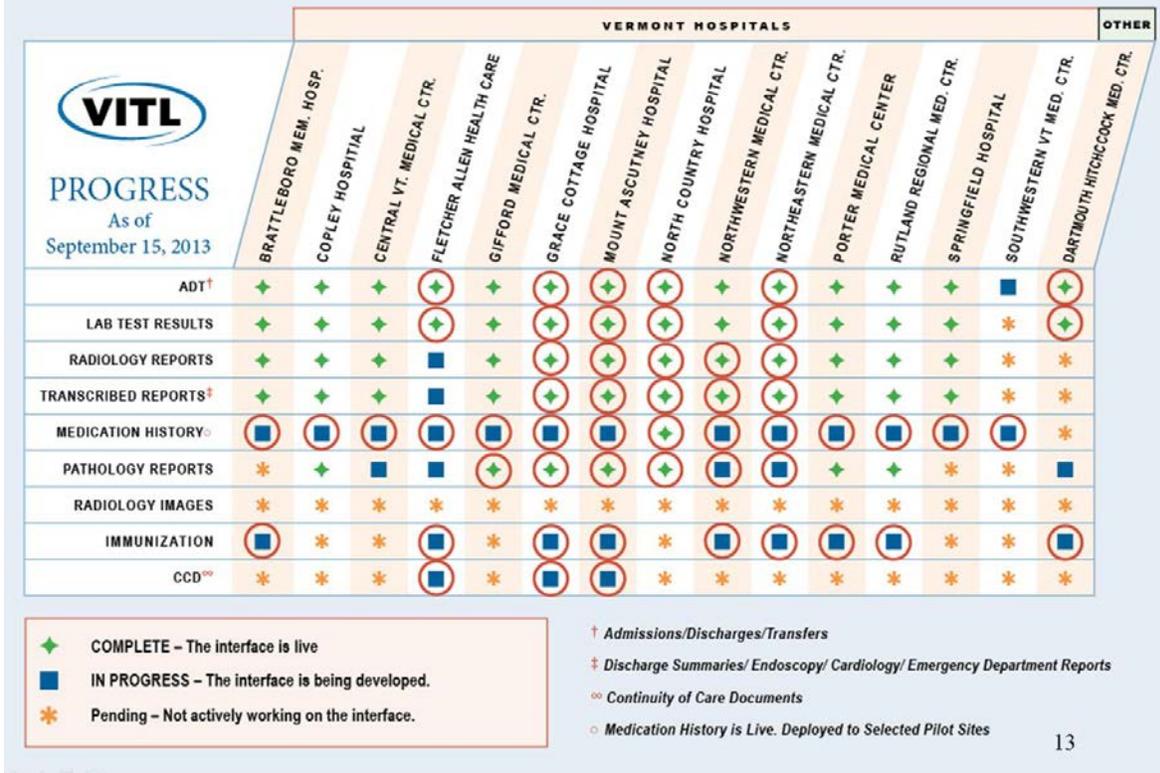


Figure 1.7: Vermont Hospital HIE Interface Status

Home Health:

The statewide network of non-profit home health and hospice agencies utilize electronic reporting tools consistent with their requirements as Medicare and Medicaid providers, but those systems are currently not interoperable with other HIT systems. A strategic goal for HIE connectivity is to build out interfaces between the home health IT systems and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange. The first step in achieving this goal was the completion of an analysis of the technical capacity of the Home Health agencies, as represented by the Vermont Assembly of Home Health and Hospice Agencies (VAHHA). That analysis identified the technology gaps that currently exist to prevent full exchange with the VHIE. While these technology gaps are not themselves impossible to resolve, the funding required to adequately address these gaps is a challenge. The following figure presents the core system functionality currently being used by the nine home health agencies participating in the analysis.

	Agency	Billing	Telephony	OASIS - C	Point of Care	Scheduling	Physician Portal	Interfaced Telemedicine	Document Scanning
ACHHH	Y	N	Y	P	P	P	N	N	
CHHH	Y	Y	Y	Y	Y	N	N	N	
CVHHH	Y	Y	Y	Y	Y	N	N	N	
FCHHA	Y	Y*	Y	Y	Y	Y	N	N	
LHHA	Y	Y*	Y	Y	Y	N	Y	Y	
MHS	Y	N	Y	N	N	N	Y	N	
RAVNAH	Y	Y	Y	Y	Y	Y	N	N	
VNACGI	Y	Y	Y	Y	Y	N	Y	Y*	
VNAVNH	Y	Y	Y	Y	Y	N	N	Y*	
* Third party product									

Figure 1.8: Installed Core System Modules by Home Health Agency (P = Pending)

To enable easy access to hospital information upon transition to home care; hospitals have granted home care agency staff view only access to the inpatient EHR. This has greatly reduced the need for printing, copying, faxing, mailing and data entry associated with paper-based health information exchange.

Fletcher Allen Health Care (FAHC) has provided ubiquitous access to VAHHA member agencies, with all members either authorized or in process to access FAHC's PRISM EHR (Epicare) on a read only basis using a portal called PRISM Link. Through this portal, information can be copied and pasted from the hospital system (as text) into the home care system. Dartmouth Hitchcock Medical Center (DHMC) utilizes the same EHR vendor and product as FAHC and allows external providers access through a service called DH-Connect. Home Health agencies see access to DHMC's system as desirable, since all receive some referrals from DHMC.

The community hospitals have granted read only access to their inpatient EHRs. The copy and paste functionality is not available from the community hospital systems so access only enables the agency to print the information. The following figure presents the status of agency access to hospital systems.

Hospital												
	NMC	FAHC	Porter	CH	RRMC	SVMC	BMH	SH	MAHHC	DHMC	CVMC	NVRH
VNACGI	IP	X								IP		
CVHHH		X								Need	Need	
ACHHH		X	Need									
FCHHA	X	X										
MHS		X				X						
LHHH		X		Need								
VNAVNH		IP						Need	Need	Need	X	
RAVNAH		X			Need					X		
CHHH		X								X		X

Figure 1.9 - VAHHA Member Access to Hospital EHR Systems (X – enabled, IP – in progress)

Having access to the hospital systems has helped reduce the amount of paper generated and transmitted between the hospital and the home care setting, but is still only a partial solution as information cannot be easily imported into the agency’s system.

Mental Health/Behavioral Health/Substance Abuse providers:

The state’s Community Mental Health Centers (CMHCs) are currently upgrading patient management and reporting systems to true EHR capacity. While those systems have not traditionally focused on interoperability and there are important, continuing discussions related to protecting the privacy of exchange of Mental Health/Behavioral Health/Substance Abuse (MH/BH/SA) diagnoses, a strategic goal for HIE connectivity is to build out interfaces between the state’s designated agency systems and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange. As with the Home Health Agencies, the State has supported an analysis of the CMHC agencies systems to identify the gaps that exist for full exchange with the VHIE. These agencies are represented by the Vermont Council of Developmental and Mental Health Services (VCDMHS). As with the Home Health agencies, funding to address these gaps is an issue. The following figures present the status of EHR implementation by these agencies, the ONC certification status of their systems, the current state of data exchange for these agencies, and the hypothetical future state.

Agency	Vendor	EHR Product	On Line Documentation (MS-Word)	Assessments	Treatment Plans	Treatment Notes	ePrescribing	eSignature
HC	Akesis	PsychConsult	N	IP	IP	Y	Y	Y
VSH	Akesis	PsychConsult	N	N	N	N	N	N
UCS	Anasazi	ATP3	N	Y	Y	Y	Y	Y
NFI	Defran	Evolv-CS	N	P	IP	P	N	N
CSAC	LWSI	Essentia	Y	N	N	N	Y	Y
HCRS	LWSI	Essentia	N	IP	Y	Y	Y	Y
LCC	LWSI	Essentia	N	N	N	Y	N	Y
NCSS	LWSI	Essentia	Y	P	IP	Y	Y	Y
NKHS	LWSI	Essentia	Y	P	P	P	Y	Y
RHMS	LWSI	Essentia	Y	P	P	P	P	Y
CMC	NetSmart	Avatar	N	IP	IP	IP	IP	IP
WCMHS	NetSmart	Avatar	N	P	P	P	P	P

Figure 1.10 - Status of Agency EHR Implementation (P = Planned, Y=Yes, N = No, IP = in progress)

Certifying ATCB	Vendor	Product	Product Version #	Product Classification	Additional Software Required
CCHIT	Askesis Development Group	PsychConsult Provider	7.1.0	Complete EHR	NCR, NCR Patient Portal, 4.0; Allscripts, ePrescribe, 15.1.3.112
Drummond Group Inc.	Anasazi Software, Inc.	Anasazi Complete EHR	Version 1.0	Complete EHR	
Drummond Group Inc.	Netsmart Technologies, Inc.	Avatar™	2011	Complete EHR	
Drummond Group Inc.	Netsmart Technologies	Avatar	2011	Modular EHR	FTP software
Drummond Group Inc.	Lavender & Wyatt Systems, Inc.	Essentia	6	Complete EHR	DrFirst Rcopia, MIRTH
Drummond Group Inc.	Defran Systems, Inc.	Evolv-CS	8.4	Complete EHR	H2H Vs 2.1 Email software Spreadsheet software
CCHIT	Askesis Development Group	PsychConsult Provider	7.0.1	Modular EHR	Allscripts, Allscripts ePrescribe, 15.1.3.112
Drummond Group Inc.	Anasazi Software Inc.	Anasazi Central	3.0.171.0	Modular EHR	

Figure 1.11 - ONC Certification Status of Members EHR Systems

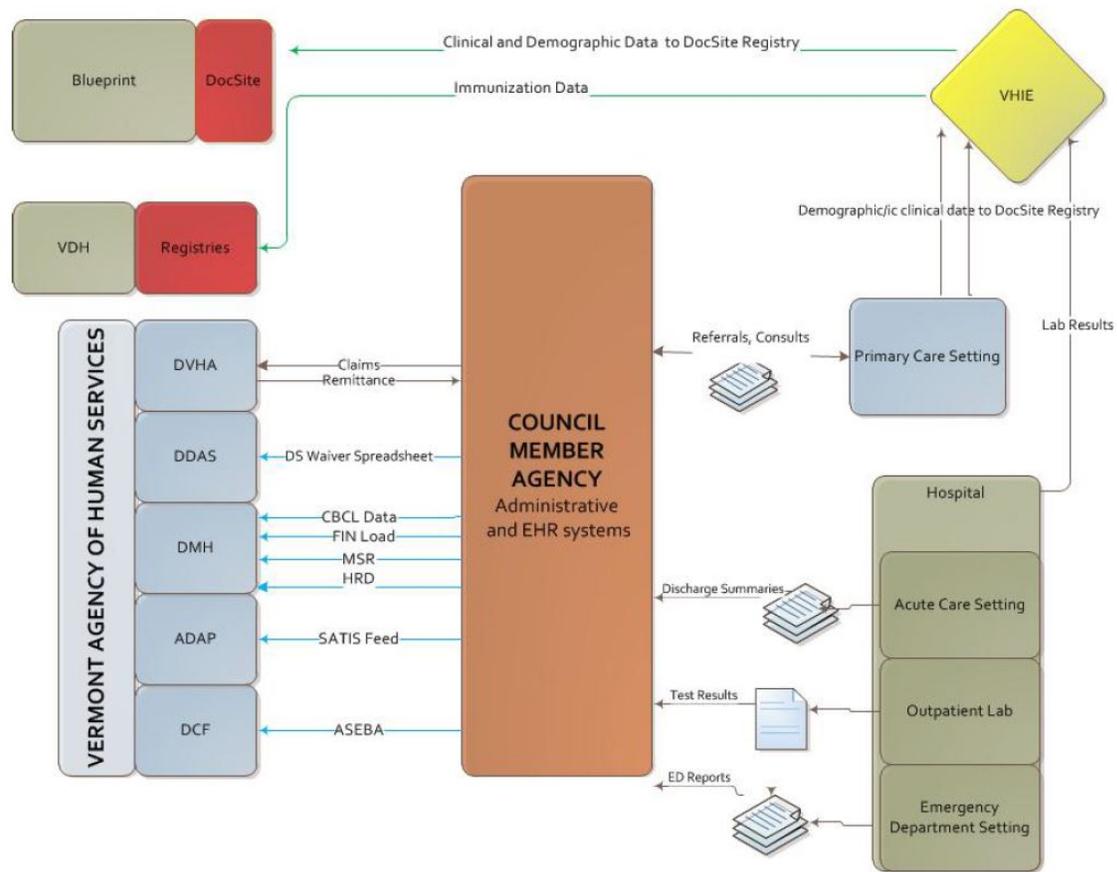


Figure 1.12 - Current State of Member Data Exchange

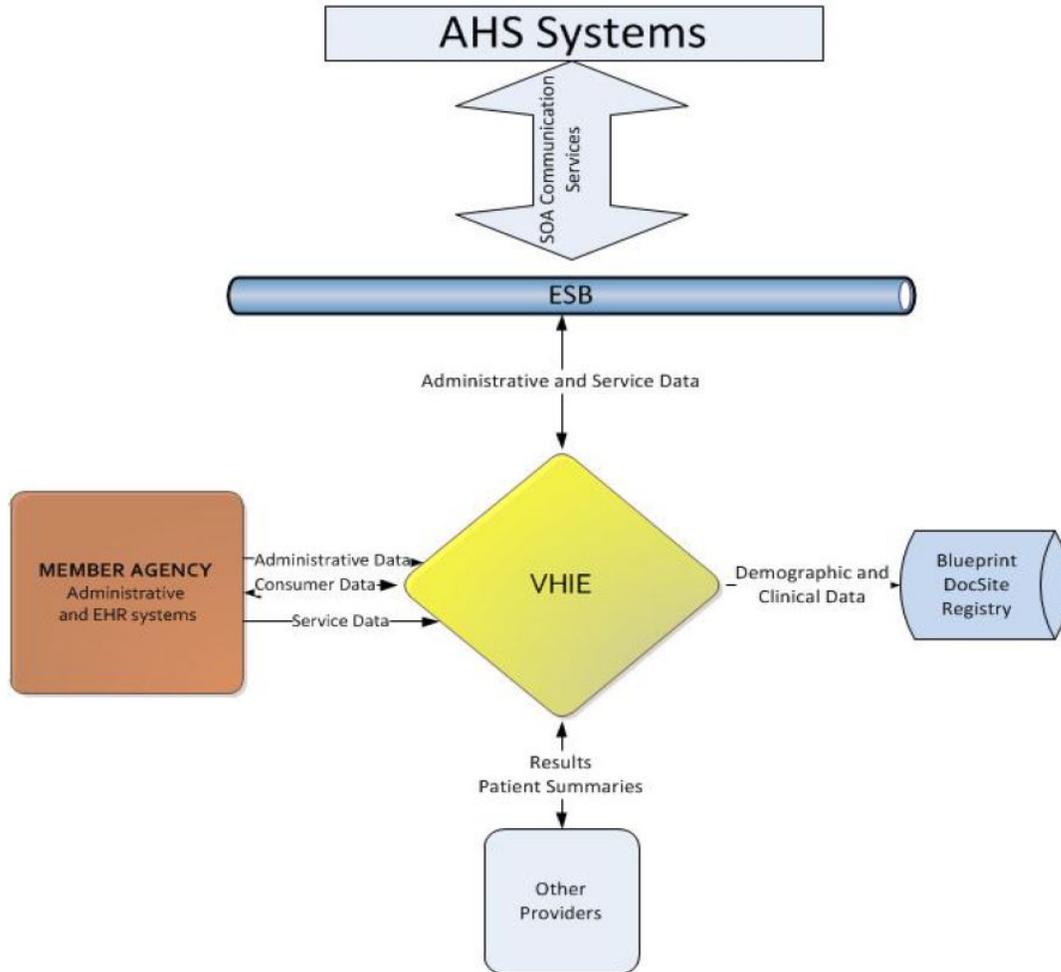


Figure 1.13 - Hypothetical Future State of Member Data Exchange

In addition to the designated agencies which provide both mental health and developmental disability services, Vermont Medicaid relies on private, free-standing mental health, behavioral health, and substance abuse counselors and professionals for over 50% of its case load. While they generally do not currently utilize HIT systems, the Council representing those providers has approached the Division with an interest in establishing a common HIT infrastructure across their membership. A strategic goal for HIE connectivity is to support creation of a “thin” health record system for these providers and to build out interfaces between that and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange.

The Vermont State Hospital (VSH), a public psychiatric hospital, was destroyed by Hurricane Irene. A new VSH is planned and requirements for an EHR system for that new hospital are currently being developed. Implementing an EHR is part of the VSH and Department of Mental Health’s strategic vision to provide better coordination of care with the state’s Community Mental Health Centers, community hospitals, and other mental health and medical providers. VSH, along with the CMHCs – and many Federally Qualified Health Center (FQHC) locations – has implemented telemedicine capacity for both clinical and administrative / distance learning applications.

Long Term Care:

The state’s long term care facilities have long reported data electronically to the state for Medicaid payment and oversight purposes; however, the electronic Minimum Data Set (MDS) systems pre-date most EHR systems and have limited interoperability. Most of the state’s LTC facilities have not implemented EHR systems, but most if not all of them do have electronic patient management (billing) systems. A strategic goal for HIE connectivity is to build out interfaces between the nursing home IT systems and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange. As with the Home Health agencies and the Community Mental Health Centers the State has provided a grant to the Vermont Health Care Association of long term care providers to assess their technology and identify the gaps for full exchange with the VHIE. Member agencies consist of Skilled Nursing Facilities (SNF) and Residential Care Facilities (RCF). That report has just been completed and the gaps identified are consistent with other full continuum providers.

Due to lack of funding and lack of mandates, long term care providers are lagging behind other healthcare organizations in their use of EHR systems. In Vermont at the end of 2012, 77 percent of primary care providers, 100% of hospitals, home health agencies, and state designated behavioral health and substance abuse treatment providers were using EHRs. By comparison, forty-four percent of nursing homes and residential care facilities surveyed for the analysis are using EHR systems and 14 percent plan to implement EHRs over the next five years. Twenty-five percent have no plans to use EHR systems. The use of electronic health records systems is widely considered to be a prerequisite for electronic health information exchange.

The following figures present the status of EHR adoption rates by type of facility (SNF or RCF); the facility breakdown by type of IT system and by EHR system (for the subset of facilities with an EHR system in place); and the level of automation by system function.

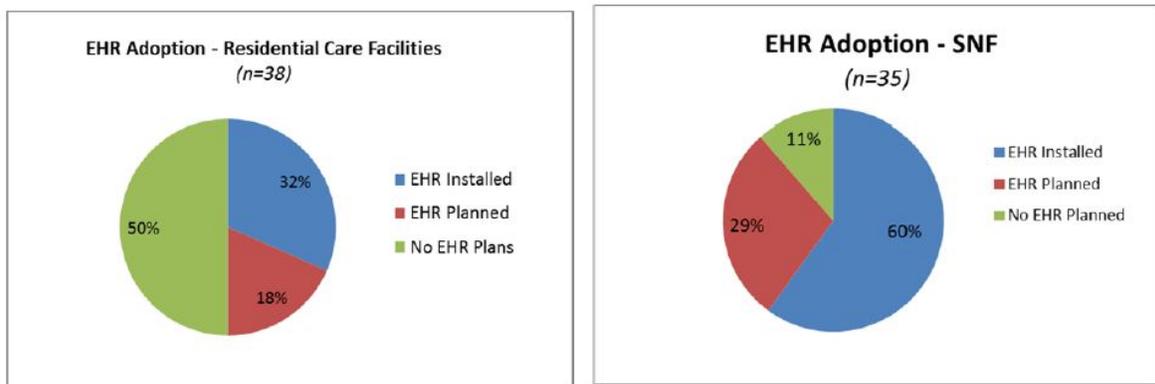


Figure 1.14 – EHR Adoption Rates by Type of LTC Provider Facility

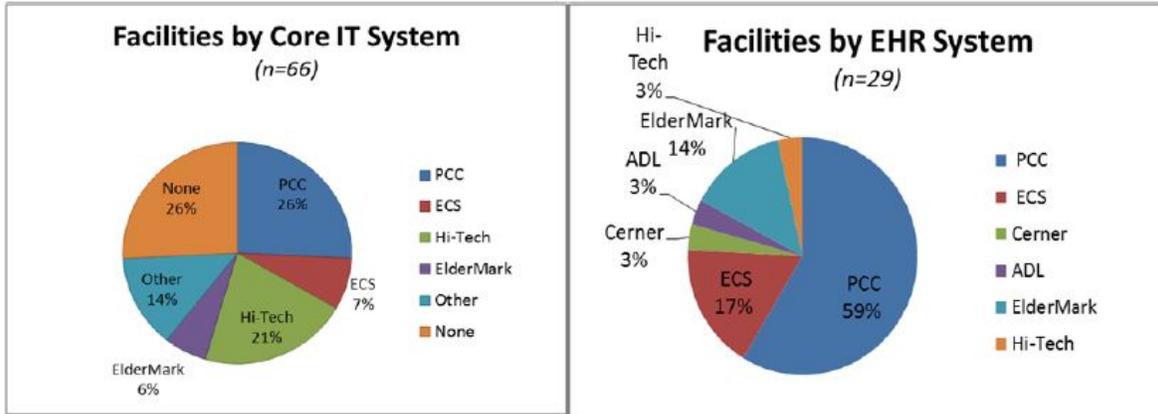


Figure 1.15 – Percent of LTC Facilities by Core IT Systems and by EHR System (for those facilities with EHR systems)

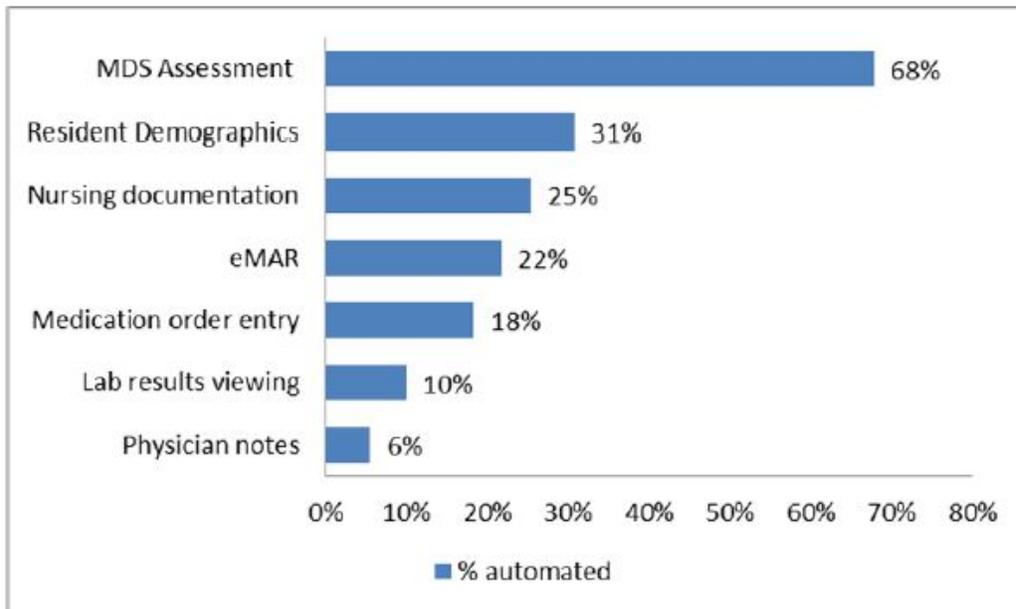


Figure 1.16 – LTC Facility Level of Automation by System Function

In addition, much of the state’s long term care is provided in home and community based settings: in private homes, in residential care homes, and in assisted living, congregate, elder, and low income housing facilities. The home health connectivity will be an important method for linking long term care in those settings to the HIE network, but Vermont’s strategic vision also includes extending HIT to home and community based settings, including the implementation of telemedicine telemetry reporting technologies and the extension of the Blueprint IT infrastructure to the full continuum of health care sites, services, and providers.

In Vermont, Support and Services at Home (SASH) brings a caring partnership together to support aging at home. It connects the health and long-term care systems to and for Medicare beneficiaries statewide. SASH is funded by the Centers for Medicare and Medicaid Innovation Center (CMMI) Multi-payer Advanced Primary Care Practice Demonstration, awarded to the Blueprint for Health in 2011. SASH now has more than 26 teams in most areas of the state as of January 2013. The SASH model includes an organized, person-centered presence in the community, with a SASH

Coordinator and Wellness Nurse serving a panel of 100 participants. These participants may live in subsidized housing or out in the community, as the program is designed to serve all Medicare beneficiaries as needed. The SASH Coordinator and Wellness Nurse are part of a larger team of representatives of local Home Health Agencies, Area Agencies on Aging, mental health providers and others. More information about SASH can be found at <http://cathedralsquare.org/future-sash.php>.

Public Health:

Vermont has a single, state health department. It is currently receiving some immunization records, syndromic surveillance, and notifiable lab results electronically, but as indicated in the Operations section of the Plan, the integration of public health data collection with the HIE is a major component of the state / HIE infrastructure build out. Earlier this year a link was established between the VHIE and the Vermont Department of Health (VDH) as the transport mechanism for data exchange with the state Immunization Registry. Over time VDH intends for this link to support reporting requirements for other public health registries, as well as for syndromic surveillance and notifiable lab result submissions. VDH has now published the dates by which they have been ready to receive updates to the Immunization Registry, Electronic Lab Reporting, and updates for Syndromic Surveillance.

The health information infrastructure to support bi-directional information flow between public health and healthcare providers, and clinical registry systems will provide data to track the rates of patients with related self-management goals and engagement in other public health programs. This data will help to monitor program impacts in collaboration with community partners and stakeholders, and to inform them of the health risks and costs associated with chronic conditions. This approach, as an integrated system of health, will help to establish a sustainable infrastructure and further a community culture towards good nutrition, physical activity, tobacco cessation and alcohol and drug prevention.

1.2 The role of Broadband in Vermont's HIT/E efforts

Vermont's health reform vision includes a plan for ubiquitous health information exchange across the full continuum of health care providers. Enhanced broadband services across the state will provide a critical linchpin for this expansion. Full health care system integration in Vermont means integrated care delivery with HIT connectivity and interoperable HIE systems (and telemedicine) via statewide broadband to all providers and health care institutions. Broadband is a critical component to deploy the efficient Software as a Service (SaaS) model EHRs, which will be much more readily implemented in small provider offices.

Vermont Telecommunications Authority

The Vermont Telecommunications Authority manages several grant programs to expand the state's broadband and cellular capacity. From the VTA 2012 Annual Report:

The current VTA efforts to develop or facilitate development of telecommunications infrastructure fall into four broad categories, each of which has seen significant activity in

2012. The VTA makes grants to retail service providers of broadband or cellular service. In 2012, the VTA awarded five new grant-funded projects, and had ongoing oversight of five previously-funded grant projects still in process during all or part of 2012. The VTA directly develops and manages fiber optic infrastructure projects. Fiber optic infrastructure that reaches more deeply into communities is one of the key building blocks for support of both broadband and cellular service expansion. Direct development of fiber optic infrastructure by the VTA saw much greater activity in 2012. The VTA engages in wireless tower development and wireless site management, providing a key piece of infrastructure for cellular service and wireless broadband. Finally, the VTA has entered into wireless equipment leasing agreements. These agreements assist cellular and wireless broadband companies acquire new equipment with which they deploy to expand service to Vermonters. The VTA has deployed combinations of these four types of tools in a variety of projects that have helped or will help unserved and underserved Vermonters.

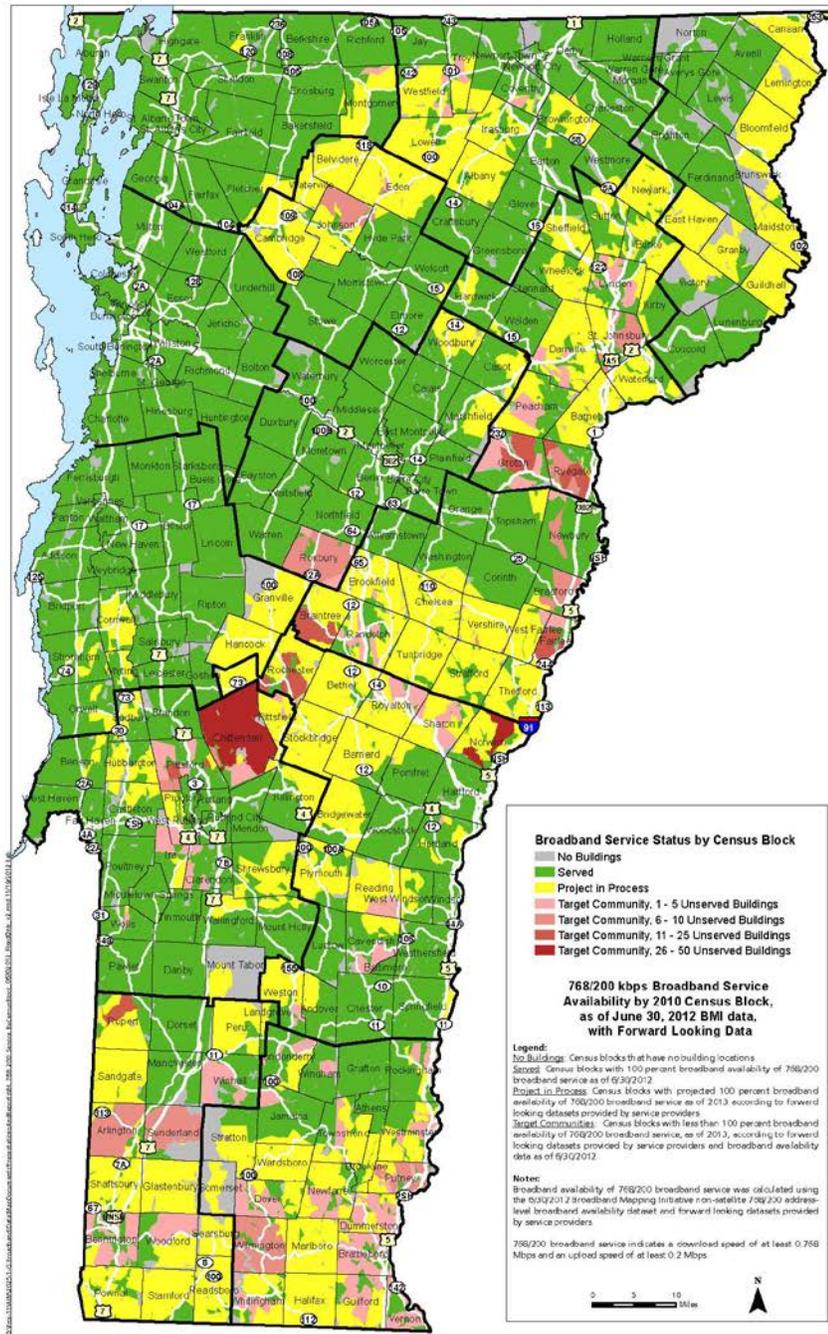
BroadbandVT.org

BroadbandVT.org is a cooperative effort of the Vermont Center for Geographic Information (VCGI), the Vermont Telecommunications Authority (VTA), the Vermont Department of Public Service (DPS) and the Center for Rural Studies (CRS) of the University of Vermont (UVM).

This diverse group is pooling their efforts to advance public knowledge about broadband expansion efforts, issues of the digital divide, and opportunities for change throughout our state. Through grant programs funded by the American Recovery and Reinvestment Act (ARRA), these partners have been primary drivers behind the development of interactive broadband maps based on data provided by telecommunications providers in Vermont.

BroadbandVT.org has initiated the creation and development of a comprehensive geographic inventory of broadband service availability in the State of Vermont. Landline and wireless services (fixed and mobile) are being mapped, including wireless voice and data with information from broadband service providers and other sources. The broadband mapping information collected and verified through this effort is supporting the State's broadband development objectives. Most importantly, the geographic inventory further refines our understanding of the location of "unserved" and "underserved" areas in the state, thereby supporting targeted future investments in these areas. The current map of broadband availability shows areas served by broadband, projects in progress, and target communities (See figure 1 below: "Broadband availability – 2012", produced by Stone Environmental Inc. for the State of Vermont, Release 4, November 19, 2012). Progress since the initial version of the SMHP is marked by noting that most of the areas that a few years ago had limited or no broadband access now have projects in process to deliver some level of broadband service.

**768/200 kbps Broadband Availability
Served, Projects in Progress, and Target Communities Mapping Initiative
Release 4**



Sources: This dataset was developed by Stone Environmental using the non-satellite 768/200 address level fixed only broadband availability dataset developed by the Broadband Mapping Initiative (BMI) and forward looking data. The BMI, a collaboration of VCG, the VT DPS, and the VTA, is funded through a \$500 grant from the NITA. Forward looking data was provided by broadband service providers, 2010 census blocks, US Census Bureau, Wire center boundaries, VCGI, Administrative boundaries, VCGI.

STONE ENVIRONMENTAL INC
 Produced for the State of Vermont
 Release 4, November 19, 2012

Figure 1.17: –Broadband Availability - 2012

Several other grants associated with Broadband development were described in the first edition of the SMHP. That work is either completed or still in progress, and includes a rural broadband grant and loan award from the U.S. Department of Agriculture to the Vermont Telephone Company (VTel) as part of ARRA; a grant from the National Telecommunications and Information Administration (NTIA) to a public-private partnership between the Vermont Telecommunications Authority (VTA) and Sovernet Communications called Vermont Fiber Connect; a grant from the U.S. Department of Commerce to the Vermont Council on Rural Development which was also an ARRA grant; and a grant from the Federal Communications Commission's Rural Health Care Pilot Program to the New England Telehealth Consortium where Vermont is a participant with Maine and New Hampshire.

Cellular Corridor Development

Vermont's geography has served to slow the development of cellular coverage in the state. However, in recent years significant progress has been made in the deployment of cellular services. This is significant to HIT efforts in the state, as Telehealth is an appropriate technology to be exploited for healthcare delivery in Vermont, which is mostly rural. Many Telehealth services can be supported within the bandwidth constraints of cellular technology. The following map depicts the cellular deployment in the state.

Cellular Target Corridors and Drop Zones

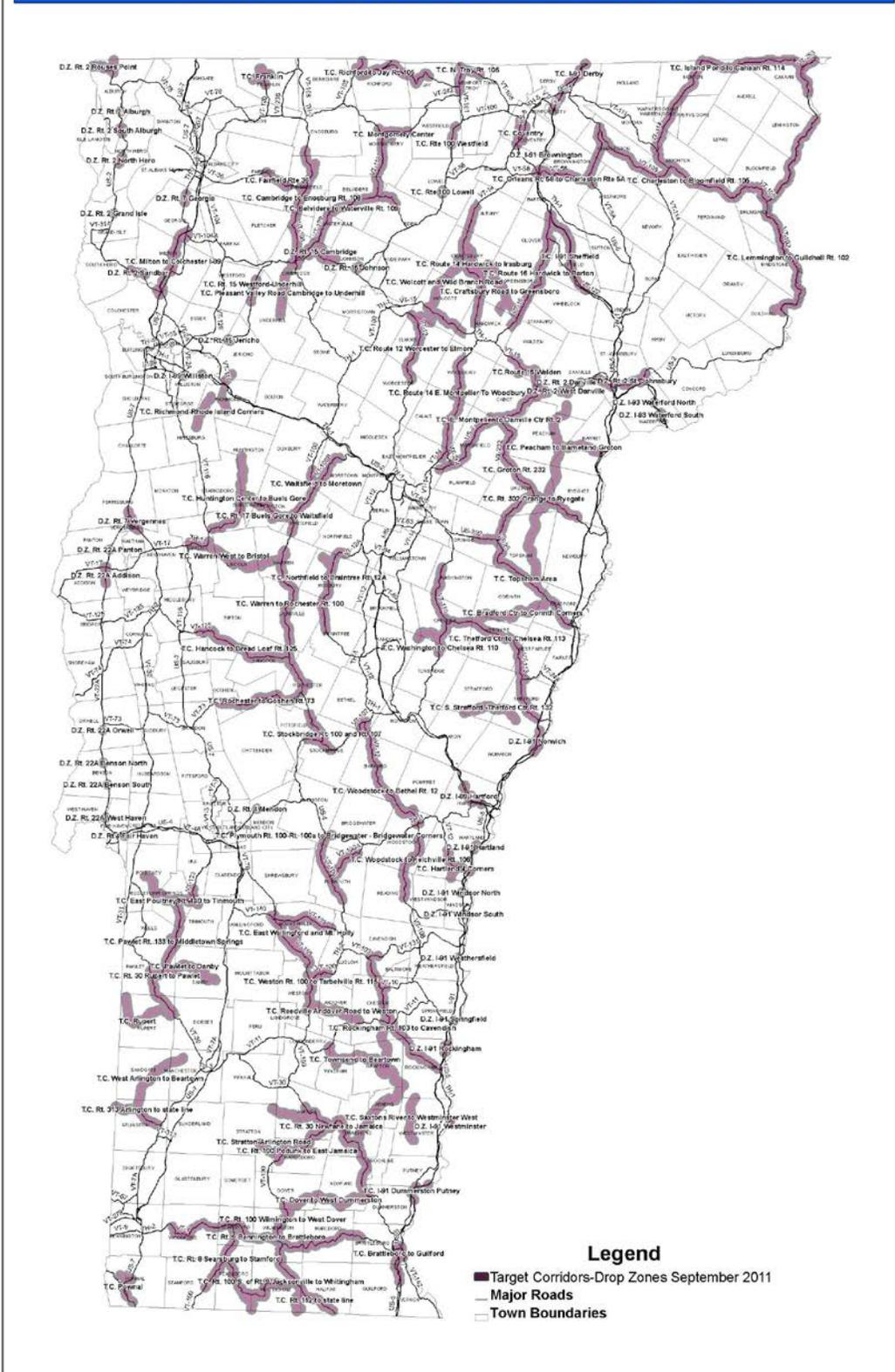


Figure 1.18: Cellular Target Corridors and Drop Zones

1.3 Federally-Qualified Health Center (FQHC) networks

Vermont has 8 FQHC grantees operating a total of 40 primary care, dental, and mental health service sites serving the primary care needs of nearly one in four Vermonters. The health centers created a network in collaboration with VITL and several of the state's Critical Access Hospitals utilizing HRSA Office of Rural Health Policy network planning and implementation funding. That network, the Vermont Rural Health Alliance (VRHA), has evolved into a formal Health Center Controlled Network (HCCN) that recently finished a two year grant to complete the build-out of EHR adoption and implementation at its member health centers.

Quoting from the Project Accomplishments Report of the VHRA HIT Project:

“The goals of the project have been achieved: 1) The FQHC's EHR data points needed for UDS measures are structured, reliable and complete; 2) The FQHCs are participating in the VHIE, submitting patient data from their EHR systems to DocSite and can run UDS reports using the data; 3) the DocSite UDS reporting tools designed by VRHA and programmed by Covisint (the vendor for the DocSite software) are complete and up to date with 2013 mandated reporting requirements; and 4) the reporting toolset includes a network-wide UDS summary report that VRHA will use for benchmarking and quality improvement projects.

“The accomplishments of the VRHA HIT project are:

1. All FQHCs in Vermont have electronic health records
2. Clinical UDS data in FQHC's EHRs is structured, reliable and complete
3. FQHCs are certified Patient Centered Medical Homes and are participating in the Vermont Blueprint for Health
4. FQHCs are participating in the Medicaid EHR Incentive Program
5. Automated UDS Reporting Tools Were Developed
6. FQHCs are participating in Vermont's Health Information Exchange Network
7. HL7 standard clinical data interfaces to the VHIE were developed
8. Collaborative relationships were developed
9. Foundational legal agreements are in place
10. Project work was aligned with Vermont's Healthcare Information Technology and Healthcare Reform efforts
11. Workforce development resulted from the project
12. Economies of scale realized for data feed work
13. Re-usable tools were developed and improved

As cost containment, improved care coordination, quality measurement, technology innovations and new payment systems are cast in the crucible of healthcare reform, VRHA is favorably positioned to manage and support network-wide HIT projects going forward and to sustain the achievements of this project.”

The following table depicts the data feeds to the HIE that were developed as a part of this project:

FQHC	Demographic (ADT)	Clinical (CCD) ³	Laboratory Results	Radiology and other text reports	Vermont Immunization Registry
NoTCH	✓	✓			
SMCS	✓	✓	✓		
CHSLV	✓	✓ (flat file)	✓	✓	
CHCRR	✓	✓	✓		
LRHC	✓	✓ (flat file)	✓		
CHCB	✓	✓			✓
THC	✓	✓	✓	✓	

Figure 1.19: Table of Data Feeds from FQHCs to the VHIE as Part of the VHRA Project

VHRA also used HCCN funding to expand the functionality of the Blueprint clinical registry to support FQHC-specific reporting requirements. The HCCN funds complemented ONC funding to expand connectivity to the VHIE network. The HCCN staff participated in bi-weekly project status meetings with VITL, the Blueprint, the Division of Health Care Reform, and the CHIPRA-grant funded pediatric HIT projects to ensure full integration of these closely related projects supported by multiple funding streams.

HRSA Office of Rural Health Policy (ORHP), Bureau of Primary Health Care (BPHC), & Bureau of Health Professions (BHP)

The Vermont Department of Health operates an integrated Office of Rural Health and Primary Care. The Office has supported and encouraged HIT development in Vermont, working with HRSA grantees on numerous projects implemented to support local implementation of state health reform initiatives at Federally Qualified Health Centers (FQHC), Rural Health Clinics (RHC), and Critical Access Hospitals (CAH). The Office funded the first statewide survey of EMR adoption in primary care practices and worked closely on development of two HRSA/ORHP funded rural health networks, one focused on building a statewide telemedicine infrastructure, the other supporting FQHC, RHC, and CAH integration with the Vermont Blueprint for Health and HIT-HIE initiatives.

1.4 Status of Veterans Administration (VA) clinical facilities

The State is coordinating with the VA on multiple fronts. Coordinated HIE planning is occurring between the Department of Mental Health (DMH) and the VA at both the White River Junction veterans’ hospital and at the VA Community Based Outreach Centers (CBOC), particularly in Chittenden County. Multi-entity coordination is under way among DMH, the VA, Dartmouth

³ Or other clinical data format such as MDM or a flat file as not all EHRs are able to send the HL7 CCD

Hitchcock Medical Center and its Vermont-based practices, Fletcher Allen Health Care, the Vermont State Hospital, the University of Vermont, the Vermont Office of Veterans Affairs, and the Vermont Department of Corrections for HIE through the DMH Futures program, various State-sponsored Continuity of Care initiatives, and the SAMHSA (Substance Abuse and Mental Health Service Administration) funded MHISSION-VT (Mental Health Intergovernmental Service System Interactive Online Network) program, an HIE-enabled jail diversion program for veterans with mental health and substance abuse issues.

1.5 Identification of stakeholders engaged in existing HIT/E activities

Vermont has been careful to identify and engage stakeholders throughout its history of pursuing healthcare reform. The effort and results of Vermont's stakeholder focus is described in the VHITP and a few examples of stakeholder focus and engagement is discussed here. A summary diagram is provided at the end of this topic.

Collaborative Governance Model

As described above in Section 1.A., Vermont's HIE governance structure has gone through evolutionary development. Originally chartered by the state to develop both the *Vermont HIT Plan* (VHITP) and statewide HIE, VITL took the original role in convening stakeholders and establishing the framework for HIT policy and HIE governance. VITL's original Board structure included nearly two dozen Directors, providing broad representation of government, consumer, and stakeholder interests. VITL also operated a series of open, public work groups, including the HIT Plan Advisory Committee, a Provider Work Group, and a Privacy & Security Work Group.

In 2009, Act 61 specified a governance model that divides policy coordination and oversight (now placed with the state) from HIE operations and implementation. Accordingly, the State Government HIT Coordinator has convened public meetings and work groups to ensure full public participation in the process of HIT-HIE policy implementation, and VITL's Board of Directors provide governance for the HIE itself, as well as other programs VITL operates (such as its role as the state's Regional HIT Extension Center). More recently, following the a State Innovation Model (SIM) grant award to Vermont which has specific HIE expansion requirements and the need for standardized measures to test payment reform models in Vermont, a joint SIM-HIE workgroup has been formed with extensive participation from all aspects of the health care continuum. Participants represent ACOs, hospitals, provider organizations (medical care, mental health, substance abuse, home health, and long term support services), payers, associations representing various provider types, VITL, the Green Mountain Care Board, and several State Departments with an interest in health care reform. This group is co-chaired by the Payment Reform Director in the Green Mountain Care Board and the HIT-HCR Integration Manager of the Health Care Reform team (see below). Topics being addressed by this work group include HIE expansion, clinical data utilization, ACO standards and measures, and patient consent.

Health Care Reform and the Blueprint for Health

A Health Care Reform (HCR) team in the Department of Vermont Health Access (DVHA) includes the State HIT Coordinator, the EHRIP team, and other positions involved with managing the IAPD funding and associated contracts associated with Vermont's portfolio of major health reform initiatives. This portfolio includes the project areas listed in the Preface to this edition of the SMHP: the Health Benefit Exchange, the MMIS replacement project, Integrated Eligibility, the Health Services Enterprise project, and the portfolio of HIT-HIE projects. The HCR team also

manages the grant agreement with VITL for operation and expansion of the VHIE. The HCR team is led by the HIT-HCR Integration Manager. Reporting to the Blueprint for Health Program Director, the HIT-HCR Integration Manager participates in the DVHA leadership team overseeing HIT Coordination both inside and outside state government. The Blueprint for Health is Vermont's primary program to slow the growth of the healthcare cost curve while improving patient outcomes and population health. Associating the HCR team with the Blueprint for Health is synergistic as the common goals include EHR adoption and utilization, HIE expansion, data quality, and Meaningful Use. There is also a common interest in a clinical data registry, an all payer claims database, a provider directory, and an enterprise master person index. Blueprint staff are directly engaged in helping providers achieve Meaningful Use of their EHR technology as BP facilitators participate in the onboarding activities of capturing measure data from the BP practices and also engage in data quality work with the practices.

The HCR Team has the responsibility to ensure that the state's HIT-HIE initiatives are fully integrated and collaborative, both across internal government systems, initiatives, and programs, as well as HIT-HIE programs and initiatives outside of state government. It is this team that will be developing the Vermont Health Information Strategic Plan.

Public Engagement, Communication, & Outreach

Although Vermont has made notable progress in outreach to and engagement with stakeholders in the health care policy and provider community, consumer engagement is just now beginning to take shape. VITL has included consumer representation on its Board from the outset, but broad consumer engagement has previously been limited as the focus was on HIE expansion and EHR adoption.

Vermont's Health Benefit Exchange (HBE), known as Vermont Health Connect (VHC), became active this fall and has sparked significant public interest in the insurance exchange, and by association, in other aspects of health care reform. This interest was fueled in part by the public attention given to the debate leading up to the passage of Act 48, which authorized the development of an insurance exchange in Vermont. The VHC has launched an outreach program that includes advertising, a website, and public meetings held across the state. This is a model for public engagement around other health reform topics such as, for instance, a Blue Button solution for Vermonters. In addition to public outreach campaigns, VITL and the State embed much of the communication to consumers in the health care setting, using consumers' own trusted practitioners as a key source of information about Vermont's HIT-HIE initiatives. This approach requires cultivation of and coordination with the provider community, but the strategy matches the phased approach to the Blueprint / HIT-HIE expansion based on Hospital Service Areas. An example of this approach is the rollout of the State's consent policy for health information that passes through the VHIE. VITL has developed the materials and processes for receiving patient consent and for maintaining a repository of consent information. But the discussion about consent and the capturing of the initial patient consent will occur in the provider setting.

Another area of consumer engagement will be through community-based organizations. As noted above, Vermont has a lengthy and comprehensive history of engagement with stakeholders in the development of HIT-HIE planning. The Health Care Reform staff has and will continue to meet with and request input and feedback on HIT-HIE expansion and implementation from, among others: the state Medicaid Advisory Board, the Vermont Coalition for Disability Rights (VCDR), the Vermont Council for Independent Living (VCIL), the Vermont Low Income Advisory Council (VLIAC), the Vermont Campaign for Health Care Security, Vermont Legal Aid, the Office of

Vermont Health Care Ombudsman, the Bi-State Primary Care Association (representing Federally Qualified Health Centers, Planned Parenthood, and Rural Health Clinics, all of whom have a mission-based focus on under-served populations), the Vermont Coalition of Clinics for the Uninsured, the Department of Aging and Independent Living (DAIL) Consumer Advisory Board, the Vermont Council of Developmental and Mental Health Services, the Vermont chapter of the American Civil Liberties Union, and other consumer and community stakeholders.

Privacy & Security Work Group

Privacy and security are important and critical topics related to HIT/E, and Vermont's effort to address these issues is also relevant to a stakeholder discussion.

Rationale: Highly reliable and transparent privacy and security policies and practices are critical to the acceptance of electronic health information and HIE by the citizens of Vermont.

Current state: The previous edition of the SMHP presented the evolution of VITL's privacy and security policies and a discussion document: "Application of Law to the Privacy and Security Framework of a Health Information Exchange Network."

Since the previous edition of the SMHP the State HIT Coordinator (Hunt Blair, now with the Office of the National Coordinator) led a Privacy & Security Work Group through a process resulting in a new consent policy for health information going through the HIE. That policy was adopted at the end of 2012 and is now being introduced and managed across the state by VITL. This new policy is neither "Opt-in" nor "Opt-out" but can best be described as a "consent to view" policy which gives control of consent to view to the individual on a provider by provider basis. The policy and a full discussion of security and privacy in general are contained in the State's Strategy and Operational Plans document as approved by ONC (http://hcr.vermont.gov/sites/hcr/files/pdfs/VSOP_V1.4.pdf).

The following diagram depicts the HIT/HIE Stakeholders for Vermont.

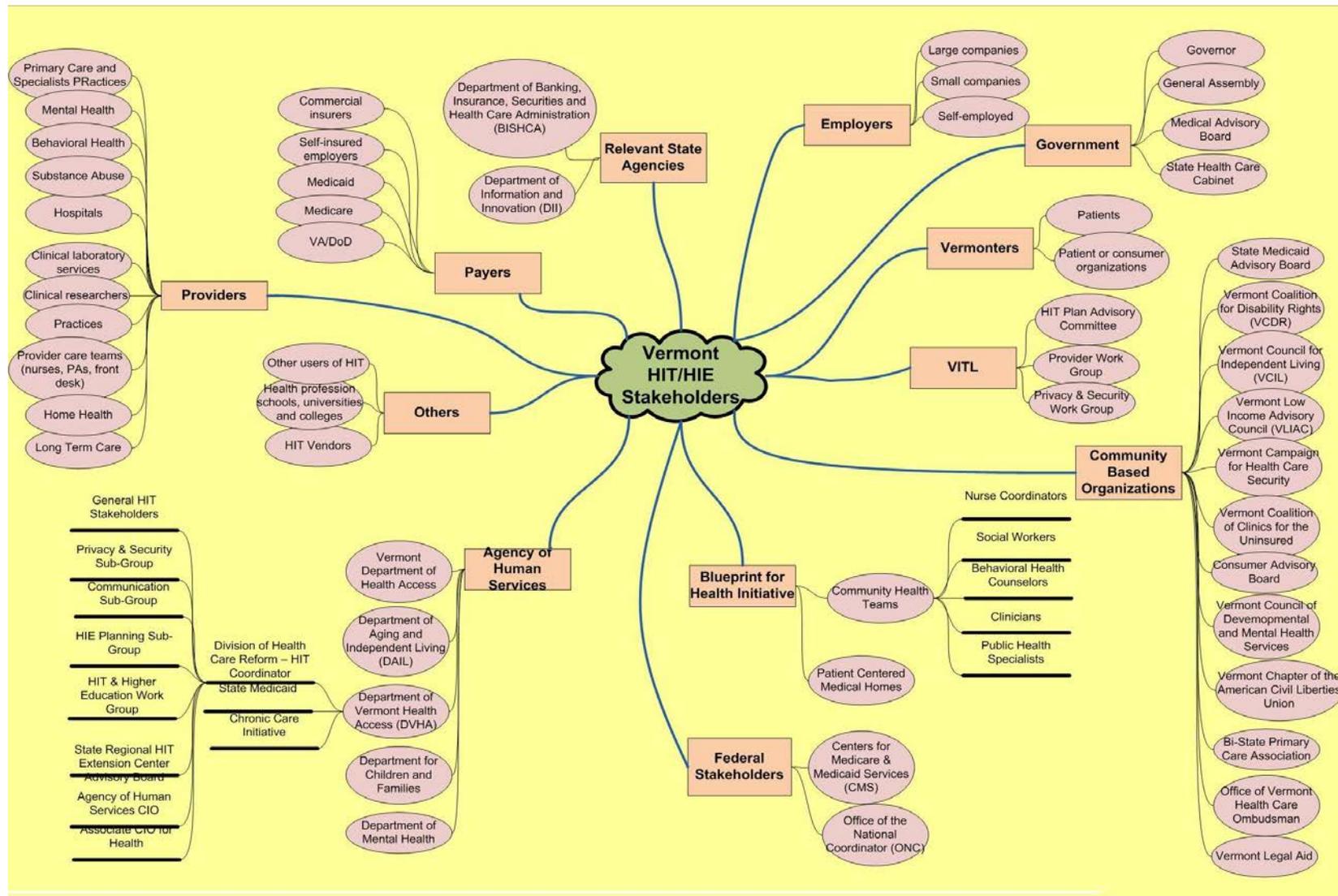


Figure 1.20 – Vermont HIT/HIE Stakeholder Diagram

1.6 HIT/E Relationships with other Entities

Significant relationships to be discussed here are those with VITL, with the Blueprint for Health, Governance entities, entities associated with Financial Sustainability, Interstate Exchange, and NESCSO (New England States Consortium Services Organization).

VITL

As described in Section above, VITL, the Vermont Information Technology Leaders, Inc., was funded and authorized as a 501c3 not-for-profit corporation through the 2005 Budget Act to develop statewide HIE. Appropriations have continued in each subsequent annual state budget. However, realizing the state's ambitious goals could not be achieved without more formal, systemic investment in HIT, Vermont additionally instituted its Health IT Fund in 2008. A fee (2/10th of 1%) paid on all health insurance claims generates annual revenues for the state Fund which provides grants to support HIT and HIE.

The Vermont Health Information Exchange (VHIE) network operated by VITL, is a critical conduit for the Vermont Blueprint for Health IT infrastructure, enabling both personalized and population-based care coordination and management for the Blueprint's integrated primary care medical homes and community health teams.

VITL has established an EHR Connectivity Service, which enables hospitals to deliver electronic test results directly to physician EHRs. This service is critical for physicians implementing EHRs, and it lays the foundation for bi-directional health information exchange. VITL also provides the interfaces which enable physicians to send data to the DocSite system, which is the Blueprint for Health repository. This supports the patient-centered medical home initiative.

Blueprint for Health

Act 61, 2009, included a Chapter on the topic of Health Information Technology, and the State's plan for HIT. Specific language is included in that chapter related to the Blueprint for Health, namely: "integrate the information technology components of the Blueprint for Health established in chapter 13 of this title, the agency of human services' enterprise master patient index, and all other Medicaid management information systems being developed by the office of Vermont health access, information technology components of the quality assurance system, the program to capitalize with loans and grants electronic medical record systems in primary care practices, and any other information technology initiatives coordinated by the secretary of administration pursuant to section 2222a of Title 3.

Section 9 of that Act, related to HIT Funding, specifies that the Vermont health IT fund shall be used for loans and grants to health care providers for the development of programs and initiatives sponsored by VITL and state entities designed to promote and improve health care information technology, including implementation of the Blueprint for Health information technology initiatives, related public and mental health initiatives, and the advanced medical home and community care team project.

Section 13 of that Act authorizes the secretary of human services or designee to apply to the Secretary of Health and Human Services or other applicable agency for the federal funds to enable Vermont to pursue its goals with respect to modernization and upgrades of information technology and health information technology systems, coordination of health information exchange, public health and other human service prevention and wellness programs, and the Blueprint for Health.

Act 128 of 2010, an act relating to health care financing and universal access to health care in Vermont, specified in Section 12 that it is the intent of the general assembly to codify and recognize the existing expansion design and evaluation committee and payer implementation work group and to codify the current consensus-building process provided for by these committees in order to develop payment reform models in the Blueprint for Health.

Section 13 of Act 128 establishes an executive committee to advise the director of the Blueprint, to consist of no fewer than 10 individuals, and names the spectrum of stakeholders to be represented on this committee.

Clearly the Blueprint represents a significant relationship to the SMHP for HIT/E.

Governance

Governance is touched on in item 1.5 above as a topic area from which many stakeholders are identified. Those that represent a significant relationship include the Governor and legislature, other state agencies whose domains intersect with that of HIT/E, and the specific committees, working groups and individuals specifically identified in the foundation legislation establishing the HIE and the Blueprint. Of course, we also count ONC and CMS as significant stakeholder relationships in the governance of our HIT/E.

Financial Sustainability

Per 32 V.S.A. chapter 241 § 10301, Vermont collects a fee (2/10ths of 1%) on all health insurance claims that generates annual revenues for the state Health IT Fund which then provides grants to support HIT and HIE. This Fund was initially to sunset in 2015 but legislation in 2013 has extended it through 2017. The fund will continue to provide substantial capacity to match federal funds available through both ONC and CMS to provide for the statewide build out of the HIE infrastructure.

VITL already has a subscription model in place, although fees are currently waived. It is anticipated that by 2015, the value added to the state's health care providers and consumers by ubiquitous, bi-directional exchange of health information will be so substantial that the on-going business case for on-going incremental fee structures will be fully evident. Sustainability concerns are discussed in VITL's annual report for 2012, and are also discussed in Vermont's Strategy and Operational Plans document as approved by ONC. DVHA will participate as VITL develops its more detailed plan for sustainability in the coming year.

In addition to support from providers and commercial health plans, ARRA provides opportunities for support to HIE sustainability in both the short and longer term. VITL has received substantial annual funding for HIE as a grantee of the State of Vermont utilizing Section 3013 HIE Cooperative Agreement funding. With guidance from a CMS State Medicaid Directors letter (SMD), Vermont anticipates funding for both HIE expansion / implementation and an allocated percentage of sustaining funding to come from a combination of Medicaid Section 4201 and MMIS spending authorities. Vermont's proposed approach to this funding mechanism is discussed in Section 5 of this SMHP – the Vermont HIT roadmap – which describes those initiatives that will be part of the IAPD related to this SMHP.

Interstate Exchange and NESCSO

Interstate exchange of health information is critical the Vermont, indeed, the northeast medical world. Given the rural nature of the region and the need to travel to medical “hubs” for care, many of our residents access care in adjoining states and other state residents come to Vermont for care. Vermont’s second most important tertiary care center is Dartmouth Hitchcock Medical Center in Lebanon, NH. Many NY residents use the tertiary facilities at Fletcher Allen Health Care in Burlington.

Vermont is working in collaboration with its fellow New England States and New York on an initiative convened by the New England State Consortium Systems Organization (NESCSO) to build our capacity to exchange across our borders. The NESCSO Collaboration can provide the basis for further information sharing based on demand and the capability to navigate variations in privacy law and consent policies in the participating states.

Vermont anticipates using both DIRECT and the eHealth Exchange for interstate exchange and for exchange with federal programs. The contemplated point-to-point interstate exchange is expected to use DIRECT as its vehicle. VITL is currently working with the HIE of Northern New York (HIXNY) to establish exchange between the two HIEs this year.

1.7 Governance Structure of Vermont’s Existing HIE

Governance is discussed as part of the introductory comments to Section A’s As-Is description. Those comments describe the legislative and administrative elements of governance directed to VITL (the state’s HIE operator), to the Blueprint for Health, and to the Department of Vermont Health Access and the embedded Division of Health Care Reform.

1.8 Role of MMIS in Our Current HIT/E Environment

Vermont is currently developing requirements for re-procuring its MMIS system to implement a comprehensive Medicaid enterprise solution. As such, the role of MMIS in the HIT/E Environment is addressed extensively in the “to-be” portion of the SMHP. Because of the age of the current MMIS infrastructure, much of the current MMIS / HIT/E work has been limited to examining future activities.

One area of particular focus over the past year has been examination of utilization of the VHIE for transmitting claims data in addition to clinical date. In 2009, the legislature and the Division of Health Care Reform convened a work group to examine HIT and Payment Reform. It issued a 220 page report (available online at <http://hcr.vermont.gov> on the Reports page) that provided an extensive look at the “as is’ and “to be” states for both electronic eligibility checks and claims submissions and concluded that moving to “close to real time” claims adjudication should be deferred as a future priority. The burdens of implementing ICD-10 and 5010 and other IT priorities at commercial insures mean it will likely be several years out before evolving to the envisioned, more interactive “to be” state in which transactions would be completed in closer to real time.

Blue Cross / Blue Shield of Vermont enables electronic eligibility checks and electronic claims submissions. Vermont Medicaid is able to provide eligibility electronically and accepts electronic

claims. While BCBS and Vermont Medicaid have not yet developed an electronic exchange, we are actively working with BC/BS for eligibility data sharing in an effort to improve the accuracy of third party liability and cost avoidance criteria. The Department anticipates having specifications for its new claims processing Medicaid Management Information System (MMIS) that will include the capacity to adjudicate claims electronically in close to real time for many encounters and procedures. In addition, the State has contracted for a new Eligibility and Enrollment system for public benefits programs across the Agency of Human Services. An initial eligibility contract was entered into in support of the Health Benefit Exchange with the expectation that we could leverage that work for the more expansive integrated eligibility system (IE).

Because the EHR incentive payment program has begun under the current MMIS system, we will have to transition to the new system when implemented. We also anticipate a more significant MMIS/HIE connection with implementation of the new MMIS. Integration efforts here could make Medicaid claims and encounters available to the HIE as well as making non-Medicaid providers available to the Medicaid program. This would support payment reform as well, and introduces the possibility of utilizing the HIE as a transport mechanism for financial, as well as clinical, transactions, for both Medicaid and commercial claims processing, with Medicaid leading the development. The New England Health Information Network (NEHIN) and the Utah Health Information Network (UHIN) operate under such a model.

MITA Considerations

Vermont sees substantial opportunities for dynamic systems integration, and has developed a To-Be architecture which reflects such integration. Like many states, Vermont's disparate state and state/federal programs operate on a diverse set of legacy systems. Through the state's initial completed Medicaid Information Technology Architecture (MITA) assessment and planning process, Vermont identified opportunities for conversion and upgrade to a Service Oriented Architecture (SOA) for an evolving Agency of Human Service (AHS) IT enterprise infrastructure. Core components for such an infrastructure were procured and implemented. Subsequently an expanded version of this platform became the core of the Health Services Enterprise platform, with the HBE being the first major application to be implemented with the platform. The State has a contract in place for a MITA self-assessment, following an RFP process. The state has identified three tiers of projects that represent targets of opportunity. While these tiers are fully described in the State HIT Plan, the pertinent opportunities relative to the SMHP are listed here:

1. Tier 1
 - a. Service Oriented Architecture Core Components, including Enterprise Service Bus, Enterprise Master Person Index (EMPI), State Provider Directory, and a Transformation Engine;
 - b. IE (formerly referred to as VIEWS – Vermont Integrated Eligibility Workflow System)
 - c. MMIS Reprourement
 - d. CSME (Data Warehouse) Expansion
 - e. HIE:HL7 Electronic data feeds into VDH Registries
 - f. HIE:HL7 Electronic Lab Reporting (ELR) for Infectious Diseases
 - g. VDH 1032 Stabilization
 - h. WIC EBT
 - i. Vermont State Hospital – Electronic Health Record
 - j. HIE:HL7 Electronic Lab Reporting (ELR) – Cancer Registry
 - k. Update EMRs for IZ & transmission to VHIE network.
2. Tier 2

- a. VDH Computerized Provider Order Entry (CPOE) for lab tests
 - b. AHS Network enhancements
 - c. Integrated Case Plan
 - d. Expand Statewide licenses for DocSite
 - e. Security and Privacy enhancements
 - f. Integrated Children's services
 - g. CIS Billing to MMIS
 - h. Extend MH EHR to Designated Agency Partners
3. Tier 3
- a. Imaging expansion to health care
 - b. Blue Button
 - c. AHS Electronic Health Record
 - d. ADAP Treatment and Prevention Reporting
 - e. ACCESS Replacement
 - f. Real time prior authorization for services

Vermont's To-Be architecture diagram is included as part of Section E of this SMHP. That diagram illustrates – conceptually, not with technical specificity – that this architecture ensures integrated development of interoperable data flows to and from entities such as State agencies, major State health care systems, and the full continuum of provider through the HIE network.

1.9 Current Activities Underway to Plan and Facilitate HIE and EHR Adoption

Obtaining approval of this SMHP is a primary activity underway to plan and facilitate the ongoing HIE expansion and EHR Adoption, as the associated IAPD will establish the funding flows to make incentive payments to Vermont's hospitals and providers. Other activities underway include hospitals, labs, physician practice EHR adoption, and coordinating HIE and EHR adoption and Meaningful Use with the Blueprint for Health and its measure set. The State's SIM grant has several projects identified which relate to or require HIE expansion and Meaningful Use of EHR technology to succeed. The Health Care Reform team is actively engaged in SIM operational planning and the work groups that have been established to coordinate and guide the SIM projects. In addition to working with hospitals and physician practices, we are also working with Home Health, Mental Health/Behavioral Health/Substance Abuse, and Long Term Care providers. A series of grants to the agencies representing these provider groups has resulted in specific gap identification of the issues getting in the way of full exchange with their systems. Elsewhere in this plan we describe our plans and efforts to implement and support the Meaningful Use requirements of the EHR provider incentive program.

Vermont now has a fully functioning and successful Electronic Health Record Incentive Program (EHRIP). Participating with the other 12 MAPIR states to develop and continue to enhance an attestation portal system has proven a successful strategy for a small state like Vermont with limited resources for developing such a complex required solution. We maintain current upgrades to the MAPIR system and will be ready for Meaningful Use Stage II in time to meet provider attestations for program year 2014.

Vermont has also identified several items in the current scope of work with VITL that relate to utilizing VITL's expertise with EHR technology and practice facilitation to continue preparing providers of all types for EHR adoption and Meaningful Use readiness. Goals are established for

HIE expansion to providers of all types as well. And VITL will be the provider of HIE expansion in service to the goals of the SIM grant.

1.10 Relationship of the State of Vermont’s Medicaid Agency to the State HIT Coordinator

The State HIT Coordinator is a member of the Health Care Reform team in the Department of Vermont Health Access, the State of Vermont’s Medicaid Agency (SMA). The State HIT Coordinator oversees the ONC Cooperative Agreement Grant, which has provided major funding for HIE expansion in the past two years. As part of the ONC relationship, the State HIT Coordinator developed the Strategy and Operational Plans Document as approved by ONC. The state HIT Coordinator also has primary responsibility for developing the SMHP, manages the EHRIP program, and manages the VITL grant agreement for year-to-year expansion and operation of the VHIE. The State HIT Coordinator’s reporting structure includes the HCR-HIT Integration manager, the Blueprint for Health Director and the DVHA Commissioner, insuring full awareness and attention to expansion and integration needs across the SMA’s span of HIT-HIE related interests.

The State HIT Coordinator has also been involved in developing the HIT-HIE portion of the SIM Operating Plan and participates on the SIM-HIE working group as described previously.

Vermont’s State Medicaid HIT Plan (SMHP) is not just be a “road map” for implementing the Medicaid provider incentive program; it is a three dimensional topographic map of the health care *and* Medicaid funded mental health, home health, long term care, and other human services delivery system infrastructure in its “as is” and “to be” states. As indicated throughout the *Vermont HIT Plan*, Vermont’s strategic goals for HIT-HIE implementation and health delivery system reform are transformational. That vision is not limited to just professionals and hospitals eligible for Medicaid incentive payments, it extends to all Medicaid providers in Vermont, which essentially means all Vermont providers, given the high enrollment of providers in the Medicaid program.

It is part of that vision to ensure that all elements of the state’s Medicaid programs, as well as other programs across the Agency of Human Services (such as WIC and Maternal and Child Health Bureau program, Food Stamps and heating assistance) and the clients they serve, are included in the communication framework enabled by the HIE network.

The Blueprint data registry is utilized by the multi-disciplinary community health teams that focus on the general population across medical homes; that IT infrastructure is being extended to support Medicaid’s community-based care coordination personnel as they integrate more thoroughly into the Blueprint as it expands, and the state is extending the platform further to support case management and care coordination of sub-populations served by AHS programs. As an example, the Alcohol and Drug Abuse Division in the Vermont Department of Health has just been awarded a Substance abuse Brief Intervention and Referral to Treatment (SBIRT) grant from SAMHSA. The data repository will be extended to accommodate encounter data for people participating in that program to serve the needs of the participating providers and coordinators.

Further, the ONC-HIE-PIN-001 lists seventeen activities that the Vermont HIT Plan considered: the first five were mandatory, the others were encouraged. These activities are also elements of the SMHP and were discussed in detail in the previous edition of the SMHP.

1.11 Potential Impact of State Laws or Regulations on the Implementation of the EHRIP

There are currently no existing or contemplated state laws or regulations related to the EHRIP.

1.12 HIT Activities that Cross State Borders

Item 1.6 above (HIT/E Relationships with Other Entities) included a discussion of interstate exchange of health information as it impacts Vermont, as well as a discussion of Vermont's involvement with NESCSO. VITL will be joining the eHealth Exchange which will facilitate the routing of DIRECT messages to other members of that network. VITL is also currently working directly with HIXNY to establish exchange with that New York HIE, also employing the DIRECT protocol. .

1.13 Current Interoperability Status of the State Immunization (IZ) Registry and Public Health Surveillance Reporting Database

The Vermont Department of Health (VDH) has published dates on which they were ready to work with providers to update the State Immunization Registry, Electronic Lab Reporting of reportable conditions, and receiving messages related to Syndromic Surveillance. A link which follows the PHIN-MS (Public Health Information Network – Message System) protocol has been established between VITL and VDH. This link was initially used to establish the IZ message routing from two pediatric practices and is now available to onboard additional practices for IZ updates. VDH intends to receive ELR data through this same link, from hospital labs and two commercial labs. Currently, VDH is considering BioSense as the Syndromic Surveillance solution and, since it is cloud-based, the hospitals (these are the only providers expected to submit such data) will direct updates directly to the cloud without utilizing the VHIE. The interoperability that has been established between VITL and VDH is embedded in one of four key state goals for HIE development and adoption, as follows:

IV. Enable the Vermont Department of Health, the State public health agency to leverage HIT/HIE investments to monitor and ensure the public's health more transparently and quickly.

Rationale: Public health agencies have a legal obligation to not only monitor the public's health but to respond to emergencies when they occur.

Also related to this topic, Act 128 of 2010 requires hospitals to connect to the Health Information Exchange to support the Blueprint and meaningful use. At a minimum, hospitals will transmit patient demographic information and lab results. Hospitals may also be involved with the transmission of lab orders, transcribed orders and results, continuity of care documents (CCDs), and immunization data.

1.14 Other HIT-Related Grants

CHIPRA Quality Demonstration Grant

Vermont is working in partnership with the State of Maine to implement and evaluate CHIPRA Quality Demonstration grant activities in our respective states. Key grant partners in Vermont include the Healthcare Reform Division, Blueprint for Health initiative, and Health Services and Managed Care Division at DVHA and the Vermont Child Health Improvement Program, a quality improvement organization housed at the University of Vermont. These partners work in close collaboration to align CHIPRA grant activities with the SMHP and overall healthcare reform efforts in the state.

Under Category B of the CHIPRA grant, Vermont expanded the central clinical registry (DocSite/Covisint) to include clinical quality measures and other guideline based data elements to support healthcare delivery and population management in the pediatric population, focusing particularly in the areas of preventive services/Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services; obesity; asthma; and attention deficit/hyperactivity disorder (ADHD). These topic areas were identified as the first set in a series of phased build-outs of the central clinical registry to support care in pediatrics due to their alignment with CMS and local priorities and due to the availability of standards and nationally recognized guidelines in these areas. Pediatric quality measures associated with the above topic areas that are required for Meaningful Use were also built into the central clinical registry.

Vermont's CHIPRA Category C work will help to support the provider-based component of the Blueprint expansion by supporting National Committee for Quality Assurance (NCQA) patient-centered medical home assessments in pediatric and family practices in the state. The 2011 standards, which have been used in assessments, map onto a number of Meaningful Use measures, some of which are applicable to pediatric primary care settings. Cutting across grant categories, pediatric practice facilitators generated practice-level performance reports in the central clinical registry, using the reports to drive quality improvement efforts in practices. Vermont did not apply for Category A funding.

Vermont SIM Grant

Vermont's SIM grant has been described previously in this SMHP. The main goal of the SIM grant is to test three payment reform models, but there are HIE expansion requirements and measure set requirements that call for participation by the HCR team, the blueprint for Health, and other parts of DVHA in the planning and now the implementation of several projects identified in that Grant.

SECTION B: The State's "To-Be" HIT Landscape

II. The State's "To-Be" HIT Landscape:

In this section of the SMHP we describe Vermont's To-Be Landscape as it relates to Healthcare Reform (HCR), particularly Health Information Technology (HIT) and Health Information Exchanges (HIE). Topics included in this section are:

1. Specific HIT/E Goals for the next five years, including Health Information Exchange and Medicaid
2. IT architecture, including MMIS, for the next five years
3. Providers interface with SMA IT systems related to EHRIP
4. Governance structure for the next 5 years for HIT/E goals and objectives
5. Steps during the next 12 months to encourage the adoption of EHRs
6. Leveraging FQHCs with HRSA HIT/EHR funding to leverage adoption
7. Help to providers to adopt and MU EHR technology
8. Address special populations with EHRIP
9. Leverage other grants to implement EHRIP
10. Anticipated new legislation to implement EHRIP

These items are as specified in the SMHP template provided by CMS. As stated in Section A, before providing the specific responses to these topics, it is important to understand the larger context of HCR and HIT/E in Vermont. That context is established in the introduction to Section A under a heading called "The Vermont Environment" and the reader is encouraged to revisit that discussion.

2.1 Specific HIT/E Goals and Objectives Next Five Years

The State of Vermont has established Key State Goals for HIE Development and Adoption, and these are discussed below. Plans are also established for HIT Adoption across the state. As progress is made with HIT and HIE, and with adding more types of provider organizations to the ranks of participating providers (as challenging as that will be), the role of information emerges as the key to achieving the outcomes of the Triple Aim: a better experience of care for the individual, improved population health, and reductions in the cost of health care. This has been recognized all along, of course, in all of Vermont's planning documents and is typically reduced to being stated as "having the right information at the right place at the right time" when needed for care delivery or decisions. The emphasis in these early years of reform has been on establishing the infrastructure of systems and exchange to support the generation and transmission of data related to health care. Now we recognize the remaining work required to transform the ever-expanding volume of data into meaningful information to service a variety of needs related to the different aspects of the Triple Aim. On the national level, a part of this work involves solving the remaining and very challenging hurdles to make the EHR systems truly interoperable with the data that should be exchanged between them. The success of the EHRIP in Vermont, and plans to capture e-CQM (electronic Clinical Quality Measures) from providers, will result in substantial measure data that should be reconciled with other measure data captured through the BP and the VHIE. Claims and payment data are also being captured and should be considered in parallel with clinical and measure data in all aspects of analysis, from case management to population health analysis and payment reform evaluations.

Vermont has initiated an update to its Health Information Technology Plan (VHITP) but is recognizing the primacy of information in the health care reform equation and will be calling its

next plan the Vermont Health Information Strategic Plan (VHISP). This change in emphasis of the plan from HIT to the more strategically important layer of Health Information (HI) is significant. It is Health *Information* that will realize the triple aim, subject to timing, location, accuracy, and completeness. Health *Information Technology* is essential to the extent that it supports information capture, flow, storage, and presentation. There will still be an HIT plan, but the HIT planning component is a subset of the VHISP, as information derives from data, and data is generated and transported through the components of HIT and HIE.

The following figure shows the planning scope of the VHISP in relationship to other planning projects.

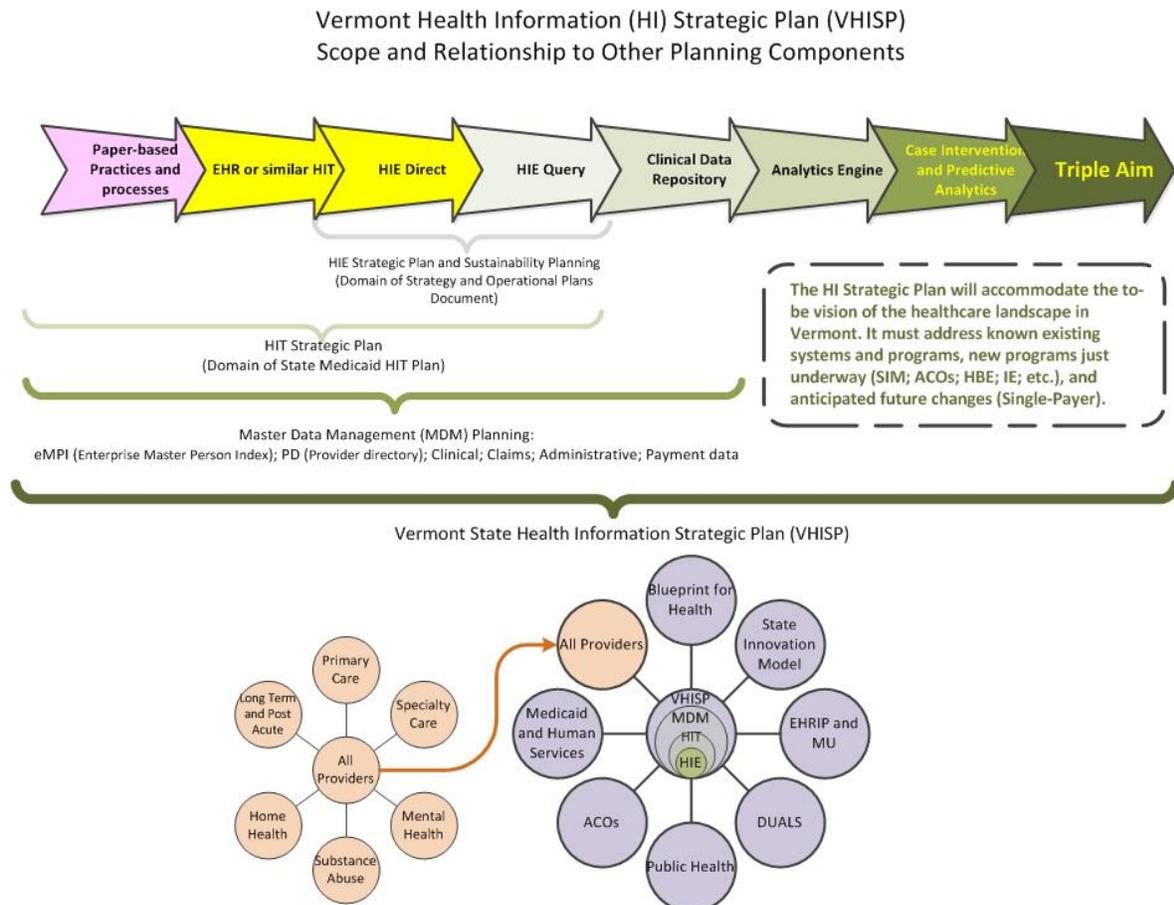


Figure 2.1: Health Information Strategic Planning relationship to other planning projects

This planning scope is broadly described as follows:

Vermont Health Information Strategic Plan:

1. The **scope** of the plan is **Health Information as a fundamental requirement** to support healthcare reform in the state.
2. HI supports **acute and clinical care across all health settings** (hospitals; all providers; long term care; mental health; etc.).
3. HI supports **coordination of care** as well as **coordination of benefits and payment** – HI has both clinical and administrative components.
4. **HI provides the grain for the Analytics engine mills.**
5. HI is **derived from Data** and HI **requires data liquidity** to insure the right information is in the right place at the right time.
6. **Data liquidity is dependent on** many things – workflow; human attention and action; and, specific to this strategic plan, on **Health Information Technology**.
7. So **HIT is part of the underlying infrastructure supporting the movement of data; data which is processed by EHRs and other systems to become information.**
8. Health Information Exchange, the remaining major component of the Health Information infrastructure, is a combination of HIT-related systems (EHRs, clinical data repositories; provider and person directories; Public Health registries; etc.) and the human and automated actions required to move data with intention from a source to a destination where it is needed or where it will be maintained for future use.
9. **The HI Strategic Plan must accommodate the to-be vision of the healthcare landscape in Vermont. It must address known existing systems and programs, new programs just underway (SIM; ACOs; HBE; IE; etc.), and anticipated future changes (Single-Payer).**

Key State Goals for HIE Development and Adoption

- I. Encourage and enable the deployment of electronic health record systems within the state to increase the amount of available electronic health information. Provide the necessary support to enable proper use of this technology within practice settings.**

Rationale: Automated health information exchange cannot take place efficiently without widespread deployment of electronic health record systems. But technology alone is not sufficient: clinical practice must be adjusted to ensure meaningful use of information technology.

Current state: Substantial investments have been made in EHR deployment by hospitals and physician organizations: an estimated seventy-seven percent of primary care providers in Vermont are now utilizing EHR systems. This percentage does not hold true for the number of practices, as the larger practices, including hospital-owned practices, account for a majority of the providers.

Over the next 5 years we expect the number of practices utilizing EHR systems to exceed ninety percent, with an even higher percentage of providers utilizing these systems. The momentum has shifted to adoption of this technology within the profession of medicine. Consumer expectations for access to their electronic records is a factor which cannot be long ignored.

Plan:

- Coordinate outreach, education, and facilitation to help providers achieve meaningful use of their EHR systems. DVHA is maintaining support for the REC

team at VITL after their REC grant expires to provide some of the expertise for this work.

- Encourage collaborations among entities deploying EHRs to accelerate deployment and support progress towards meaningful use. DVHA has provided grants for gap analyses to associations of groups of providers providing mental health, substance abuse, home health and long-term care. Collaboration within these groups should lead to standardized approaches that should improve both the affordability and connectivity of more common solutions.

VITL has been the state's Regional HIT Extension Center (REC) and has a separate, detailed ONC plan for REC activities. The VITL REC team has exceeded its goals for signing up providers, helping them to adopt EHR technology and achieving Meaningful Use of their technology. This team will continue to provide REC-like services after the ONC grant expires, as these services are included in the DVHA grant agreement with VITL.

II. Establish and operate the infrastructure necessary to provide secure statewide electronic health information exchange to achieve the plan's vision.

Rationale: A modern, secure information network can connect various health care providers and enable the flow of information among multiple organizations. EHR and ancillary systems shall comply with standards that promote their ability to exchange data with other systems through this infrastructure.

Current state: The basic infrastructure for electronic HIE is in place and clinical information is being transmitted between providers and to the Blueprint for Health data system. Policies governing privacy and security of information exchange on the state HIE have been developed and approved. Procedures to connect hospitals and clinicians to the HIE are not as streamlined and understandable as they need to be.

Plan:

- Refine business agreements to improve the ease of connecting to the HIE.
- Connect all acute care hospitals in the state to the HIE.
- Ensure that all EHR systems that are implemented are able to connect to the HIE using standard formats
- Provide all Blueprint data to the Blueprint Registry via the HIE
- Integrate and inter-connect Agency of Human Services programs and Departments with the HIE (as appropriate) through the implementation of a Service Oriented Architecture (SOA) to ensure data flow and system interoperability.
- Seek and develop funding to support full EHR adoption and HIE connectivity for mental health, behavioral health, substance abuse, long term care, home health, and other individual providers, organizations, and institutions.

III. Enable consumers to take an active role in their health care by providing access to their electronic health information.

Rationale: Access to personal health information supports consumers' efforts to take more control over their own health by being better informed about steps that have been taken and

steps that can be taken to improve their health. Consumers also have the right to view their records and ensure that they are used appropriately.

Current state: Stakeholder involvement, including consumers, was instrumental in crafting privacy and security policies. Consumer communication has been limited to date. No consumer access via the HIE though consumer access to several EHR systems' patient portals.

Plan:

- Support through outreach and education, as well as the EHRIP, the implementation and meaningful use of EHR technology. Meaningful use includes patient access through provider portals.
- Encourage the development of patient portals and interoperable connectivity to Personal Health Records. As a starting point, Vermont has developed an integrated health record in the clinical data registry. With the proper permissions established through the new consent policy, a provider can view information in the repository that came from all providers treating the individual.
- Medicaid and VITL explore the potential implementation of a publicly supported PHR available to all Vermonters. As a starting point, VITL is establishing a Provider Access portal for sharing information held in the HIE across providers, with proper permissions. This is similar to the integrated health record in the data repository, but there are differences in the information available.

IV. Enable the Vermont Department of Health, the State public health agency to leverage HIT/HIE investments to monitor and ensure the public's health more transparently and quickly.

- *See item 1.14 in Section A above.*

HIT Adoption

Rationale: From the outset, EHR adoption has been a critical factor in efforts to expand the use and value of the HIE. It is not possible to fully leverage health information exchange and clinical collaboration without an EHR.

Current state: The Vermont Health IT Fund and the preceding voluntary contributions to VITL supported EHR deployments beginning in 2007. Several Vermont hospitals have used new provisions in federal laws and regulations to help fund EHRs for physician practices in their service areas.

VITL has served as the Regional Extension Center for Vermont and has exceeded all of its goals for signing up providers and getting a number of them to meaningful use.

Plan: Successful, rapid deployment of EHRs in each Hospital Service Area will be based on collaborative planning among the Blueprint, the hospital, VITL and other resources in the state. Components of deployment will include:

- Practice Support for readiness, selection and change management. DVHA is continuing support for the work of the REC Team at VITL following the expiration of their REC grant from ONC.

- Deployment Services – Establish relationships with entities in the state who are also working on EHR deployment to support implementation and optimization
- EHR Vendor Alignment – In addition to working collaboratively with vendors on interface development and implementation, VITL has legislative authority to establish criteria for connections to the HIE, through H.107:
 - “VITL in consultation with health care providers and health care facilities shall establish criteria for creating or maintaining connectivity to the State’s health information exchange network. VITL shall provide the criteria annually by March 1 to the Green Mountain Care board established pursuant to chapter 220 of this title.”
- Full continuum providers – technology gap analyses have been conducted. The next step is to collaborate with these provider groups (mental health, substance abuse, home health, and long-term care) to address the affordability issue from the combined perspectives of standardization, collaboration, and funding mechanisms that might apply.

Health Information Exchange and Medicaid

The VHIE network operated by VITL is currently supported by a Fair Share Medicaid HIE amount and the State Health IT Fund.

Consistent with Vermont’s expansive vision for the VHIE to serve the full continuum of care, not just Eligible Providers and Eligible Hospitals, the State plans to extend HIE connectivity to all Medicaid providers. Vermont will continue to work with CMS to optimize potential HIE-related funding for appropriate expansion while also developing a sustainable plan for HIE operations. Development of a sustainability strategy is included in VITL’s statement of work in the current grant agreement period.

2.2 IT Architecture, Including MMIS, for the Next Five Years

The first edition of Vermont’s SMHP went into great detail describing its IT architecture, including MMIS, for the coming years. With only minor changes that description is still accurate for Vermont and is not repeated in this edition. Summary notes are offered here as a status update.

Health Services Enterprise Platform and the Health Services Enterprise

Vermont has established a Health Services Enterprise Platform (HSEP) architecture based on a Service Oriented Architecture (SOA) as described in the first edition SMHP. This platform is fundamental to and supports Vermont’s concept of the Health Services Enterprise (HSE) which encompasses the Vermont Health Connect (VHC) insurance exchange, Integrated Eligibility (IE), Medicaid Management Information System (MMIS), and HIT/HIE. Components of note in the HSEP include a rules engine, an Electronic Service Bus (ESB), and an anticipated Master Data Management (MDM) solution including enterprise Master Person Index (eMPI) and a Provider Directory (PD). This architecture is being deployed first to establish the VHC insurance exchange and a portion of the (IE) system required to support the VHC.

Health Insurance Exchange / Vermont Health Connect

Vermont Health Connect (VHC) is the insurance exchange solution for Vermont. VHC will provide all Vermonters with the knowledge and tools needed to compare easily and choose a high quality, affordable, and comprehensive health plan. All aspects of the HBE requirements are being addressed, including connection to the federal hub, eligibility determination, minimum bundle of

coverages, and significant outreach and education activities. The VHC went live October 1, 2013 with plans selected and purchased through the exchange going into effect January 1, 2014.

Integrated Eligibility

An Integrated Eligibility system is envisioned to meet the eligibility requirements of all Agency of Human Services programs, including MMIS and the VHC. A contract has been awarded to design, develop, and implement the IE. First, though, the legacy eligibility system, ACCESS, must be deconstructed to insure that no current requirements go unidentified. That project, ACCESS remediation, is also currently underway.

MMIS

Vermont issued an RFP to replace its current legacy MMIS system a few years ago. Unsatisfied with the proposals received the State withdrew that RFP. Now DVHA is in the requirements phase of a new effort to replace the legacy system and will continue through the RFP process to undertake this replacement. DVHA recognizes there are additional needs for the EHRIP associated with the MMIS. As the schedule of the realistic implementation of the new system becomes clear a decision will be made on how to handle the EHRIP interfaces to the MMIS. The current target is to have an operational new MMIS system in operation on January 1, 2017. More than likely this will involve transitioning the EHRIP's attestation solution, MAPIR, to interface to the new MMIS. The interface requirements have proven to be reasonable in both complexity and time required so the cost should not be excessive.

Related to MMIS re-procurement and to IE is a Medicaid Information Technology Architecture (MITA) self-assessment. A contract for services to conduct this required and valuable assessment has been signed. The first edition SMHP discussed the results and implications of the previous self-assessment at length. The implementation of the HSEP should position the State to be well along the path to a MITA compliant solution.

Also related to all development and architecture deployment are the Seven Standards and Conditions from 42CFR Part 433.

2.3 Providers Interface with State Medicaid IT Systems Related to the EHR Incentive Program

Providers who wish to receive incentive payments from the State of Vermont will need to register at the federal level and submit an application at the state level. A new National Registration & Attestation System (NR&A System) has been developed at the federal level to allow providers to register for EHR incentive payments. The NR&A System will pass data to the states via a daily interface and states are required to support the application process and if appropriate, payment of EHR incentive to providers.

Vermont is one of thirteen states participating in a multi-state collaborative in which the Commonwealth of Pennsylvania's Office of Medical Assistance Programs (PA OMAP) has taken the lead with HP Enterprise Services (HP) and other states with an HP MMIS, to build a new application. The application has the capability to accommodate the payment provisions of the ARRA that relate to provider and hospital incentive payments for the adoption and meaningful use of an EHR system. HP has developed a core application that interfaces with the NR&A System as well as individual States' Medicaid Management Information System (MMIS) to allow providers to complete applications and, if approved, generate EHR incentive payments. This application is known as the Medical Assistance Provider Incentive Repository (MAPIR).

The MAPIR system is a stand-alone, web-based application capable of interfacing with any MMIS system. The MAPIR application is designed with the following functionality:

1. Interfaces with the NLR
2. Eligibility Verification and Notification
3. Provider and Hospital Attestation
4. Incentive Payment Calculation and Distribution
5. Appeals Tracking
6. User Interface for state resources to be able to view, monitor and support applications submitted by providers

The HP multi-state collaborative was formed to work through all issues related to the development of this application to meet the requirements of the EHR Incentive Program in the most cost-effective manner. A steering committee of all the involved states has collaborated and approved of each step in the process.

Core MAPIR software releases are interfaced to Vermont's MMIS with additional development and implementation services by Vermont's HP staff. .

The graphic on the following page provides an overview of the MAPIR.

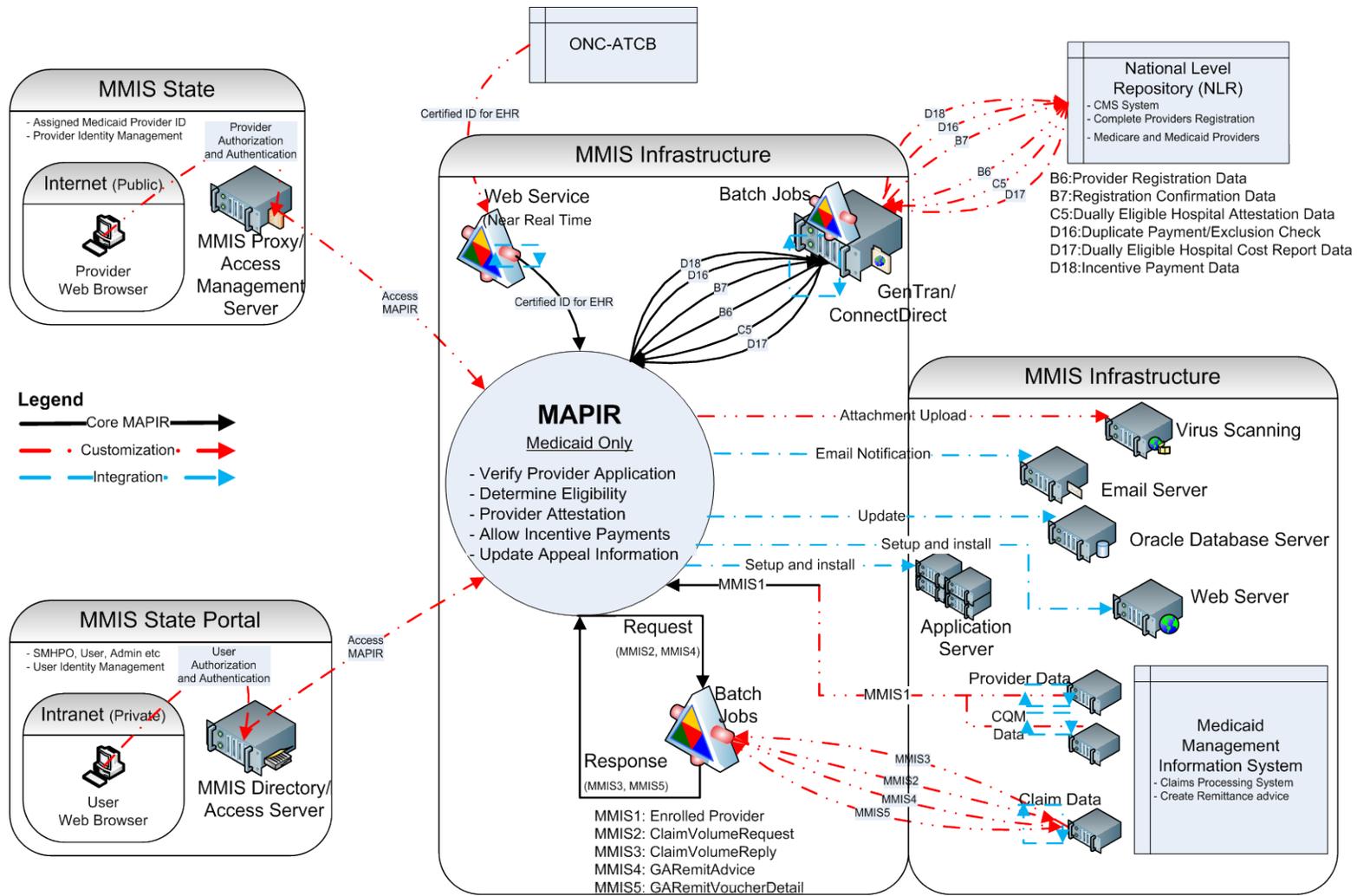


Figure 2.2: MAPIR Concept Diagram

2.4 Governance Structure for the Next Five Years for HIT/E Goals and Objectives

Governance Considerations - Five Year View

Vermont's history with healthcare reform has led to the development of several governance components that have been established before the passage of both the ARRA-HITECH and ACA acts. Governance has continued to evolve as necessary to incorporate these changing opportunities and requirements...

Enabling legislation provides the authorization for governance of healthcare reform in Vermont. It establishes the organizational responsibilities and authorities and also specifies objectives, measurements, and reporting requirements, in addition to providing the necessary funding mechanisms. A lead organization – The Department of Vermont Health Access – is the organizational center of healthcare governance for the state. DVHA takes the lead in negotiating and managing contracts for significant healthcare components, including the HIE, the REC, and a supporting data repository. DVHA also takes the project management lead in the major IT activity, including a Health Services Enterprise Platform project establishing a SOA-based infrastructure, a Health Benefits Exchange (Vermont Health Connect) for insurance, an MMIS replacement project, an eligibility system replacement project, Vermont's participation in the MAPIR project, and the development of a Provider Directory for Vermont.

It is significant to note that DVHA also serves as the State Medicaid Agency for Vermont. Having the Health Care Reform Team embedded in DVHA provides an organizational (and in our case – a co-located) cohesion between existing SMA functions (administrative, business office, data services, oversight, auditing, privacy and security) and the requirements of new programs such as EHRIP. DVHA's dual roles of Medicaid administration and Healthcare Reform allow for and require frequent contact, discussion and planning with other healthcare related activities in the State, including the Green Mountain Care Board established by Act 48, the Director of Health Care Reform Coordination in the Agency of Administration, and the Vermont Department of Health.

This overview of Healthcare Governance in Vermont is expanded on below:

- Vermont has a collaborative Governance Model
 - VITL has a pivotal role in Vermont's healthcare reform activities, as both HIE operator and our single REC. VITL's formation was marked by substantial stakeholder involvement, which is still reflected in the composition of VITL's board representation of government, consumer, and stakeholder interests. Policy coordination and oversight is placed with the state, led by the State Government HIT Coordinator. Vermont's governance structure reflects and integrates with the federal HIT/E policy structure enacted in the HITECH Act. Vermont's Act 61 requires the state to produce and annually update a state HIT Plan that mirrors the requirements and process placed on ONC for the federal HIT Plan.
- Accountability and Transparency
 - Accountability, transparency, and engagement with the public is a longstanding Vermont tradition and is codified in Section 8 of Act 61 of 2009, which requires that the state shall consult with and consider the recommendations of a number of specifically identified stakeholders.
- Financial Sustainability

- Per 32 V.S.A. chapter 241 § 10301, Vermont collects a fee (2/10ths of 1%) on all health insurance claims that generates annual revenues for the state Health IT Fund which then provides grants to support HIT and HIE. While the Fund sunsets in 2015, it will provide substantial capacity to match federal funds available through both ONC and CMS to provide for the statewide build out of the HIE infrastructure.
- Legal/Policy
 - Privacy and Security – VITL developed a set of six privacy and security policies to govern the operation of the HIE. These policies are consistent with federal and state laws and regulations, and reflect the privacy principles in the HHS Privacy and Security Framework. The State has adopted a revised consent policy for information flowing through the VHIE. This policy provides a consent to view consolidated health information once consent is given to a specific provider. The new policy is currently being implemented. Trust Agreements – From the beginning the Vermont HIE Network has required that business associate agreements and contract terms be signed with each participating organization. In fact, technical work does not begin on an interface or other project until the agreements have been signed by all parties. These agreements spell out in detail how data is to be used between organizations. Our plan is to leverage current agreements to facilitate statewide expansion and work with counterparts in adjoining states to develop agreements in conformance with other state law, policies, and procedures.
 - Oversight of Information Exchange and Enforcement
 - Vermont statute 18 V.S.A. chapter 219 § 9351 (f) requires that Vermont HIT and HIE programs “shall be consistent with the goals outlined in the strategic plan developed by the Office of the National Coordinator for Health Information Technology and the statewide health information technology plan.”
 - The VHIE NETWORK privacy and security policies contain a procedure for dealing with individuals and organizations that are not compliant with the policies. Sanctions may include permanent exclusion from participating in the VHIE.
 - Governance of the VHIE – The Board composition of VITL is specified in statute. The State’s Strategy and Operational Plans (SOP) document as approved by ONC provides a full description of the composition of the VITL Board.

2.5 Steps During the Next Twelve Months to Encourage the Adoption of EHRs

There are five primary courses of action focused on adoption and meaningful use of EHR technology:

1. The Blueprint for Health program conducts outreach to sign up additional providers for the program. Providers are encouraged to acquire EHR technology if they don’t have a system. Blueprint facilitators and project managers in the field offer support and assistance in the process of implementing the data flows for Blueprint measures as systems are being implemented.
2. The EHRIP team promotes EHR adoption as a prerequisite for obtaining Medicaid incentive payments. The team collaborates with the REC team at VITL and is now also part of the Blueprint organization which will foster additional coordination with existing outreach efforts. The EHRIP team also conducts webinars and participates in the annual VITL Summit.

3. VITL has operated the REC program which has been successful in signing up providers and helping them get to EHR implementation and meaningful use. As the ONC grant for the REC team expires, DVHA is continuing to support this team of experts through its grant agreement with VITL for the coming year. There are specific goals identified to continue activating providers in the HIE and achieving meaningful use attestations. Further, these goals apply to the full continuum of providers including mental health, substance abuse, home health, and long-term care providers. This work is coordinated with the Blueprint for Health activity and with the EHRIP team.
4. The State HIT Coordinator has implemented a small grants program to provide technology and workflow assessments for groups of providers. This has been described elsewhere in this SMHP but it includes providers of mental health, home health, and long-term care services. Resulting analysis reports document the technology gaps that exist for systems and connectivity within these groups, and make recommendations to address gaps. While this is a “toe in the water” compared to the effort it will take to resolve the issues that have been identified it reflects that addressing these gaps remains an active goal.
5. The State’s SIM grant to test models of payment reform relies on a certain amount of viable technical infrastructure including systems and HIE expansion. The SIM grant also recognizes the need to involve the provider populations discussed in item 4 above. Projects to accomplish some of this work are included in the SIM Grant operational plan.

2.6 Plans to Leverage FQHCs with HRSA HIT/EHR Funding to Leverage Adoption

The Bi-State Primary Care Association was awarded an HRSA HIT/EHR grant to provide implementation services to eight FQHCs in the state. This work is now completed and was coordinated with other EHR-related activities through VITL and the Blueprint project management structure. Vermont’s FQHCs are well represented in terms of providers who have been awarded EHRIP incentive payments.

2.7 Help to Providers to Adopt and Meaningfully Use EHR Technology

See comments in item 2.5 above.

2.8 Plans to Address Special Populations with EHR Incentive Program

The first edition SMHP described a focus on bringing pediatric practices into the Blueprint for Health program. A CHIPRA grant provided resources for developing appropriate measure sets for these practices and for scoring them for NCQA standards for initial acceptance into the program. A byproduct of that activity was to prepare them to meet the requirements of the EHRIP. Pediatric providers have been well represented in the early program years of the EHRIP.

Other populations of providers that would benefit from the EHRIP but have few Eligible Professionals on their staffs include mental health, home health, and long-term care providers. Notwithstanding the lack of incentive possibilities for these provider organizations, the State is working with them to resolve the technology gaps that prevent full participation in the benefits of health information exchange.

2.9 Plans to Leverage Other Grants to Implement the EHR Incentive Program

Vermont received a five year CHIPRA quality improvement grant with the State of Maine in early 2010 that focuses on expansion of the Blueprint model in pediatric and family medicine practices

across the state, integrating the Bright Futures templates into the Blueprint Registry and to implement other pediatric specific HIT resources and clinical decision support. This is also discussed in section A (As-Is Landscape) under the last topic: Other HIT Grants.

Also as previously discussed in a few places in this SMHP, the State has been awarded a State Implementation Model (SIM) grant to test payment reform models and there are specific projects in the State's operational plan that touch on EHR technology and HIE. While not specifically related to the EHRIP, there is a direct connection to the bigger goal of the EHRIP – meaningful use and exchange.

2.10 Anticipated New Legislation to Implement EHRIP

New legislation is not required or anticipated to implement EHRIP.

SECTION C: Administration and Oversight of the EHR Incentive Payment Program

III. Administration and Oversight of EHRIP:

In this section of the SMHP we describe Vermont's plans to administer and oversee the EHR Incentive Payment (EHRIP) Program. Topics included in this section are:

1. Verify that providers are not sanctioned, and are properly licensed
2. Verify whether Eligible Providers (EPs) are hospital based or not
3. Verify the overall content of provider attestations
4. Communicating to providers re: eligibility, payments, etc.
5. Methodology to calculate patient volume
6. Data sources to verify patient volume for EPs and acute care hospitals
7. Verify EPs at FQHC/RHCs meet the "practices predominately" requirement
8. Verify the Acquire, Implement or Update of EHR technology by providers
9. Verify Meaningful Use of certified EHR technology for the 2nd participation year
10. Identify any proposed changes to the Meaningful Use definition
11. Verify providers' use of EHR technology
12. Collect Meaningful Use data, including clinical quality measures, short- and long-term measures
13. Align data collection and analysis process with collection of other clinical quality measures data such as CHIPRA
14. Identify and describe IT, fiscal and communication systems used to implement EHRIP
15. Identify and describe IT systems changes to implement the EHRIP
16. Identify the IT timeframe for system modifications
17. Identify when Vermont will be ready to test the interface to CMS's NLR
18. Describe the plan for accepting provider registration data from the CMS NLR
19. Identify the kind of website Vermont will host for providers to accommodate enrollment, information, etc.
20. Identify the timing of an MMIS I-APD if modifications are required
21. Identify call center / help desk and other means to address EP and hospital questions regarding EHRIP
22. Describe a provider appeal process for a) incentive payments; b) eligibility determinations; and c) demonstration of efforts to Acquire, Implement or Update and Meaningfully Use EHR Technology
23. Describe a process to assure that all Federal funding (100% incentives and also 90/10 Administrative matches) are accounted for separately for HITECH and not commingled with MMIS FFP
24. Define the frequency for making EHR payments
25. Describe a process to assure that provider payments go directly to the provider with no deduction or rebate
26. Describe a process to assure that payments go to an entity promoting EHR technology only if participation is voluntary by the EP AND that no more than 5% is retained for costs unrelated to EHR technology adoption
27. Describe a process to assure that there are fiscal arrangements with providers, to disburse payments that don't exceed 105% of the capitation rate per 42 CFR Part 438.6, and a methodology to verify this
28. Describe a process to assure that hospital calculations and EP incentives, including tracking the EPs 15% of net average allowable costs of EHR technology, are consistent with statute and regulations

29. Define the role of existing contractors in implementing EHRIP – MMIS, PBM, fiscal agent, managed care contractors, etc.
30. Provide an explicit description of assumptions and dependencies based on a) role of CMS (develop NLR; provider outreach / helpdesk support); b) status/availability of certified EHR technology; c) role, approved plans and status of RECs; d) role, approved plans and status of HIE cooperative agreements; and e) State-specific readiness factors

These items are as specified in the SMHP template provided by CMS. DVHA, as the State Medicaid Agency, will continue to administer the Provider Incentive program directly, and has operational responsibility for the integrated project management of HIT, HIE, EHR adoption, implementation and upgrade, achievement of Meaningful Use criteria, Blueprint Medical Home, Community Health Teams, and payment reform program domains. DVHA has organizational units responsible for Fiscal Operations, Program Policy, Provider/Member Relations, and Quality Improvement/Program Integrity – all of which will participate in the ongoing administration and oversight of the EHRIP.

3.1 Verify that Providers are not Sanctioned, and are Properly Licensed

Our existing Medicaid enrollment process ensures the provider is not sanctioned and is a properly licensed/qualified provider. We can thus safely assume that if a provider is actively enrolled in Medicaid, then there are no pending sanctions against the provider.

Vermont is participating in the MAPIR consortium and most of the provider interaction and data capture related to EHRIP will be done through the MAPIR web interface. However, providers who will access the MAPIR application will already be registered Vermont MMIS portal users (and not sanctioned and properly licensed/qualified providers), or they will be required to complete the portal registration process prior to using MAPIR. Vermont's MAPIR implementation created the backend MMIS services used by the Vermont MMIS Portal to determine whether or not the user is qualified and can subsequently access the MAPIR application. The VT MAPIR system cross-checks provider NPI and TIN information received from the NLR against the state's MMIS. If the provider does not have an active license in the state, is not currently enrolled in Medicaid, or is sanctioned, then they will not have an 'Active' status code in MMIS and will not be able to enter our MAPIR portal to attest. Also, any EHRIP application underway is aborted if sanctions / eligibility / active Medicaid status issues occur during the process of preparing, submitting, or awaiting payment.

3.2 Verify whether Eligible Providers (EPs) are hospital based or not

Once a provider has been authenticated through the secure Vermont state portal and confirmed to be an enrolled Medical Assistance (MA) provider, they will confirm their National Registration & Attestation System (NR&A System) information in the MAPIR application. This will be done through an eligibility questionnaire. The provider will be asked "Are you a hospital based physician?" and "Are you choosing the Medicaid Incentive Program in the state you are applying in?" If either of these two questions is answered incompatibly with eligibility, the provider will not be able to continue forward with the application process. Subsequent questions will further refine the type of provider and the setting in which the provider practices (e.g., "Do you predominately practice at an FQHC/RHC (50% or more of your practice time)?"). Through this MAPIR questionnaire process we will determine their exact provider status.

There will still be a reliance on the statement of the provider to ensure the number seen in a hospital setting is not more than 90% of the practice. DVHA will perform checks on the number of claims as an indicator of hospital-based status. We will set up a report to calculate the percentage of claims an eligible provider is submitting with a hospital setting code (indicated on the claims as “place of service”. The data in this report will be used to make a hospital-based determination.

3.3 Verify the overall content of provider attestations

MAPIR will calculate the proper incentive payment at the proper time. Professional and hospital provider incentive payment amounts are variable during the incentive program. Professional provider incentive payments are based upon a maximum incentive payment distributed over six payment years. Hospital incentive payments can be made over three to six years and are based on hospital specific data including Medicare Cost reports, discharge days, and growth factors. Professional and hospital payments do not need to be made over consecutive years. The MAPIR technical specification document includes detailed calculations and payment schedules. Since the MAPIR I-APD has been approved, the technical specifications are not repeated here.

3.4 Communicating to providers re: eligibility, payments, etc.

A certain amount of communication will occur within the portal environment, as providers are interacting with the Vermont portal and our instance of the MAPIR application. For example, the eligibility questionnaire is a specific form of communication. Also as an example, if in the process of going through the eligibility questionnaire, an eligible provider selected “yes” to the question of “Are you a hospital based Physician” and selected “No” to participation in the Medicaid incentive program MAPIR will display the message *“As a Hospital based physician, you are not eligible to participate”*.

Beyond the programmed communication that may occur through either the MAPIR application or the Vermont portal, email will be the preferred communications channel. Email contact information and phone numbers will be captured as part of the registration information.

There are several automated email transmissions that occur from MAPIR to the provider as status changes occur in the attestation process, beginning with confirmation that they are registered to attest and may enter the MAPIR portal, and ending with a notification that payment has been made. In addition, certain auto-generated MAPIR email notifications to providers / preparers are configurable to the particular way Vermont administers its EHRIP.

3.5 Methodology to calculate patient volume

Vermont is accepting the methodologies described in paragraphs (c) and (d) of §495.306 of the final rule – Establishing Patient Volume. Paragraph (c) describes the patient encounter methodology. An EP would divide the total Medicaid patient encounters in any representative, continuous 90-day period in the preceding calendar year or preceding 12 months by the total patient encounters in the same 90-day period. An eligible hospital would divide the total Medicaid encounters in any representative, continuous 90-day period in the preceding fiscal year or preceding 12 months by the total encounters in the same 90-day period. A similar calculation would apply for needy individual patient volume.

Paragraph (d) of §495.306 provides for a patient panel methodology, which Vermont is not going to consider. Our Medicaid System and our operational approach is to deliver Medicaid services and

associated reimbursement on an encounter basis – there is always an instance of a provider delivering a service to a beneficiary as an encounter.

Vermont did not propose alternative methodologies to those described in the final rule in its first draft SMHP submittal. More recently we realize the need to exclude CHIP encounters from patient volume counts. Vermont’s implementation of CHIP does not accommodate discernment of this data from the provider perspective. Vermont received CMS approval to not exclude CHIP encounters, as a study revealed that this was a very low possibility of introducing payments in error. Certain types of CHIP encounters are now allowed, including Vermont’s: <https://questions.cms.gov/faq.php?id=5005&faqId=7537> .

Per paragraph (h) of §495.306 – Group Practices, clinics or group practices will be permitted to calculate patient volume at the group practice/clinic level with the following limitations:

1. the clinic or group practice’s patient volume is appropriate as a patient volume methodology calculation for the EP;
2. There is an auditable data source to support the clinic’s or group practice’s patient volume determination;
3. All EPs in the group practice or clinic must use the same methodology for the payment year;
4. The clinic or group practice uses the entire practice or clinic’s patient volume and does not limit patient volume in any way;
5. If an EP works inside and outside of the clinic or practice, then the patient volume calculation includes only those encounters associated with the clinic or group practice, and not the EP’s outside encounters.

Within the MAPIR application the EP will have the opportunity to establish a start date for the 90-day attestation period, to indicate if they are predominately practicing at an FQHC/RHC, and to indicate if they are submitting volumes for an individual provider or for a group/clinic. If the EP is practicing predominately at an FQHC/RHC, they will be taken to a page where they must choose the locations where they practice. They will also be able to add a service location. Service volumes can then be listed by location. MAPIR provides for a similar capture of patient volume for other provider types as well. All of the specified numerator and denominator data types are covered in MAPIR for the full satisfaction of the Final Rule.

While MAPIR provides the data entry gateway for patient volume methodology, DVHA works collaboratively with VITL who works directly with providers and hospitals to prepare for adoption, implementation, and meaningful use of EHR technology. VITL has done outreach work to prepare the primary care provider community for year-one incentive payment requirements as well as presenting the overall incentive opportunity. As the State of Vermont’s sole REC they are working directly with providers, practices, and hospitals to prepare for EHR adoption and to participate in the HIE and the EHRIP. DVHA has arranged for VITL to continue their work with the provider community after the REC grant funding ends.

3.6 Data sources to verify patient volume for EPs and acute care hospitals

The data source for hospital-specific entries will be the Medicare cost report submitted by each hospital. A patient cannot be counted in the numerator for the Medicaid share if they would count for purposes of calculating the Medicare share. In other words, the inpatient bed day of a dually eligible patient cannot be counted in the Medicaid share numerator.

Providers submit their patient volume data as part of their MAPIR attestation. Before a payment is made, we validate the Medicaid patient volume numerator by checking Medicaid claims data using

VT MMIS. If the MMIS numerator/attested denominator value is below the required threshold (30% or 20% for pediatricians), then supporting documentation is requested from the provider. The attested denominator is assessed for reasonableness. If the patient volume does not meet the threshold, the provider is not eligible to receive an incentive payment. The denominator is validated post payment on providers selected for an audit, using submitted documentation and data from the All Payers Claim Database, when available.⁴

In Vermont, the Department of Financial Regulation (DFR), formerly called the Department of Banking, Insurance, Securities & Health Care Administration (BISHCA), through its Health Care Administration, clarifies the administrative requirements and provides the data and technical guidance for hospitals regarding health care in Vermont. In particular, an Annual Hospital Budget Review Process establishes hospital budgets and monitors hospital costs. Hospital cost data is submitted to DFR, and DFR performs its own reviews of the submitted data. While the Hospital Cost Data report is a recognized source of data to validate Hospital incentive payment claims, there may be data more readily available to us from the DFR databases. DFR also manages the Uniform Hospital Discharge Data Set, which provides an estimate of the denominator data of total inpatient bed days as well as total charges for any given quarter. This data source is created from the hospital billing records and is an acceptable data source – it will have been reviewed and accepted as accurate by the hospitals.

As to methodology for making hospital incentive calculations, we are using the designed methodology of the MAPIR system, which is common to the thirteen states sponsoring the MAPIR development. The MAPIR calculation, as well as a spreadsheet model of Vermont’s calculation, have been approved for use by CMS.

3.7 Verify EPs at FQHC/RHCs meet the “practices predominately” requirement

The preamble to the Final Rule specifies that “...an EP practices predominantly at an FQHC or an RHC when the clinical location for over 50 percent of his or her total patient encounters over a period of 6 months occurs at an FQHC or RHC”. Vermont will request and review reports from providers regarding their patient encounters at the FQHC/RHC and their total patient encounters, including visits outside of the FQHC/RHC. This validation will occur as part of post payment audit procedures. If the documentation does not meet the practice predominantly 50% threshold, the EP is not eligible for the incentive payment

3.8 Verify the Adopt, Implement or Update of EHR technology by providers

In the MAPIR application, providers will identify EHR technology by product and version, making selections from drop down menus. The menus will be populated from weekly files of certified EHR products received from ONC. Providers will select the product and version and in a later step of the attestation process in MAPIR, they will designate whether the Adopt, Implement or Update status applies to them. We require an electronic signature as part of the online attestation. The signature page will caution that the provider must be authorized to receive payment, that all information provided is accurate, that the provider is subject to legal penalty for providing false information, and that any funds expended under false pretenses will be recouped.

Vermont will audit the incentive payment requests as described in Section D. We also require the submission of scanned “proof of purchase” documentation – receipts, invoices, license agreements,

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etc. – to demonstrate an EHR acquisition, implementation or update. This documentation is reviewed before payment is made.

3.9 Verify Meaningful Use of certified EHR technology for the 2nd participation year

The MAPIR project was initially focused on initial certification and first-year incentive claim validation. Subsequent development of that effort has addressed verification of Meaningful Use for the 2nd participation year. The Meaningful Use verification has been developed within the core MAPIR software which has been implemented in Vermont's MMIS environment. In addition, our post payment audit program includes verification of meaningful use, including reviewing reports from the ERH system, a meaningful use desk audit questionnaire, and full desk audit procedures. Please see our attached audit plan.

The approved Vermont HIT Plan expands on this topic and covers State efforts to support e-Prescribing, an infrastructure for lab reporting, and the integration of public health reporting systems through the HIE. These efforts help to assist providers achieve Meaningful Use but also provide additional record sources that can be reviewed, if necessary, to confirm provider activity.

Because second year attestations require a full year of EHR-reported data there will be an issue with the volume of attestations following the end of a program year. With Meaningful Use Stage 2 requirements we also expect that providers will be overly stressed to get their attestations submitted within the standard 60-day grace period for attesting after the end of a program year. Vermont proposes to have a 180-day grace period which will accommodate provider needs for careful attention to their attestations and will also help the EHRIP staff better manage the workflow of attestation volume.

3.10 Identify any proposed changes to the Meaningful Use definition

Vermont is not proposing changes to the Meaningful Use definition, nor do we anticipate proposing any changes in the future.

3.11 Verify providers' use of EHR technology

Please see item 8 above. Through the MAPIR application, providers will be attesting to use of certified EHR system, by selecting their product and version from drop down menus populated with recent ONC data. The state requires additional proof of EHR ownership through copies of receipts, Purchase Orders, or software license documentation. This proof is submitted in the form of attached documents through the MAPIR application. The State distinguishes between Adopt and the other two AIU categories of Impalement or Upgrade. The State is also concerned about the proposed use of free cloud-based EHR systems. In particular, when a provider attests to a stage of Adopting and the EHR being used is free, the State identifies the attestation as being high risk, and an audit will be performed to confirm that the provider has made subsequent efforts to implement the technology.

3.12 Collect Meaningful Use data, including clinical quality measures, short- and long-term measures

Vermont has a contracted clinical data registry through a third party vendor. Connectivity through the HIE is already established. The contract is administered through the Blueprint for Health management, but the repository vendor works closely with VITL as the operator of the HIE. Not

all EHR systems are currently accommodated by the registry, but the contract allows for expansion to additional EHRs as needed.

One feature of the repository is that a provider without an EHR can use the repository as a simple EHR for certain functions, through a web interface. This would not be a use qualifying for an incentive payment, but it does help with the expansion of electronic records and the acquisition of clinical health data.

Vermont is not making a distinction between short- and long-term measures in terms of our plans for collecting this data through the repository.

MAPIR collects Meaningful Use attestation data and this data are retained in a local database created to support the incentive payment program administration. Vermont will be requiring the submission of e-CQM data as well and plans are currently underway to accommodate that.

3.13 Align data collection and analysis process with collection of other clinical quality measures data such as CHIPRA

Vermont received a five year CHIPRA quality improvement grant with the State of Maine in early 2010 that focuses on expansion of the Blueprint model in pediatric and family medicine practices across the state, integrating the Bright Futures templates into the Blueprint Registry and to implement other pediatric specific HIT resources and clinical decision support. The Blueprint program accumulates substantial clinical data through its operation, and there is a very strong overlap between Blueprint providers and Medicaid providers attesting for incentive payments. Recognizing that the incentive payment program should be more closely aligned with the Blueprint program we have recently organized our teams to be under the leadership of the Director of the Blueprint Program. We will be working to add e-CQM data to the clinical data registry and to review our practices to minimize the impact of data reporting requirements from providers.

3.14 Identify and describe IT, fiscal and communication systems used to implement EHRIP

3.15 Identify and describe IT systems changes to implement the EHRIP

There are several system aspects to Vermont's initial preparation for implementing an EHRIP, and there will be changes in the future as planned new architectures and systems are implemented.

For communications, e-mail will be a major tool for working with individual hospitals and providers as they finalize their EHR plans and begin implementation. We have also added a significant amount of support material and guidance documentation to our EHRIP website (<http://hcr.vermont.gov/hit/ehrip>). VITL, as the state's REC, will be most involved in this activity. Broader communications will occur as identified in the communications plan outlined in Section A of this document. Briefly, the systems used for communications will consist of information available on the State's website for Health Care Reform, which will cover EHR activity and planning. Information will be repeated on the state portal, which already exists to register providers for Medicaid participation. The state HIT Coordinator publishes frequent e-updates to a large and expanding stakeholder group as well.

MAPIR will be a primary system for the implementation of EHRIP. As stated in Section B of this document, MAPIR will provide most of the core functionality to register and take attestation information from a provider. Further customization of the state's portal will complete this aspect of EHRIP. The state's required customization is currently being designed and will be the subject of an IAPD for this work.

The state will use current MMIS functionality for making the actual incentive payments as validated through MAPIR and the state's portal. An RFP for a new MES (Medicaid Enterprise System) to replace the current MMIS will be posted later this year. The new system will have required functionality to address EHRIP, but implementation is expected to take several years once the contract is awarded. However, as stated, we are prepared to manage the payments through the existing system functionality. Another system initiative has been introduced for a new eligibility system through an RFP and awarded contract.

The new MMIS and eligibility systems will also be compatible with a third initiative to establish core components which meet the MITA expectations. That initiative is currently underway. Again, this introduces longer timelines for the updating of both our architecture and major systems, but current systems will meet our needs in the interim, with minor adjustments. MAPIR is the major new functionality being developed for EHRIP and provides most of the new required features.

Vermont is fortunate to have an existing active HIE, REC, and clinical data registry, as well as the Blueprint for Health activity which works in parallel with EHR rollouts. We are well positioned to accommodate EHRIP.

3.16 Identify the IT timeframe for system modifications

As part of the 13-state consortium making up the MAPIR project, Vermont participates in the planning for system modification to accommodate changes and updates to the incentive payment program. Pennsylvania, as the lead state in the consortium, manages the development effort for core system functionality and develops and submits plan and funding request documents to CMS. These are all done with the consensus of the multi-state MAPIR steering committee.

CMS has approved the funding request for core MAPIR development for FFY2014. Several core software releases are planned and scheduled to accommodate changes to the Stage 1 requirements and to accommodate the new Meaningful Use Stage 2 requirements. Vermont will follow each release with the necessary local customization to support the core software with our existing MMIS.

Three releases of core software are anticipated during FY2014. The release content and schedule for FFY2015 is not yet established, but Vermont is assuming for budget purposes that there will be a similar level of development activity. The 2014 releases are expected to occur as indicated below:

Stage 2 EH Release (Release 5.2) - 11/15/2013
Stage 2 EP Release (Release 5.3) - 2/24/2014
Release 5.4 – Enhancements – TBD; estimated as 7/30/2014

A copy of Pennsylvania's approved IAPD is included as an attachment to this document.

3.17 Identify when Vermont will be ready to test the interface to CMS's NLR

Vermont successfully tested its interface to CMS's NLR prior to obtaining CMS approval to move its incentive payment program into production in October of 2011. As subsequent releases of MAPIR occur, the MAPIR project team and CMS have exchanges to resolve questions related to the testing. Vermont targets the month following each of these releases for any state-specific testing.

3.18 Describe the plan for accepting provider registration data from the CMS NLR

Vermont implemented its plan for accepting provider registration data from the CMS NLR as was described in its initial SMHP submittal. That plan language is provided below:

As previously indicated, much of the functionality required to accept provider registration is being addressed through the core MAPIR development. However, there are customization steps required to fully implement this functionality for Vermont:

- MAPIR will need to be integrated into the existing MMIS change management/promotion environments required to support the existing production application;
- The existing Vermont MMIS provider portal and user management process will be used to support secure access and provider authentication of the MAPIR application;
- MAPIR users must first register with the NLR;
- Only Vermont Medicaid enrolled providers will access the MAPIR application via the Vermont MMIS portal;
- Providers who will access the MAPIR application will already be registered Vermont MMIS Provider Portal users or will be required to complete the portal registration process prior to using MAPIR;
- Backend MMIS services used by the Vermont MMIS portal will need to be created to determine whether or not the user can access the MAPIR application. Some enhancements to incorporate additional MAPIR specific data needs will be added to the existing user authentication/logon process;
- The provider and financial interfaces to MAPIR will be MMIS batch interfaces;
- There will be an NPI cross reference capability developed in order to maintain unique identifiers across downstream MMIS systems.

3.19 Identify the kind of website Vermont will host for providers to accommodate enrollment, information, etc.

As stated above, Vermont's response for accommodating providers for enrollment, information, etc. is a combination of the MAPIR core functionality and the Vermont portal customization as described. Additionally, VT EHRIP maintains a general program information and outreach website at <http://hcr.vermont.gov/hit/ehrip>.

3.20 Identify the timing of an MMIS I-APD if modifications are required

Since Vermont's initial SMHP was submitted and approved, Vermont has coordinated a single Jumbo IAPD submission to cover several HIT-related project areas. The State submits updates to this coordinated Jumbo IAPD as needed, and at least annually.

3.21 Identify call center / help desk and other means to address EP and hospital questions regarding EHRIP

Vermont is fortunate that we have a single HIE for the state, and a single REC for the state – and that both functions are provided through VITL. Initially set up to support the Blueprint for Health, but now strategically situated for HIT/E purposes, VITL has separate project organizations for expanding the Blueprint program, and for promoting the meaningful use of EHR technology

throughout the state. The Blueprint project teams are focused on the necessary Blueprint goal of getting clinical record data into the state's clinical data registry (Covisint/DocSite). Frequently this involves working with practices and hospitals to resolve interface issues to establish connectivity to the exchange. This work is thus loosely connected to the EHR incentive payment program. The work VITL does as a REC is directly in support of the EHRIP. VITL has established a project organization of project managers to support HIT initiatives and REC implementation specialists who work directly with practices and hospitals to acquire and implement EHR technology and to arrive at meaningful use.

More specifically, VITL has a support center to address both HIT and REC issues. The HIT and REC project teams made up of project managers and implementation specialists/facilitators have ongoing relationships with the practices and hospitals throughout the state and offer support on the road to meaningful use. Questions related to EHRIP incentive applications, or the application process, are routed to EHRIP operations staff at DVHA.

To provide the support services as described above, VITL operates a help desk system called MyVITL. Providers establish accounts on this system and can submit issues or questions which are processed as described. This system provides the essential logging and tracking of issues until they are resolved. This helpdesk includes HP staff and Vermont Department of Health (VDH) staff to facilitate resolution of both technical and policy questions by providers / preparers and EHRIP staff.

In addition, as described in the communications plan, we do extensive outreach to the provider community to prepare them for the EHRIP and the mechanisms that will be used to implement the incentive program. That outreach consists of both web-based and other electronic communications as well as opportunities to meet in group situations to present the program.

3.22 Describe a provider appeal process for a) incentive payments; b) eligibility determinations; and c) demonstration of efforts to Acquire, Implement or Update and Meaningfully Use EHR Technology

Initially, existing provider appeal processes will be expanded to include appeals related to the EHRIP, including incentive payments, eligibility determinations, and demonstration of efforts to Acquire, Implement or Update and Meaningfully Use EHR technology. Vermont's MITA Self-Assessment As-Is documentation describes the Provider Management business process. The Agency of Human Services departments, including DVHA, typically currently perform Provider Management processes manually, including our management of provider grievance and appeals. We receive the grievance or appeal request, manually collect the necessary data, coordinate activities with other departments and communicate decisions. We have varying degrees of automation for enrolling providers and for obtaining and managing provider information. Because VITL serves as the REC and is authorized by the state to certify Meaningful Use, the appeal process for EHRIP may include their collaboration. In the first 18 months of operation of the incentive payment program, Vermont has not experienced any appeals.

Our EHRIP appeals process is described in our attached audit plan and aligns with that of the VT Medicaid program. Briefly, there are 3 levels, Reconsideration by DVHA, DVHA commissioner review, and the Vermont Superior Court.

3.23 Describe a process to assure that all Federal funding (100% incentives and also 90/10 Administrative matches) are accounted for separately for HITECH and not commingled with MMIS FFP

Vermont DVHA has an existing accounting system and procedures which accommodate the accounting of both the 100 percent incentive payments, as well as the 90 percent HIT Administrative match. As an example, program codes have been established to track the 90 percent HIT administrative match associated with Vermont's P-APD authorized activities. Staff are instructed in the appropriate use of time coding and purchases, and management at the Director level and above reviews all time and purchases being charged to this funding source. Quarterly projections are made through the CMS-37 process, and quarterly expenditures are reported through the CMS-64 process.

3.24 Define the frequency for making EHR payments

The customization work required of the existing MMIS to accommodate MAPIR functionality included enhancements to process financial transactions through the MMIS for EHRIP. Vermont has been making EHR payments as part of the weekly Medicaid reimbursement process.

3.25 Describe a process to assure that provider payments go directly to the provider with no deduction or rebate

DVHA can assure that amounts received with respect to incentive claims by a Medicaid provider for the adoption of EHR technology are paid directly to the provider, or to an employer or facility to which the provider has assigned payments, without any deduction or rebate. A process to support this assurance is in place. Validation of incentive claim amounts will be occurring in MAPIR. The Medicaid Remittance Authorization that accompanies each Medicaid reimbursement to a provider or provider organization lists incentive payments as separate line items.

3.26 Describe a process to assure that payments go to an entity promoting EHR technology only if participation is voluntary by the EP AND that no more than 5% is retained for costs unrelated to EHR technology adoption

VITL is the state's REC and, in joint participation with Vermont's Division of Health Care Reform and the Blueprint for Health, promotes the adoption of EHR technology. VITL is funded for this activity in part through the state's HIT fund, as established by the Vermont legislature. There are no anticipated payments to VITL by an EP for the specific adoption of EHR technology by that EP.

3.27 Describe a process to assure that there are fiscal arrangements with providers, to disburse payments that don't exceed 105% of the capitation rate per 42 CFR Part 438.6, and a methodology to verify this

Specific to this topic, 42 CFR Part 438.6 addresses contract requirements for risk contracts associated with MCO, PIHP, and PAHP contracts, which utilize capitation rates. Vermont has no contracts of this nature and this is not a concern we need to address. Elsewhere we have discussed our use of the phrase "managed care" in this SMHP document as not meant to imply that we would accept patient panel patient volume calculations.

3.28 Describe a process to assure that hospital calculations and EP incentives, including tracking the EPs 15% of net average allowable costs of EHR technology, are consistent with statute and regulations

Because of the Medicare and Medicaid Extenders Act of 2010, we interpret this question to now be asking “How will Vermont administratively check the calculations and appropriate incentives before making incentive payments?” The MAPIR system will be communicating to our MMIS system at certain points in the registration and attestation processes, and our MMIS administrator (HP) will be developing routines to access and analyze the data to validate reported encounters or hospital discharges. Certain other data, namely total encounters, total discharges, needy patient counts, will be attested to by the providers and we will accept this data at the time of submission for purposes of making an incentive payment. Certain of this data can be validated prior to payment, but other data will be accepted as supporting payment and we will rely on audit procedures to provide the appropriate checks on invalid incentive claims. We require proof of EHR investment, as stated in the SMHP, in the form of a Purchase Order, an Invoice, etc... Appendix A of this document describes Vermont’s hospital calculation model and includes sample outputs from that model.

3.29 Define the role of existing contractors in implementing EHRIP – MMIS, PBM, fiscal agent, managed care contractors, etc.

Vermont’s current MMIS is operated and supported by HP (Hewlett-Packard). HP continues to work with Vermont to develop the IAPD budget information for the MAPIR related customization that is required of both the Vermont portal and the MMIS to support the incentive program. VITL also has a role in implementing EHRIP – as the state’s REC they promote EHR adoption, assist providers in selection and implementation of their EHR technology, and are authorized to certify the meaningful use of that technology. While some of the changes to the MMIS may support semi-automation of an EHRIP, DVHA intends to maintain administrative oversight of the EHRIP with DVHA personnel. This is appropriate, as DVHA is the hub for relationships with VITL, with the Blueprint for Health, and with HP.

3.30 Provide an explicit description of assumptions and dependencies based on a) role of CMS (develop NLR; provider outreach / helpdesk support); b) status/availability of certified EHR technology; c) role, approved plans and status of RECs; d) role, approved plans and status of HIE cooperative agreements; and e) State-specific readiness factors

Vermont’s original SMHP included a discussion of assumptions and dependencies. Now that we have successfully operated the incentive payment program for 18 months there are no remaining critical assumptions or dependencies.

SECTION D: Vermont's Audit Strategy

IV. State's Audit Strategy:

In this section of the SMHP we describe Vermont's plans to audit the EHR Incentive Payment (EHRIP) Program. Topics included in this section are:

1. Methods to identify suspected fraud and abuse, and if contractors are used
2. How we will track the total dollar amount of overpayments identified by the state as a result of oversight activities conducted during the Federal Fiscal Year (FFY)
3. Actions to take when fraud and abuse are detected
4. Existing data sources to leverage to verify Meaningful Use (HIE, pharmacy hubs, Immunization Registries, Public Health surveillance databases, etc.)
5. Sampling methodology if proposed (probe sampling; random)
6. Methods to reduce provider burden and maintain integrity and efficiency of oversight process
7. Where program integrity operations are located within the State Medicaid Agency, and how responsibility for EHRIP is allocated

These items are as specified in the SMHP template provided by CMS. As mentioned in Section C above, DVHA, as the State Medicaid Agency, will administer the Provider Incentive program directly, and through its Blueprint Initiative and the Health Care Reform Team has operational responsibility for the integrated project management of HIT, HIE, EHR adoption, implementation and upgrade, achievement of Meaningful Use criteria, Blueprint Medical Home, Community Health Teams, and payment reform program domains. DVHA has organizational units responsible for Fiscal Operations, Program Policy, Provider/Member Relations, and Quality Improvement/Program Integrity – all of which will participate in the ongoing administration and oversight of the EHRIP.

The State's EHRIP Audit Plan has now been approved by CMS and is included in this document as Attachment 1. This detailed plan sufficiently responds to the topics under discussion in this section of the SMHP, and our comments here are brief.

Vermont has developed a program capable of auditing all of the data elements submitted by EHRIP provider claims. In addition, we will be able to audit this data across the period of time being used to support the incentive claim. The data sources that can be used to audit these data elements already exist in the MMIS system or in databases at the Department of Financial Regulation (DFR), or will be required from audited providers. For both eligible professionals and eligible hospitals we will utilize a rigorous pre-payment validation process to both ease the audit burden for post payment activity and to proactively preserve the integrity of the program.

4.1 Methods to identify fraud and abuse and if contractors are used

Suspected fraud or abuse may be detected at any point during an audit or review process. By conducting extensive pre-payment verification activities, we are striving to minimize fraud and abuse and to reduce the potential for payment errors. The VT EHR Incentive Program is working closely with DVHA's Program Integrity Unit and the Medicaid Fraud and Residential Abuse Unit, which is within the Criminal Division of the Vermont Attorney General's Office, to leverage their resources and expertise. The VT EHRIP will consult with the Program Integrity Unit as needed when an adverse audit occurs. All suspected cases of fraud, waste, or abuse will be referred to the

Medicaid Fraud and Residential Abuse Unit. The EHR Incentive Program will initiate the recovery of mis-payments, suspension of future payments, the termination of agreements with providers, or other action(s) that may be necessary. This will be done with HP Enterprise services, the fiscal agent for VT Medicaid. The Program Integrity Unit will be consulted as needed during this process. Depending upon the outcome of the investigations, recoupment of mis-payments may take place and will be tracked in MMIS and MAPIR.

4.2 How we will track the total dollar amount of overpayments identified by the state as a result of oversight activities conducted during the Federal Fiscal Year (FFY)

If the EP or Hospital does not contact the VT EHRIP within 30 days of receipt of the Audit Results Notification Letter with a request for reconsideration, or to inform them of their intent to repay the overpayment, then recovery of the funds and the 1-year Federal pay-back period begins. This will be done in accordance with current procedures for recoupment through future remittances via the Fiscal Agent, HP Enterprise Services.

The Fiscal Agent will create an accounts receivable record for the amount to be recovered indicating the fund code to use in tracking the recoupment and the date the liability was established. This information will be reported to CMS through the CMS-64. If recoupment cannot be made in this manner, the recoupment will go to the collections department for their actions. The EP or EH can arrange for a repayment plan by signing a promissory note.

The identified overpayment will be returned to CMS within the 1-year Federal period to repay FFP. This repayment will occur with or without the recovery having been completed by the State. Vermont will report to CMS on the CMS-64 recoupments through established accounts receivable records that indicate the Medicaid EHRIP fund code. In the report, the State will indicate whether the funds have been recovered from the provider or if they are still outstanding.

In addition we will be reporting audit and appeals data to CMS. The auditors will manually enter their audit and appeals data into the Research and Support Graphical User Interface (GUI). This will occur via the HITECH Research and User Support interface website. Efforts will be made to enter this data in real time, but if real time entry is not feasible the data will be entered after the audit or appeal is completed. Items to be reported include the audit status, the organization reporting the information (e.g., State EHR Administrator), the audit type, the reason for the audit, and the status and results of appeals.

4.3 Actions to take when fraud and abuse are detected

In the event that the auditor suspects or discovers potential fraud, waste, or abuse, they will immediately notify the Department's Program Integrity unit within 7 days to determine what additional procedures should be performed. Actions will be taken to recover any overpayment made to the EP or EH. Also based upon the findings, the Program Integrity unit will meet its obligation to report any fraud deemed as intent to steal to the Attorney General's Office's Medicaid Fraud Unit.

4.4 Existing data sources to leverage to verify Meaningful Use (HIE, pharmacy hubs, Immunization Registries, Public Health surveillance databases, etc.)

Vermont has or will have a number of data sources which might be compared to verify Meaningful Use. A clinical data registry operated to support the Blueprint for Health may be a useful resource although the overlap of Blueprint data and Meaningful Use data has not been determined. The Immunization Registry is another source as are certain Public Health surveillance databases. The HIE has been established as the transport mechanism for data exchange with the state Immunization Registry, and other public health registries will be added over time.

The connection between the HIE and the Vermont Department of Health (VDH) has been established and immunization messages are beginning to flow from providers through the VHIE to the Immunization Registry. VDH and VITL are doing joint outreach to bring more providers into the Immunization Registry through this connection. VDH is now also ready to accept Electronic Lab Reporting from the hospitals and commercial labs. In 2014 the initial goal is to connect four hospitals for ELR reporting.

As we validate meaningful use, providers and hospitals have to submit significant amounts of data related to the clinical elements of meaningful use. The MAPIR system is now designed to accommodate the uploading of multiple file types as part of the attestation which we anticipate would contain, supporting data (numerators and denominators) for meaningful use criteria. We will be requiring providers to submit eCQM data once we have the provisions in place to receive such data. In addition to having this capability, though, we need to first resolve any overlaps between eCQM data and Blueprint-related clinical data we are already collecting.

Additional information related to this topic is available in the fully documented audit plan, submitted June 26, 2013, and now approved by CMS.

4.5 Sampling methodology if proposed (probe sampling; random)

Vermont's auditing strategy for the EHR incentive program is fully described in the approved audit plan as submitted June 26, 2013. A risk based methodology will assign a risk factor to each eligible professional and each hospital. Based on the risk factor the provider may be subject to an audit based on individual risk factor ratings. Providers with high risk ratings will be audited. Providers with lower risk factors face the possibility of being selected for an audit through a random sampling process. Also, depending on the risk factor, an audit will include different processes, from verifying attestation data from additional data sources, to a desktop audit supplemented with additional data requested from the provider, to a field audit.

4.6 Methods to reduce provider burden and maintain integrity and efficiency of oversight process

Vermont has established rigorous pre-payment validation procedures, none of which introduce provider burden beyond the necessity of providing additional data in some instances. The additional data requested is germane to the attestation process and should be known by the provider in order to attest in the first place. Pre-payment validation data is maintained along with the provider's profile in a case management database for future reference to validate additional attestations and to be available to the program's audit function. All of this is more fully explained in the submitted audit plan.

4.7 Where program integrity operations are located within the State Medicaid Agency, and how responsibility for EHRIP is allocated

The Program and Operations Auditor of the state of Vermont's EHRIP is responsible for annual audits of Medicaid EHR incentive payments. Existing resources will be leveraged, and the Program Integrity unit will be consulted as needed regarding existing audit policies and procedures. Staff augmentation, when needed, will be through hiring, contracting for field audit resources, or a combination of the two.

Suspected fraud or abuse may be detected at any point during an audit or review process. By conducting extensive pre-payment verification activities, we are striving to minimize fraud and abuse and to reduce the potential for payment errors. The VT EHR Incentive Program is working closely with DVHA's Program Integrity Unit and the Medicaid Fraud and Residential Abuse Unit, which is within the Criminal Division of the Vermont Attorney General's Office, to leverage their resources and expertise. The VT EHRIP will consult with the Program Integrity Unit as needed when an adverse audit occurs. All suspected cases of fraud, waste, or abuse will be referred to the Medicaid Fraud and Residential Abuse Unit. The EHR Incentive Program will initiate the recovery of mis-payments, suspension of future payments, the termination of agreements with providers, or other action(s) that may be necessary. This will be done with HP Enterprise services, the fiscal agent for VT Medicaid. The Program Integrity Unit will be consulted as needed during this process. Depending upon the outcome of the investigations, recoupment of mis-payments may take place and will be tracked in MMIS and MAPIR.

Where appropriate, e.g., recoupment of incentive payments resulting from an audit finding, existing procedures and processes will be utilized. DVHA's Program Integrity unit also participated in the EHRIP auditor hiring process, collaborated with the EHRIP program in the development of the audit plan, and has approved that plan for implementation.

SECTION E: Vermont's HIT Roadmap

V. State's HIT Roadmap and Annual Measurable Targets Tied to Goals:

In this section of the SMHP we describe Vermont's HIT Roadmap, from a five year perspective. Topics included in this section are:

1. Graphical and narrative pathway to show the As-Is, To-Be (5 Year), and plans to get there
2. Expectations for provider EHR technology adoption over time: annual benchmarks by provider type
3. Annual benchmarks for each of DVHA's goals that will serve as clearly measurable indicators of progress along this scenario
4. Annual benchmarks for audit and oversight activities

These items are as specified in the SMHP template provided by CMS. This section will summarize much of the information in the preceding sections of the plan. Vermont is building on healthcare reform activities begun with the initiation of the Blueprint for Health.

5.1 Graphical and narrative pathway to show the As-Is, To-Be (5 year), and plans to get there

While the SMHP is an enabling document to support planning and funding for HIT and HIE, especially as related to HIE expansion, EHR adoption, Meaningful Use, and the EHR Incentive Program (EHRIP), all of these efforts occur in the larger and integrated landscape of Health Care Reform and transformation in Vermont. That landscape is evolving over time from the As-Is description in Section A to the To-Be description in Section B of this SMHP. It is appropriate to pay brief attention to the pathways and timelines of the other Health Care Reform initiatives in the To-Be landscape before focusing on the specific HIT-HIE related projects for which funding will be sought in the IAPD that covers the SMHP and all other initiatives in the Health Services Enterprise (HSE). It is appropriate because the overlaps make it hard to cleanly separate HIT-HIE initiatives from other health care reform initiatives planned or underway.

Overlaps occur with, for example, the Master Data Management (MDM) initiatives of enterprise Master Person Index (eMPI) and Provider Directory (PD). The Clinical Data Registry (CDR) which supports the healthcare delivery reform of the Vermont Blueprint for Health (VBH) program and the Vermont Chronic Care Initiative (VCCI) among others will also be used to hold the electronic Clinical Quality Measures (eCQM) which will be received from providers as part of the Meaningful Use Stage 2 implementation. The All Payer Claims Database (APCD), which supports Multi-Payer Payment Reform for attribution of patient counts, also supports the EHRIP as a source of patient denominator data in general, and to match up procedure codes with reported measures. The VHIE supports Meaningful Use requirements of information exchange but also directly supports the Blueprint for Health. And as measure sets become normalized so that providers can report only one common measure set, the data repository can serve as a source for Meaningful Use attestation data for the EHRIP while supporting clinical decision support, population health analysis, and the goal of combined real time clinical information combined with claim based retrospective. At that point, the Blueprint for Health program itself supports Meaningful Use and the associated EHRIP. Certainly many of the staff functions of the Blueprint for Health – practice facilitators and workflow analysts – can be considered as supporting both Meaningful Use and HIE expansion.

Overlaps with other major initiatives – the Vermont Health Connect (VHC) insurance exchange, Integrated Eligibility (IE), Medicaid Management Information System (MMIS), and HSE Platform – are primarily in the areas of eMPI and PD, but also with the APCD which includes Medicaid claims history. Elsewhere in the To-Be landscape, and currently underway, is the deployment of Accountable Care Organizations, which can benefit from the HIE, from access to information in the APCD and the CDR, and which will include providers who are meeting Meaningful Use and participating in the EHRIP.

There is a major overlap of the EHRIP and the MMIS system. The MAPIR system which supports both provider attestations and staff administration of the EHRIP is actually an MMIS integration project requiring design, development, and implementation through several stages of enhancements. MMIS claims and encounter data must be accessed through the integrated solution to validate information submitted through the attestation portal. The specific functionality and funding requirements of MAPIR core development is presented in Pennsylvania’s IAPD which is attached to this SMHP.

This is too much to attempt to incorporate into a single timeline, so what follows are timeline tables and graphs associated with the major initiatives that are *not* primarily funded through the SMHP. A separate timeline will include the SMHP-related HIT-HIE initiatives.

As depicted in Figure 5.1, the Vermont HSE is a combination of building blocks, using the HSE Platform (HSEP) as a foundation. The HSEP provides the infrastructure services and functional components that each solution shares.

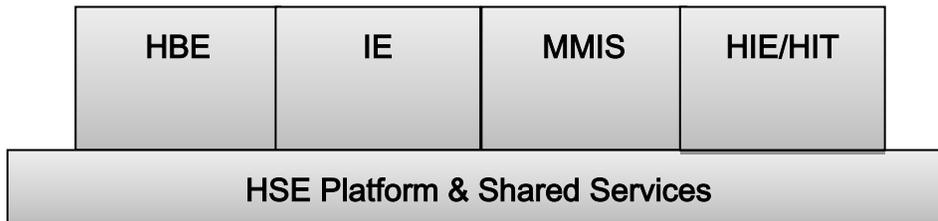


Figure 5.1 HSE Platform & Shared Services

Another important view of these solutions and platform reflects their respective deployment and relative maturity. This innovation began in Vermont with Vermont Health Connect, or HBE, and continues with the investment in remaining components, as shown below in Figure 5.2.

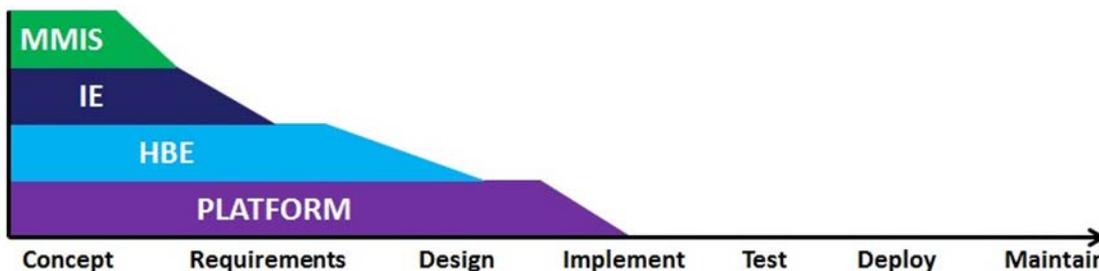


Figure 5.2 Deployment and Relative Maturity of Initiatives

The table (Figure 5.3) below displays the anticipated timelines identifying the releases (R#) and dates of HSE Implementations along with identifying which programs will be affected and when they will be live on the new platform. SMHP releases are anticipated to be ongoing to address regulatory changes (e.g., Meaningful Use Stage 3) and enhancements (e.g., tools to process eCQM data).

		2013	2014			2015		2016		2017	
		Oct. 1	Jan. 1	Jul. 1	Dec. 31						
HSE Release #		R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
	VHC*	X	X	X							
	E&E*				X	X	X				
	MMIS*					X	X	X	X	X	
	SMHP*	X	X	X	X	X	X	X	X	X	

Figure 5.3 Health Services Enterprise Anticipated Releases

*Currently, there are/will be DDI efforts for these programs; this table only represents when these will be live on the new platform.

HIE Expansion

One depiction of Vermont’s As-Is landscape, as developed two years ago, focused primarily on a stakeholder perspective, where the stakeholders depicted are the users, insurers, providers and State-delivery services, is depicted in Figure 5.4 below:

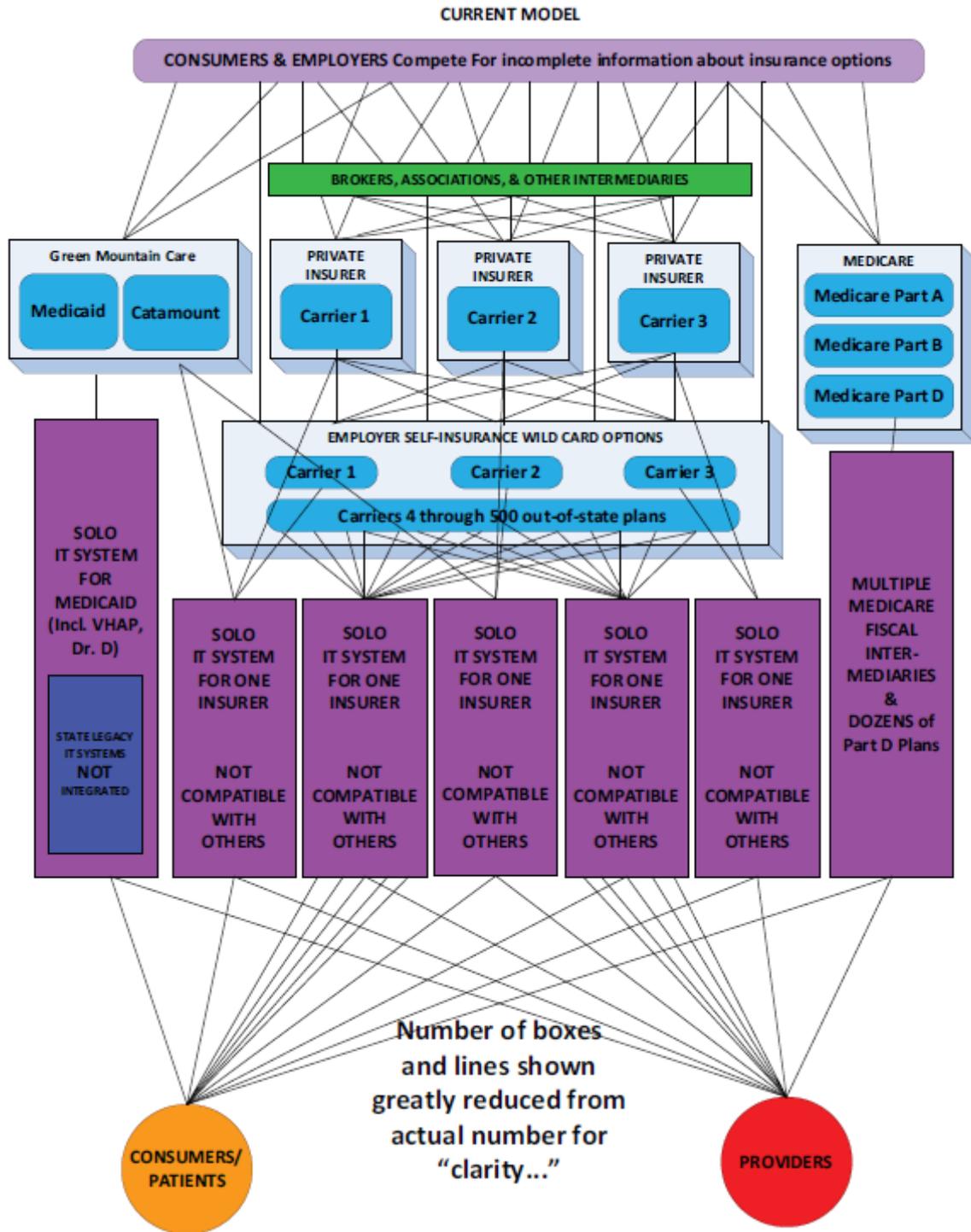


Figure 5.4: Diagram of Vermont’s As-Is landscape, focused primarily on a stakeholder perspective, where the stakeholders depicted are the users, insurers, providers and State-delivery services

From an HIT perspective, Patient-Consumers interact, either directly or through processes involving paper forms and customer service representatives, with a variety of one-off systems that are a part of their health care delivery workflow. These systems include multi-provider record systems (primary care, specialty, urgent care and hospital paper-based, fully electronic or hybrid – paper health records/electronic billing), private insurance carrier systems, employer plans, a variety of Medicare providers, insurance brokers, and the State Medicaid healthcare offerings of which Vermont has several under the Green Mountain Care umbrella.

Within the State Medicaid service delivery spectrum, there are aged stand-alone systems for eligibility and enrollment, for provider registration and administration, and for claims and payment processing. The two primary systems in Vermont are the ACCESS system (eligibility and enrollment) and the Medicaid Management Information System (MMIS) (provider, claims and billing). These systems are mainframe based, now decades old, with an isolated stack of hardware, software, and databases. What data integration occurs is second-hand, through the mechanism of a data warehouse where the data serves as a sound basis for reporting but not for integrated real-time service delivery.

As is implied in that brief summary of the ACCESS and MMIS systems, the IT architecture is best characterized as an array of data and application silos.

However, there is a great deal of encouraging change that has occurred already to initiate a transformation of this view of the As-Is landscape, and many of the elements of change are currently being implemented or will be in an implementation mode soon. In other words, the To-Be is already Becoming. These elements include:

- State legislative action that has provided funding, goals, benchmarks and specific structure for improved health care delivery
- Substantial though still evolving governance structure to guide the multiplicity of efforts underway
- Establishment of an HIE with a network (HIEN) to enable exchange between providers, and to transport clinical data to a stand-alone Clinical Data Registry
- Creation of the Blueprint for Health program which embodies the health improvement outcomes to be derived from the application of HIT, stimulates the adoption of EHRs and use of the HIE and repository, and is thus in direct parallel and alignment with the State Medicaid Agency's efforts to capture the benefits offered through the HITECH Act
- Through the Blueprint for Health, and anticipating the benefits of EHR adoption, we have coordinated initiatives for Public Health, Mental Health/Behavioral Health/Substance Abuse, Home Care, Long Term Care, and the State's CHIP and CHIPRA programs
- Commitment and participation by a large stakeholder community, including other state agencies and departments as well as other associations and agencies involved in the overall health care delivery spectrum
- Technology transformation that is planned and in many instances moving quickly to purchase and implementation. This includes:
 - i. A Medicaid Information Technology Architecture (MITA) 3.0 State Self-Assessment currently underway
 - ii. The initial implementation of the Health Services Enterprise Platform (SOA-oriented components) in support the Health Benefit Exchange and associated but limited Eligibility

- iii. A VHC insurance exchange portal system, operational as of October 1, 2013, as planned;
- iv. A re-procurement process to replace the existing MMIS, beginning anew with requirements specifications;
- v. An Integrated Eligibility system contracted and with design underway
- vi. An active project contracted to deconstruct the ACCESS legacy eligibility system
- vii. Plans to develop Master Data Management solutions for enterprise Master Person Index (eMPI) and Provider Directory (PD)
- Steady progress along the path to pursuing the State’s agenda with respect to the ARRA/HITECH Act is demonstrated by the following initiatives:
 - i. The establishment of an HIT Coordinator within the same department that administers the State Medicaid Agency
 - ii. An approved Vermont HIT Plan and a subsequent ONC approved Strategy and Operational Plans (SOP)
 - iii. An approved EHRIP program as reflected in the first edition SMHP
 - iv. A successfully operating EHRIP program with \$28,500,000 in incentive payments to date
 - v. An approved Audit Plan for the EHRIP program
 - vi. Continuing participation in the multi-state MAPIR project delivering shared development and economies of scale to the 13 participating states
 - vii. An active state-wide HIE, currently processing over 2,000,000 messages per month with growing numbers of connected providers and practices and with ambitious expansion plans, including an interstate connection to HIXNY (Health Information Exchange of New York), an image library and dedicated network for distribution, ACO services, and implementation of query-based exchange;
 - viii. The operation of a State REC to promote EHR adoption and implementation with results exceeding goals in all categories of provider onboarding through to meaningful use attestations
 - ix. Funding to test payment reform models through a SIM grant
 - x. A revised Consent to view policy for information flowing through the VHIE, necessary for introduction of an Integrated Health Record from the Clinical Data Registry, and a provider portal through “VITLAccess” that will also present (with appropriate consents) health records from across provider organizations in a unified view;
 - xi. An All Payer Claims Database
 - xii. Multi-payer support for HIT through the State HIT Fund, generated from fees assessed on payers, based on claims.

Figure 5.5, which follows, depicts a high level block diagram depicting the intended transformation from the current state as depicted in Figure 5.4 above. Figure 5.5 is intended to depict a Single System approach to coverage, administration, and delivery of health services with an IT infrastructure to support a Learning Health System. It also affords an opportunity for a common Member Benefit card that could identify consumers across plans or benefit programs as well as for other purposes.

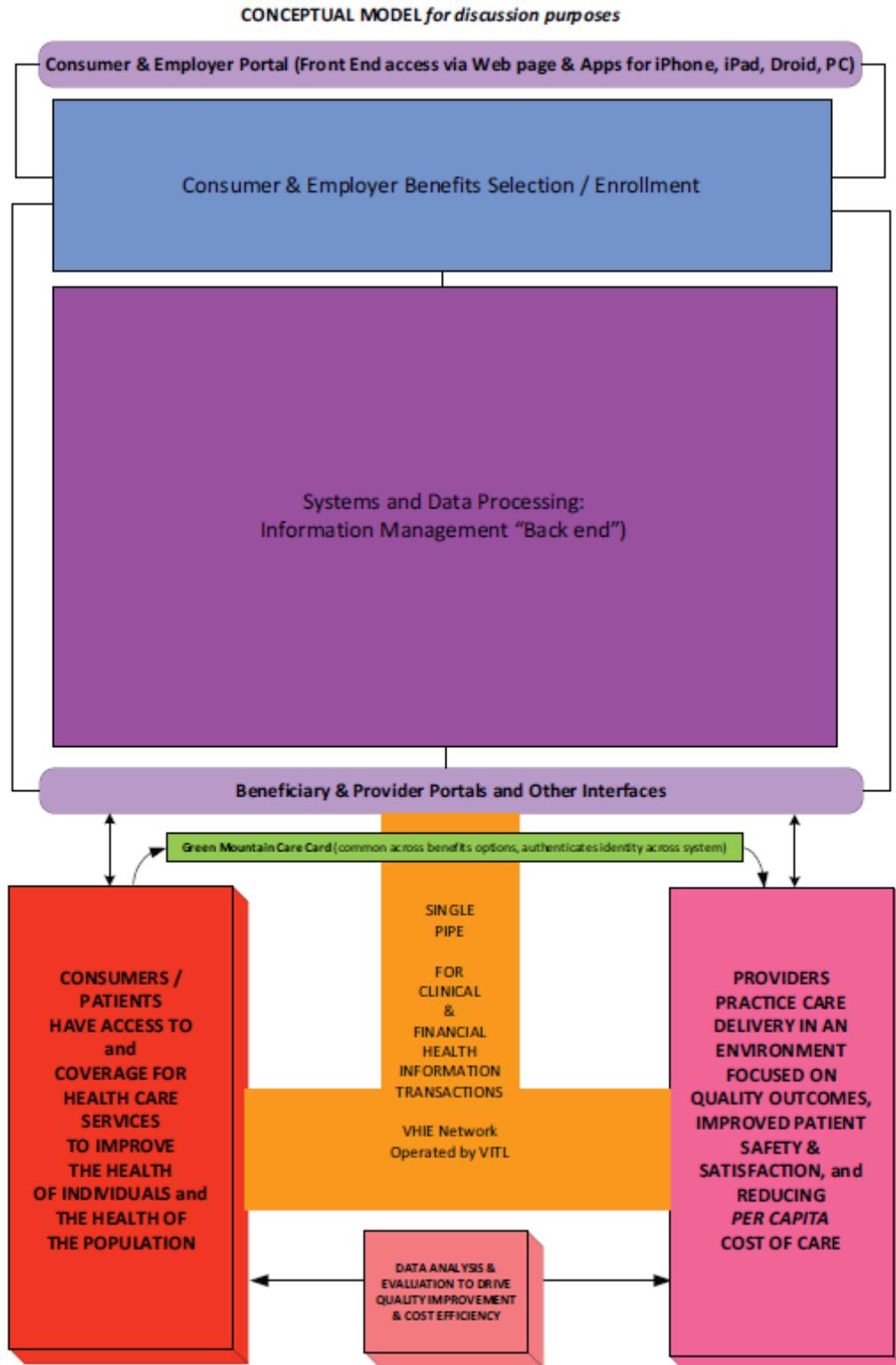


Figure 5.5: High level block diagram depicting the intended transformation from the current state as depicted in Figure 5.4

In this model, which describes the transformation vision for health care in Vermont, a portal – available through a variety of enabling fixed and mobile platforms – engages patient-consumers and employers in the benefit selection, enrollment, and patient health information management functionality. In Vermont, this would be the Integrated Eligibility system and the Insurance Exchange. The systems and architecture supporting this outward-facing portal are those described in the To-Be portion of this plan and listed above: a MITA compliant architectural platform supporting new systems for eligibility, enrollment, insurance choice and selection, claims and billing administration.

A second portal, or more accurately a separate area of the portal, interfaces with Providers, Beneficiaries, and additional systems. A single pipeline and data repository serve to focus the essential patient information and clinical data to a common exchange repository which supports the messaging infrastructure to insure that health care information is available when and where it is needed. The existing and planned elements supporting this portion of the diagram include the MAPIR system for EHRIP management, Vermont’s MMIS replacement project, the Vermont Blueprint for Health initiative, and the roles and infrastructure provided by VITL – the HIE, the HIEN, and interfaces to the data repository.

As depicted, Patient-Consumers have access to and coverage for health care services to improve the health as individuals while also improving the health of the population. Envisioned also is comprehensive “Blue Button” functionality for individual access to Personal Health Information (PHI) from all sources. Individuals will also have access to a website and applications, supported on a variety of platforms including mobile, for interacting with State health agencies and programs. The new insurance exchange is the first such example, and that portal experience includes interaction with an integrated eligibility system in the background. Providers are enabled to practice care delivery in an environment focused on quality outcomes, improved patient safety and satisfaction, and reduced per capita cost of care. The availability of repository data supports data analysis to evaluate and drive both quality improvement and cost efficiency. For Medicaid patients, a Green Mountain Care Card provides authentication and identity across the entire system.

A detailed depiction of the many coordinated streams of HCR activity in Vermont (which are contributing to the reality of the view represented by the previous diagram) is depicted in the following Figure 5.6: Diagram of The VT Health Reform IT Architecture: Maximizing Federal Resources, Increasing Administrative Systems Efficiencies.

To Be Vision of the Digital Infrastructure of Vermont's Learning Health System: High Level Enterprise Business Architecture

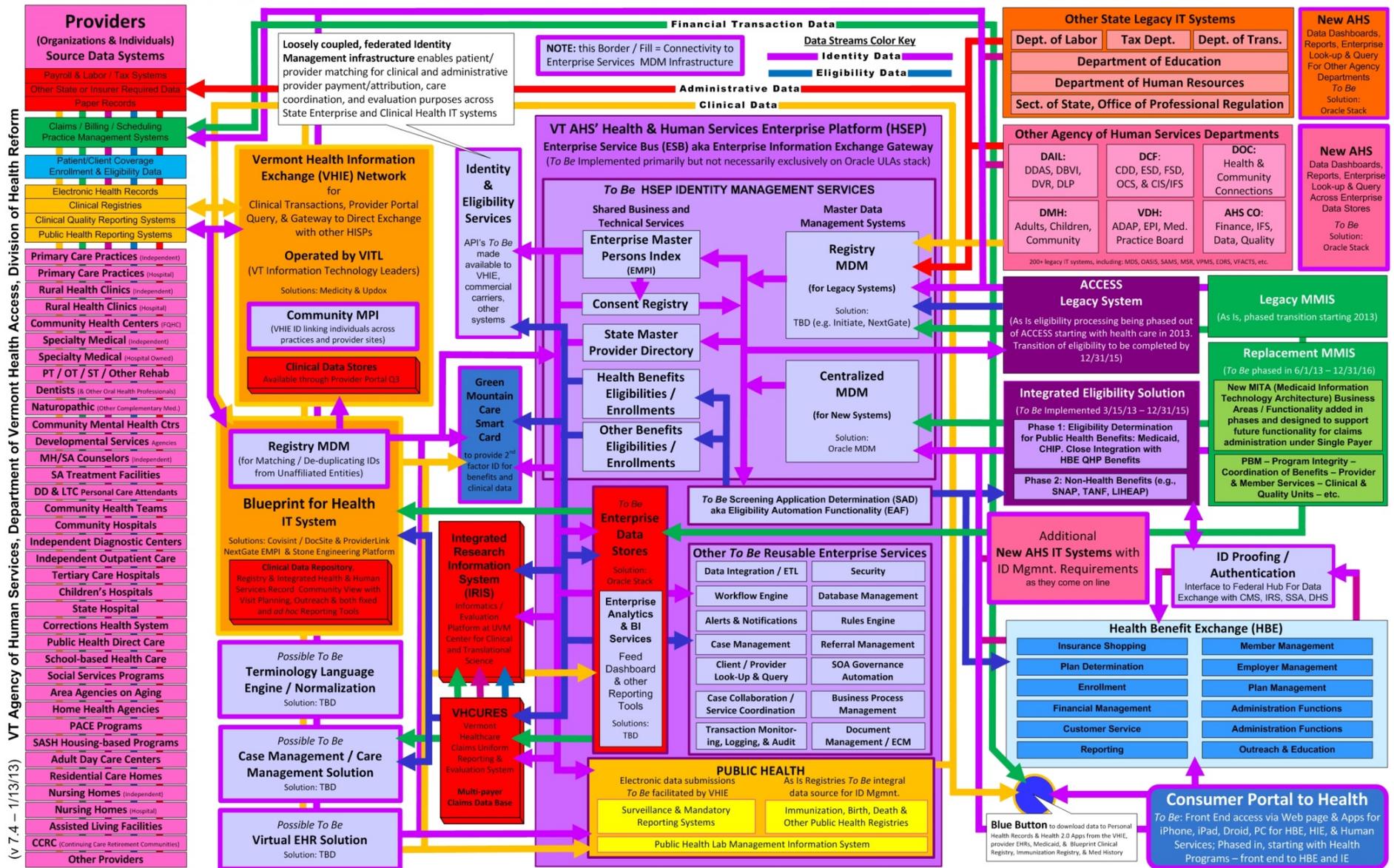


Diagram 5.6: Vermont Health Reform Enterprise HIT

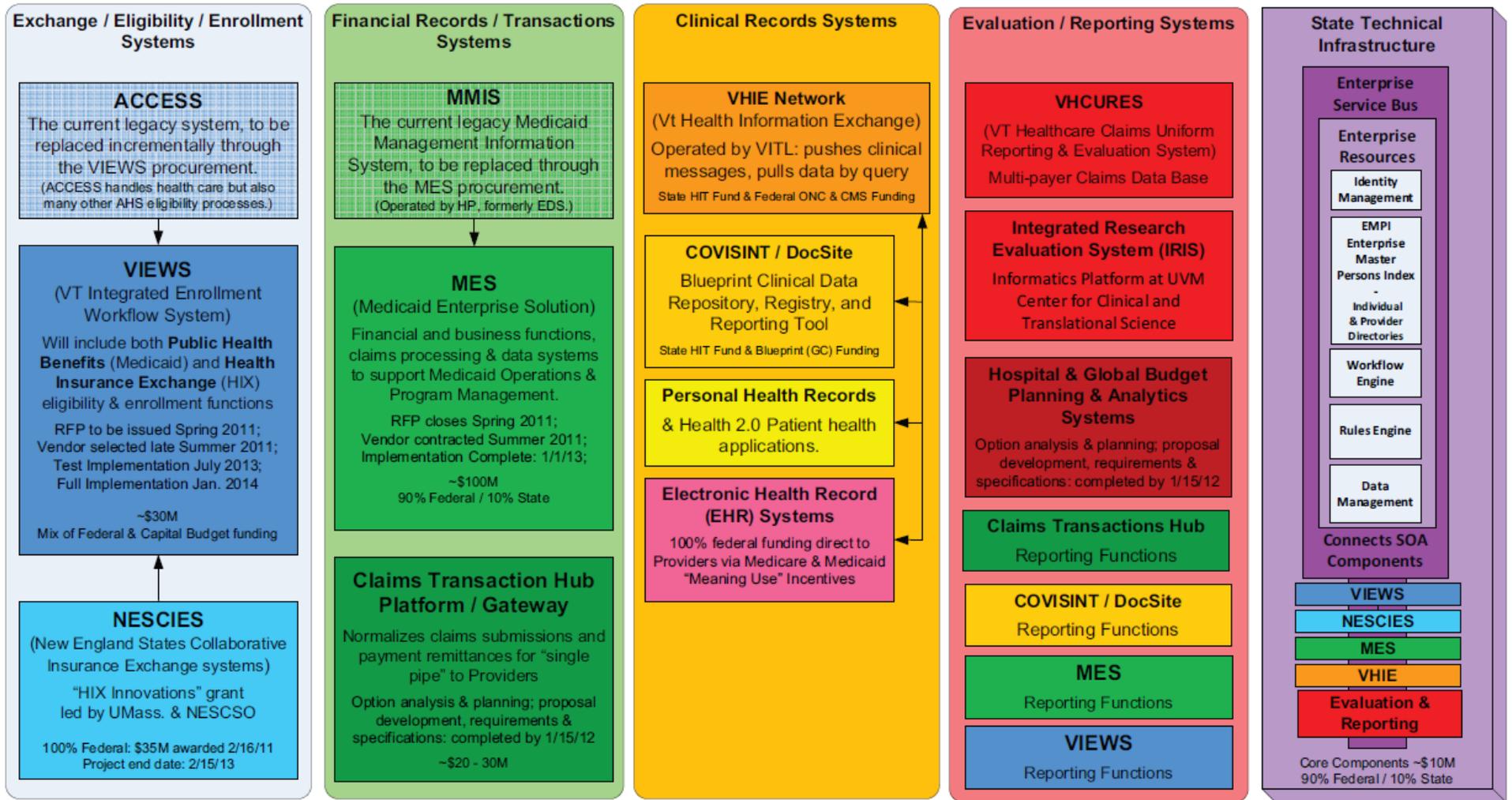
This diagram incorporates all of the major initiatives and plans described in detail in the Sections A (As-Is) and B (To-Be) discussion of this document. Taken together, the Sections A and B description of Vermont's landscape includes:

- Technology (SOA architecture, replacement systems for eligibility and claims, a portal for providers to engage EHRIP, an Insurance Exchange)
- Transport and Repository of health information (HIE, HIEN, Repository)
- Programs and initiatives (Vermont Blueprint for Health, REC, EHRIP, CHIPRA, Public Health, Mental Health/Behavioral Health/Substance Abuse, Home Health, Long Term Care, and special populations).
- Stakeholders at all levels.

The diagram also includes a proposed "Blue Button" feature that would be readily accessible from multiple areas of the portal and would provide immediate access to a person's Personal Health Record information. Surrounding layers depicting governance and standards can be imagined for this diagram as well.

A final diagram depicts the portfolio of HCR IT, HIT, and AHS (Agency) IT systems, by thematic components, including:

- Exchange / Eligibility / Enrollment Systems
- Financial Records / Transactions Systems
- Clinical Records Systems
- Evaluation / Reporting Systems
- State Technical Infrastructure.



Legacy systems due to be replaced are shown with cross-hatch pattern.

Figure 5.7: Health Reform Information Technology – Health Information Technology – AHS Information Technology

The diagrams presented here will evolve and be added to for future versions of this SMHP, as will additional refinement of all sections related to To-Be, Administration, Audit and the Roadmap.

5.1.1 Initiatives specific to the SMHP – to be included in an updated Implementation Advance Planning Document (IAPD) funding request

The following table presents a listing of SMHP initiatives related to pursuing our To-Be vision. These initiatives are appropriate candidates for SMHP-related HIT funding from CMS and are included in a funding request document (IAPD). The Table provides a reference number for each initiative, a title, and a brief description. Additional columns indicate if required resources include staff, consulting and contracting resources, or both. The appropriate funding stream is also indicated, as follows:

- SMHP-HIT: funding available for implementing and operating the EHR Incentive Program (EHRIP) including related necessary technical infrastructure. Technology supporting Meaningful Use of EHR technology is also in this category;
- SMHP-HIE: funding available for HIE expansion. Guidelines for Medicaid contributions to HIE expansion have been provided by CMS in a State Medicaid Directors Letter (reference here);
- MMIS: Certain technology implementations necessary for the EHRIP are more appropriately funded through MMIS. These are called out in the table;
- HSE Spread: Vermont has been maintaining focus on its integrated Health Services Enterprise by combining the funding requests for all projects and initiatives in the Enterprise into a single request. Certain initiatives should have a funding contribution from different combinations of major funding streams that make up the consolidated funding request. Some of the initiatives listed in this SMHP are in this category and are indicated as using this HSE Spread funding mechanism. Note that the ‘spread’ might be different for different initiatives. This table refers to the HSE Spread as an appropriate model but the actual spread proposal will be specified in the IAPD.

Table 5.8: SMHP Initiatives

SMHP Initiative to be Included in IAPD Update							
Ref #	Title	Description	Resources	SMHP-HIT	SMHP-HIE	MMIS 90/10	HSE Spread
			S – Staff; C – Consulting / Contracting; X – Funding Streams				
1	EHRIP Program Operations	Develop, operate, administer, and audit the EHRIP program for Vermont.	S, C	X			
2	MAPIR DDI	Design, develop, and implement MAIR versions and interfaces to MMIS to support EHRIP	C			X	
3	Public Health MU DDI	DDI for Immunization Registry, Electronic Lab Reporting, Syndromic Surveillance and other registries to accept MU data from providers for	S, C	X			

		EHRIP.					
4	Provider Directory DDI	Provider Directory for the enterprise: EHRIP; MMIS; HIE (May be combined with eMPI)	S, C			X	
5	Enterprise Master Person Index (eMPI) DDI	eMPI reference source of person identification for the enterprise: EHRIP; MMIS; IE; HIE (May include Provider Directory)	S, C			X	
6	Telehealth Medicaid Analysis and Strategic Plan	Design phase of DDI for a Telehealth solution to connect Medicaid patients to providers for health care delivery and meaningful use, increasing opportunities for EHRIP.	S, C	X		X	
7	HIE Expansion – VITL	Initiative activities and components include contracted expansion projects (VITL – includes Public Health MU DDI support in the HIE); combined MU for EHRIP and HIE connectivity practice outreach and education; data quality projects associated with connecting new practices to insure MU for EHRIP while assuring care delivery and coordination outcomes through exchange of accurate ADT and CCD records	S, C		X		
8	HIE Expansion to Full Continuum Providers	DDI solutions to connect full continuum providers with limited EHR capacity to the HIE for clinical data capture, coordination of care, Meaningful Use including Public Health registry updates, Transitions of care, and more. This expansion development is associated with the provider/practice environment.	C	X	X		
9	All Payer Claims Database (APCD) DDI	Expand the APCD to support EHRIP, including Report development	C	X			
10	Clinical Data Registry (CDR) DDI	Expand the CDR to support EHRIP for eCQM capture, analysis, and reporting; Requirements development for CDR replacement/upgrade project RFP; DDI for CDR replacement)	S, C	X			
11	MMIS Data Warehouse DDI	Replacement, expansion, and modification of the DVHA Medicaid Data Warehouse. Medicaid data in this warehouse is source data for the Medicaid portion of the APCD and is also extracted for HEDIS. This warehouse will be built in SQL Server 2012 on new AHS servers	C			X	

12	Health Information Analytics Platform (HIAP) DDI	Analytics platform to support predictive and analytical modeling of health information from a variety of sources (CDR; APCD; MMIS; and more) for improved care delivery and cost reduction	S, C	X	X	X	
13	Pharmacy Benefits Management Program Improvements DDI for Meaningful Use; and outreach and education for requirements and implementation.	Formulary compliance based on display of formulary data, electronic prior authorization, and improved provider utilization (view formulary; alternate therapies; initiate prior authorization more timely) of e-prescribing for Medicaid patients. Initiative will develop requirements, design, and develop and implement a pilot with vendors and providers to demonstrate the value of the described improvements.	S, C	X		X	
14	HIT-MU Program Expansion	Strategic Planning and Plan documentation for State HIT Plan and SMHP.	S, C	X			

Following is a brief narrative discussion of the SMHP Initiatives:

1) EHRIP Program Operations

- a) Establish and operate the EHRIP program including outreach and education, provider communications, pre-payment validation, post-payment audit, help-desk support for providers and staff, audit program development, program modifications to support regulatory changes, administration and oversight of the MMIS-related portal and interface developments. Now that the EHRIP Audit plan is approved we will begin audit operations and will add a second audit staff resource and also augment the audit effort with contracted field audit resources.

2) MAPIR DDI

- a) Design, Develop, and Implement (DDI) releases of the MAPIR (Medical Assistance Provider Incentive Repository) portal extension to the MMIS System. Releases are currently scheduled to accommodate Meaningful Use Stage 2 for Hospitals (release 5.2), and for eligible professionals (release 5.3). An enhancement release (release 5.4) is also scheduled during the funding request time period for this SMHP. This work utilizes a development team in Pennsylvania for the core MAPIR functionality, while a local team customizes the core software for interfacing Vermont's MMIS system. Because Vermont is one of the thirteen states participating in the MAPIR collaboration, the funding for the core development is already approved through an IAPD process submitted by Pennsylvania. That IAPD is attached.

3) Public Health MU DDI

- a) Vermont Department of Health (VDH) public health development of systems and interfaces to support Meaningful Use Public Health measures of Immunization Registry, Electronic Lab reporting, Syndromic Surveillance, and Cancer and other registries. VDH will focus on enhancing the infrastructure necessary for users of EHRs to demonstrate the two-way information exchange between the providers and the public health department. During the development and

implementation phases, as registries are initially being populated through the desired electronic messaging, data transformations are necessary through an Integration Engine. Additional data mapping consulting is required for a number of reporting sources without support for the proper protocol (HL-7). VDH expects this start-up assistance to decrease each year as more systems are modified to allow for HL-7 messaging, and that by the end of 2015 these services are no longer needed. Additional consulting may be needed for development of interfaces and registry components and funding will be requested for that as well.

- 4) Provider Directory DDI, and
- 5) Enterprise Master Person Index (eMPI) DDI
 - a) Provider Directory (PD) and Enterprise Master Person Index (eMPI) are both instances of Master Data Management (MDM). A PD may also be considered a special instance of an eMPI. What's needed is a comprehensive directory of providers active in Vermont health care that can be used in health care reform efforts, Medicaid systems, and related systems. The State of Vermont will establish an authoritative source of record regarding Vermont providers, structured on the Service Oriented Architecture (SOA) and will be used across the State for identification, rights, and credentials management of health care. The eMPI will be a reference source of person identification. It is not intended to be a single source of truth but will utilize trusted best sources to create a consolidated record of people which can be referenced to validate identification. Together with the Provider Directory, this is part of a MDM solution for Vermont.
- 6) Telehealth Medicaid Analysis and Strategic Plan
 - a) Proposed is a Design phase of DDI for a Telehealth solution to connect Medicaid patients to providers for health care delivery and meaningful use, including opportunities for EHRIP. Vermont proposed a similar initiative in its original SMHP two years ago. In the intervening period of time Telehealth has been recognized as an important component of achieving improved outcomes for individuals constrained by limitations of access or mobility, and of achieving improved outcomes for the population as health care delivery can reach an expanded population through Telehealth services. We suspect, but must verify, that the majority of the population that would be treated through Telehealth are Medicaid enrollees or eligible for Medicaid benefits. Connecting patients to providers through Telehealth will improve opportunities for EHRIP incentives for those providers. This planning and design work is seen as a one-year effort with any proposed project work identified through this project work being proposed is a subsequent update to the SMHP and associated funding request.
- 7) HIE Expansion - VITL (Vermont Information Technology Leaders, Inc.)
 - a) Initiative activities and components included in the current agreement between DVHA and VITL include contracted expansion projects, combined Meaningful Use for EHRIP and HIE connectivity; practice outreach and education; data quality projects associated with connecting new practices to insure Meaningful Use for EHRIP while assuring care delivery and coordination outcomes through exchange of accurate ADT and CCD records. CMS has approved the current agreement with VITL, and its associated funding share. A revised funding share calculation has also been approved by CMS for initiatives that might fall under that model. The State will continue to refine initiatives for HIE expansion and to match those initiatives to appropriate funding share determinations that are fair for all payers.
- 8) HIE expansion to full continuum providers
 - a) DDI solutions to connect full continuum providers with limited EHR capacity to the HIE for clinical data capture, coordination of care, Meaningful Use including Public Health registry updates, Transitions of care, and more. This expansion development is associated with the provider/practice environment, although there is often associated interface development work at

the HIE. Vermont has set the stage for helping providers who do not otherwise have access to the EHRIP incentive payments. We have awarded grants to three associations representing three very critical provider populations in the full continuum: Designated Agencies who deliver Mental Health, Behavior Health, and Substance Abuse treatment under contract to the Department of Mental Health; Home Health agencies who deliver services under contract to several state agencies and departments; and Long Term Care organizations who participate in the Vermont Health Care Association. For each of these provider organizations we have a documented analysis and gap identification for their EHR technology and HIE along with recommendations for making improvements. HIE participation by some of these agencies will be critical to the success of the SIM Grant as well as the SBIRT grant. Also, in Vermont, Naturopaths are recognized in our Medicaid program as primary care providers. While we don't have documented gap analysis for this group of providers, we have met with them and we have a good understanding of the limitations that need to be addressed. While not eligible for EHRIP incentive payments, the State wants these providers to be achieving Meaningful Use and submitting eCQM (electronic Clinical Quality Measure) data to the repository. Consulting for HIE Expansion for Blueprint providers is also included in this initiative.

9) All Payer Claims Database (APCD)

- a) The APCD must be expanded to better support the EHRIP program, Meaningful Use, reporting on delivery results utilizing all claims data and being able to match claims data to clinical data in the repository.

10) Clinical Data Registry (CDR) DDI

- a) There are several enhancements required in the CDR to support EHRIP for eCQM capture, analysis, and reporting. The CDR is currently in its last year of possible contract extensions before state law requires an RFP process to consider alternatives. A re-procurement process is included in the funding request for this SMHP.

11) MMIS Data Warehouse DDI

- a) Replacement, expansion, and modification of the DVHA Medicaid Data Warehouse. Medicaid data in this warehouse is source data for the Medicaid portion of the APCD and is also extracted for HEDIS. This warehouse will be built in SQL Server 2012 on new AHS servers (see Item 12 below).

12) Health Information Consolidated Analytics Platform (HICAP) DDI

- a) An analytics platform is needed to support analysis of disparate data from a variety of sources (CDR; APCD; MMIS; more). Predictive and analytical modeling will improve care delivery and cost reduction. Vermont will also be participating in the Transformed Medicaid Statistical information System (T-MSIS), currently being implemented by CMS. Programs with the size and scope of Medicaid and CHIP require robust, timely, and accurate data in order to ensure the highest financial and program performance, support policy analysis and ongoing improvement, identify potential fraud or waste, and enable data-driven decision making. Section 4735 of the Balanced Budget Act of 1997 included a statutory requirement for states to submit claims data, enrollee encounter data, and supporting information. Section 6504 of the Affordable Care Act strengthened this provision by requiring states to include data elements the Secretary determines necessary for program integrity, program oversight, and administration. T-MSIS modernizes and enhances the way states will submit operational data about beneficiaries, providers, claims, and encounters and will be the foundation of a robust state and national analytic data infrastructure. States will be able to analyze data in the national repository. Over time, CMS plans to incorporate capabilities for states to conduct their own analyses of data available in the national repository

and, eventually, to enable states to bring their own data to analyze alongside the national repository.

- 13) Pharmacy Benefits Management Program improvements – DDI for Meaningful Use including outreach and education for requirements and implementation
 - a) This DDI will include formulary compliance based on display of formulary data, electronic prior authorization, and improved provider utilization (e.g., view the Medicaid formulary; alternate therapies; initiate prior authorization in a timelier manner) of e-Prescribing for Medicaid patients. This initiative will develop requirements, design, and develop and implement a pilot with vendors and providers to demonstrate the value of the described improvements.

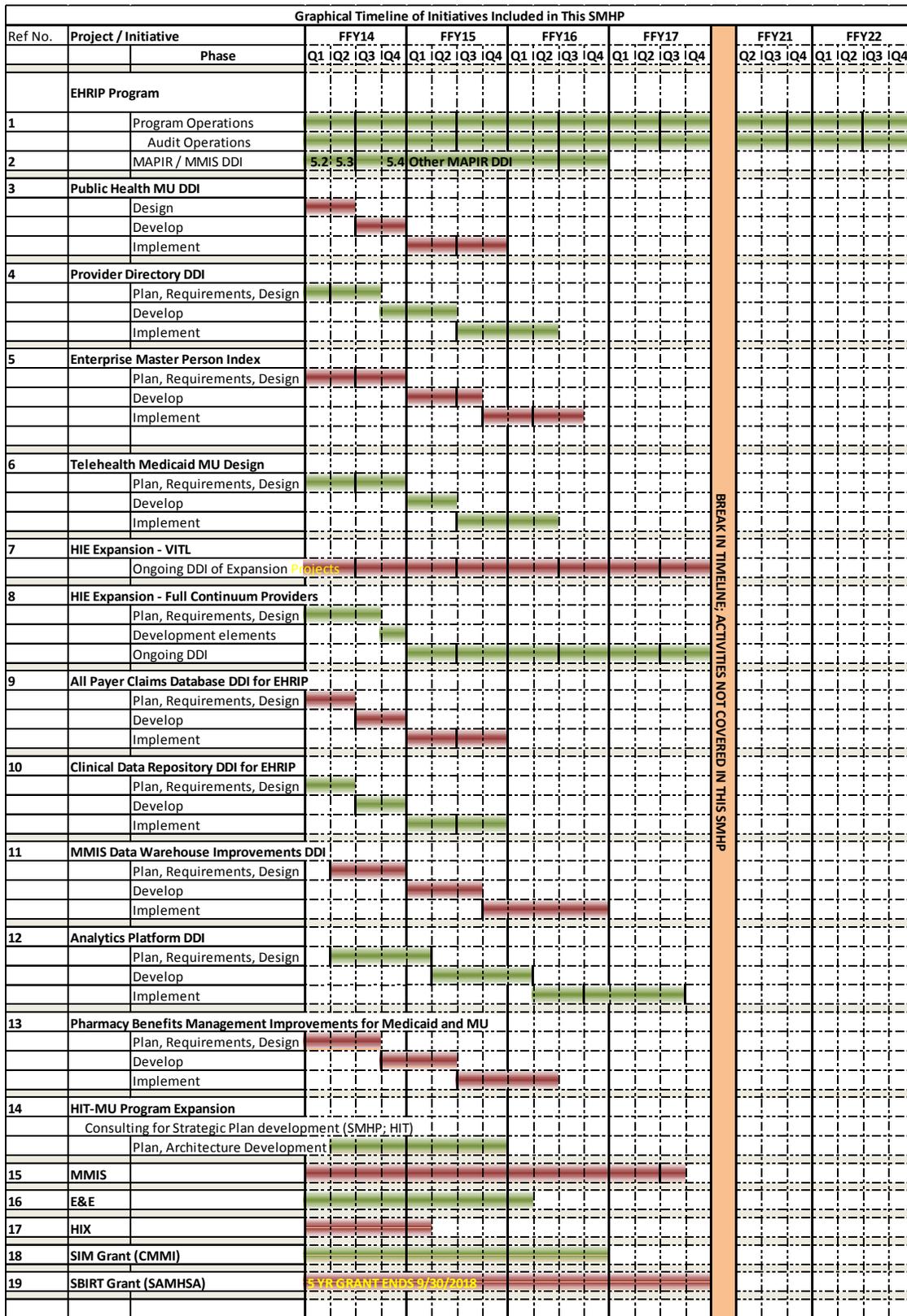
- 14) HIT and Meaningful Use Program Expansion – Planning
 - a) Vermont has been resource constrained for strategy development and associated planning documentation for the SMHP and the State HIT Plan. This initiative will provide consulting resources to arrive at good plans in a more timely manner.

The State depicts a time line for the above initiatives in two formats. The following table presents the SMHP initiatives by quarter for the two Federal Fiscal Years (FFY) covered by the IAPD that will be associated with this SMHP update. Further, the activity in each quarter for each initiative is coded to indicate Planning (P); Requirements (R); Design (Ds); Develop (Dv); and Implement (I). A simpler graphical timeline is presented after the table, and the graphical timeline includes the other major initiatives not a part of the SMHP proposal (MMIS, IE, and the insurance exchange).

Table 5.9: SMHP Initiatives Timeline

SMHP Initiative Timelines by FFY Quarter									
Reference No.	Initiative	FFY14 Oct 1, 2013 – Sep 30, 2014				FFY15 Oct 1, 2014 – Sep 30, 2015			
		1Q14 Dec	2Q14 Mar	3Q14 June	4Q14 Sept	1Q15 Dec	2Q15 Mar	3Q15 June	4Q15 Sept
		P – Plan; R – Requirements; Ds – Design; Dv – Develop; I - Implement							
1	EHRIP Program Operations	I	I	I	I	I	I	I	I
2	MAPIR DDI	Dv; I	Dv; I	I	I	I	I	I	I
3	Public Health MU DDI	Ds	Ds	Dv	Dv	I	I	I	I
4	Provider Directory DDI	P	R	Ds	Dv	Dv	Dv	I	I
5	eMPI DDI	P	P	R	Ds	Dv	Dv	Dv	I
6	Telehealth Medicaid Design	P	P	Ds	Ds	Dv	Dv	I	I
7	HIE Expansion - VITL	DDI	DDI	DDI	DDI	DDI	DDI	DDI	DDI
8	HIE Expansion – Full Continuum Providers	P	R	Ds	Dv	DDI	DDI	DDI	DDI
9	APCD DDI	R	Ds	Dv	Dv	I	I	I	I
10	CDR DDI	R	Ds	Dv	Dv	I	I	I	I
11	MMIS Data Warehouse DDI		R	Ds	Ds	Dv	Dv	Dv	I
12	Analytics Platform DDI		P	R	R	Ds	Dv	Dv	Dv
13	Pharmacy Benefits Management EHR Improvements for Medicaid and Meaningful Uses	P	R	Ds	Dv	Dv	Dv	I	I
14	HIT-MU Program Expansion		P	P	P	Ds	Ds	Ds	Ds

And the graphical timeline follows:



BREAK IN TIMELINE: ACTIVITIES NOT COVERED IN THIS SMHP

Figure 5.10: Graphical Timeline of SMHP and Other Initiatives

Without going into the details, there are clear dependencies surrounding much of the work and program progress identified in the roadmap’s timeline. Our consideration of and planning for these dependencies will be fully discussed in supporting IAPDs as we continue to submit the more detailed plans for this work. In 2012 Vermont submitted a consolidated Jumbo IAPD funding request for all of the work identified in the Health Services Enterprise project portfolio. That IAPD included the Health Benefit Exchange, Integrated Eligibility, MMIS, the Enterprise platform, and work related to HIT and HIE, which included SMHP-related work. We are committed to using this consolidated view in ongoing funding request updates as a way of maintaining focus on the integrated results we are trying to achieve. The specific HIT and HIE related work identified in this SMHP is incorporated into a funding request for the two-year period beginning October 1, 2013.

5.2 Expectations for provider EHR technology adoption over time: annual benchmarks by provider type

We have considered the CMS adoption scenarios described in the Final Rule and think that adoption rates in Vermont will exceed the Average CMS projected adoption percentage, if not approach the High estimated values. Our reason for this optimism is twofold: Vermont has expanded Medicaid coverage so the percentage of EPs meeting the patient volume thresholds should be higher in Vermont than the CMS estimated average; and, since the Vermont Blueprint for Health has incentives of its own tied to EHR adoption there is additional incentive for providers to acquire EHR systems. We anticipate a much greater penetration of EHR technology overall than would apply to just the qualifying Medicaid providers.

Current first year estimated adoption by professionals is currently estimated to be between 31 and 47% of those meeting the patient volume threshold, which is estimated to be 30% of all such providers. Longer term estimates, including a breakdown by provider type, remain to be developed and will be presented in subsequent versions of the SMHP. However, our current second and third year projections are for 45-66% and 54-77% adoption respectively for those meeting the patient volume threshold (these are cumulative projections).

We anticipate full participation from Vermont hospitals over time, and that the hospitals will be seeking maximum incentive payment percentages due to the challenges they all face with budgets. Thus, we expect the majority of all incentive payments for hospitals to occur during the first three to five years of the program, which began in October of 2011. For this edition of the SMHP we have developed two-year FFY projected incentive payments by quarter, for eligible hospitals and for eligible professionals. The table below presents these estimates, in thousands:

Category	FFY 2014				FFY 2015				Total
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	
Eligible Professional	\$812	\$5,120	\$1,378	\$1,378	\$880	\$3,814	\$153	\$153	\$13,688
Eligible Hospital	\$1,350	\$1,350	\$1,350	\$1,350	\$200	\$200	\$200	\$200	\$6,200
Total	\$2,162	\$6,470	\$2,728	\$2,728	\$1,080	\$4,014	\$353	\$353	\$19,888

Table 5.11 - Estimates of EHR Incentive Payments by FFY Quarter

5.3 Annual benchmarks for each of DVHA’s goals that will serve as clearly measurable indicators of progress along this scenario

The Department of Vermont Health Access and its Health Care Reform Team will continue to provide detailed reporting of progress of the programs and initiatives as depicted in the roadmap timeline above. These reports of system and program progress will be augmented by the increasing availability and utilization of clinical data in the repository.

Over time we will report the benchmark availability of key clinical measures related to public health, as outlined in the Blueprint for Health. Finally, beginning in 2015, we should be able to report on health improvement progress with information based on the implementations described in this plan. A more detailed description of these benchmarks will be available in a future iteration of this plan. Our goal is to also tie these efforts with our initial MITA SS-A benchmark, Strategic Plans, and our annual SS-A updates.

5.4 Annual benchmarks for audit and oversight activities

The audit strategy identified in our Audit Plan (attached) identifies a risk based methodology and the use of random sampling to select EPs and EHs for audit procedures. For EPs, all providers with a consolidated “High Risk” score will be selected for a post payment audit. If this number is too large to be manageable, then the risk criteria will be adjusted or a sampling of High Risk Providers will be audited. We estimate the high risk group will be 10% of our EPs. For “Medium Risk” providers, 20 will be randomly selected. And for “Low Risk” providers, 10 will be randomly selected. If this number of provider audits is easily manageable, then additional sampling will be done, and if it exceeds our resources and time constraints it will be reduced. If an EP applies to the EHRIP as part of a group and they are selected for an audit, then another EP attesting as part of that group will be randomly selected and will also undergo an audit. If either member of the group has an adverse audit, then all members of the group will be audited. The results of our audit processes during the first year of audit activities will inform adjustments to levels of sampling required to assure adequate oversight.

We have also established different benchmarks for auditing for the 2011 program year (Adopt, Implement, Upgrade) and for the 2012 program year (Meaningful Use). For the 2011 program year we are primarily auditing for eligibility and patient volume. Our benchmarks for both years for EPs and EHs are identified in Audit Flow Diagrams in our Audit Plan.

Appendix A: Vermont Sample Calculation of Hospital Incentive Payment

Vermont has developed a spreadsheet model of its hospital calculation. The model accommodates a choice of base year for base year discharges, and for specification of the three most recent years of discharge data. Other inputs to the model include total Medicaid inpatient bed days, total Medicaid managed care inpatient bed days, total inpatient bed days, total hospital charges, and total charity/uncompensated care charges.

The spreadsheet has several tabs:

- VT Hospital Calculation Master
 - This tab has no sample data entered, and can be used to enter test case data (or actual attested data) to make the hospital calculation. This tab also lists the source data for each entry, from the hospital cost data report (worksheet, part, column, and line).

- CMS Sample Data – High Discharges
 - This tab shows the results of the calculation using the same data that was used in the CMS-issued guideline “Medicaid Hospital Incentive Payments Calculations” (Medicaid Hospital Incentive Payments Final (July 26 – 508).pdf). The Vermont model produces the same results. The CMS sample data is an example of a high discharge rate, where the projected discharges in the later years of the calculation exceed the upper limit of 23,000 for determining the discharge-related amount. The Vermont model includes a ‘min-max’ calculation to disallow discharges that exceed this upper limit.

- Sample – Mid-range Discharges
 - This tab provides a sample calculation where the discharge data is within the upper and lower limits of 1,150 and 23,000.

- Sample – Low Discharges
 - This tab provides a sample calculation where the discharge data is below the minimum discharge level allowed for any additional incentive based on the discharge-related amount. This sample uses the same ‘min-max’ calculation used in the high discharges sample.

The spreadsheet is now available on Vermont’s EHRIP web site at: http://hcr.vermont.gov/sites/hcr/files/pdfs/EHRIP/VT_EHRIP_EH_CalcDetails_2013_04_09.xls and also accompanies the submission of this appendix to Vermont’s SMHP, for CMS review purposes.

Appendix B: Table of Acronyms

Acronyms appearing in this edition of the SMHP

ACA	Affordable Care Act
ACCESS	Not an acronym, stands for Vermont's legacy eligibility system
ACO	Accountable Care Organization
Acronym	Explanation
ADAP	(Division of) Alcohol and Drug Abuse Programs
ADHD	Attention Deficit / Hyperactive Disorder
ADT	Admit Discharge Transfer
AIU	Adopt, Implement, or Upgrade
APCD	All Payer Claims Database
ARRA	American Recovery and Reinvestment Act of 2009
BCBS	Blue Cross Blue Shield
BH	Behavioral Health
BHP _r	(HRSA) Bureau of Health Professionals
BISHCA	(Vermont Department of) Banking, Insurance, Securities and Health Care Administration (now DFR)
BPHC	(HRSA) Bureau of Primary Health Care
CAH	Critical Access Hospital
CBOC	Community Based Outpatient Clinic
CCD	Continuity of Care Document
CDC	Centers for Disease Control
CDR	Consolidated Data Record
CHCB	Community Health Centers of Burlington, a Vermont FQHC
CHCRR	Community Health Centers of the Rutland Region, a Vermont FQHC
CHIPRA	Children's Health Insurance Program Reauthorization Act
CHSLV	Community Health Services of Lamoille Valley, a Vermont FQHC
CHT	Community Health Team
CIS	Children's Integrated Services
CMHC	Community Mental Health Center
CMMI	Center for Medicare & Medicaid Innovation
CMS	Centers for Medicare & Medicaid Services
CPOE	Computerized Provider Order Entry
CRS	Center for Rural Studies
CSME	Central Source for Measurement and Evaluation
DAIL	Department of Disabilities, Aging and Independent Living
DAs	Designated Agencies
DCF	Department for Children and Families
DDI	Design, Development and Implementation
DFR	Department of Financial Regulation
DHMC	Dartmouth Hitchcock Medical Center
DHR	Department of Human Resources
DIRECT	A protocol for Direct point-to-point secure email transmission of health information

DMH	Department of Mental Health
DocSite	Covisint DocSite Clinical Data Registry
DPS	Department of Public Safety
DUALS	Refers to individuals dually eligible for Medicare and Medicaid benefits
DVHA	Department of Vermont Health Access
eCQM	electronic Clinical Quality Measures
EH	Eligible Hospital
EHR	Electronic Health Record
EHRIP	Electronic Health Record Incentive Program
ELR	Electronic Lab Reporting
eMPI	electronic Master Person Index
EMR	Electronic Medical Record
EP	Eligible Professional
EPSDT	Early and Periodic Screening, Diagnosis, and Treatment
ESB	Electronic Service Bus
FAHC	Fletcher Allen Health Care
FFY	Federal Fiscal Year
FQHC	Federally Qualified Health Center
GMCB	Green Mountain Care Board
GUI	Graphical User Interface
HBE	Health Benefit Exchange
HCCN	Health Center Controlled Network
HCR	Health Care Reform
HH	Home Health
HI	Health Information
HIE	Health Information Exchange
HIT	Health Information Technology
HIT/E	Health Information Technology / Exchange
HITECH	Health Information Technology for Economic and Clinical Health
HIX	Health Insurance Exchange
HIXNY	Healthcare Information Xchange of New York
HL7	Health Level 7 International – standard for interoperability
HRSA	Health Resources and Services Administration
HSE	Health Services Enterprise
HSEP	Health Services Enterprise Platform
IAPD	Implementation Advance Planning Document
IE	Integrated Eligibility
IZ	Immunization Registry
LRHC	Little Rivers Health Care, a Vermont FQHC
LTC	Long Term Care
LTPAC	Long Term and Post-Acute Care
LTSS	Long Term Support Services
MA	Medical Assistance
MAPIR	Medical Assistance Provider Incentive Repository
MDM	Master Data Management
MDS	(Long Term Care) Minimum Data Set
MH	Mental Health

MHISSION-VT	Mental Health/Substance Abuse Intergovernmental Service System Interactive On-Line Network for Vermont
MITA	Medicaid Information Technology Architecture
MITA-SS-A	Medicaid Information Technology Architecture – State Self-Assessment
MMIS	Medicaid Management Information System
NCQA	National Committee for Quality Assurance
NEHIN	New England Health Information Network
NESCSO	New England States Consortium Systems Organization
NLR	National Level Repository
NoTCH	Northern Tier Center for Health, a Vermont FQHC
NR&A	National Registration & Attestation System
ONC	Office of the National Coordinator
ONC-HIE-PIN	Office of the National Coordinator – Health Information Exchange – Program Information Notice
ORHP	(HRSA) Office of Rural Health Policy
PA OMAP	Pennsylvania Office of Medical Assistance Programs
P-APD	Planning Advance Planning Document
PBM	Pharmacy Benefits Manager
PHI	Personal Health Information
PHIN MS	Public Health Information Network Messaging System
PMO	Project Management Office
RCF	Residential Care Facility
REC	Regional Extension Center
RFP	Request for Proposals
RHC	Regional Health Center
SA	Substance Abuse
SaaS	Software as a Service
SAMHSA	Substance Abuse and Mental Health Services Administration
SASH	Support and Services at Home
SBIRT	Screening, Brief Intervention, and Referral to Treatment
SIM	State Innovation Model
SMA	State Medicaid Agency
SMCS	Springfield Medical Care Systems, a Vermont FQHC
SMDL	State Medicaid Director Letter
SMHP	State Medicaid HIT Plan
SNF	Skilled Nursing Facility
SOA	Service Oriented Architecture
SOP	Strategic and Operational Plans
SOV	State of Vermont
Surescripts	The Surescripts e-Prescription network
THC	The Health Center, a Vermont FQHC
T-MSIS	Transformed Medicaid Statistical Information System
UDS	Uniform Data System
UHIN	Utah Health Information Network
USDA	United States Department of Agriculture
UVM	University of Vermont
V. S. A.	Vermont Statutes Annotated

VA	Veterans Administration
VAHHA	Vermont Assembly of Home Health Agencies
VBH	The Vermont Blueprint for Health
VCDMHS	Vermont Council of Developmental and Mental Health Services
VCDR	Vermont Coalition for Disability Rights
VCGI	Vermont Center for Geographic Information
VCIL	Vermont Center for Independent Living
VDH	Vermont Department of Health
VHC	Vermont Health Connect
VHCURES	Vermont Healthcare Claims Uniform Reporting and Evaluation System
VHIE	Vermont Health Information Exchange
VHISP	Vermont Health Information Strategic Plan
VHITP	Vermont Health Information Technology Plan
VITL	Vermont Information Technology Leaders, Inc.
VRHA	Vermont Rural Health Alliance
VSH	Vermont State Hospital
VSOP	Vermont Strategic and Operational Plans
VTA	Vermont Telecommunications Authority
VTel	Vermont Telephone Company, Inc.
WIC EBT	Women, Infants, and Children Electronic Benefit Transfer