VERMONT

Agency of Human Services

Department of Vermont Health Access
Division of Health Reform
312 Hurricane Lane, Suite 201
Williston, VT 05495
hcr.vermont.gov
[phone] 802-879-5901

M E M O R A N D U M

TO: House Health Care Committee
Senate Health & Welfare Committee
Green Mountain Care Board

CC: Agency of Administration Secretary Spaulding
Director of Health Care Reform Lunge
Agency of Human Services Secretary Racine
Department of Health Access Commissioner Larson

FROM: Hunt Blair, Deputy Commissioner, Health Reform & State HIT Coordinator

DATE: January 15, 2012

RE: Act 48, Sec. 10 Health Information Technology Plan Recommendations

I am pleased to present recommendations, and to report and update on Department of Vermont Health Access (DVHA), Division of Health Reform (DHR) activities, pursuant to Sec. 10 of Act 48.

Section 10 of Act 48 directed the secretary of administration or designee to "review the health information technology plan required by 18 V.S.A. § 9351 to ensure that the plan reflects the creation of the Vermont health benefit exchange; the transition to a public-private universal health care system pursuant to 33 V.S.A. chapter 18, subchapter 2; and any necessary development or modifications to public health information technology and data and to public health surveillance systems, to ensure that there is progress toward full implementation."

The Secretary of Administration designated the review required by Act 48 to me as the State's Health Care IT Coordinator. As such, I have reviewed our state health information technology plan and have found that the state is engaging in steps required to ensure that full implementation of the state's health care reform goals set out in Act 48 and other laws. The state faces significant risks in some areas related to HIT which I document in this report, along with mitigating strategies that are being employed to address these risks.

Background: Prior to Act 48, the realm of Health Information Technology (HIT), per 18 V.S.A.§ 9351, was generally considered to include electronic medical record (EMR), electronic

health record (EHR), and medical practice management (scheduling and billing) systems, as well as Health Information Exchange (HIE), public health IT, and electronic prescribing (e-Rx) systems.

Act 48, Sec. 10 requires a review of the scope of HIT to ensure that the full range of information technology related to health care reform is included. The *Vermont Health Information Technology Plan* (VHITP) will now serve as the operational planning document, not just for HIT, but for the comprehensive portfolio of HIT and Health Reform IT systems, known now as Vermont's Health Services Enterprise portfolio. The portfolio includes underlying common IT shared services and tools, the Health Benefit Exchange (HIX), Eligibility & Enrollment (E&E) systems, Financial Management systems, public health information, health data, and health surveillance technologies, and the full Medicaid Management Information System (MMIS) or Medicaid Enterprise Solution (MES) architecture.

The entire Health Services Enterprise portfolio is being designed and procured, adapted, and/or upgraded in order to meet both current and near-term needs and to ensure that over the coming years, the Enterprise components will transition to support Vermont's envisioned public-private universal health care system.

As such, the portfolio represents not just "building the exchange," procuring "a new MMIS," or expanding HIT. It is a vision for how to wire the "neural network" of Vermont's health system, creating a data utility that provides real time, and close-to-real time, clinical and financial information for the management of the health care system *as a system.*

The Health Services Enterprise portfolio is the foundation of a fully interoperable, digital infrastructure for a learning health system. Its construction is already underway. This Memo provides details on efforts to date, on status of additional planning efforts, and recommendations related to that planning and implementation.

Initial Implementation Steps: Act 48 authorized the Secretary of Administration or designee to issue a request for proposals to support design and planning for integrating and expanding existing health information systems to carry out the purposes of the Act. Upon passage, the DVHA, in close collaboration with AHS IT, issued a Request for Proposals (RFP) for portfolio design and implementation consultation. That competitive RFP resulted in a total of 11 bids, and while three contractors were initially selected, ultimately just one contract was successfully executed. That contract, with the Action Mill, supports business process and communication systems essential to the successful achievement of the transformative goals of the Health Services Enterprise vision.

The Health Services Enterprise system components are spread across the needs and jurisdictions of DVHA's Division of Benefit Exchange, Medicaid as a whole, sister AHS Departments including the Department for Children & Families' Economic Services Division (ESD), the Department of Health, AHS IT, the Department of Information & Innovation (DII), the Health Care Administration, and the Green Mountain Care Board.

DHR, as the Secretary of Administration's designee, in close collaboration with AHS IT and the DII, plays the role of chief planner and coordinator of implementation for the integrated approach to health IT operational and evaluative systems and determined the funding needed for development of the Health Services Enterprise. Specific details of the cost of some Enterprise elements await results of competitive bidding for system components.

DHR has quantified the funding sources available for development of the Health Services Enterprise and in collaboration with the DVHA and AHS Business Offices, manages the funding requests and reporting to the federal agencies – primarily CMS – providing funding. In addition, the Division continues to play its more traditional role in support of the expansion and funding of Health Information Technology and Health Information Exchange, optimizing utilization of federal and state HIT resources.

Highlights of recent activities include: The following are some of the highlights of activities undertaken the past year toward development of the Health Services Enterprise:

- Completion and federal approval of the State Medicaid HIT Plan and federal approval of the first phase of 100% and 90/10 funding.
- Submission and federal approval of updated MMIS Planning 90/10 funding authority to support Health Services Enterprise portfolio planning.
- Launching the Medicaid Electronic Health Record Incentive Program (EHRIP) in October, 2011. This is 100% federal funding for qualifying Medicaid providers. Much of the 90/10 federal funding available to states related to HIT is based on state administration of this federal program to provide incentives for the adoption and meaningful use of EHR systems.
- Release of $5,779,000 in EHRIP payments in December 2011 to 103 eligible professionals and two hospitals, including one New Hampshire hospital. An additional $3.7 million are forecast to be released through the remainder of SFY12, $16.8 million in SFY13.
- Active participation with the New England States Collaborative Insurance Exchange System (NESCIES) insurance exchange "early innovator" grant to explore how the participating states can develop shared Exchange IT systems and reduce cost. DVHA staff serve on the NESCIES Steering Committee and have met bi-monthly (or more often) in person and by phone throughout the last year.
- Redesign of Health Services Enterprise procurement strategy in collaboration with AHS IT, DII, and DVHA Business Office,. This included withdraw of the previously issued Medicaid Enterprise Solution (MES) RFP, consultation with staff at the Office of Information Services (OIS) at the Centers for Medicare and Medicaid Services (CMS), and adoption of an "agile" strategy to ensure Vermont's portfolio procurement process is optimized to meet the aggressive federal Affordable Care Act (ACA) and state deadlines coming due between now and 2014 and beyond.

- A collaborative process for continuous improvement and (re)prioritization of the Health Services Enterprise procurement is now in place and is described in more detail below.
- Awarded first in a series of $100,000 HIT-HIE Planning Grants, to the Vermont Council of Mental Health & Developmental Services for development of comprehensive plan for connectivity of Community Mental Health Center and Developmental Disabilities agencies to the Vermont HIE network. Similar planning grants are in process for the home health and long term care providers, with awards expected first quarter 2012.
- Planning and articulation of a comprehensive administrative simplification strategy embedded in the Health Services Enterprise to support both near- and longer-term administrative simplification goals for the State.
- Received award of $10 million in federal funds toward Health Benefit Exchange IT infrastructure as part of the $18 million total Level One Establishment Grant from the Center for Consumer Information and Insurance Oversight (CCIIO) at CMS.
- In consultation with a Vermont advisory work group on privacy & security, developed new HIT consent standards. The proposed new policy will allow individuals to provide their consent to view their personal health information to physicians and other health professionals utilizing the Vermont HIE (VHIE) network operated by VITL (Vermont Information Technology Leaders, Inc.) as provided for in 18 V.S.A.§ 9352.
- Release of the first Health Services Enterprise RFP, posted January 4, 2012, for the Enterprise Master Persons Index (EMPI), a core component of the portfolio's infrastructure that will serve the HIX, MMIS, E&E, public health registries, and other AHS and State systems, by providing the technological means to match identities and share data across the many disparate health data systems.

Alignment of State and Federal Initiatives: Vermont's approach to design and procurement of its Health Services Enterprise is tightly aligned with the federal approach to both development and funding of the Health Benefit Exchange, MMIS, and related IT infrastructure components.

In late April, CMS published guidance entitled *The Seven Standards & Conditions for Enhanced Funding*, which lists requirements that states must meet to leverage the 100%, 90/10, and other federally matched funding streams that support the ACA. The Seven Standards serve as a touchstone for the modular, flexible, interoperable design of the Health Services Enterprise and its emphasis on reusability of portfolio components.

In addition to the Seven Standards, a series of three State Medicaid Directors (SMD) letters detail the terms by which states may access HIT funding. Through the Statewide HIE Coalition, Vermont played a key leadership role in the national discussion about "allowable costs" that qualify for Medicaid support related to HIE. By closely linking the state's HIE infrastructure to the Medicaid enterprise, a percentage of on-going, annual HIE operating costs can be paid through MMIS funding.

It should be noted that the time frame for successfully negotiating this arrangement was protracted. Informal discussions with CMS about Medicaid support for HIE began in the summer of 2009, shortly after passage of the HITECH Act that created the EHR Incentive Program. It took nearly two additional years for CMS to provide formal guidance for how to access that funding through the SMD letters noted above, and several months more for approval of Vermont's State Medicaid HIT Plan funding proposal.

The modular, integrated design strategy, the "service oriented architecture" (SOA) championed by CMS and embraced by Vermont, results in significant potential efficiencies at the state level, but it also introduces accounting, reporting, and temporal complexities not typical to development of stand-alone "silo" systems. Because of both operational and procurement interdependencies and the complex funds management and cost allocation challenges resulting from multiple, overlapping funding streams, the Health Services portfolio requires close coordination across the multiple Departments and Agencies noted above, as well as with CMS.

Positive Partnership Environment: Vermont staff work proactively with CMS and HHS leadership to maximize opportunities to strengthen the state / federal partnerships related to implementation of the ACA, to leverage technology being developed by CMS that can be accessed by the states, and to minimize challenges related to the multiple funding streams that characterize all of the portfolio projects.

It is a time of unprecedented opportunity for partnership, at a completely different level than was previously imaginable with CMS. Because of the ACA, CMS' mission and role are expanded. CCIIO, the Center for Medicare and Medicaid Innovation (CMMI), and the new "office of the Duals" (the Medicare – Medicaid Coordination Office) are all new at CMS.

The organization that once focused on Medicare in a different way than it managed its relationship with states and the Medicaid program, now operates multiple "state facing" programs and initiatives. This has been particularly transformative in the CMS Office of Information Services (OIS), which clearly now views the states as critical customers / stakeholders. Other leaders of HITECH and ACA-related programs at CMS are equally "state positive."

Vermont has aggressively pursued the opportunities resulting from this sea change, both for the obvious near-term benefits, and to continue to position the State favorably for waiver and other requests related to the evolution of health reform here.

A historically close working relationship with CMS has grown stronger over the past year.

- At the request of CMS leadership, a group of DVHA staff, accompanied by AHS IT and DII staff, met with over 30 CMS staff and contractors in Baltimore for an extended workshop session designed and led by the Vermont team on December 9, 2011, to detail a path for joint enterprise systems development.

- A work group formed that day continues to meet by phone, with several important work products that will benefit both Vermont and states HIE and HIX efforts more broadly due to be announced over the next two months.
- In addition to the Health Services Enterprise work, the Blueprint's participation in the Multi-payer Advanced Primary Care Practice demonstration and the AHS Dual's project contribute to the portfolio of CMS/Vermont partnerships.
- Beyond CMS, Vermont is working closely with HHS IT leadership to position the state as a "beta" site for adoption of emerging standards to bring consistency and interoperability to the broad portfolio of HHS-funded IT systems, from TANF to CDC. This has significant potential benefit for administrative simplification of state systems, and design and implementation of the Vermont Health Services Enterprise will reflect these innovations.

As noted above, even with robust federal funding support, innovation does not come without a cost. Even as technology pathways begin to be simplified, the management of funding allocations continues to be a persistent source of time and administrative overhead. Following a scheduled January 23 "gate review" meeting with CCIIO to conduct the HIX Project Startup and initial Architectural Review, Vermont staff will meet on January 24 with CMS fiscal staff and leadership. The goal of the second day of meetings is to review potential innovations in how cost allocation can be managed more efficiently while following the guidelines established by federal Office of Management and Budget (OMB).

As the table on the following page illustrates, multiple federal funding streams support the portfolio of Health Services projects, and these will only increase in number in the coming months. These levels of administrative reporting, cost allocation, and coordination led Vermont staff to request this meeting, to which CMS readily agreed. To the extent reporting can be simplified, management of the portfolio will be streamlined.

5. Funding Sources Matrix

Project Area	CMS: SMHP	CMS: MMIS	CMS: E&E	CCIIO: HIX	ONC* Sec. 3013	ONC* Sec. 3012	State HIT Fund	State Capital Fund
EHR Incentive Program Incentive Payments	X							
EHR Incentive Program Administration	X						X	
EHR Expansion & Meaningful Use Support	X					X	X	
Regional HIT Extension Center						X	X	
MAPIR (EHRIP registration / payment interface)	X	X					X	
CSME Upgrade		X					X	X
HIE Expansion	X	X			X		X	
Health Services Enterprise Shared Core Components	X	X	X	X			X	X
Health Benefits Exchange (HIX)				X				
VIEWS/Eligibility & Enrollment		X	X	X				X
New MMIS Procurement		X						X

* - ONC = Office of the National Coordinator of HIT; Cooperative Agreements

A New Way of Doing Business: Iterative Mapping of the Health Services Portfolio: One of the complexities of managing the scope of projects involved in the Health Services Enterprise is the high degree of overlap and interdependency between its constituent parts. This is true at the programmatic, policy, and business operations levels, as well as the technological infrastructure itself.

"Business as usual," where the State managed both business functions and their related procurements in silos, was identified at the outset as a recipe for failure. Consequences could include deadlines not met or desired interoperability and functional integration not achieved.

Doing business in new ways raises new challenges.

Taking a more coherent, integrated approach to systems development and being inclusive of multiple Departments' and individuals' perspectives takes more thoughtful time and planning on the front end, but it can save time and rework during systems implementation and pay operational benefits well into the future.

A key element to that front end planning is deciding what to do and also what not to do: what order do we tackle the work, what work needs to be done now, what can be deferred until later? A key consideration, given the complexities of the systems, the crushing time frames, and the

deadlines is: what is necessary to meet the state and federal statutory deadlines and how must the work be prioritized, incrementally, to meet project goals at each step?

One advantage inherent to a new, systemically integrated approach to design is that the components of the projects can be isolated and addressed discretely. Projects can be divided into manageable chunks. The challenge is to determine which "chunks" go together, and in what order. Two examples offer some perspective on what is involved.

1. Eligibility and Enrollment (E&E) systems. As already noted, the non-health care aspects of E&E are being postponed until after the 1/1/14 Exchange launch date. That is, what AHS has described as the VIEWS (Vermont Interactive Eligibility Workflow System) project to replace the decades old ACCESS eligibility system has itself been divided into health related and non-health related components. That said, E&E is as essential a component of the Health Benefits Exchange as it is of Medicaid. Indeed, the E&E functionality for HIX and Medicaid represent nearly identical business processes. The difference is only in the beneficiary's programmatic eligibility, and as is well known, beneficiary eligibility itself is often fluid, shifting from month to month as income levels shift. Therefore, that portion of the HIX infrastructure that is identical, or is nearly identical, to the Medicaid E&E infrastructure will be procured as a single component. That pairing of needs and technology will benefit both the procurement and on-going operations, as the Medicaid funding for E&E extends beyond the federal HIX funding horizon.

2. Web "portals" or web-based interfaces to the Health Services Enterprise components. These are significantly more complex than might initially be imagined, because there are potentially multiple users who can utilize portions of the same infrastructure, but for very different purposes. For economy of scale and ease of use, maintenance, and operation, it would be inefficient to create multiple portals (replicating the current environment). However, the users will differ substantially, and so certain aspects of the "look and feel" of the portal may change depending upon the role of that user.

   Specifically, users will include: consumers, both those enrolled and those "still shopping," state staff and contractors, providers, and insurance carriers. It is important to think about how each type of user will interact with the system to ensure that the functions will work well for that type of user. Making those and other HIX design and procurement decisions still further complicated, Vermont has the opportunity (through the CCIIO early innovator grant to NESCIES) to leverage Massachusetts' HIX portal procurement, but like the rest of the Massachusetts-related procurement leveraging opportunities, the fact that Vermont does not control Massachusetts' time frames represents a substantial risk.

Both examples illustrate how the portfolio of projects must be understood and managed from both a time sequence and functional process perspective. Through the portfolio roadmap work in the final quarter of 2011, the Division began to outline a series of Requests for Proposals (RFPs) to enable a cohesive and collaborative, organized and systemic process for procuring the services and components necessary for health IT transformation. This strategy allows for continued and nimble, layered procurements and implementations which enables the State to

continue progress via a series of contracts and other partnerships that can bolster the capabilities of Vermont's Health Enterprise.

The first RFP in the Vermont Health Services Enterprise RFP series focuses on the Enterprise Master Persons Index (EMPI). It was released in January and will be quickly followed up with a request for creating a provider database utilizing the indexing rules established as part of the first RFP. Portfolio management of procurement will use this incremental process to allow for maximizing an individual RFP procurement while minimizing, to the extent possible, the time to implement parts of a solution.

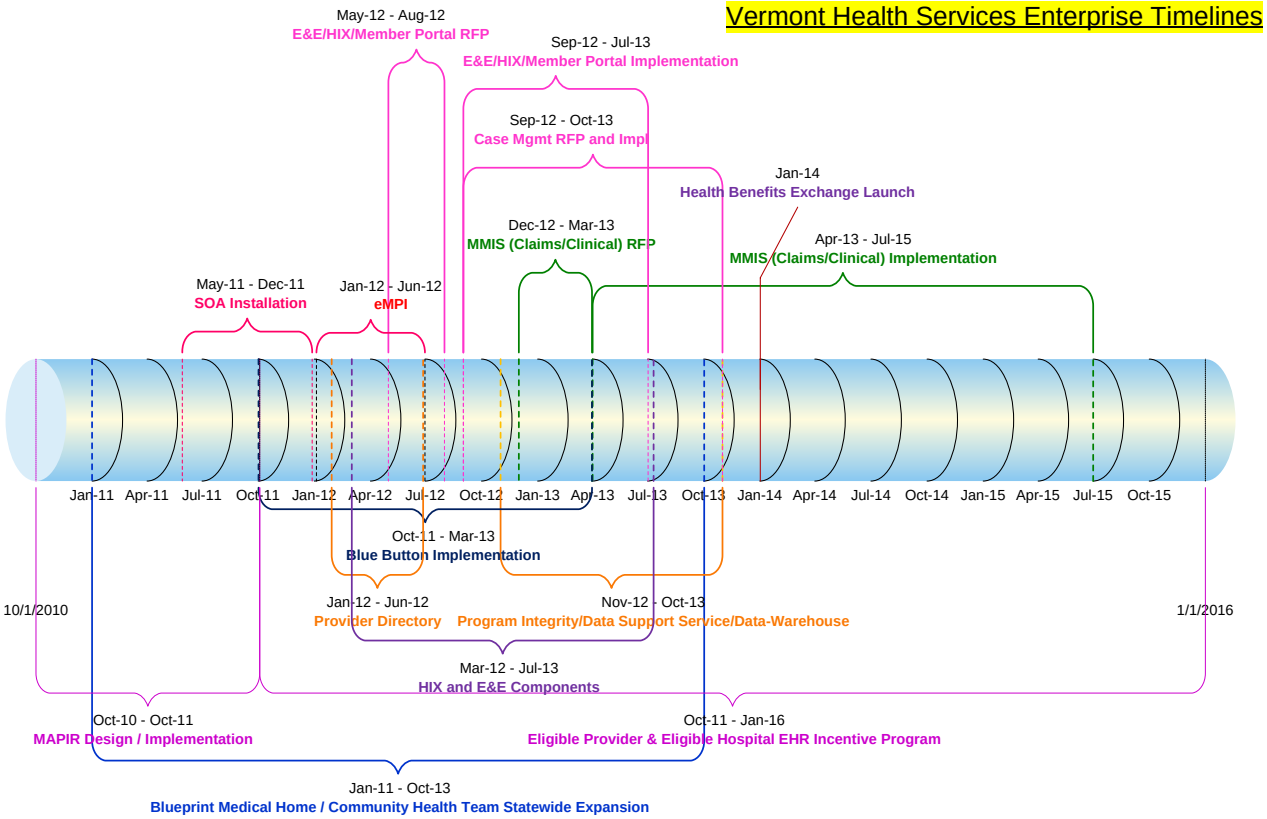
Health Enterprise IT and HIT Projects for remainder of SFY12 and SFY13: A summary of the RFP process defined to date follows below.

- Beginning on January 4th, DVHA and AHS IT issued the first of a series of Vermont Health Enterprise Requests for Proposal (RFP) that will continue through calendar 2012, into 2013, and beyond.
- These RFPs are for implementation of an interoperable Enterprise IT infrastructure that will support both the traditional AHS and DVHA IT functions (such as Medicaid eligibility and claims processing) and a comprehensive array of IT components to support Health Reform, including the Health Benefits Exchange, IT components to support administrative simplification, and systems to integrate care coordination and case management of human services programs, the Blueprint for Health, and Health IT.
- Because of the broad scope and extraordinarily tight time frames for implementation of these projects, DVHA, AHS IT, and DII have partnered to implement a new, accelerated approach to the writing and releasing RFPs. This will enable iterative improvements to the procurement stream life cycle to ensure that the State can take full advantage of partnerships with other states also involved in many of the same systems procurements. Vermont has established a partnership with CMS that will enable the State to take full advantage of opportunities to leverage federal health and health reform IT systems development as well.
- The first RFP for the Enterprise Master Persons Index (EMPI) was released in January and will serve as the authoritative source of record for all individuals served by AHS programs, including Medicaid, Department of Health registries, AHS Eligibility & Enrollment systems, and the Health Benefits Exchange. The EMPI will also support the Vermont Health Information Exchange (VHIE) network operated by VITL. The EMPI is being designed so that it will support administrative simplification in the near term and so that it will support Green Mountain Care, when that program is implemented in the future.
- The second RFP, scheduled for release in February, will be for the State Master Provider Directory that will serve as the authoritative source of record for all providers served by AHS programs, including Medicaid, Department of Health registries, AHS Eligibility & Enrollment systems, and the Health Benefits Exchange. The State Master Provider Directory will also support the Vermont Health Information Exchange (VHIE) network operated by VITL.

- Subsequent RFPs will build out the components of:
    - the Health Benefits Exchange,
    - the Vermont Integrated Eligibility Workflow System (VIEWS), starting the replacement of the current ACCESS system with the health eligibility components that will support both Medicaid and the Exchange, and
    - the ten business areas included in the Medicaid Information Technology Architecture (MITA) that encompass the Medicaid Management Information System (MMIS).
- Where applicable, RFPs will combine solutions for multiple enterprise components. For instance, both Member Management and Provider Management have applicability for Medicaid and the Exchange.
- Either as a series or in a combination RFP, requirements to support VIEWS and the Exchange will be released as rapidly as possible in the winter into spring time frame. Sequencing of these RFPs is dependent upon a variety of factors, including how much can be leveraged from other state and federal efforts. For instance, Vermont may be able to take advantage of much of the Exchange infrastructure under development in Massachusetts, but the level of sharing of systems will determine the scope of the Exchange-related RFP.
- In all instances, the RFPs will be for contractors who have the skills to integrate and implement systems which will build on the core AHS Enterprise IT components. In other words, while each RFP is distinct, the products must work together to create an integrated information technology system.
- Planning and procurement processes will be designed to ensure that the following non-negotiable deadlines will be met:
    - Core E&E and HIX infrastructure must meet CMS approval 1/1/13
    - Core E&E and HIX infrastructure testing must begin no later than 7/1/13
    - Consumers should be able to view and "start shopping" on the Health Benefits Exchange no later than 10/1/13.
    - Health coverage – Medicaid and Exchange plans – available for consumer selection and enrollment no later than 1/1/14.

8. Health Services Projects Timeline

Dates shown are approximate and some subject to change



A full page version of this time line is available separately and more user friendly format is coming soon.

Risk Factors and Mitigation Strategies: The following is a list of the most significant risks faced in development of the Health Services Enterprise and strategies employed to address each.

Risk #1: Failure to move the Health Services Enterprise forward on a measureable basis, with daily, weekly, and monthly accomplishments and milestones met and made visible. Given the scope and complexity of the work involved, it is possible that decisions could be delayed in an effort to wait for additional information or to avoid potential mistakes resulting in inaction.

Mitigation Strategies: DHR has adopted an "agile" method of development for the Health Services Enterprise. The methodology is based on iterative and incremental development, where requirements and solutions evolve through collaboration between cross-functional teams. This approach promotes adaptive planning that enables rapid and flexible responses to change.

Applying an incremental, rapid-cycle design / implement / test methodology to development of the Enterprise ensures that problems are identified earlier in the process, in contrast to a more traditional approach that pins accountability to achieving milestones determined at the project's outset. The agile approach flips that on its head and introduces accountability at each step of development to enable "course correction" as the Enterprise is being built, rather than waiting until the end to "see if works."

This embeds responsibility and accountability for success in the entire development team at each incremental milestone. We have an over-arching business architecture for the Enterprise. We know where we are going and when we need to get there. We are creating feedback loops to provide information, as we go, to refine the design / build / implementation / operation cycle. This approach enables an incremental, iterative design strategy, and allows the State to leverage efforts going on elsewhere in the country and through emerging technology solutions.

Risk #2: Loss of qualified, knowledgeable IT professional staff and recruitment challenges. The State faces significant challenges recruiting and retaining staff capable of procuring and implementing the Health Services Enterprise. Several highly qualified staff members have left the state for higher paying position in the private section. The salaries paid by the state make it difficult to replace staff in a timely manner. In some cases, new staff must be hired and trained to backfill existing staff so that experienced staff can be reassigned to work building the new systems. Every transition is staffing jeopardizes the state's ability to meet required deadlines.

In addition, because much of the information technology work will be supported by time-limited federal Exchange Implementation, Eligibility, and MMIS enhanced funding, the positions to support this work are for a limited duration. Limited duration positions are also more difficult to recruit.

Mitigation Strategies: This risk must be addressed by exploring opportunities to increase recruitment and retention of IT staff and consideration of additional contractual services to support available state staff. This has to be mitigated by taking significant steps that should be fully supported by the legislature. (See Recommendations section below.)

Risk #3: Operating in profoundly sub-optimal conditions. Candidly, the timelines imposed by the ACA and Act 48 are both daunting and aggressive, especially given the usual timeframes for building information technology systems. And yet, for a number of reasons, the temporal risks can also be substantially mitigated.

Mitigation Strategies: The chief mitigating factor with respect to the ACA is that Vermont is not in this alone. All of the 50 states, as well as the District and the Territories, are implementing the Health Benefit Exchange, and those that are not will be using the federal Exchange. Vermont has a lot of partners with the same deadline.

The biggest mitigating factor with respect to Vermont is scale. And clarity of vision. Alignment among the Divisions of DVHA, the Departments of AHS, and the Agency of

Administration is fully achievable, which is not the case in many other states. Utilizing the approaches outlined above, it is possible to design and refine the optimal implementation scenarios for the Health Services Enterprise, given sub-optimal conditions.

A third mitigating factor is the combination of the preceding two: Vermont, because of our scale, is especially well prepared to partner collaboratively with the federal Enterprise being built by CMS, to be the "beta test" site. We have already begun demonstrating the successful benefits of that approach and will continue to build upon it.

The adoption of an agile development and project management methodology is also a response to the time frame pressures, and is particularly well-suited to the multi-partner, collaborative nature of the approach Vermont is taking to implementing the Exchange and E&E infrastructure. "Cross-boundary" teams are a hallmark of agile methodology, and are already actively being utilized in multiple contexts:

- The collaboration with CMS described above is illustrative. Historically, CMS required extensive "Planning Advanced Planning Documents" and "Implementation Advanced Planning Documents," but once approved, there was little "check in" about whether projects were proceeding as planned or as anticipated. With its HIX funding, CMS began to shift to a more iterative process through "gate reviews" to provide sequential, phased release of funding approval. Vermont has taken that partnership a further step and actually engaged CMS in our system architecture design, specifically to seek out opportunities for leveraging federal HIX development.
- Another cross-boundary strategy involves crossing state lines. This is still a work in progress with variable results, as meshing state procurement processes is challenging. The CCIIO "innovator states" grant partnership with Massachusetts and the other New England states has been beneficial for sharing knowledge and documentation artifacts. Whether it will result in shared IT infrastructure remains to be seen, but that flexibility is only possible because of our agile methodology. Working with other states that have made some of the same technology decisions (e.g., other states that have licensed the Oracle SOA suite) like Oregon and Maryland is a promising cross-boundary strategy now being aggressively pursued.
- Finally, it is important to note that boundary crossing closer to home – breaking down the silos within and across State agencies – is a critically important element of DHR's strategy. It's often not even really about working in silos, it's about overcoming the completely normal and justifiable day-to-day focus a Department or Division has on its own work. DHR's role is to ensure that Vermont's health reform IT implementation has engagement from State staff across multiple Departments. (See Recommendations section below.)

An additional point to make about the agile methodology relates to the "clarity of vision" noted above. It is possible to undertake an iterative design / build approach to the Enterprise portfolio because the State's comprehensive vision for an integrated, digital infrastructure to support the Learning Health System principles articulated by the Institute of Medicine and embodied in our approach to implementing Act 48. Continuous learning and process improvement is integral to health reform and HIT implementation.

Risk #4: The State procurement process and the federal funds management process are slow and cumbersome. If the steps to issuing RFPs, managing the funds, contract negotiations, reviews, and reporting are not compressed and accelerated, the Enterprise faces significant risk of missed deadlines that could rapidly become extremely problematic. As noted above, time frames are not optimal. There is only so much that can be corrected for through an agile design and procurement process.

Ultimately, the State must fully enable the State to meet these ambitious deadlines.

Mitigation Strategies: The principle mitigating factors here are the lessons of Irene. If the Department of Transportation can oversee reconstruction of a bridge in four weeks that would normally take two years to permit and construct, we can build a Health Services Enterprise in two years.

The agile methodology is part of the strategy. An example is the approach to development of RFP requirements, already given its first iteration for the release of RFP #1 in the Health Services Enterprise series. Traditionally, writing requirements for an RFP is a linear, sequential process that can take weeks or even months. For the first RFP, virtually all of the EMPI stakeholders, including DVHA and VDH business users, AHS and DII IT staff and IT leadership, external partners from VITL, the DVHA HIT contracts manager, and project management experts met in a room together, for most of a day, on the week before Christmas.

The EMPI project went from vague to clearly defined requirements in less than 24 hours. A near final draft of the RFP was circulated for review less than 48 hours after starting the process. Had it not been for the Christmas and New Year's holidays, the RFP would have been posted the last week in December. This week, that same group is meeting for an "After Action Review" (AAR) of the process, to determine how to improve it for subsequent RFPs.

Cross-boundary interdisciplinary teams are also a key element of this mitigation strategy. In addition to the RFP AAR this week, DHR has organized several other inter-departmental, inter-disciplinary team meetings to focus on:

- Iterative design of the Health Services Enterprise business architecture,
- Prioritizing and sequencing the RFPs (to the extent that it can currently be known, given the externalities and interdependencies still awaiting resolution), and
- Managing a strategic approach to health reform data needs that will inform both IT system design, Enterprise procurement priorities, and project management.

The alignment of priorities across State government is essential to our success in this endeavor. (See Recommendations section below.)

Risk #5: Identification and availability of vendors who understand and can deliver the products and services needed. Ironically, both the federal government and many states have a more clear vision for the IT environment than many in private industry. This is not entirely surprising, in that the *Seven Standards and Conditions* represent a disruptive change to the large government systems contractor marketplace.

Mitigation Strategies: Here too, the "agile" approach to the project will enable the State to respond most effectively to evolving marketplace conditions. After receiving the responses from RFP#1, we will fine tune subsequent responses based on its results. We are also closely tracking other state procurements, in order to learn from and take advantage of developments elsewhere.

Other significant mitigating factors here are, again, the "safety in numbers" issue that multiple states and CMS needs these solutions, and the work that CMS senior leadership, the HHS Chief Technology Officer Todd Park, the CTO of the United States, Aneesh Chopra, and others are doing. They are actively seeking the engagement of new players in the IT landscape to engage in these new Enterprise system procurements with different business models, such as software or platform as a service (SAAS and PAAS) solutions.

Risk #6: Getting clear information and timely responses from CMS. Particularly given the rosy descriptions of partnership – current and potential – with our largest federal partner, it is only reasonable to also point to the risks that all will not proceed smoothly as the enormous entity that is CMS shifts its focus and way of doing business. There are examples on a regular basis of transformation at CMS being "a work in progress."

For instance, specific payments to a specific Vermont provider for Medicare EHRIP incentives payments have been identified as being unreasonably delayed. Subsequent inquiries and negotiation with CMS staff to correct the problem has been somewhat less than reassuring in terms of time frames for response. Within the State, staff experience both enlightened, and less enlightened, conversations with CMS. So it is wise to be cognizant that change is hard, and that it will not come quickly or easily at all levels of either the federal or the State enterprise.

Mitigation Strategies for those problems are well documented above.

General Recommendations; While progress toward developing the IT systems needed for full implementation of the Vermont's health care reform goals is on track, I would make the following recommendations to support continued progress:

1. The state must identify strategies to expedient the procurement process of priority projected related to the Health Services Enterprise to ensure project deadlines are successfully met.
2. The state must identify strategies to support the recruitment and training of necessary IT and project management staff.

Other Items: The concluding pages of this Memo include a review of the status of and process for updates to the *Vermont Health Information Technology Plan*, which will be carried out in Q1 2012 and finalized in Q2 2012.

In addition, a new process for soliciting and awarding grants from the Health IT Fund will be implemented in Q1 2012 to expand the number of awards to support greater connectivity and "liquidity" of health information to support the goals of Act 48.

Information about the utilization of the EMPI and State Master Provider Directory to support Administrative Simplification is included in that section of the Act 48 Integration Report.

Finally, both the State's multi payer claims database (the Vermont Health Care Claims Uniform Reporting and Evaluation System, or VHCURES) and the State's public health IT infrastructure are included in the Health Services Enterprise scope of work for planning and recommendations purposes, even though they are administered by the Banking, Insurance, Securities and Health Care Administration (BISHCA) and Vermont Department of Health (VDH), respectively.

In addition to ensuring the inclusion of both Medicaid and Medicare data in VHCURES, DVHA works very closely with BISHCA to refine VHCURES' reporting capacities and output to support the overall needs of health care and health reform activities, including its use to reduce fraud, waste, and abuse. The Vermont Blueprint for Health 2011 Annual Report provides examples of the increasingly sophisticated analytic reporting now possible from VHCURES.

Similarly, increasing integration of VDH chronic disease program activities with the Blueprint is leading to opportunities for IT system integration. The Blueprint's clinical registry functions, for instance, are being expanded to support VDH reporting requirements. Moreover, the development of the EMPI through the first of the Health Services Enterprise RFPs, will enable better integration of public health data both within AHS and with the health care delivery system as a whole.

The AHS currently operates over 284 discrete IT systems ranging in size, scope, and complexity, most of which are currently not interconnected. Moving forward, DHR, through the next iterations of the Vermont HIT Plan, will ensure that progress toward full interoperability of all health and human services IT systems continues to move aggressively ahead.

Process to Update the *Vermont HIT Plan* to meet State and Federal requirements: As is evident from the preceding sections of the Memo, there is a significant body of work to be included in the update to the *Vermont Health Information Technology Plan* (VHITP).

Last updated in October 2010, the 4th edition of the VHITP incorporated the collaborative efforts of VITL, state policy makers, administration officials, and a broad cohort of health care providers, professionals, and consumers, all of whom recognized the critical importance of placing HIT and HIE at the center of Vermont's health reform vision. That fourth edition of the responded to the following state and federal requirements:

- 18 V.S.A. chapter 219 § 9351, added through Act 61 of 2009, requires the overall coordination of Vermont's "statewide health information technology plan." That

function is now being done by the Department of Vermont Health Access (DVHA), Division of Health Reform. Vermont statute requires that the plan

> "shall include the implementation of an integrated electronic health information infrastructure for the sharing of electronic health information among health care facilities, health care professionals, public and private payers, and patients. The plan shall include standards and protocols designed to promote patient education, patient privacy, physician best practices, electronic connectivity to health care data, and, overall, a more efficient and less costly means of delivering quality health care in Vermont."

- The American Recovery and Reinvestment Act (ARRA) of 2009, Title XIII – Health Information Technology, Subtitle B—Incentives for the Use of Health Information Technology, Section 3013, State Grants to Promote Health Information Technology – State Health Information Exchange Cooperative Agreement Program requires each state to produce and submit Strategic and Operational Plans as a condition of funding.

- In addition, ARRA and the September 1, 2009 State Medicaid Directors Letter (SMD #09-006), the August 17, 2010 letter (SMD #10-016), and the May 18, 2011 letter (SMD #11-004) from CMS charge states with development of a State Medicaid HIT Plan (SMHP) as a condition of Federal financial participation (FFP) related to state implementation of and expenditures related to implementation and administration of the incentive payment program authorized by Section 4201 of ARRA and pursuing "initiatives to encourage adoption of certified EHR technology to promote health care quality and the exchange of health care information."

The October 2010 edition of the VHITP met both Vermont statutory requirements and the Office of the National Coordinator for Health Information Technology (ONC) guidance for the Strategic and Operational Planning document required as a condition of the State's Section 3013 HIE Cooperative Agreement and as further articulated in ONC Policy Information Notice (PIN) HIE – 001.

ONC PIN HIE—002 is anticipated to be released in early 2012. The next VHITP will need to reflect that federal guidance, be consistent with the approved SMHP, and incorporate the additional State considerations added by Act 48 detailed in this Memo.

The Administration is currently reviewing the State HIT Plan requirements in Title 18, Chapter 219 § 9351 with respect to expanded HIT planning requirements following from Act 48, and may provide recommendations for statutory changes to the legislature in the coming weeks.

An updated VHITP will be provided to the Green Mountain Care Board, per its duties articulated in Act 48, for review and approval, and will then be submitted to the ONC no later than 90 days after release of the new PIN.