

[The following is taken from Advance Planning Document (APD) v2.5 providing a description of the Health Services Enterprise Program.]

Innovation is where creativity and passion intersect with opportunity, and Vermont continues to be at the forefront of innovation in health care transformation. Vermont's HSE vision is a multi-year, multi-phased approach that reshapes and integrates our current business processes, improves our public/private sector partnerships, enhances our utilization of information, modernizes our IT environment, and results in an end-to-end transformation of the health care experience for the Vermont populace as well as the State and private employees who support the HSE.

Vermont's aggressive agenda for change is built on providing Vermonters with improved access to their personal health data in a secure, timely and effective manner, enabling services and solutions that result in improved life situations and better health outcomes in conjunction with enhancing access to health care benefits. The HSE strategy is to invest in new and upgraded components and technology that serve the current and near-term needs, while being positioned to help the State continually evolve to an integrated Enterprise in the strategic timeframe. At the same time, these components will help the State transition to support Vermont's envisioned public-private universal health care system. As such, the HSE represents a holistic approach to innovation in Vermont's health care ecosystem.

The Health Services Enterprise (HSE) is the comprehensive collection of Health Information Technology (HIT) and Health Reform Information Technology systems. Together they are managed in the operational planning document known as the Vermont Health Information Technology Plan (VHITP). The HSE consists of the Vermont Health Connect (VHC) online health insurance exchange, the Integrated Eligibility & Enrollment (E&E) system, the Medicaid Management Information System (MMIS), and Clinical Public Health Information and Surveillance technologies (Health Information Exchange – HIE). These strategic components are incrementally deployed upon Vermont's new service-oriented architecture (SOA) that allows for a modular, flexible, interoperable and learning computing environment leveraging shared services, common technology, and detailed information. The new environment is designed consistent with CMS' Medicaid Information Technology Architecture (MITA) and Seven Standards & Conditions to ensure the State's ability to meet the goals of increasing electronic commerce and transitioning to a digital enterprise.

As depicted in Figure 3.1, 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.

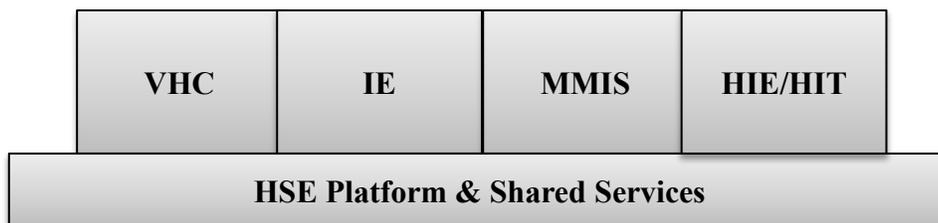


Figure 3.1

This integrated investment in functional solutions and standard computing platform are the key enablers for the State of Vermont to adopt an Enterprise approach and achieve true innovation in health care for the general population. Another important view of these solutions and platform reflects their respective deployment and relative maturity. This innovation began in Vermont with Vermont Health Connect and continues with the investment in remaining components. As common business services emerge, there will be greater reuse downstream and should allow for downstream solutions to be less costly as greater reusability is in place. This is depicted below in Figure 3.2.

The HSE program will be extended to integrate other solutions and information within the AHS/HIT domain

- Common Business Services will emerge as the program matures and commonly used functions are identified/implemented/reused

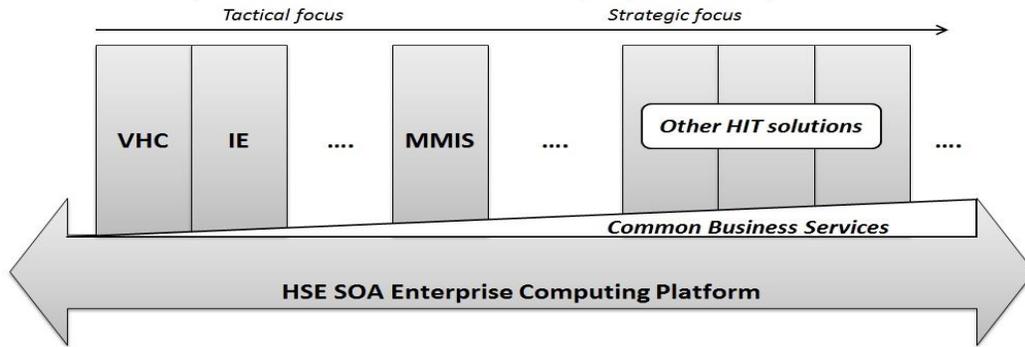


Figure 3.2

The procurement of services is vital to this success as it will provide the State with the ability to meet its goals and strategic initiatives leading the way in development of a health information network with seamless, transparent data liquidity. This transformation of health had the potential to generate tremendous positive impact and requires that all business, information and technical aspects of health work be evaluated and addressed in terms of efficiency, performance and customer service.

When considering the ambitious strategic goals and aggressive timelines the State of Vermont has, it's understandable that there will be a large number of contracts associated with the work. The State adheres to not only CMS guidelines but also tight Vermont processes in terms of procurements and attempts to leverage options that do not place the State in a precarious situation for addressing work needs. Activities associated with the HSE work in terms of management, coordination, production and oversight include:

- Memorandums of Understanding (MOU) with fellow State entities that can include tasks associated with:
  - IT oversight and architecture; hospital and provider payment/reform; data gathering and analysis; eligibility and coverage functionality; performing services and support; etc.
- Contracts with various consulting, professional services and solution vendors to address needs including:
  - Functional system solutions; staff augmentation; guidance and expertise in new technology and processes; etc.

Vermont has an admirably expansive vision for its Health Services Enterprise (HSE) – indeed, we are national leaders in our ambitions – but the systems to implement that vision must be designed and built incrementally. Our HSE approach is not complicated but is rather cumbersome due to the choices related to phasing (selection of which components to implement in which order) must be made in a fluid, “just in time” or agile project management structure. There are many reasons for this including Federal mandates, State guidelines, funding deadlines, and procurement impacts.

The interdependencies of the Health Services Enterprise work-streams are so intricate, successful implementation necessitates a series of tightly coupled design / build / test cycles to bring up components of the system incrementally, allowing for inevitable course correction mid-process rather than waiting for “completion” of the project to begin testing. Our Enterprise Architecture (EA) drives sharing and leveraging of services, components, system features and functionality and has a dramatic effect on the cost allocation for the Enterprise – with more of this explained further below. This approach [phasing] means that the forecasting of contract costs, resources, hardware, software, etc. are by definition refined on an on-going basis based on the experience garnered as the building out of the Enterprise matures.

Vermont’s Health Services Enterprise is all about “systemness” and manifesting the Agency of Human Services’(AHS) “Agency of One” vision. The AHS has the widest reach of all Agencies in Vermont state government. Whether helping a family access health care or child care, protecting a young child from abuse, supporting youth and adults through addiction and recovery, providing essential health promotion and disease prevention services, reaching out to elder Vermonters in need of at-home or nursing home assistance, enabling individuals with disabilities to have greater independence, or supporting victims and rehabilitating offenders, AHS provides support to many Vermonters and seeks to assist all Vermonters in accessing any of the relevant services we offer. Our “Agency of One” goal focuses on securely sharing any and all applicable data in a timely and effective manner to ensure Vermonters:

- Receive all of the services they not only recognize as critical to ensuring their success but also identify additional supports that will help them prosper

- Receive cross-departmental referrals and awareness – “no wrong door” for Vermonters
- Policy and Public Health efforts have necessary data for program analysis and program service coordination

The HSE is creating an environment where the person is at the focal point, not the program. Vermont’s broad long-term health care goals are in-line with the “Triple Aim” - focus on improving the care experience, improving the health of the population, and reducing the cost of care. The overall cost to the State is offset by overall savings from an improved delivery model and Vermont has already seen some early results, based on the early years of Blueprint implementation, with data indicating fewer hospital readmissions and fewer emergency room visits.

Vermont Health Connect (VHC) launched its Health Benefits Exchange solution on October 1, 2013, and met its subsequent critical dates as well. The Integrated Eligibility (IE) system has finalized system design and requirements that build off VHC and our HSE Platform efforts. The Medicaid Management Information System (MMIS) has released 2 of 3 planned Requests for Proposals (RFPs) to modernize and expand the MMIS and vastly improve the sharing of provider and claims data. The Electronic Health Record (EHR) Incentive Program is functioning at a high level of performance, with almost \$30,000,000 awarded to date, many providers transitioned from adoption to Meaningful Use, and an audit program was established to ensure quality and compliance. Vermont is one of the first-round of State Innovation Model Grant (SIM) recipients and will be demonstrating different payment reform models in the near future, with anticipated participation from our Health Information Exchange (HIE) to achieve the operational performance required to support these models.

Health Information Exchange, both the noun and the verb, are now being given early consideration in all new proposed projects and when workflow improvements are being considered. Examples of such include a project to improve outcomes and cost reductions with the dually eligible population, and a grant proposal was recently submitted to SAMHSA. Data liquidity remains a guiding principle for a key architectural component for the future, and HIE is one instrument to help achieve that flow of quality data. Vermont has started SIM efforts that will also contribute to the expanded use and utilization of data.

The “Totality” of these systems makes up the core pieces of the Enterprise. Each will appropriately share information (demographics, financials, benefits, etc.) to improve efficiencies in not only the services and benefits an individual receives but results in a ‘golden record’ on an individual. This ‘golden record’ will allow the Agency to meet its ‘Agency of One’ goal of making a difference in the lives of Vermonters through program effectiveness, integration, focus on outcomes and alignment of processes across the Agency and this will be accomplished by maximizing value out of every tax dollar; measuring outcomes; and moving from service delivery to service coordination.

The following provides greater detail as to how Vermont views the benefits of Federal legislation (Affordable Care Act), State Mandates (Act 48) and AHS Strategic Planning. Some of the work below has funding approved (VHC, MMIS, E&E, SMHP) with requested adjustments in this APD. There are also some work streams (SIM, etc.) that are in the development phase and funding for such will be reflected in future APD submissions as allowable. The focus here is to provide clarity around the current and future vision and goals of Vermont’s Enterprise.

**Health Information Technology** – expanding resources to address: time lines, dependencies, risk factors relating to Electronic Health Record adoption and implementation; Health Information Exchange connectivity; expansion and adoption of the Blueprint clinical data repository and registry; expansion/modernization/integration of Public Health IT registries, syndromic surveillance; and broadly available, integrated Personal Health Record and patient-driven Health IT applications and services.

**Financial Records / Transactions:** The MMIS procurement and implementation, which includes both Medicaid claims processing and information management to support Medicaid Operations and Program Management, Program Integrity, Provider Management and Member Management. A Claims Normalization Gateway, its relationship to existing and future-state insurance plans, claims clearinghouses, and the risks / opportunities associated with disintermediation and / or redesign of the claims “supply chain.” IT systems designed to support planning, analytics, and payment mechanisms for transition to and operation under Global Budgeting.

**Exchange/ Eligibility / Enrollment:** The initial work focuses on Vermont Health Connect implementation yet it folds into Integrated Eligibility – part of our phasing approach.

**Reporting / Evaluation:** this is a cross-cutting category that supports all of the three above, including the opportunity for leveraging information resources across clinical and claims records domains. Opportunities for enhancement of the VHCURES (Vermont Healthcare Claims Uniform Reporting & Evaluation System) multi-payer claims data base,

further alignment with and development of the IRIS (Integrated Research Evaluation System) health informatics data platform at UVM, and enhanced integration of reporting and clinical quality measurement capacities of the Blueprint IT systems, state HIE, and Meaningful Use reporting by providers.

**State Technical Infrastructure:** consists of the AHS (and DII) implementation of the Service Oriented Architecture (SOA) core components, state Master Provider Directory and Master Persons Index, and IT systems to support a fully integrated approach to meeting the health related business needs of AHS Departments and programs.

Overall, we have divided the Health Services Enterprise into five major component areas:

1. Health Services Enterprise Platform (HSEP) – the core shared infrastructure (purple on the chart)
2. Vermont Health Connect (VHC) – Vermont’s Health Insurance Exchange (HIX) (dark blue)
3. Integrated Eligibility (IE) - Eligibility & Enrollment systems (light blue)
4. Medicaid Management Information System (MMIS) – claims processing, pharmacy, program integrity (green)
5. State Medicaid HIT Plan (SMHP) - Clinical Information Systems (orange)

The color scheme is consistent throughout all of the spreadsheets, tables, and associated documents with the HSE.

# To-Be Vision of the Digital Infrastructure of Vermont's Health Services Enterprise: High Level Enterprise Business Architecture

NOTE: this is only a suggestive schematic, not a definitive data flow diagram, for discussion purposes.

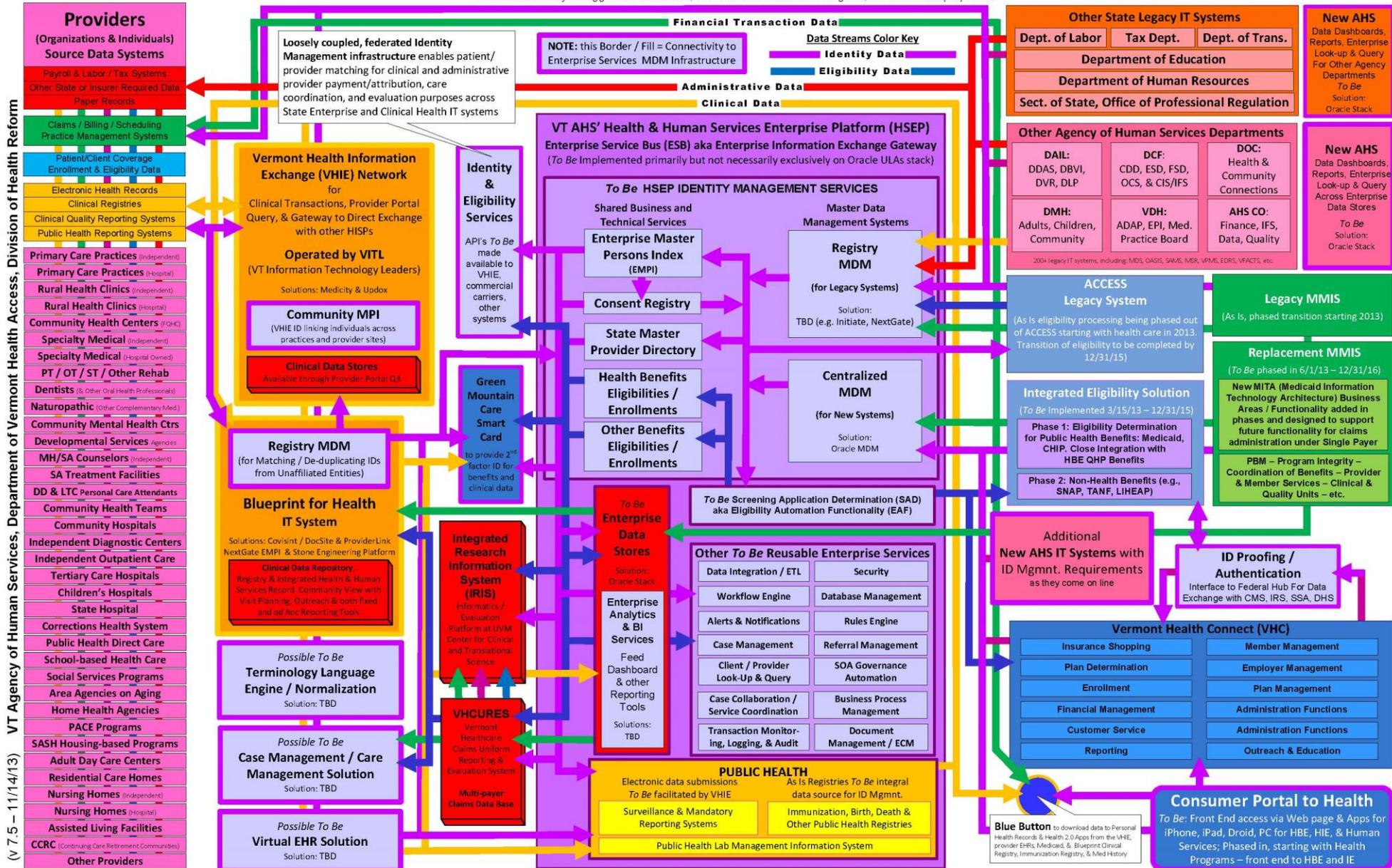


Figure 3.5

Both VHC and IE (#'s 2 and 3) are highly dependent upon the HSEP (#1). Portions of VHC (#2) are potentially able to be accomplished in combination or in parallel with IE (#3), but in all cases, our priority is going to be to advance work on those systems tied to the 2014 deadlines. Clinical information systems (not yet detailed on the timeline) move along a different track and affect an expanded government population (external customers and users), but it will also leverage the HSEP and the MMIS (#'s 1 and 4) where it can.

This all goes back to our cumbersome but not complicated statement. Our leveraging and reuse of services, components, and solutions all impact decisions on timing, cost allocation, resources and staffing. We are creating a robust 21st century enterprise that will empower people and not just treat symptoms.

We are building a foundation of integrated HIT components that will meet our near-term needs to operate the insurance exchange, to implement payment reforms, and to have the capacity to operate long term as a fully-enabled information and payer system. We will simplify and align administrative systems – like eligibility and claims adjudication – by moving them into a shared infrastructure. We will ultimately bring together Medicaid, the Exchange plans, and whatever other payers we incent or regulate into participation, by operating a single, common, interoperable infrastructure. This transformative system will be able to learn from itself with data feedback loops as it evolves. We are building a single system that can be viewed and managed globally to direct how we deliver and pay for care, moving from volume to value, and rewarding alignment and efficiency.

As noted, this will happen in stages, as the health information and health insurance exchanges are built out to reach every health care provider and health care consumer in Vermont. We will address all Federal and State Legislative mandates and ensure that as policy choices are made, we will have a flexible, reusable, reconfigurable Enterprise system to support it. The Enterprise will have at its core - the person – the individual. The HSE will record, track, link and share all necessary data in an efficient, effective and secure manner providing the user with a positive, informative and meaningful experience.

Timeline

The Vermont HSE is a multi-year project where the vision of downstream impact on modernization of systems, delivery of services and full, automated integration of data will run through 2017. The Design, Development and Implementation (DDI) cost of these HSE efforts consist of a mixed blend of Federal and State funding with the State taking advantage of the A-87 Exception along with maximizing cost allocation amounts when feasible.

The table (Figure 3.6) 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.

		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		

Figure 3.6

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