



DLTSS Data Planning Project

DLTSS Information Technology Assessment

Prepared for the Vermont Health Care Innovation Project by HIS Professionals, LLC

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1. Executive Summary

1.1. Overview

This report is prepared for the Vermont Health Care Innovation Project (VHCIP). It seeks to document the health information technology (HIT) used by Disability and Long-Term Services and Supports (DLTSS) providers in Vermont. The report provides an initial assessment of DLTSS providers' HIT capacity, and updates prior assessments¹ of Vermont's Long Term and Post-Acute care (LTPAC) providers. The report examines HIT adoption levels and health information exchange (HIE) capabilities, and recommends next steps for these organizations to exchange health information and engage in analytics for population health management and enhanced and efficient care coordination.

Providers included in this report are: the Vermont Area Agencies on Aging; Adult Day Providers; Designated Mental Health Agencies and Specialized Service Agencies² providing behavioral health, substance abuse, and disability services; Home Health and Hospice Care Agencies; Traumatic Brain Injury Providers; Residential Care Homes³; Skilled Nursing Facilities⁴; Assisted Living Residences; Support and Services at Home (SASH) providers; and the Vermont Center for Independent Living. For the purposes of this report, the term "Long-Term Residential Care Facilities" refers to Skilled Nursing Facilities and Residential Care Homes (including Assisted Living Residences).

This study was conducted during a period of increasing focus on the use of interoperable health information technology in long-term and post-acute care (LTPAC) settings. Information technology enhances the ability of these services to support health care payment and delivery system reform by enabling electronic measures, improving efficiency, and improving communication between care teams at transitions of care.

Optimal support and care for frail elders and individuals with disabilities in community-based settings requires coordination between care team members including the individual, their immediate family,

¹ Providers previously assessed included Home Health and Hospice agencies; long-term care facilities (including Skilled Nursing Facilities, Residential Care Homes and Assisted Living Residences); and Designated Agencies and Specialized Service Agencies.

² Designated Agencies and Specialized Service Agencies provide behavioral health, substance abuse, and disability services. (Visit the Department of Mental Health website for a list of Designated Mental Health Agencies: <http://mentalhealth.vermont.gov/DAList>. More information on Specialized Service Agencies: <http://www.ddas.vermont.gov/ddas-programs/programs-dds/programs-dds-addl-webpages/programs-dds-types-of-services>.) Designated and Specialized Service Agencies include Therapeutic Community Residences, defined by the Department of Disabilities, Aging & Independent Living as a "transitional facility... providing individualized treatment to three or more residents in need of a supportive living arrangement to assist them in their efforts to overcome a major life adjustment problem, such as alcoholism, drug abuse, mental illness and delinquency."

³ Residential Care Home definition: "A place, however named, excluding a licensed foster home, which provides, for profit or otherwise, room, board, and personal care to three or more residents unrelated to the licensee."

More information: <http://dail.vermont.gov/dail-statutes/statutes-dlp-documents/rch-licensing-regulations>.

⁴ Skilled Nursing Facility definition: "A facility or distinct part of a facility that is certified for participation in the Medicare program as a skilled nursing facility."

primary caregivers, case managers, service providers, and medical providers. In July 2012, the Office of the National Coordinator for Health Information Technology (ONC) hosted a roundtable discussion with providers, policymakers and IT vendors about the HIT and HIE needs of LTPAC providers. The participants recommended that LTPAC provider IT needs be framed around care teams, including patients, families and caregivers - moving away from provider-centric models of EHR capabilities and needs assessments.⁵

In March 2013, ONC released an Issue Brief titled "Health IT in Long-Term and Post-Acute Care" which stresses the importance of interoperable health record systems for long-term and post-acute care providers: "Although LTPAC providers are not eligible providers in the EHR incentive program... the ability for LTPAC providers and facilities to send and receive information with eligible providers and electronically exchange standardized data bi-directionally between care settings is paramount to the continuity and quality of patient-centered care."⁶ The transitions of care requirement for Stage 2 of the EHR incentive program has increased awareness of the technology gap between the Meaningful Use requirement for hospitals and eligible professionals to send electronic care summaries, and the ability of LTPAC EHRs to receive them. The lack of EHR technology in over 50% of long-term residential settings in Vermont, and the inability of most long-term care EHRs to receive and consume care summaries electronically is a significant barrier for providers eligible for Meaningful Use incentives to fulfill this requirement.

This report details the technology capabilities of DLTSS providers, identifies opportunities for standardization and infrastructure development, and offers preliminary recommendations for strategies and improvement projects. The next phase of this planning project will address budgeting and implementation planning for approved recommendations.

1.2. Related HIT/HIE Systems and Projects in Vermont

Research for this report did not include a complete inventory of related HIT projects planned or underway on a State-wide level; however, a brief description of a few significant existing systems and projects will provide context for activities that were underway and were considered in the development of the recommendations in this report.

Acquisition and Implementation of a Medicaid Care Management System: The Agency of Human Services (AHS) is procuring an enterprise-level Care Management System with the functionality to support all AHS programs that provide care management services to Medicaid beneficiaries, including programs for which care management services are provided through external partners. The Vermont Chronic Care Initiative will begin using the new system in 2016, and extension to additional programs is planned later in 2016. Additional planning and analysis is underway to determine the exact roll out approach, including potential replacement of existing systems (like SAMS, described below) used by some DLTSS providers for care management.

⁵ RTI International, "Long Term and Post-Acute Care (LTPAC) Roundtable Summary of Findings," Office of the National Coordinator for Health Information Technology, 2012.

⁶ Office of the National Coordinator for Health Information Technology, "Issue Brief: Health IT in Long Term and Post Acute Care," HealthIT.gov, 2013.

Vermont Care Networks (VCN) Data Quality and Data Repository Project: This project, which focuses on collection, aggregation, and reporting of consistent, reliable, and structured behavioral health data, is planned to complete its first phase in 2017.

Migration of the Blueprint Clinical Registry System (DocSite): In order to continually provide services to Support and Services at Home (SASH) providers and Blueprint practices, the Blueprint Clinical Registry System (DocSite) will be migrated to the Vermont Health Information Exchange (VHIE) infrastructure. SASH and other care teams will have the ability to access this system post-migration.

42 CFR Part 2 Compliant HIE: The Department of Vermont Health Access (DVHA) and Vermont Information Technology Leaders (VITL) are collaborating on a solution to allow health information protected by SAMHSA's 42 CFR Part 2 regulation to be transmitted and accessed with appropriate consent. This foundational project is discussed in more detail in Section 5.4 of this report.

Social Assistance Management System (SAMS): SAMS is a system designed to support and manage Choices for Care and provide improved consumer services and support through real time information sharing for Vermont's Department of Disabilities, Aging and Independent Living (DAIL) programs.

Shared Care Plans/Universal Transfer Protocol (SCÜP): This initiative is currently engaged in a discovery process and business requirements gathering effort. It will investigate the ability of diverse service providers to share information with each other electronically in a timely, standardized fashion across the continuum of care, using a common data set.

Telehealth Strategy and Pilots: VHCIP engaged a contractor to conduct a statewide assessment of the status of current telehealth technology equipment and services in state and develop a statewide telehealth/telemedicine strategy. The strategy was completed in September 2015 and informed the release of an RFP intended to identify one or more VHCIP-supported telehealth pilot projects throughout the state.

VITLAccess: VITLAccess is a service provided by VITL and assembles patient information received from health care organizations across Vermont and compiles the patient information into a single secure provider portal.

VITLDirect: VITLDirect is a secure messaging service provided by VITL that can securely transmit a summary of care record for a single patient between providers.

1.3. Summary Findings

This report summarizes key findings related to whether and how HIT is used by DLTSS and other LTPAC providers in the state. It does not include assessment of ongoing HIT/HIE projects occurring across an array of other initiatives in Vermont, many of which are related to LTPAC (some described in Section 1.2,

above). The report is based on research done between November 2014 and March 2015 and as such represents a snapshot in time, and frequently describes work in progress.

A consistent finding across all providers in the study is that although many LTPAC providers are using electronic health records systems (EHRs), most are not able to share or exchange information electronically. Table 1.3 below summarizes findings related to HIT connectivity by provider type:

Table 1.3 Summary of HIT Adoption and HIE Connectivity by Provider Type

Provider Type	HIT Adoption and HIE Connectivity Summary
Adult Day Centers (See Section 4.1.1)	No EHR use; some use MS Access, Excel, and Word to track some functions; heavy reliance on paper forms.
Area Agencies on Aging (See Section 4.1.2)	AAAs utilize Harmony Social Assistance Management System (SAMS) system (license held by DAIL) for case management and financial management.
Vermont Center on Independent Living (See Section 4.1.3)	VCIL uses CIL Management Suite software from Q90 Corporation to track clients and services and enter case notes.
Support and Services at Home (SASH) (See Section 4.1.4)	SASH providers use Covisint’s DocSite Clinical Registry to perform assessments, develop care plans, make referrals, and track individual medications, allergies and health team members.
Traumatic Brain Injury (TBI) Providers (See Section 4.1.5)	No EHR use; heavy reliance on paper forms and MS-Word templates.
Designated Mental Health Agencies (See Section 5)	All 11 designated agencies, and the National Family Institute (NFI) have implemented some level of electronic health records. Software vendors include Lavender and Wyatt (7 DAs), Netsmart (2), (Cerner (1), and Askesis (1). Five DAs have implemented lab results interfaces to their EHRs with one or more hospitals, and five agencies are planning to add additional interfaces.
Specialized Service Agencies (See Section 5)	Five SSAs are currently working together to procure a shared EHR system.
Home Health Agencies (See Section 6)	All HHAs use electronic systems for administrative tasks, including OASIS-C and billing. Nine have implemented electronic medical records, and one is in the planning stages. Software vendors include: McKesson (5 HHAs), CAREFACTS (2), Homecare Homebase (2 for-profit HH providers), HealthWyse (1) and Allscripts (1). Demographic interfaces to the VHIE have been implemented by the five agencies using McKesson Homecare. A clinical summary (CCD) interface is planned at one agency. One agency uses VITLAccess and three are planning to use it.
Long-Term Residential Care Facilities (See Section 7)	Nearly all facilities use electronic systems for administrative tasks including billing and resident management. Approximately half of the 80 long-term residential care facilities surveyed across this study and the 2013 study have implemented electronic medical records. Most commonly used software vendors include: PointClickCare (22 facilities), HiTech ⁷ (23), ECS (7) and Eldermark (7). Two facilities have implemented lab results interfaces, and one is piloting VITLAccess.

Details of high-level findings and State-specific recommendations with preliminary estimated costs and assumptions are available in Tables 8.1 and 8.2.

⁷ Hi-Tech was purchased in 2014 by Wescom/PointClickCare.

2. Study Methods and Participants

Study methods included conducting phone interviews with providers, vendors and State staff. Additionally, there was a review of prior assessment reports, other Vermont-specific documentation, and national efforts related to LTSS data planning and interoperability standards.

Providers contributing to the Home- and Community-Based Supports DLTSS Assessment section, Section 4 below, include: five Area Agencies on Aging organizations in Vermont, 12 Adult Day Centers, two Traumatic Brain Injury (TBI) providers, the Vermont Center for Independent Living (VCIL), the Bennington Aging and Disability Resource Center (ADRC), and Support and Services at Home (SASH).⁸ State entities interviewed included the Department of Disabilities, Aging & Independent Living (DAIL), the Department of Vermont Health Access (DVHA), the Department of Mental Health (DMH), and the Vermont Blueprint for Health (“the Blueprint”) within DVHA.

Providers who contributed information to the updated assessments (Sections 5 and 6 below) include: 11 Designated Mental Health Agencies/Developmental Services agencies, nine not-for-profit and one for-profit home health agencies (HHAs), and 54 long-term residential care providers (nursing homes, level 3 and 4 residential care homes, and assisted living residences).

The [Acknowledgements](#) section at the end of this report includes a complete list of interviewees and contributors.

3. National Policies and Initiatives

This section explores national initiatives and existing policy recommendations that can be used to guide future DLTSS HIT/HIE work in Vermont.

3.1. The eLTSS Initiative

In November 2014, the federal Standards and Interoperability (S&I) Framework⁹ launched the electronic Long-Term Services and Support (eLTSS) Initiative as a partnership between ONC and the Centers for Medicare & Medicaid Services (CMS). The initiative is intended to support development of standards for interoperable patient records for use by community-based LTSS providers. The interoperable record will support transitions of care between institutional and community-based settings of care, and coordination of health care (both behavioral and physical health), and social services.

The eLTSS Initiative scope includes identification of data elements for the eLTSS record that are specific to the types of services rendered and information required for LTSS, identification of functional requirements, and development of implementation guidance. The eLTSS record will be designed to be interoperable across multiple settings of care. In addition to interoperability with patient care systems, the eLTSS record standards will support data exchange between eLTSS providers and state Medicaid

⁸ Due to limits in time and budget, this assessment was not able to interview every LTSS provider in the state.

⁹ The S&I Framework is a collaborative community of participants from the public and private sectors who are focused on providing the tools, services and guidance to facilitate the functional exchange of health information. (<http://www.siframework.org>)

systems, and with personal health record (PHR) systems. The standards developed will support communication of the eLTSS record by HIE systems.

The foundational work of the eLTSS Initiative is scheduled to be completed in the fall of 2015, and will be followed by several pilots to evaluate the specific use case identified by the Initiative. This pilot phase will be completed in Fall 2016. Subsequent phases of work will address revisions to the initial implementation guidance, re-testing of the revisions in a second pilot cycle and will culminate in presentation of validated and agreed upon LTSS data exchange standards to a national standards organization for balloting and approval. States, and interested provider organizations are invited to participate.

3.2. LTPAC IT Collaborative 2014-2016 LTPAC Health IT Roadmap

The national LTPAC Health IT Collaborative announced the 2014-2016 LTPAC Health IT Roadmap which is focused on connecting people, processes, and partners. The Roadmap targets the following five priority areas for action:¹⁰

1. **Connected workers:** Supporting teamwork, access to knowledge based information, and accountability by connecting health care workers to others on the care team and providing access to health information to support the care of the people served.
2. **Connected partners:** Advancing interoperability standards and data exchange to improve coordination of care, chronic disease management, and facilitate access to up-to-date information by connecting providers across the continuum of care.
3. **Connected residents and caregivers:** Empowering residents and caregivers by involving them in care plans and wellness initiatives using technology. Enabling technologies discussed include remote monitoring, telehealth, and self-monitoring. This goal is in alignment with the emphasis on patient engagement in the Meaningful Use stage 2 and 3 rules.
4. **Connected health intelligence:** Supporting the “data follows the person” goal of access to health information across settings of care, and the collection and reporting of outcomes.
5. **Connected business imperatives:** Addressing the requirements of data collection and reporting for new reimbursement models such as bundled payments, the use of technology tools for benchmarking and analyzing risks and opportunities for individual health care enterprise’s expansion and growth.

3.3. Behavioral Health Continuity of Care Document

Work has continued towards a national standard for a summary of care record that can communicate information recorded by behavioral health providers, and specifically identifies the care manager and the plan of care as documented by the providers caring for the patient. The orientation of the summary of care documents as required by Meaningful Use for exchange between providers is specific to medical information and does not include standard behavioral health specific information, limiting its usefulness to behavioral health providers.

¹⁰ P. Tabar, "LTPAC Technology Roadmap 2014-2106: It's all about getting connected," *Long Term Living Magazine*, 24 June 2014.

Among the available standards for behavioral health interoperability are:

- HL7 Implementation Guide for CDA® Release 2: Patient Assessments, Release 1.¹¹
- HL7 Version 3 Domain Analysis Model: Summary Behavioral Health Record, Release 1 – US Realm (approved June 2013).¹²
- HL7 EHR Behavioral Health Functional Profile, Release 1.¹³

These standards were developed over several years with input from a wide range of behavioral health experts from the United States and abroad, although some stakeholders have more encompassing requirements than this current set. According to the Certification and Adoption Workgroup's¹⁴ 2014 recommendations to the Health Information Technology Policy Committee on Behavioral Health/LTPAC EHR certification, these requirements would be best served by a more comprehensive set of standards, which have been validated against a robust analysis of the business and semantic interoperability requirements of the domain.¹⁵

3.4. Data Segmentation for Privacy Initiative

Data segmentation requires that a policy decision point/rules engine must have the ability to understand which data or documents from patient records are protected by the policy. If some data/documents are protected by a policy and some are not, then there must be a method in place to segment the protected documents. This is a core functional requirement for systems and solutions capable of data segmentation for the purpose of ensuring the privacy of patient records. With a combination of meta-tagging and a rules engine, a provider can be alerted that a record they are accessing contains patient information that is being withheld, or about portions of the record that are covered under special privacy laws.¹⁶

In 2009, ONC sponsored development of the data segmentation for privacy (DS4P) standards to address concerns about ability for a patient to request that portions of their health record (for example HIV status or treatment for drug abuse) be withheld or redacted when providing consent for their record to be shared with other providers on HIE networks.¹⁷

In September 2011, ONC's Office of the Chief Privacy Officer (OCPO) and Office of Science and Technology (OST) teamed to fund the Data Segmentation for Privacy (DS4P) Initiative through the S&I Framework. DS4P gathered a community of experts, including software developers, health care providers, patient advocates, and health informaticists, to assess existing HIT standards and their utility in enabling record segmentation.¹⁸ There were six federally sponsored test pilots of data exchange

¹¹ For more information, see: http://www.hl7.org/implement/standards/product_brief.cfm?product_id=21.

¹² For more information, see: https://www.hl7.org/implement/standards/product_brief.cfm?product_id=307.

¹³ For more information, see: http://www.hl7.org/implement/standards/product_brief.cfm?product_id=14.

¹⁴ A workgroup of the HIT Policy Committee (HITPC), which was created by legislation to advise the ONC on policy related to HIT standards, implementation specifications, and certification requirements.

¹⁵ Certification & Adoption Workgroup, "Recommendations on BH/LTPAC EHR Certification," HIT Policy Committee (HITPC), 2014.

¹⁶ For more information, see: <http://wiki.siframework.org/Data+Segmentation+for+Privacy+Paper>

¹⁷ J. Conn, "Tech fixes ease sharing of sensitive patient data," *Modern Healthcare*, 13 September 2014.

¹⁸ <http://www.healthit.gov/providers-professionals/ds4p-test-cases-pilots>

incorporating the standards.¹⁹ By the end of the DS4P Initiative in 2014, some of the pilots demonstrated the exchange of sensitive electronic health information using standardized privacy metadata.

Building on the DS4P Initiative's work, HL7 began a DS4P project in 2013. Their project was sponsored by the HL7 Security Work Group and the Community Based Collaborative Care (CBCC) Work Group. HL7 DS4P produced an implementation guide which finished Normative Ballot in January 2014 and was accredited by the American National Standards Institute in May 2014.²⁰

4. Use of Health Information Technology by Home- and Community-Based DLTSS Providers in Vermont

This section presents the current use of health information technology (HIT) by Home- and Community-Based Service (HCBS) providers in Vermont, and identifies opportunities to build IT infrastructure, and enhance health information management and HIE capability.

The HCBS organizations deliver community-based services including care coordination, case management, and assistance with transportation, meals, social supports, caregiver support, and support for activities of daily living. Service is delivered using a combined medical and social model reliant on understanding of an elderly or disabled person's interests, family situation, abilities, history, communication preferences, and other social factors. Medical support services provided include medication passing, vital sign checks, blood sugar checks, and other condition-specific monitoring.

These community-based DLTSS services are primarily funded by Vermont's Global Commitment 1115 Waiver (recently consolidated with Vermont's former Choices for Care 1115 waiver), which allows Medicaid to fund these service needs for individuals who choose to receive their long-term care services and supports in their home or community, rather than in institutional settings. Services for individuals with developmental disabilities or a traumatic brain injury are also part of the Global Commitment Waiver.

DLTSS providers such as AAAs, the VCIL, SASH, and ADRC provide information and coordination of care and services such as fuel, food, transportation, and other community-based supports, and use a variety of electronic and manual systems for Information and Referral (I & R), Case Management, Client Notes, Assessments, Care Plans, and mandated state and federal reporting. AAAs, SASH, Adult Day Centers, and TBI providers that deliver nursing visits, medical monitoring and medication passing are not using electronic records to record these activities as structured data.

4.1. Use of Health Information Technology by Home and Community-Based Providers

The national LTPAC Health IT Collaborative's LTPAC HIT Roadmap 2014-2016 emphasizes the benefit of connecting individuals and caregivers to community programs and resources, and providing a

¹⁹ <http://www.healthit.gov/providers-professionals/ds4p-test-cases-pilots>

²⁰ https://www.hl7.org/implement/standards/product_brief.cfm?product_id=354

communication and information sharing platform for individuals and families using long-term care services. Software to support this sharing is increasingly available. The following section will more specifically address the current use of HIT by home- and community-based providers, and provide recommendations for improvement.

4.1.1. Adult Day Centers

The twelve Adult Day Centers participating in the study utilize varying levels of technology depending on the size of their organization. The larger agencies maintain participant, caregiver, volunteer, and donor computer records using standard tools like MS Access, Word and Excel. Intake and assessment data is recorded on paper forms. Daily medical recordkeeping is performed using pre-printed forms for handwritten recording of vital signs, medication use and provider notes. Depending on the agency, information may be transcribed from the handwritten record back into an on-line form. There is no use of electronic health record (EHR) application software to store data in structured formats, and no mechanism for information to be shared or exchanged electronically with others involved in the participant's care. Medicaid Waiver billing information is directly entered into the state's Medicaid Management Information System (MMIS). The Adult Day Centers use caregiver and participant satisfaction survey data for quality reporting to the State. Recently, the survey has been changed from a paper survey tool to an on-line survey, but use of the electronic survey is not mandated.

The Adult Day Centers had mixed feelings about automation of their operations. There was general agreement as to the usefulness of automating attendance tracking and associated daily recordkeeping; however, opinions about the use of on-line assessments and medical record varied, with some interviewees expressing concern about depersonalizing the initial participant encounter by entering assessment data into a computer during a face-to-face encounter. Some were cautious about using an electronic system that may not be completely reliable and secure.

Some Adult Day Centers have evaluated specific operational and recordkeeping systems for their agencies. These systems include intake and referral tracking, EHR, participant attendance tracking, billing, scheduling, activity, and treatment documentation. The Adult Day Centers would benefit from some form of information sharing technology. Although an EHR or a scaled down EHR solution would be ideal, the solution could also fall under the scope of the Shared Care Plan/Universal Transfer Protocol (SCÜP) project or other existing SIM/SOV activities.

4.1.2. Area Agencies on Aging

The five Vermont Area Agencies on Aging (AAAs) use the Harmony "Social Assistance Management System" (SAMS) system as their primary case management and financial management database. The SAMS license is held by DAIL. The system is also used to complete documentation required by the State Medicaid Waiver programs and the Federal Older Americans Act. The AAA's have recently hired a consultant to develop an electronic version of the Independent Living Assessment (ILA) form in SAMS. Currently, the ILA is completed in the field by assessors using tablet computers. AAAs also use a legacy reporting database which was originally developed by the Champlain Valley AAA to work around the lack of functionality of SAMS to record client notes.

The five AAAs have a well-articulated short-term technology plan which involves consolidating multiple standalone systems to use a single database platform from Harmony (SAMS and add-on modules). Two years of data will be migrated from the currently used ReferNet I & A platform to SAMS, so that a single database is used by the AAAs.

DAIL has been supporting the AAAs and other providers using SAMS by performing system administration for SAMS and developing custom forms, but the support needs of the expanded Harmony systems installed at the AAAs and other providers will soon exceed the time allocated to State staff to perform these functions. The State should explore the possibility of allocating more staff and resources for this initiative.

While the State is working to implement the SCÜP solution to provide technologies to support shared care plans and transfer protocols which will improve the State's capacity to coordinate care, the SAMS system could be expanded to a read-only mode. This allows LTSS providers to view an individual's assessment, care plan, care notes, and schedules. SAMS is customizable enough that an online form containing the essential data elements identified for coordination of care could be used as an interim solution.

4.1.3. Vermont Center for Independent Living (VCIL)

VCIL uses the CIL Management Suite²¹ software from Q90 Corporation to track clients and services. It also generates the federal 704 performance reporting required for recipients of Independent Living Center funding, including the independent living center (ILC) survey. VCIL also uses the software for case notes and tracking client progress towards goals. CILSuite is a web based solution, and does not interface to any other systems.

4.1.4. Support and Services at Home (SASH)

Support and Services at Home (SASH) is an extension of the Blueprint for Health and is a partnership between affordable housing, behavioral health, home health and Area Agencies on Aging. SASH focuses on supporting transitions of care, patient self-management, and coordination of care, and assists individuals and caregivers to identify programs and services.

The SASH Program uses a clinical registry, called DocSite, to perform assessments, develop care plans, make referrals, and track the progress of the individuals they coordinate services for in each hospital service area. The SASH team also enters health information such as an individual's medications, allergies and health team members into DocSite.

The DocSite system is also used by the Blueprint for Health as a chronic care registry, and by Community Health Teams to develop individualized health maintenance plans for patients seen in primary care settings.

²¹ www.cilsuite.com

The SASH representative surveyed expressed concern over the lack of ability to communicate electronically with other service providers that they coordinate with, citing the lack of ability to electronically communicate an ADL (activities of daily living) assessment with an AAA or HHA who is also serving the individual. Currently, this information is printed from DocSite, and the paper copy is shared with other providers. As previously mentioned, the State is currently developing an electronic solution to support Share Care Plans/Universal Protocols (SCÜP) which could similarly support both SASH and the Community Health Teams.

4.1.5. Traumatic Brain Injury (TBI) Providers

These providers serve patients with traumatic brain injury in long-term residential care settings. The providers interviewed were located in small organizations documenting on paper forms. There is no use of electronic health record (EHR) application software to store data in structured formats, and no mechanism for information to be shared or exchanged electronically with others involved in the resident's care. Medicaid Waiver billing information is directly entered into the state's Medicaid Management Information System (MMIS).

TBI caregivers did not indicate that they had a need for electronic health record systems. Several providers used computers with MS-Office to transcribe and maintain patient records, and felt this to be adequate given their stable census of long-term residents and the perceived high cost of EHR systems. The need for information exchange with other treating providers was discussed, however due to the TBI caregiver staff accompanying patients to medical appointments and having face-to-face interactions with medical providers, this population of LTSS providers did not feel HIE would be of use to them.

5. Update to the January 2012 Report on HIT Use by Designated and Specialized Service Agencies Providing Behavioral Health and Developmental Services

This section updates a January 2012 report titled "Readiness and Data Needs for Participation in the Vermont Healthcare Information Exchange (VHIE)" prepared for the Vermont Council of Developmental and Mental Health Services.²² As such, all recommendations in the 2012 report were directed toward those providers. Details of progress toward full EHR rollout by Designated Agencies (DAs) and Specialized Service Agencies (SSAs), ONC certification of behavioral health systems, barriers to interoperability, and limitations imposed by federal laws governing re-disclosure of substance abuse treatment information are discussed in this update.

5.1. Electronic Health Record Systems

²² The Vermont Council of Developmental and Mental Health Services received a State Health Information Technology Fund (HIT Fund) grant to conduct a readiness assessment of member agencies (Designated Agencies and Special Service Agencies), and the Vermont Agency for Human Services (AHS), to utilize the VHIE to communicate clinical and administrative information.

Significant progress has been made in EHR implementation by DAs and SSAs since the 2012 report. The agencies have functional EHR committees meeting regularly, and are expanding their EHRs to all programs within the agency. The only vendor/product changes since 2012 are the implementation of the Lavender and Wyatt Systems, Inc. (LWSI) Essentia EHR at Washington County Mental Health Services, and Clara Martin Center’s implementation of the NetSmart Avatar EHR in 2012.

Since 2012 two EHR vendors used by the Vermont agencies (Anacazi and DeFran Systems) have been acquired by other vendors. In January 2013, NetSmart acquired DeFran Systems which is used at Northeast Family Institute, and in November 2012 Cerner Corporation acquired Anacazi Software which is used by United Counseling Services

The EHR systems used at the agencies are certified according to the 2011 and 2014 ONC certification rules. See Appendix 1 [EHR Product ONC Certification Status](#) for details. This certification ensures standards based interoperability and also the functionality to report certain clinical quality measures (CQMs). See Appendix 3 [DA/SSA EHR Ability to Report Clinical Quality Measures](#) for details. According to the Vermont Medicaid Administrator for the EHR Incentive Programs, 22 eligible professionals working at the DAs have attested for the “Medicaid Adopt/Implement/Upgrade” Year 1 incentive payment; providers who have ONC-certified EHRs can then receive incentive payments. These attestations were submitted by agencies using the Lavender and Wyatt Essentia System.

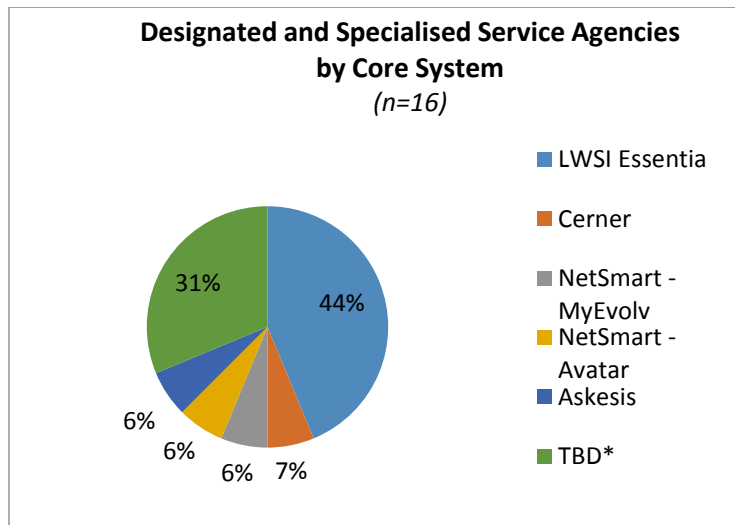


Figure 1 - Core Systems Used at Designated and Specialized Service Agencies. (*5 SSAs are in the process of selecting a shared EHR)

The agencies using Essentia have had it installed for over ten years, and as discussed in the 2012 report, are not achieving the expected economies of scale which would result from a shared system. A joint system selecting and contracting process could be undertaken if the agencies agree that further standardization and cost sharing is desirable. A less radical solution than replacement of systems at the Essentia agencies could be exploring use of a shared data center and a shared instance of the Essentia system.

Laboratory results interfaces have been developed at five agencies and four of these agencies are receiving these data from the VHIE. See Appendix 11.5 [Status of Laboratory Interfaces for Designated Agency EHRs](#).

5.2. Progress on 2012 Recommendations

2012 Recommendation ²³	March 2015 Update
Use the VHIE to transmit pass through laboratory results from hospitals.	Four DAs agencies are receiving electronic lab results via the VHIE as of 11/2014. ²⁴ Five agencies have plans to begin receiving lab results in 2015. The interfaces implemented to date are with the Essentia EHR. Work with other behavioral health EHR vendors is planned by VITL and the agencies in 2015.
Members should evaluate participation in secure direct messaging as it becomes available through VITL to communicate the needed data between providers. This model of communication is part of the national plan for health information exchange.	All the EHRs used by the behavioral health providers are capable of direct messaging as a function of 2014 certification, however the requirements of 42 CFR Part 2 remain a barrier.
Review and discuss the Policy on Patient Consent for Provider Access to VHIE when it is finalized. It is important that the members understand the effect that the consumer consent process will have on the agency workflow.	Compliance with federal and state privacy laws in the context of a patient opt-in for HIE-enrolled providers to access and publish protected health information (PHI) has continues to be a concern. The Policy on Patient Consent for Provider Access to VHIE was revised in March 2014.
Assess members' interest in establishing regular peer-to-peer networking and sharing of EHR best practices and lessons learned to facilitate standard EHR operational practices and standard documentation templates.	Informal sharing exists.
Increase the capture and use of structured data.	The agencies have made significant progress towards increasing captured and use of structured data. Use of MS Word templates seen in the 2012 reports and forms has been eliminated in most agencies. Assessments and treatment plans have been built in agencies' EHRs as forms that capture structured data.
Address the variable quality of data by standardizing a common set of data elements across provider agencies.	This effort is the focus of a Vermont Care Partners SIM-funded Data Quality project. The project, which started work in September 2014, includes all VCP member agencies and is expected to be completed in summer/fall 2016. Subsequent ongoing maintenance will be required to maintain data standardization.
Evaluate the scope of changes required for interoperability of DMH and ADAP systems with the Enterprise Service Bus (ESB) as early projects to support the goal of using the VHIE and ESB to transmit administrative and service data. Consider addressing the plan for SOA and VHIE interoperability in a future statewide HIT/HIE planning cycle.	This is currently being addressed by the Health Services Enterprise (HSE) project, which addresses state IT infrastructure and systems such as the State Health Insurance Exchange, integrated Eligibility, MMIS and Medicaid Care Management. State-required data submissions will be reviewed as part of the HSE-MMIS Specialized Program Project (SPP).
Eliminate use of third party or homegrown software to scrub MSR data prior to submission to the state.	At a state-wide LWSI user group in March 2015, LWSI proposed to revamp the process used to extract data for the monthly service reports (MSR) submitted to

²³ H.I.S. Professionals, LLC, "Readiness and Data Needs for Participation in the Vermont Health Information Exchange," The Vermont Council of Developmental and Mental Health Services, 2012.

²⁴ UCS has a point-to-point lab results interface with Southwestern Vermont Medical Center (SVMC).

2012 Recommendation ²³	March 2015 Update
	DMH.
Agencies moving forward with lab results import should ensure that time is built into the project schedule for review and execution of the agreement.	All agencies have signed participation agreements with VITL.
Reconsider the implementation of the VFACTS system by DCF as it will require redundant data entry by the agencies.	The VFACTS system was not implemented and DCF's data needs will be addressed by the Care Management system.
Re-establish Vermont-specific LWSI user group	A LWSI statewide user group was held at the end of March 2015.
Check LWSI contracts to see if there is language about a percent of maintenances paid by Vermont clients going to a fund set aside for Vermont enhancements costs. Discussing cost sharing in relation to interfacing between LWSI and the VHIE is advised	This is in progress as of March 2015.
Explore avenues to improve collaboration around IT infrastructure.	This is under on-going discussion.

5.3. Communication Between Behavioral Health and Primary Care

There are two pilot programs in Vermont that facilitate access to behavioral health and primary care through partnerships between FQHCs and DAs. The programs provide embedded behavioral health clinicians in primary care settings and established primary care offices at the DAs. Both the primary care sites and the behavioral health providers have EHRs and, unfortunately, they are each documenting the cross-setting encounters in their own EHRs with no electronic information sharing besides faxing.

5.4. 42 CFR Part 2 Compliant HIE Project

DVHA and VITL are in the requirements gathering phase of a project to develop a Part 2 compliant HIE solution. This would legally enable appropriate electronic exchange of drug and alcohol diagnosis and treatment information broadly across the Vermont health care landscape. The objective of this project is to develop a solution that provides: 1) a consent information technology architecture allowing Part 2 Treatment Program data to be shared only when consent for re-disclosure is received from the patient, and 2) a role-based permissions architecture that prevents sensitive data from being viewed, transmitted, or accessed by other providers on the VHIE if patient consent for re-disclosure of the information has not been obtained. The successful completion of this project is a pre-requisite for use of the VHIE to exchange patient information regarding substance use treatment between behavioral health agencies and other providers involved with the individual's treatment.

6. Update to the September 2012 Report on HIT Use by Home Health and Hospice Agencies

This section is an update to the report “Opportunities for Home Health Agency Participation in the Vermont Health Information Exchange” prepared for the Vermont Assembly of Home Care and Hospice Agencies (now VNA’s of Vermont) in Fall 2012.²⁵ Similar to the “Readiness and Data Needs for Participation” report discussed in the previous section, the recommendations made by the VNA were directed specifically to Home Care and Hospice providers. This section describes progress towards the recommendations in the 2012 study, challenges faced in completing required documentation for billing, and discusses the potential for use of telemedicine and telemonitoring.

6.1. EHR System Implementation

Progress has been made since 2012 toward EHR rollout at most Home Health agencies, with agencies continuing to have functional EHR committees meeting regularly, and expanding the EHR to automate additional functions within the agency. See Appendix 5 [Status of HIT Adoption at Home Health Agencies](#).

None of the agencies are planning to replace their current IT systems, however the IT systems at the Vermont HHAs have been installed for over 12 years, and user satisfaction is low, particularly with the McKesson Homecare product, which is used at five HHAs.

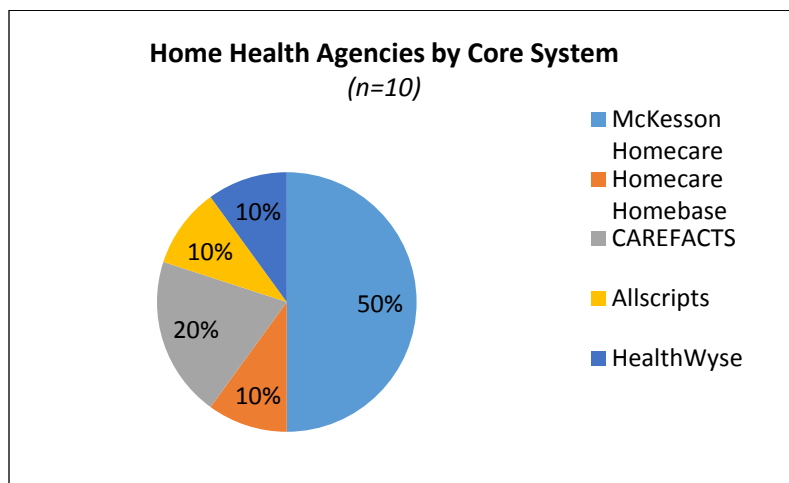


Figure 2 - Core Systems Used at Home Health Agencies.

Patient demographic interfaces to the VHIE from HHA EHRs have been implemented at five HHAs. See Appendix 7 [Status of VHIE Interfaces and Use of VITL’s Services by LTPAC Providers](#). VITLAccess is being used at two agencies, and more VHIE interfaces are planned.

Issues seen in 2012 with access to information from referral sources continue to pose obstacles. Additionally, proposed changes to the CMS “Face-to-Face” physician authorization for home care services are problematic, as satisfactory physician authorization is often not obtained due to communication and physician documentation content. If physician certification of the patient’s need for home care is not properly documented, retroactive payment denials can occur for home health services. Currently, the system for requesting and obtaining the documentation is dependent on faxing and

²⁵ VNAs of Vermont received a State Health Information Technology Fund (HIT Fund) grant to conduct an IT Assessment of its member agencies.

follow-up calls. Use of Direct secure messaging could help with this, as this feature is integrated with certified EHR technology used by physicians, and VITLDirect is also offered as a Direct messaging solution by VITL.

Telehealth-related solutions may also allow for more efficient use of provider resources, thus increasing volume and reducing cost, improving access to and quality of care, and reducing hospital readmissions and unnecessary emergency department visits. This is especially true in rural communities where travel is time consuming, difficult, and seasonally dangerous.²⁶ Interoperability between home monitoring equipment and Home Health Agency EHRs can save time and increase accuracy by avoiding data entry or scanning. Only three HHAs have telemonitoring equipment interfaced with their EHRs.

6.2. Progress on 2012 Recommendations

2012 Recommendation ²⁷	March 2015 Update
Expand agency access to IT systems at referral sources as this can provide significant benefit by eliminating paper based processes and making information more readily available.	This has been accomplished by expanding access to hospital systems, who are the main referral sources. This is not a long-term solution, as information cannot be readily imported by the HHA from the hospital system. Implementing CCD/CDA interfaces with referral sources, and using the VITLAccess portal are longer term solutions.
There is opportunity for collaboration around security practices, standardization and group purchase of security tools, group contracting for security services such as intrusion detection, education and sharing of policies and procedures	VITL has assisted several agencies with security assessments.
Implement hospital encounter notification service to inform all care partners of patient hospitalizations and emergency department visits.	Vermont's SIM project is supporting development of a notification service. ²⁸
Assess Medicity (current HIE vendor) software offering for enabling transitions of care.	This is not an option with current HIE software solutions in place; other current projects, including the Shared Care Plans/Universal Transfer Protocol (SCUP) project, could support improved care transitions.
Use technology to streamline administrative processes for certifying and recertifying home care and hospice service. This could be implemented with electronic signature, provider portals and Direct secure messaging.	There have been recent changes by CMS to the face-to-face assessment data requirements. The HHAs are working together to standardize and streamline this form, which is still currently communicated by fax.
Plan to take advantage of expanded Internet and cellular coverage in the State as a result of Vermont's completed broadband initiative.	Although the broadband initiative is complete, cellular coverage continues to be spotty in some areas, limiting the efficacy of real time communication- both voice and data - between caregivers in the field and the agency home offices.

²⁶ For more information, see: <http://www.raconline.org/topics/telehealth>.

²⁷ H.I.S Professionals, LLC, "Opportunities for Home Health Agency Participation in the Vermont Health Information Exchange," Vermont Association of Home Health and Hospice Agencies, 2012.

²⁸ Vermont Information Technology Leaders, "VITL's 2014 Annual Report: A Year of Informing Healthcare Decisions," 2015.

2012 Recommendation ²⁷	March 2015 Update
Convene a home care interoperability work group to discuss the use cases for home care and hospice HIE, and determine how to move forward to get the most value.	Ad hoc discussions are on-going and this is being addressed by the Designated Agency/Full-Spectrum Provider Roadmap Workgroup convened by the State HIT Coordinator.
Assess the effort required to integrate the consent for process access to the HIE into their existing administrative workflow.	The HHAs that are using VITLAccess are currently obtaining patient consent.
Increase IT professional collaboration around EHR and HIE, sharing policies, best practice and possibly group purchasing for IT.	IT Managers meet on a regular basis.

7. Update to the June 2013 Report on HIT Use in Long-term Residential Care Settings

This section is an update to the report “Health Information Technology in Vermont Long-term Care Facilities: Current State and Opportunities” prepared for the Vermont Health Care Association (VHCA) in June 2013.²⁹ Report recommendations were targeted at the member facilities, VITL, and VHCA. For this update, the scope of the facilities assessed was expanded from the VHCA membership to all skilled nursing facilities, residential care homes, and assisted living facilities in Vermont. Data from 54 organizations is included, including 26 that had not previously been assessed. Progress towards EHR adoption, barriers to optimum HIT use, and consequences of acquisition of a widely used HIT vendor by a larger vendor with a significant market share in Vermont are discussed.

7.1. EHR System Implementation

The 2013 report found long-term care providers lagging behind other health care organizations in EHR use. In 2015 this is still the case, especially in small residential care homes where EHR technology is cost prohibitive. EHR adoption in long-term residential settings is greater in organizations that are larger, for profit, owned by a chain or by a hospital, have higher acuity, and have a lower percentage of Medicaid residents. As in the 2013 study, interviewees cited cost as the major barrier to EHR use.

54 nursing homes, residential care homes, and assisted living residences were interviewed between November 2014 and March 2015, including 26 that had not previously been assessed, bringing the total number of facilities assessed since 2013 to 80. 39 of the 80 facilities are currently using EHR systems, raising the adoption rate to 49% from 44% in 2013.

There were few changes noted in the HIT systems at the facilities surveyed. The figure below illustrates the vendors in use.³⁰

²⁹ VHCA received a State Health Information Technology Fund (HIT Fund) grant to conduct a technology adoption survey and assess readiness of its members to use the Vermont Health Information Exchange (VHIE) to communicate clinical and administrative information.

³⁰ Data on vendors/products used was obtained by combining statistics obtained in the 2013 Study with data obtained for this report, and de-duplicated.

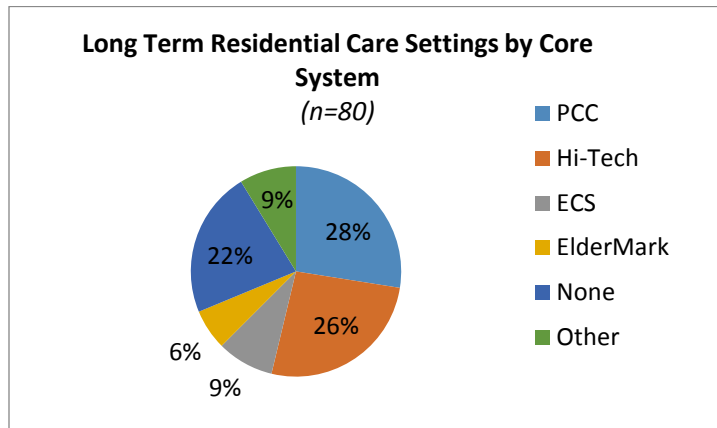


Figure 3 - Core Systems Used by Long-Term Residential Care Settings

In February 2014, all of the long-term residential care homes using the Hi-Tech software as their resident management and MDS assessment tool received a letter announcing that Hi-Tech was being purchased by Wescom/PointClickCare. Facilities were offered the opportunity to change to the PCC software (which will be approximately three times their current annual cost for Hi-Tech). As of September 30, 2015, Hi-Tech is no longer supported; it was not made compliant with the ICD10 diagnostic coding system required for use by US health care providers starting October 1, 2015.

Conversion of the 21 Hi-Tech facilities to PCC will make PCC the dominant vendor in the state, which presents opportunities for development of replicable interfaces between PCC and the VHIE, as well as favorable volume pricing from PCC for their side of interface development.

7.2. Progress on 2013 Recommendations

2013 Findings and Recommendations ³¹	March 2015 Update
Representatives of 66 facilities were interviewed. Forty-four percent of the respondents overall reported that they had an EHR installed. Fourteen facilities indicated that they had plans to acquire an EHR within the next five years.	Representatives of 54 facilities were interviewed, including twelve homes that had indicated in 2013 that they planned to install an EHR within the next five years, and 26 that had not been assessed in the 2013 study.
Two vendors, Wescom/PointClickCare and Hi-Tech Software, are used by the majority of facilities.	In February 2015, Hi-Tech Software announced that the company was being sold to Wescom/PointClickCare, and that the Hi-Tech product would not be made ICD10 compliant, and would be sunset by 2015. Users were offered migration to the PointClickCare financial management and EHR modules.
Provide EHR system implementation assistance.	EHR implementation assistance could be provided to facilities converting from Hi-Tech.
Explore volume discounts for IT hardware.	Under consideration. VHCA could negotiate favorable pricing for members for computer equipment.

³¹ H.I.S. Professionals, LLC, "Health Information Technology in Vermont Long Term Care Facilities: Current State and Opportunities," Vermont Health Care Association, 2013.

2013 Findings and Recommendations ³¹	March 2015 Update
Provide computer literacy training.	This has not been pursued, but remains a valid recommendation as interviewees continued to express concern about readiness of their workforce for EHR use.
Include EHR product-focused user group sessions at the annual trade show, for the EHRs most commonly in use.	This has not been done to date and could be included as part of a group selection process.
Create a state LTC HIT workgroup to develop opportunities and identify priorities for advancing EHR adoption and HIE.	Representatives from Long-Term Residential Care are being included in the DA/FSP HIE Roadmap group which meets monthly and is focused on connecting BH, LTC, and HH to the VHIE.
Explore funding sources to assist facilities with EHR costs.	Specific funding sources have not been identified. IT costs will triple for the facilities moving from Hi-Tech to PCC as a result of the sale of Hi-Tech.
Implement additional long-term care EHR interfaces to and from the VHIE.	Two facilities reported interfacing with the VHIE for lab results and found it to be beneficial. One nursing home is starting to work with VITL on a vaccine data feed to the Vermont Immunization Registry. Funding for additional interfaces is needed, and due to the commonality of long-term care EHR system vendors/products in Vermont, group discounts may be possible.
Provide facilities with access to hospital systems to look up information.	Hospitals have expanded access to their systems.
Explore connectivity with pharmacies - Health Direct (a division of Kinney Drugs) reports receiving orders interfaced directly from EHRs at about ten long-term care facilities in Vermont.	This has not been systematically pursued. The EHRs in use in Vermont are capable of transmitting electronic orders to pharmacies. Further follow-up is needed to assess current readiness of the pharmacies used.
Explore the Bridgegate/KeyHIE Transform solution which transforms required federal MDS Assessments into CCD messages. In 2013, Bridgegate provided indicative pricing for 40 SNFs in Vermont, which is \$50,000 for a three year subscription purchased for the state HIE.	KeyHIE Transform™ has expanded (see http://transform.keyhie.org/). The reuse of mandated federal assessment data sets as suggested in 2013 should be explored further to test its value. The mapping and transformation could also be done by VITL.

8. Recommendations

Based on the findings described above, the following are potential next steps the State could take to assist LTSS providers in improving their electronic exchange capabilities.

Total estimated cost range for the recommendations below is \$475,000-\$850,000. The State is currently updating the Vermont Health Information Technology Plan (VHITP) to map out the full portfolio of current and planned HIT activities. As a next step, the State should review these findings and recommendations, confirm the estimated cost ranges and assumptions, and consider how these potential activities may be including in existing HIT activities or planned initiatives. Ultimately, the State and stakeholders will need to consider how many, if any, of these recommendations it is interested in pursuing, and prioritize which activities will most further the State’s vision in order to determine which can ultimately be funded.

8.1. IT-Related Findings and Recommendations

Table 8.1: IT-Related Findings and Recommendations

Provider and Key Findings	Recommendation	Estimated Cost Range and Assumptions
<p>Adult Day Centers</p> <p>There is no use of electronic health record (EHR) application software to store data in structured formats at Adult Day Centers.</p>	<p>Evaluate all Adult Day Centers around their information sharing technology and ensure they are part of an interoperability roadmap for the SOV.</p>	<p>\$25,000-\$50,000. Assumes 5-10 participants at \$5000 each, based on consulting rate of \$200/hour.</p>
<p>Area Agencies on Aging (AAAs)</p> <p>The AAAs have purchased user licenses from Harmony Information Systems for Social Assistance Management System (SAMS), the SHIP module (for federal reporting), and information and assessment (I&A) functions. This will consolidate multiple systems onto a single platform. Currently, the Department of Disabilities, Aging and Independent Living (DAIL) staff are supporting SAMS, but as use outside DAIL expands, support resourced are stretched thin.</p>	<p>The State should provide the AAAs with proposals for hiring a shared dedicated resource to support their use of SAMS.</p>	<p>\$50,000-\$150,000. Represents cost for part-time staff for two years. This would be funded by the AAAs.</p>
<p>Disability and Long-Term Services and Supports (DLTSS) Providers</p> <p>Most DLTSS providers are not able to share or exchange information electronically. DLTSS providers in Vermont are not required to install EHRs, and not required to use any particular EHR product. Some DLTSS providers use a single EHR product that does not allow for information to be shared or exchanged electronically.</p>	<p>a) Encourage expanding and using the Harmony SAMS system in a read-only mode, where DLTSS providers can be given access to view an individual’s assessment, care plan, care notes and schedules.</p>	<p>a) \$11,000-\$22,000 would fund a 1-year pilot of 10-20 user licenses at \$600 per license per year, plus a \$5,000-10,000 one-time implementation fee covering all users.³²</p>
<p>Designated Agencies</p> <p>Laboratory results interfaces have been developed for some behavioral health agencies, but additional work remains. Agencies using lab interfaces have found the functionality very helpful.</p>	<p>Continue to expand lab interfaces to additional DAs.</p>	<p>\$25,000-\$50,000. Assumes five additional interfaces at \$5,000-\$10,000 each. The EHR side of the interfaces would be funded by the DAs.</p>
<p>Home Health Agencies</p> <p>Patient Demographic interfaces have been developed from some Home Health Agencies (HHAs) to the VHIE. Analysis of sending clinical summaries is in progress.</p>	<p>Continue to implement demographic and clinical interfaces to the VHIE for HHAs, as EHR product capability permits.</p>	<p>\$75,000-\$150,000. Assumes admission/discharge/transfer (ADT) interfaces for five agencies at \$5,000-\$10,000 each, and Continuity of Care Document (CCD) interfaces for</p>

³² Based on pricing provided by Harmony Information Systems, March 2015.

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Provider and Key Findings	Recommendation	Estimated Cost Range and Assumptions
		five agencies at \$10,000-\$20,000 each. The EHR side of the interfaces would be funded by the HHAs.
<p>Home Health Agencies and Skilled Nursing Facilities</p> <p>SNFs and home health agencies that don't use EHR systems cannot exchange clinical data in standard formats, or communicate with other interfaces.</p>	Explore use of a data transformation service (such as that provided by BridgeGate), to convert MDS and OASIS-C datasets to CCD formats. ³³	\$1,000-\$2,000. Assumes pilot of 2-4 facilities at \$500/year. ³⁴
<p>Long-Term Residential Care Facilities</p> <p>In February 2014, all of the long-term residential care homes using the Hi-Tech software as their resident management and MDS assessment tool received an announcement that Hi-Tech was being purchased by Wescom/PointClickCare (PCC). The product is no longer supported as of September 30, 2015, as it is not being made compliant with the ICD10 diagnostic coding system.</p>	For the Hi-Tech facilities who move to PCC (or another EHR), assistance with staff training and implementation would be helpful.	\$50,000-\$100,000. Assumes 10-20 participants at \$5000 each, based on consulting rate of \$125/hour.
<p>Long-Term Residential Care Facilities</p> <p>Some long-term residential care facilities are connecting to the VHIE. Two SNFs reported interfacing with the VHIE for lab results and found it to be beneficial. One facility is starting to work with VITL on a vaccine data feed to the Vermont Immunization Registry.</p>	Continue to implement additional lab results and immunization registry interfaces for long-term residential care facilities.	\$60,000-\$125,000. Assumes ten lab results interfaces at \$5,000-\$10,000 each, and five immunization registry interfaces at \$2,500-\$5,000 each. The EHR side of the interfaces would be funded by the facilities.

³³ MDS is the CMS required assessment data set that Skilled Nursing Facilities submit for billing purposes.

³⁴ Basing on pricing at <http://transform.keyhie.org/>.

8.2. Planning-Related Activities

Table 8.2 Planning-Related Activities

Finding	Recommendation	Estimated Cost Range and Assumptions
The eLTSS Initiative is a national project launched in November 2014 to define data elements and interoperability standards for the LTSS record.	Designate one or more individuals to participate in this effort.	\$5,000-\$10,000. Assumes participation of one State employee for one year.
The LTPAC Health IT Collaborative’s LTPAC HIT Roadmap 2014-2016 emphasizes the benefit of connecting individuals and caregivers to community programs and resources, and providing a communication and information sharing platform for individuals and families using long-term care and services.	Purchase software to support this sharing as a community pilot involving the AAAs, both residential and community-based DLTSS providers, and caregivers to demonstrate the value of this connectedness.	\$25,000-\$30,000. Assumes cost of software evaluation and 1-year pilot, with of 10 care team licenses at \$100 per care team per year, plus \$10,000-\$20,000 one-time implementation fee covering all users.

9. Conclusion

There has been significant progress in implementation of electronic information exchange in the LTSS provider community over the last several years, but significant work remains to meet the promise of increased coordination, and ultimately better care for Vermont’s citizens.

10. Acknowledgements

Organization	Interviewee	Title
<i>Behavioral Health Providers</i>		
ARIS	Jason Richardson	CFO
Clara Martin Center (CMC)	Deb Hawley	EHR Coordinator
Clara Martin Center (CMC)	Melanie Gidney	Quality Manager
Clara Martin Center (CMC)	Ed Upson	CFO
Counseling Center of Addison County (CSAC)	Emily VanDeWeert	IT Manager
Howard Center (HC)	Russ Stratton	IT Director
Howard Center (HC)	Dave Kronoff	Privacy Officer
Healthcare and Rehab Services (HCRS)	Warren Sergeant	IT Manager
Lamoille County Mental Health Services (LCMHS)	Troy Metcalf	Technology Manager
Northeast Family Institute (NFI)	Manny Villa	IT Coordinator
Northeast Kingdom Human Services (NKHS)	Tim Gould	IT Manager
Northwest Counseling and Support Services (NCSS)	Chris Kelly	Network Manager
Northwest Counseling and Support Services (NCSS)	Randy Connelly	IT Manager
Rutland Mental Health Services (RMHS)	Steve Blongy	IT Manager
United Counseling Services (UCS)	Eric Williams	IT Manager
Washington County Mental Health Services (WCMHS)	Shawn Manwaring	IT Manager
Washington County Mental Health Services (WCMHS)	Becky Wilbur	EHR Coordinator
<i>Adult Day Center Providers</i>		
Vermont Association of Adult Day Services (VAADS)	Virginia Renfrew	Lobbyist
The Gathering Place	Mary Fredette	Executive Director
Oxbow Senior Independence Program	Julia O'Donnell	Executive Director
Gifford Adult Day Center	Judy Santamore	Adult Day Director
CarePartners Adult Day Center, Inc.	Sue Chase	Executive Director
Barre Project Independence	Dee Rollins	Executive Director
Springfield Area Adult Day Services	JoAnne Bohlen	Director
InterAge Adult Day Program	Loryn Hamilton	Director
Green Mountain Adult Day Services	Bruce Weddington	Controller
Bennington Project Independence	Linda Wichlac	Executive Director
Out and About Adult Day Services	Andrea Stauffeneker	Adult Day Program Director
Elderly Services, Inc.	Joanne Corbett	Executive Director
Bennington ADRC	Heather Johnson	ADRC Project Manager
Vermont Center on Independent Living (VCIL)	Sarah Launderville	Executive Director
SASH (Cathedral Square)	Stephanie Hartsfeld	Operations Manger
<i>Area Agencies on Aging</i>		
Central Vermont Council on Aging	Meg Burmeister	Case Management Director
Champlain Valley Area Agency on Aging	John Michael Hall	Executive Director
Southwestern Vermont Council on Aging	Sandy Conrad	Executive Director
Area Agency on Aging for Northeastern Vermont	Lisa Viles	Executive Director
Senior Solutions in Southeastern Vermont	Joyce Lemire	Executive Director
<i>Traumatic Brain Injury Providers</i>		
Riverview Life Skills Center	Carl Erikson	Director
Eagle Eye Farm	Bill Cobb	Director
Traumatic Brain Injury Association	Trevor Squirrel	Executive Director
<i>Residential Long-term Care Providers</i>		
Living Well Group (Living Well and Ethan Allen)	Paul Kerwick	Administrator

DLTSS Information Technology Assessment

Organization	Interviewee	Title
Residence)		
Living Well Group (Living Well and Ethan Allen Residence)	Dee DeLuca	Administrator
Living Well Group (Living Well and Ethan Allen Residence)	Jeanette O'Connor	Director of Research, Education, and Staff Development
Living Well Group (Living Well and Ethan Allen Residence)	John Sawyer	Board Member
Ave Maria Community Care Home, Our Lady of the Meadows	Steven Doe	Administrator
Bennington Health and Rehab Center	John Dunham	Nursing Director
Blue Spruce Retirement Home	Sharon Sylvester	Administrator
Centers for Living and Rehabilitation	Debra Anderson, RN	MDS Nurse
Canterbury Inn	Wanda Waugh	Administrator & Director of Nursing Services
Country Village Community Care Home	Edgar Greason	Administrator
Emeritus at Fillmore Pond	Lynne Stratton	Administrator
Equinox Terrace	Ann Bouza	Executive Director
Fortier's Community Care Home	Marie Fortier	Acting Administrator
Four Seasons Care Home	Ashley Hudson	Nurse Manager
Franklin County Rehab	Kate Gladden	Assistant Administrator
Gingras Community Care Home	Linda Gingras	Administrator
Green Mountain Nursing Home, Brookside Nursing Home	Chris Malone	Director of Nursing Services
Greensboro Nursing Home	Melvin Aaron	Administrator
Holton Memorial Home	Cindy Jerome	Administrator
Heaton Woods	Carrie Youngblood	Administrator
Kirby House	Kim Russell-Peck	Administrator
The Meadows at East Mountain,	Jay Grimes	Administrator
The Gables at East Mountain	Randi Cohn	Administrator
Menig Extended Care	Scott Warren	Need title
Our House Homes	Lane Patori	Chief Operating Officer
Newport Health and Rehab	Bruce Weddington	Administrator
Pillsbury Senior Care (Pillsbury Manor North, Pillsbury Manor South, Homestead at Pillsbury, Allenwood at Pillsbury Manor, Gazebo Apartments at Pillsbury Manor)	Deborah Lemery	Administrator
Riverbend Residential Care Home	Jennifer Doyle	Administrator
LCB Senior Living (Lodge at Otter Creek/Shelburne Bay)	Barbara Hamilton	Chief Operating Officer
The Manor	Krystina Laychak	Director of Nursing Services
The Pines at Rutland	Barbara Eitelman	Nurse Manager
Thompson House Nursing and Residential Homes	Dane Rank	Administrator
Union House, Maple Lane and Pines Rehab	Terry Souliere	Office Manager
Vermont Blueprint for Health	Beth Tanzman	Assistant Director
Vermont Veterans Home	John Bibens	Information Technology Specialist
Vernon Green Nursing Home & Vernon Hall Retirement Residence	Skip Sleeper	Director, Hospitality Services
Village at Cedar Hill, Inc., Cedar Hill Continuing Care Center, Victorian House Residence at Cedar Hill	Susan Spadaro	Executive Director
Wake Robin, Linden Residential Care	Teri O'Brian	Business Office Manager

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Organization	Interviewee	Title
<i>Home Health Agencies</i>		
VNAs of Vermont	Peter Cobb	Executive Director
Addison County Home Health and Hospice (ACHHH)	Lisa Busby	CIO
Manchester Health Services (MHS)	Barbara Keough	CEO
Manchester Health Services (MHS)	Pam Renyolds	CFO
Caledonia Home Health and Hospice (CHHS)	Stephen West-Fisher	Director of IS, Northern Counties Health Care
Central Vermont Home Health and Hospice (CVHHH)	Sandy Rousse	CEO
Central Vermont Home Health and Hospice (CVHHH)	Rob Oakley	IT Director
Franklin County Home Health Agency (FCHHH)	Kim Dubie	CIO
Lamoille Home Health and Hospice (LHHH)	Mark Draper	IT Director
Rutland Area VNA and Hospice (RAVNAH)	Heather Borque	IT Director
VNA of Chittenden and Grand Isle Counties (VNACGI)	Arsi Namdar	CIO
VNA of Chittenden and Grand Isle Counties (VNACGI)	Claire McCabe	Director, Intake and Referral
VNA of Chittenden and Grand Isle Counties (VNACGI)	Diane Hebda	Director, Quality and Compliance
VNA of Vermont and New Hampshire (VNAVNH)	Justin Bell	IT Director
Bayada Home Health Care	Nick McCardle	Division Director
<i>Software Vendors</i>		
McKesson	Mark Rosenhauer	Account Manager
American Data	John Ederer	President
American Data	Carmen Zirbel RN, BSN	Interoperability Specialist
ElderMark	Craig Patnode	President, CEO
Harmony Information Systems	Tom Laba	Director, Aging Solutions
Harmony Information Systems	Keith Boushee	Senior Sales Consultant
DOTS	Liz Vogal	Principal
Pacific Health Policy Group	Susan Besio	Senior Associate
CenterBoard Consulting	Paul Forlenza	President
<i>State of Vermont</i>		
Vermont Health Care Association	Sheila Burnham	Director of Operations
Department of Disabilities and Independent Living (DAIL)	Dick Laverty	Senior Planner
Department of Disabilities and Independent Living (DAIL)	Nancy Marinelli	Senior Planning Coordinator
Vermont Department of Mental Health (DMH)	Brian Isham	IT Manager
Vermont Department of Mental Health (DMH)	Brenda Hudson	Information Technology Specialist
Vermont Department of Mental Health (DMH)	Tyler Blouin	Research & Statistics Section Chief
Vermont Department of Mental Health (DMH)	Keith Goslant	Mental Health Analyst
Department of Vermont Health Access (DVHA)	Kelly Gordon	Project and Operations Director
Department of Vermont Health Access (DVHA)	Lorraine Siciliano	Medicaid Operations Administrator, Electronic Health Records Incentive Program

11. Appendices

11.1. ONC Certification Status of EHR Products

Company Name/Product	Version (s)	Certification Edition	Certification Type
LWSI/Essentia	6.0, 7.0	2011, 2014	Both modular and complete ambulatory EHR
Askesis/PsychConsultProvider	Multiple releases of version 7 7.3.0 2014	2011, 2014	2011 modular and complete ambulatory EHR; 2014 modular only
Cerner/Community Behavioral Health (formerly Anascazi)	1.0, 2.0	2011, 2014	Complete
Netsmart/Avatar	2011,201, 2014 versions, multiple releases	2011, 2014	Complete
Netsmart/MyEvolv	9.0	2014	Complete
Wescom/PCC³⁵	3.7	2014	Modular

Appendix 1 - ONC Certification Status of EHR Products

³⁵ PCC is certified to 6 certification criteria *not* including CQM reporting.

11.2. EHR Installation Status at Designated and Specialized Service Agencies³⁶

The table below illustrates the EHR installations at DAs/SSAs as of November 2014:

Agency	Vendor	EHR Product	Online Assessment	Treatment Plans	Treatment Notes	eRx	eSignature
CMC	NetSmart	Avatar	Y	Y	Y	Y	Y
CSAC	LWSI	Essentia	Y	Y	Y	Y	Y
HC	Askesis	PsychConsult	Y	Y	Y	Y	Y
HCRS	LWSI	Essentia	Y	Y	Y	Y	Y
LCC	LWSI	Essentia	N	N	Y	Y	Y
NCSS	LWSI	Essentia	IP	IP	Y	Y	Y
NKHS	LWSI	Essentia	Y	Y	Y	Y	Y
RMHS	LWSI	Essentia	P	P	P	P	Y
UCS	Cerner	Community Behavioral Health	Y	Y	Y	Y	Y
VPCH	TBD	TBD ³⁷	N	N	N	N	N
WCMHS	LWSI	Essentia	P	P	Y	Y	N
NFI	NetSmart	MyEvolv	Y	Y	Y	Y	Y
ARIS	TBD	TBD ³⁸	TBD	TBD	TBD	TBD	TBD

Appendix 2 - EHR Installation Status at Designated and Specialized Service Agencies

Appendix 2 Key:

- Y = Yes, Capability Exists
- N = No, Capability Does Not Exist
- P = Planned
- IP = Implementation in Progress

³⁶ Not including agencies that provide developmental services only.

³⁷ EHR Selection is being finalized

³⁸ EHR selection is being finalized

11.3. Designated Agency and Specialized Service Agency EHR Ability to Report Clinical Quality Measures

The following table illustrates capabilities of the DA/SSA EHR systems to produce ambulatory eCQMs.³⁹

CMS Measure Name	CMS Measure ID	NQF Measure ID	LWSI ⁴⁰	Askesis	Cerner	NetSmart Avatar	NetSmart MyEvolv
Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	CMS137	0004	✓		✓		
Hypertension: Blood pressure measurement		0013	✓				
Controlling High Blood Pressure	CMS165	0018			✓	✓	✓
Use of High-Risk Medications in the Elderly	CMS156	0022		✓		✓	✓
Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents	CMS155	0024	✓	✓	✓	✓	✓
Tobacco Use Cessation		0027	✓				
Tobacco Use: Screening and Cessation	CMS138	0028	✓	✓	✓	✓	✓
Childhood Immunization Status	CMS117	0038	✓		✓		
Influenza Immunization	CMS147	0041	✓		✓	✓	✓
Pneumonia Vaccination		0043	✓				
Screening for Future Fall Risk	CMS139	0101		✓			
Suicide Risk Assessment	CMS161	0104		✓	✓	✓	✓
Anti-depressant Medication Management	CMS128	0105			✓		

³⁹ ONC Certified Health Product List (CHPL) <http://oncchpl.force.com/ehrcert> accessed 3/5/2015

⁴⁰ 2011 Certification Edition CQMs – LWSI obtained 2014 certification for Essentia version 7.0 on 3/19/2015 and the CQM information is not yet available on ONC’s CHPL website.

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CMS Measure Name	CMS Measure ID	NQF Measure ID	LWSI ⁴⁰	Askesis	Cerner	NetSmart Avatar	NetSmart MyEvolv
Bipolar Disorder and Major Depression: Appraisal for alcohol or chemical substance use	CMS169	0110				✓	✓
Screening for Clinical Depression and Follow-Up Plan	CMS2	0418			✓		
Documentation of current medications in the medical record	CMS68	0419		✓		✓	✓
BMI Screening and Follow up	CMS69	0421	✓	✓	✓	✓	✓
Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment	CMS177	1365		✓	✓	✓	✓

Appendix 3 - Designated Agency and Specialized Service Agency EHR Ability to Report Clinical Quality Measures

Appendix 3 Key:

✓ = Installed

11.4. Status of Laboratory Interfaces for Designated Agency EHRs

Some progress has been made towards implementing laboratory results data feeds using the VHIE as a transport mechanism, as recommended in the 2012 report to the Vermont Council. The following table shows the current status of VHIE lab results interfaces that have been implemented by the Behavioral Health Agencies.

	UVM/MNC	Porter	NMC	CVMC	Copley	Gifford	SVMC	NVRH	RRMC	BMH	Springfield	North Country	Grace Cottage	Dominion Diagnostics	MAHHC
CMC						P									
CSAC	P	✓													
HCRS	P				✓					✓	✓		✓		✓
LCMHS					✓										
NKHS	P							P				✓			
NCSS	P														
RMHS									P						
UCS							✓								
WCMHS				P											
HC															

Appendix 4 - Status of Laboratory Interfaces for Designated Agency EHRs

Appendix 4 Key:

✓ = Installed

P = Planned

11.5. Status of HIT Adoption at Home Health and Hospice Agencies

The table below illustrates the level of HIT Adoption at the home care and hospice agencies as of November 2014.

Agency	Billing	Telephony	OASIS - C	Point of Care	Scheduling	Physician Portal	Interfaced Telemedicine	Document Scanning
ACHHH	✓	✗	✓	P	P	P	✗	✗
CHHH	✓	✓	✓	✓	✓	✗	✗	✗
CVHHH	✓	✓	✓	✓	✓	✗	✗	✗
FCHHA	✓	✓	✓	✓	✓	✓	✗	✗
LHHA	✓	✓	✓	✓	✓	✗	✓	✓
MHS	✓	✗	✓	✗	✗	✗	✓	✗
RAVNAH	✓	✓	✓	✓	✓	✓	P	P
VNACGI	✓	✓	✓	✓	✓	✗	✓	✓
VNAVNH	✓	✓	✓	✓	✓	✗	✗	✓
Bayada	✓	✓	✓	✓	✓	✗	✗	✓

Appendix 5 - Status of HIT Adoption at Home Health and Hospice Agencies

Appendix 5 Key:

- ✓ = Installed
- ✗ = Not Installed
- P = Planned

11.6. Home Health Agency Access to Hospital EHR Systems

The table below illustrates access to hospital EHRs at the homecare and hospice agencies as of November 2014.

	NMC	UVMC	Porter	CH	RRMC	SVMC	BMH	SH	MAHHC	DHMC	CVMC	NVRH
VNACGI	✓	✓								IP		
CVHHH		✓								Need	Need	
ACHHH		✓	Need									
FCHHA	✓	✓										
MHS		✓				✓						
LHHH		✓		Need								
VNAVNH		IP					Need	Need	Need	✓		
RVNAH		✓			Need					✓		
CHHH		✓								✓		✓
Bayada		✓										

Appendix 6 - Status of Home Health Agency Access to Hospital Systems

Appendix 6 Key:

✓ = Installed

IP = In Progress

11.7. Status of VHIE Interfaces and Use of VITL’s Services by LTPAC Providers

Agency	ADT	CCD	LAB	VITLAccess	Direct Secure Messaging	Consent collected
VNACGI	✓	P		P		✓
CVHHH	✓			P		
ACHHH				P		
FCHHA	✓					
MHS						
LHHH	✓			✓		✓
VNAVNH	✓				P	
Bayada (2 agencies)						
Helen Porter Nursing Home			✓			
The Manor			✓	✓		✓
CMC						
CSAC						
HCRS			✓			
LCMHS						
NKHS			✓			
NCSS			✓			
RMHS						
UCS			✓			
WCMHS			P			
HC						

Appendix 7 - Status of VHIE Interfaces and Use of VITL’s Services by LTPAC Providers

Appendix 7Key:

- ✓ = Installed
- P = Planned

11.8. Long-Term Residential Care Facilities Core IT Systems Inventory

Facility Name	Core System
Allenwood at Pillsbury Manor	ElderMark
Arbors	Reliable
Ave Maria Community Care Home	Hi-Tech
Bel-Aire Center	PCC
Bennington Health & Rehab Center	PCC
Berlin Health & Rehab Center	PCC
Birchwood Terrace Healthcare	PCC
Brookside Nursing Home	Hi-Tech
Brownway	PCC
Burlington Health & Rehab Center	PCC
Cedar Hill Continuing Care Center	PCC
Centers for Living & Rehabilitation	ECS
Converse Home	Hi-Tech
Crescent Manor Care Centers	SigmaCare
Derby Green	ECS
Franklin County Rehab Center	American Health Tech
Franklin County Rehab Center	Hi-Tech
Gazebo Apartments at Pillsbury Manor	ElderMark
Green Mountain Nursing Home	Hi-Tech
Greensboro Nursing Home	Hi-Tech
Heaton Woods	Hi-Tech
Helen Porter Healthcare	ECS
Holiday House	Hi-Tech
Homestead at Pillsbury Manor	ElderMark
Linden residential care	ECS
Lodge at Otter Creek	PCC
Maple Lane	Hi-Tech
Mayo Healthcare	Hi-Tech
Menig Extended Care	Hi-Tech
Mertens House	PCC
Mountain View Center	PCC
Newport Health And Rehab	Hi-Tech
Our Lady Of The Meadows, (Hi-Tech)	Hi-Tech
Pillsbury Manor North	ElderMark
Pillsbury Manor South	ElderMark
Pine Heights of Brattleboro	Reliable
Pines Rehab & Health Center	Hi-Tech
Redstone Villa	PCC
Residential Care At The Manor	ECS

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Rowan Court Health & Rehab	PCC
Rutland Healthcare and Rehabilitation	PCC
Shelburne Bay	PCC
Springfield Health & Rehab	PCC
Squier House	Hi-Tech
St. Albans Healthcare & Rehab Center	PCC
St. Johnsbury Health & Rehab	PCC
Starr Farm Nursing Center	PCC
The Manor	ECS
The Pines at Rutland	Reliable
The Residence At Otter Creek	PCC
The Residence At Shelburne Bay East	PCC
Thompson House Nursing Home	Hi-Tech
Union House	Hi-Tech
Vermont Veterans Home	Hi-Tech
Vernon Assisted Living Residence	Hi-Tech
Vernon Green Nursing Home	Hi-Tech & Cerner
Vernon Hall Retirement Residence	Hi-Tech
Victorian House Residence @ Cedar Hill	PCC
Village At Cedar Hill, Inc.	PCC
Wake Robin	ECS
Woodridge Nursing Home	ADL (moving to PCC)

Appendix 8 - Long-Term Residential Care Facilities Core IT Systems Inventory

12. References

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