VITL

VERMONT INFORMATION TECHNOLOGY LEADERS

2013
Annual
Report

January 15, 2014

Dear Legislators and Administrative Officials:

On behalf of VITL's board of directors and leadership team, we are pleased to submit to you our annual progress report describing activities for calendar year 2013, as required under 18 V.S.A. § 9352(e).

Paul Harrington *John K. Evans*

During 2013, we realized a significant expansion of the Vermont Health Information Exchange (VHIE) and are pleased to report that 13 of Vermont's 14 hospitals, along with Dartmouth-Hitchcock Medical Center and two regional hospitals that border Vermont, are providing clinical data to the VHIE. The number of non-hospital interfaces increased 59% to a total of 335 interfaces connecting 130 primary care practices, specialty practices, and other organizations to the VHIE, giving Vermont healthcare practitioners the ability to receive clinical lab and test results directly into their EHR.

VITL conducted an extensive pilot program for a new secure provider portal called VITLAccess with seven organizations across the state representing various care settings, including pediatrics, primary care, long term care, home health, and a hospital emergency department. VITLAccess is a query-based system that allows providers, with a patient's informed consent, to access the clinical data available for that patient. We are grateful to the pilot program participants, and are looking forward to the statewide rollout of VITLAccess, which is expected to begin in Spring 2014.

Operating as the Vermont Regional Extension Center (REC) for the Office of the National Coordinator for Health IT, VITL continues to play a key role in helping primary care practices in their adoption and implementation of EHR systems. Vermont had one of the highest rates of EHR adoption by primary care providers in the country in 2013, and at this point, more than 60% of primary care providers have attested to Stage 1 Meaningful Use of their EHR system.

VITL continues to be central to Vermont's healthcare reform efforts and has successfully collaborated with OneCare Vermont to provide data services for its analytic needs. VITL is in formative discussions with Community Health Accountable Care (CHAC), the FQHC based ACO, and the Accountable Care Coalition of the Green Mountains (ACCGM), the independent physicians ACO.

VITL continues to expand the infrastructure necessary to support the Blueprint for Health clinical data registry, and now supports 133 interfaces from practices to the registry.

Several projects are well underway that are expected to culminate in 2014, including: the statewide rollout of VITLAccess; go-live of production interfaces to support OneCare Vermont; connection to Hixny, the HIE for Northern New York and the Capital District; and, increasing VITL's capability to provide analytics based on clinical data accessible through the VHIE.

VITL also had a positive impact on the Vermont economy, and has seen our employment level grow to a total of 32 employees — a net addition of nine highly-skilled healthcare information technology positions.

Respectfully Submitted,

Paul Harrington
Chair, Board of Directors

John K. Evans, MHA, FACHE
VITL President and CEO

Board of Directors

Paul Harrington, *Chair*
Executive Vice President
Vermont Medical Society

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Cerner Corporation

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CIO, Vice President Information Services
Northeastern Vermont Regional Hospital

Robin Lunge
Director of Health Care Reform
Agency of Administration
Governor's Appointee

Rep. Tristan Toleno
Legislative Appointee

2013 In Review
Accelerating clinical data connectivity

As the state-designated operator of the Vermont Health Information Exchange (VHIE), Vermont Information Technology Leaders (VITL), in collaboration with hospitals and primary care practices, continued a dramatic expansion of the VHIE in 2013. As a result, more providers now have access to critically-important patient data in order to provide better care.

Access to clinical data by healthcare providers is merely a convenience unless it results in improved patient care. In 2013, VITL strengthened its collaboration with Department of Vermont Health Access and the Blueprint for Health in the goal to provide every Vermont resident with high quality and affordable healthcare. Working with the Vermont Department of Health, healthcare providers and hospitals are now sending data electronically to the Vermont Immunization Registry. Joint initiatives with the Blueprint for Health and VITL included a project to improve the quality of data entered into electronic health record (EHR) systems, increasing the flow of clinical data from providers to the Blueprint clinical registry (DocSite) system, and supporting practices in attainment of required Blueprint quality measures. VITL continued to assist primary care providers, specialists, and other healthcare providers in their attainment of meaningful use of health information technology.

VHIE Connectivity

By the end of 2013, 13 of Vermont's 14 hospitals were sending clinical data to the VHIE, and 10 of the state's 11 federally qualified health centers were connected to the VHIE. In 2013, the two largest academic medical centers serving Vermont — Dartmouth-Hitchcock Medical Center (DHMC) in Lebanon, NH and Fletcher Allen Health Care in Burlington — began sending lab test results to the VHIE. The availability of the most current clinical data such as patient demographics, lab tests, and pathology reports will make it easier for physician practices and other healthcare organizations to treat patients who were seen at either Dartmouth-Hitchcock or Fletcher Allen. Having the results submitted securely and electronically to referring and treating physicians will also save time tracking down results and conducting follow-up phone calls, allowing providers to have all of their patient information immediately available at the time of the appointment.

In November, VITL partnered with Fletcher Allen Health Care on a pilot project to accelerate the development of additional interfaces which provide clinical data to the VHIE. Also participating in the pilot was Medicity, one of VITL's technology partners. As a result of the pilot, radiology, pathology, and transcribed reports from Fletcher Allen are accessible to providers participating in the VHIE provider portal program. Providers can also request that reports for their patients be delivered directly into their EHR.

Another priority in 2013 was the continued effort to connect physician practices to the VHIE. Given Vermont's high adoption rate of EHR systems, the next logical step is for practices to send and receive information electronically. This bidirectional interface capability includes the following types of information:

2013 Highlights

- **VHIE Connectivity**
  - 13 of 14 Vermont hospitals sending clinical data
  - 10 of 11 Vermont FQHCs
  - 335 non-hospital interfaces connecting 130 health care organizations
  - VDH Immunization Registry interface
  - Interfaces to OneCare Vermont

- **Transporting 2.2 million clinical data messages per month**

- **Web-based provider portal (VITLAccess) pilot program**

- **Stage 1 Meaningful Use Milestones**
  - Live EHR: 924 providers
  - Meaningful Use: 571 eligible professionals

- **Continuity of care documents (CCDs):** Physician practices and other healthcare organizations generate patient summaries in the form of CCDs. VITL routes these summaries to the Blueprint for Health and also stores them in its core infrastructure as part of the community health record.
- **Laboratory orders:** Providers submit laboratory orders electronically directly from their EHR which are routed to labs through VITL rather than by phone or fax.
- **Laboratory results:** Laboratories distribute lab results directly to VITL which routes them into a provider's EHR. Not only does this create a timelier lab result; it also delivers discrete data elements that can be incorporated into a patient's electronic record.
- **Scheduled orders:** Practices place radiology orders directly from their EHR.
- **Transcribed reports:** VITL routes transcribed reports from radiology and other departments electronically to practices, resulting in more readable and timely reports.

In 2013, 125 new non-hospital interfaces were added to the VHIE bringing the total number of non-hospital interfaces to 335, representing 130 health care organizations.

In September, Burlington Labs became the third commercial lab providing results directly to the VHIE.

In February, VITL launched an interface to the Vermont Immunization Registry in collaboration with the Vermont Department of Health. This initiative will enable physician practices and hospitals with EHRs to submit data to the registry directly from their EHR system via the interface. The benefits of submitting data to the registry via an

interface include: reduced data entry; improved data accuracy; faster data delivery; fulfillment of data reporting requirements; and best of all, improved patient care.

Helen Porter Nursing Home became the second long term care facility to be connected to the VHIE. Being connected to the network will enable the nursing home staff to receive lab test results and other data on patients more quickly and possibly prevent costly hospital admissions.

The Vermont Legislature passed H.107 that requires the establishment of criteria for providers and healthcare facilities to create or maintain connectivity to the VHIE network. This was just one aspect of the legislation, which made sweeping changes to the oversight of healthcare in the Green Mountain State to enhance transparency in a collaborative effort to improve the health of all Vermonters. The criteria for connectivity to the VHIE will be developed by VITL in consultation with these healthcare entities and will be provided to the Green Mountain Care Board on an annual basis.

VITL continues to make infrastructure investments to enhance the functionality of the VHIE which included contracting with Rackspace to provide a hosted server environment for the installation of the Orion Health Rhapsody interface engine and SQL Server Enterprise data warehouse. These investments are critically important in creating a VHIE that allows providers to safely and securely access patient health data in a timely and efficient manner.

Trusted EHR Implementation Advisors to Healthcare Practices

VITL is the Vermont Regional Extension Center for the Centers for Medicare and Medicaid Services (CMS) and assisted 571 eligible professionals in attesting to Stage 1 meaningful use of their EHR systems.
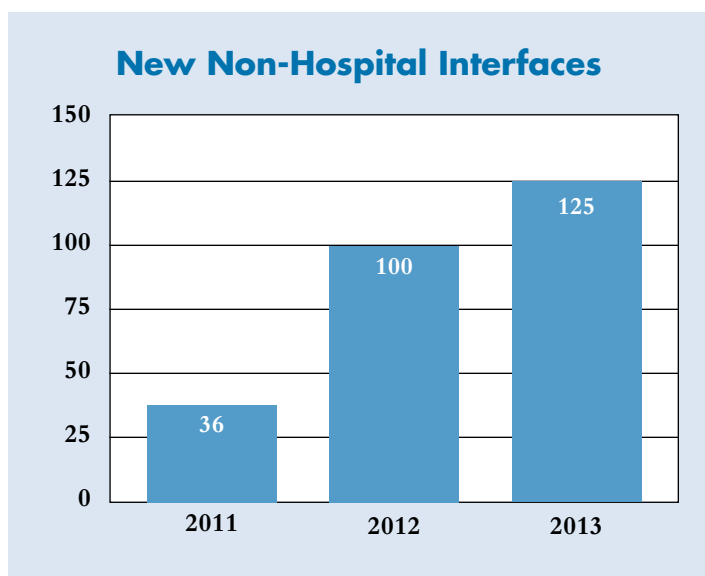
By the end of 2013, 64% of primary care providers in Vermont had attained meaningful use of their EHR. Health and Human Services officials noted that in 2008 only 17% of physicians nationally were even using EHRs. Vermont primary care physicians continue to be ahead of the curve nationally.

In 2014, the next stage of the CMS meaningful use program will start and the staff at VITL has already begun to work with primary care providers in their attestation to Stage 2 meaningful use. Stage 2 focuses on the creation of a robust and vibrant HIE where patient health information is being safely and securely shared across multiple provider settings. Stage 3 of meaningful use, which will begin in

New Non-Hospital Interfaces

Year	Value
2011	36
2012	100
2013	125

2017, requires one to demonstrate how sharing clinical data is improving the healthcare of the state's population through quantitative results. There are various milestones to attain within each stage and meaningful use can only be established through a collaborative process with the state's primary care physicians.

Improving Health Care in Vermont

During 2013, VITL conducted an extensive pilot program for VITLAccess, a web-based secure provider portal, which gives authorized providers access to patient data and medication history available on the VHIE. Access to clinical data at the point of care results in: more informed decision making, improved patient safety, better coordination of patient care, increased patient satisfaction, and reduced cost without affecting quality of care.

As required by state policy, Vermont patients of the participating practices were asked to grant their healthcare organization consent to view the information available for them from other healthcare providers through VITLAccess. Of the nearly 4,200 patients who were asked, 98% were willing to provide consent to their provider's organization.

VITLAccess will be available on a statewide basis in the spring of 2014.

VITL will provide clinical data services to OneCare Vermont, an accountable care organization (ACO) responsible for improving the overall health of approximately 42,000 Medicare patients throughout the state.

VITL continues to support the HIT infrastructure needs of the Vermont Blueprint for Health. In 2013, VITL added 29 new interfaces from 27 primary care and specialty practices to transport an average of 600,000 clinical mesages a month through the VHIE to the Blueprint clinical registry.

VITL presents $5,000 award to North Country Hospital for its participation in the VITLAccess Pilot Program.
Standing, L – R: Christine Sweeny, eHealth Specialist, VITL; Sharon Mallett, Director of Nursing, NCH; Dr. Paul Newton, Emergency Room Physician, NCH; Kate Pierce, Director of Clinical Informatics, NCH; Chris Fortin, Director of Registration, NCH. Seated, L-R: Rob Gibson, VP Marketing and Business Development, VITL; Claudio Forte, CEO, NCH; Dr. Kate McIntosh, Medical Director, VITL

Hospital Interface Status
December 31, 2013

Hospital	ADT*	Lab Test Results	Radiology Reports	Transcribed Reports†	Medication History‡	Pathology Reports	Immunization	CCD**
Brattleboro Memorial Hospital	◆	◆	◆	◆	■	●	■	●
Central Vermont Medical Center	◆	◆	◆	◆	■	■	■	●
Copley Hospital	◆	◆	◆	◆	■	◆	■	●
Fletcher Allen Health Care	◆	◆	◆	◆	■	◆	■	■
Gifford Medical Center	◆	◆	◆	◆	■	◆	■	●
Grace Cottage Hospital	◆	◆	◆	◆	■	◆	■	■
Mount Ascutney Hospital	◆	◆	◆	◆	■	◆	■	■
North Country Hospital	◆	◆	◆	◆	◆	◆	●	●
Northeastern Vt. Reg. Hospital	◆	◆	◆	◆	■	■	■	■
Northwestern Medical Center	◆	◆	■	■	■	■	■	●
Porter Medical Center	◆	◆	◆	◆	■	◆	■	●
Rutland Regional Medical Center	◆	◆	◆	◆	■	◆	■	●
Springfield Hospital	◆	◆	◆	◆	■	●	■	●
Southwestern Vt. Medical Center	■	◆‡‡	●	●	■	●	●	●
Cottage Hospital (Woodsville, NH)		◆						
Dartmouth Hitchcock Med. Center	◆	◆	●	●	■	◆	■	●
Samaritan Hospital (Troy, NY)		◆						

◆ **Complete** – The interface is live.
■ **In Progress** – The interface is being developed.
● **Pending** – Not actively working on the interface.

* Admissions/Discharges/Transfers
** Continuity of Care Documents
† Discharge Summaries/Endoscopy/Cardiology/ Emergency Department Reports
‡ Medication History is Live. Deployed to Selected Pilot Sites
‡‡ Interface is limited

Health Information Network Footprint

St. Albans

Newport

Morrisville

Burlington

St. Johnsbury

Montpelier

Berlin

Woodsville, NH

Middlebury

Randolph

Lebanon, NH

Rutland

Windsor

Springfield

Townshend

Bennington

Brattleboro

Troy, NY

Connected Hospitals

 # Connected Practices
(number of practices
connected to VHIE by town)

Vermont's Health Information Exchange
VITL enabling the exchange of clinical data

Perhaps the most critical function of the Vermont Health Information Exchange (VHIE) is the safe and secure sharing of patient clinical data among providers. In 2013, the volume of this patient data increased significantly to nearly 2.2 million clinical messages per month, which is enabling providers to have the most up-to-date health information when treating patients.

VITL was able to significantly enhance the VHIE in 2013 through various initiatives. VITL conducted a six month pilot project with various providers using a new platform – VITLAccess. VITLAccess is a secure website that authorized healthcare providers and their staffs can use to search for and view clinical information and medication history for their patients. This data is accessible, with written consent from the patient, in the VHIE. Through VITLAccess, providers can also retrieve patient data from out-of-state healthcare facilities. This functionality is expected to rollout statewide beginning in the spring of 2014.

Through a sophisticated technical architecture, VITL has established secure network interfaces so that providers can share hospital laboratory reports, radiology reports, transcribed reports, immunization documents, and continuity of care documents. This information can be shared among hospitals, primary care physicians, and specialists through their respective EHR systems.

VITL's technology infrastructure is provided by Medicity, one of the largest HIE vendors in the United States. All of the data in the VHIE is encrypted and password protected. Patient health information is not co-mingled between providers and data from each provider is stored in separate data vaults. The HIE is monitored 24/7 for any signs of intrusion and every time a provider accesses the VHIE there is an audit record, which is essentially a digital fingerprint that can be used for forensic investigation should the need arise.

To enhance the safety and security of the VHIE even further, Medicity's data centers are SSAE-16 certified, a best practice in healthcare that exceeds HIPAA standards. VITL is also seeking FIPS 200 compliance, a federal information

> "Health Information Technology is following a typical technology adoption cycle and is evolving through four phases: automating practice workflow (EHRs), networking the systems (VHIE), collecting and using the data (analytics) and then opening the network to new services (app store). Here in Vermont we are rapidly maturing through the second phase (VHIE) and simultaneously moving into phase 3 analytics. In the next few years these advances will have a profound effect on patients, providers, payers and healthcare delivery in Vermont."
> — Mike Gagnon, Chief Technology Officer, VITL

systems security level that covers 17 domains and far exceeds HIPAA requirements. The bottom line is that electronic health records are safer and more secure than paper records.

Ultimately, for the VHIE to be successful and for Vermont to improve the healthcare of its population, providers must be connected to the network in order to share and have access to patient health information. In 2013, the Vermont Legislature passed House Bill H.107 that requires VITL, in consultation with healthcare providers and facilities, to develop criteria for creating or maintaining connectivity to the VHIE. VITL will provide the criteria annually by March 1st to the Green Mountain Care Board.

One of the goals of health information technology is to create a national health information network. This process is already starting in Vermont as there soon will be interstate connectivity with Hixny, the VHIE for the Capital District and Northern New York state. It's a known fact that Vermont patients do not always seek care in Vermont and New Yorkers often seek care at Vermont providers. VITL is continuing to work with Hixny to share data across the region.

All of these achievements are enabling VITL to effectively exchange patient clinical data between providers and all of this is being done with one simple objective – to improve the healthcare of every Vermont resident.
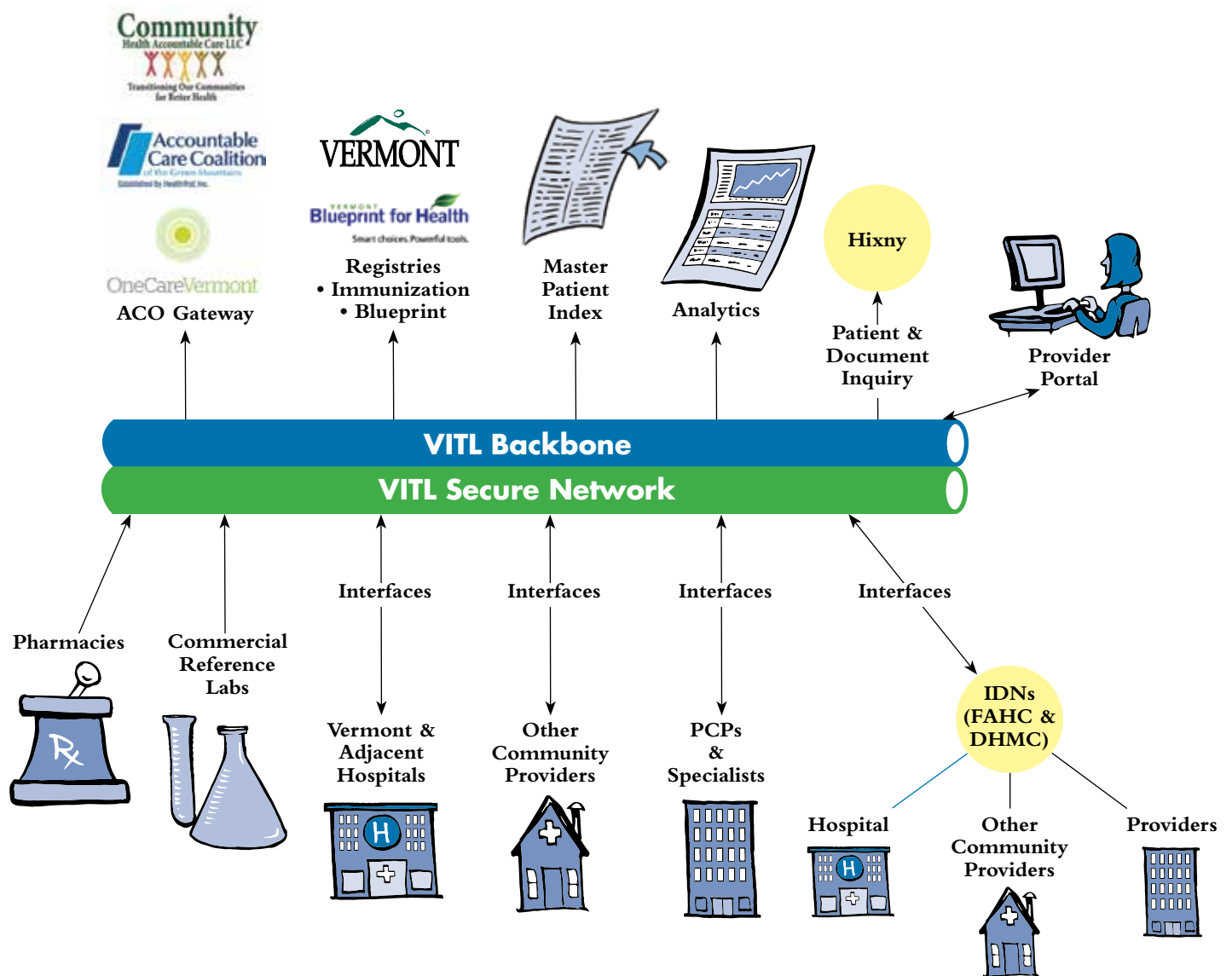
Vermont's Health Information Exchange

VITL Secure Network provides secure interfaces to:

1. Hospitals

2. Primary and Specialty Care Providers

3. Other Healthcare Providers

4. Integrated Delivery Network of large hospital systems

5. Commercial Labs

6. Pharmacies

VITL Backbone provides a platform for delivering services to:

1. Accountable Care Organizations

2. Blueprint for Health

3. Vermont Department of Health Immunization Registry

4. Master Patient Index

5. Data Analytics

6. Connection to Hixny

7. Provider Portal

ACO Gateway

Registries
• Immunization
• Blueprint

Master
Patient
Index

Analytics

Hixny

Patient &
Document
Inquiry

Provider
Portal

VITL Backbone

VITL Secure Network

Interfaces

Interfaces

Interfaces

Interfaces

Pharmacies

Commercial
Reference
Labs

Vermont &
Adjacent
Hospitals

Other
Community
Providers

PCPs
&
Specialists

IDNs
(FAHC &
DHMC)

Hospital

Other
Community
Providers

Providers

Provider Access Portal
Bringing clinical data to where it matters most – the point of care

VITL continues to invest in new ways to bring clinical data to the point of care. One way this is being accomplished is through a provider access portal also known as VITLAccess. This clinical tool provides a proverbial window into the repository of patient health data currently available through the VHIE. This repository contains millions of clinical records that allow providers to get instant access to their patient health information. For new patients, providers can use VITLAccess to search and retrieve records of previous care at other connected healthcare organizations.

In 2013, VITL launched a pilot program at seven organizations which will continue into 2014. The pilot participants are: Susan Lemei, MD, a single doctor practice in Chester; Lamoille Home Health and Hospice in Morrisville; The Manor nursing home in Morrisville; BMH Center for Cardiovascular Health in Brattleboro; The Health Center, a federally qualified health center in Plainfield; the emergency department at North Country Hospital in Newport; and Rainbow Pediatrics in Middlebury.

VITLAccess can assist providers in filling gaps in existing patient information. Providers can see the medications a patient might be taking or when a particular medical test was performed. VITLAccess is allowing providers the opportunity to access this patient data in real time. It is a tool that providers can use to avoid duplication of services so that patients do not have to go through unnecessary procedures, especially tests where the patient might be exposed to radiation.

A primary use case for VITLAccess is the coordination of care for a patient. Dr. R. Mark Burke, medical director of cardiovascular services and medical director of accountable care and population health at the Brattleboro Memorial Hospital Center for Cardiovascular Health said,

Many Different Uses for VITLAccess

New patient medical history: A healthcare provider can look up previous medications, problem lists, as well as results from recent tests results and laboratory results.

Referral tracking: Primary care practices can use VITLAccess to track results and progress notes from referrals.

Preventive care outreach: A provider can determine if a diagnostic test or procedure has been performed before ordering a new procedure.

Contact information: VITLAccess face sheets aggregate results from multiple sources allowing a practice to find needed contact information.

Chronic condition history for out–of–area patients visiting ER: Providers can search for medication histories and other data on patients who arrive at an emergency room.

Out–of–area ER follow–up by PCPs: Primary care providers following up on a patient's ER visit at a hospital out of the local area can use VITLAccess to see what happened.

Chronically ill patients receiving care in multiple places: Primary care providers with patients who utilize hospitals for tertiary care can use VITLAccess to look up results without having to log into each hospital's portal.

Nursing home planning for readmission: Nursing homes with residents who have been admitted to hospitals can use VITLAccess as a single portal to follow the residents and plan for their readmissions.

"VITLAccess is a big step towards ensuring the continuity of medical care for all our patients whether they are in Brattleboro or Berlin."

Using the medication history feature of VITLAccess, providers can assess potential drug interactions, which improves patient safety and care. Providers are more informed in their decision-making on behalf of their patients because the clinical data is available in real time and is up-to-date.

At Rainbow Pediatrics in Middlebury, VITLAccess is being used to improve how referrals are tracked. When a patient is sent to a hospital or a specialist, the primary care practice can check VITLAccess to determine if the patient was actually seen. "It's a terrific way to track referrals to see if they have happened," said Lisa Ryan, office manager. VITLAccess can be used to search for progress notes and transcribed reports from Fletcher Allen Health Care and other hospitals, she added. The practice usually receives data from other providers in VITLAccess much more quickly than by traditional methods, she said.

During the pilot program, nearly 4,200 Vermonters were asked to give their provider's organization informed consent to view the clinical data available for them through the VHIE. Approximately 98% of those people willingly signed the consent form, from which it can be deduced that, when asked by a care provider in a clinical setting, patients desire to have all of their clinical data available to their healthcare provider.

The pilot sites report that obtaining patient consent for using VITLAccess has not been an issue, with only a few patients declining to sign the consent form. "People are open to consent. We haven't had an issue with people refusing it. The perception among our patients is that this is a good thing," said Don Grabowski, outreach coordinator at The Health Center in Plainfield.

At The Manor nursing home in Morrisville, new patients are asked to sign the consent form when they first arrive. "It has become part of our admissions process, which has worked out really well," said Krystina Laychak, director of nursing services. The signed consent form is placed in the chart, and a box is checked off in The Manor's EHR indicating that the patient has given consent, she said.

The seven sites participating in the pilot test of VITLAccess have been making progress in integrating the VHIE provider portal into their workflow, and have identified a number of situations where VITLAccess has been a valuable source of information and time savings.

VITL eHealth Specialist Betsey Walton (left) meets with Jeanette Harvey, office manager for Susan Lemei, MD, one of the seven organizations that participated in the VITLAccess pilot.

eHealth Services
Trusted advisors to Vermont healthcare providers

Building a Team of Health Information Technology Implementation Advisors

VITL has staffed a team of HIT advisors whose main function is to assist healthcare providers with the implementation and meaningful use of EHR systems. To date, the funding for services to primary care providers has come through a grant from the U.S. Department of Health and Human Services and the Office of the National Coordinator (ONC), whereby VITL operates as the regional extension center for Vermont. Federal funding will expire in February 2014, and will be replaced with funding from the state of Vermont. While the federal grant was restricted to providing services for primary care providers, the state funding expands these services to specialists and other providers.

With the recent addition of five new members, the advisory team has more than 170 years of experience in healthcare settings as practice administrators, practice IT managers, nurses, or other related roles. This experience

base — and deep practical knowledge of provider operations — has allowed the eHealth specialists to become trusted advisors to healthcare providers throughout Vermont.

So, while VITL is playing a critically-important role in managing the VHIE, it also is having a positive economic impact through the hiring of health information technology professionals. These are good-paying jobs being filled by people who live in, or near, Vermont.
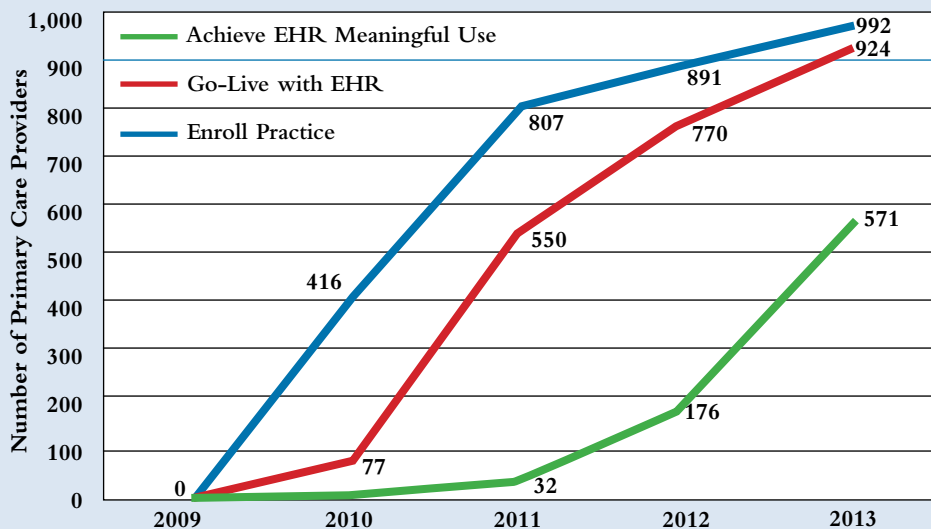
Vermont Regional Extension Center

As the regional extension center (REC) for the ONC, VITL plays a key role in helping primary care and specialist practices in their adoption and implementation of EHR systems. Vermont had one of the highest rates of EHR adoption by primary care providers in the country in 2013, and at this point, 64% of primary care providers have attested to Stage 1 Meaningful Use of their EHR system.

The Centers for Medicare and Medicaid Services offer a series of financial incentive payments to eligible professionals, eligible hospitals, and critical access hospitals as they adopt, implement, upgrade, and demonstrate meaningful use of certified EHR systems. Eligible providers and hospitals must fulfill a series of steps and attest to achieving very specific core objectives and menu objectives.
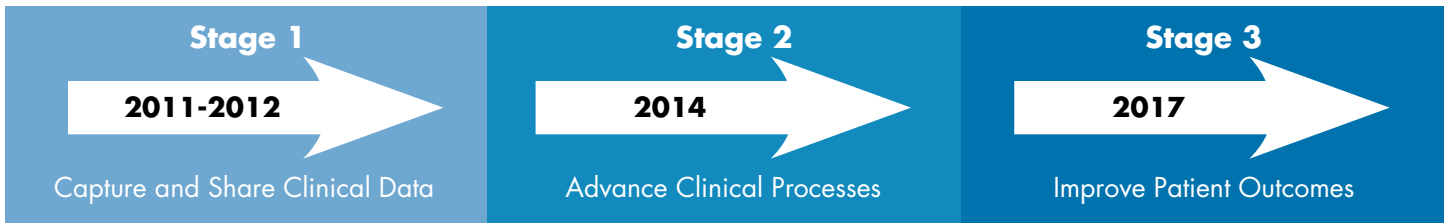
The EHR Incentive Program has three stages of progression with the ultimate goal of improving patient care. Stage 1 focuses on the capture of clinical data and sharing of that data with other healthcare providers and/or the patient; Stage 2 is about advanced clinical processes; and, Stage 3 requires the demonstration of improved patient outcomes.

With the EHR Incentive Program

VITL's Regional Extension Center Achievements with Primary Care Providers

The Three Stages of Meaningful Use

Stage 1	Stage 2	Stage 3
2011-2012	2014	2017
Capture and Share Clinical Data	Advance Clinical Processes	Improve Patient Outcomes

now in its third year, most eligible professionals are completing their attestations to Stage 1 Meaningful Use and some are beginning to achieve Stage 2 Meaningful Use.

As part of the REC grant, Stage 1 was broken into three milestones with targets for each of the three milestones. VITL assisted 924 providers to go-live with their implementation of an EHR system (milestone 2) and 571 eligible professionals have attested to meaningful use of their EHR.

To remain in the EHR Incentive Program, eligible professionals, eligible hospitals and critical access hospitals must continue to meet eligibility requirements and attest to achieving the core and menu objectives of Stage 2 of the program.

VITL has an objective to assist 50 primary care providers in attesting to Stage 2 Meaningful Use by June 30, 2014.

Outreach to Specialists and Other Care Providers

As EHR adoption and usage becomes more standard with primary care providers, VITL is beginning to reach out to specialists across the state to assist them in the adoption and meaningful use of EHR systems. VITL has assisted 49 specialty care providers in achieving Stage 1 or Stage 2 Meaningful Use attestation, and is well on its way to achieving the goal of 60 specialty care providers by June 30, 2014.

Healthcare reaches beyond medical care. Coordination with mental health, home health, and long term care are often important components of a patient's overall healthcare. VITL is working to assist 45 of these full continuum providers in achieving meaningful use by June 30, 2014.

Cooperation with Blueprint on Data Quality Initiatives

The Blueprint for Health and VITL are working together, along with the Blueprint clinical registry vendor, Covisint, to assist practices and providers in achieving high data quality standards in their EHR systems and meeting the

required Blueprint quality measures.

Blueprint "sprints" bring together a cross-organization team to focus on end-to-end data quality assurance efforts, to ensure that data is entered consistently and accurately. Data is then sent to the VHIE and is passed through to DocSite, the clinical registry. Quality data in medical record systems allows for improved outreach to patients for timely

VITL Answers Meaningful Use Questions for Essex Pediatrics

Nobody would ever say that achieving EHR meaningful use is child's play, but for seven eligible professionals at Essex Pediatrics in Essex Junction, the process was made easier with help from VITL eHealth Specialist Jennifer Morgan.

The meaningful use requirements were confusing at first. Morgan met with them monthly and answered all their questions. Morgan is very knowledgeable and helped the practice a lot, staff members said.

When it came time to complete the online documentation, Morgan walked them through it. After that, they felt comfortable completing the attestation on their own. If any questions did come up, "Jenn was great at getting back to us right away," said Jill Kenneson, nurse manager.

As part of the preparation for achieving meaningful use, Morgan conducted a security risk analysis for the practice. She put together a spreadsheet which showed the various risk areas and options for the practice to consider. "Having that tool made it a lot easier," said Sue Rogers-Low, billing manager.

VITL's security risk analysis showed that Essex Pediatrics was in good shape regarding security issues. Using the VITL tool, the practice was able to easily make a change that improved security.

VITL Helps Newport Specialist Physician Achieve Meaningful Use

Only four months after implementing an electronic health record, Leslie Lockridge, MD, of Newport has attested to Stage 1 Meaningful Use of his new EHR. The oncologist/hematologist and his staff reached the milestone so quickly with a lot of hard work, and assistance from the VITL eHealth Services Team.

VITL eHealth Specialist Christine Sweeny met with Dr. Lockridge and his staff almost every week beginning in September 2013. At first, Sweeny helped the practice with setting up the new EHR and learning its various functions. She also discussed reports generated from the EHR, conducted a security risk assessment, and assisted the practice with developing a set of policies.

As the project progressed, the work shifted to reviewing clinical quality measures and implementing clinical decision support rules in the EHR, which automatically generate notifications and care suggestions. At least one clinical decision support rule must be implemented to achieve meaningful use.

By late December, Dr. Lockridge was ready to attest to meaningful use. "Everybody thought we were nuts to attempt this in such a short time, but we did it," said Danielle Wright, clinic manager. "We wouldn't have been able to do it without VITL. Chris Sweeny provided a lot of good guidance. She's been a tremendous asset."

One of the most valuable things that Sweeny did, she said, was provide advice on how to work with the practice's EHR vendor. With pointers from Sweeny, the practice was able to give the vendor valuable feedback and it made the implementation process go much smoother.

With the EHR now in place, Dr. Lockridge and his staff are saving time by not pulling as many paper charts. When he is at the hospital, the physician can quickly use the web-based EHR to securely access his patients' records. Having 24/7 access to patient information from any location means the "quality of care for patients will be much better," said Wright.

Now that the attestation for Stage 1 Meaningful Use has been completed, Wright says the practice will continue meeting with Sweeny on a bi-weekly basis to expand use of the EHR into additional areas.

Photo by Scott Wheeler

VITL eHealth specialist Christine Sweeny meets with Dr. Leslie Lockridge and his office manager Danielle Wright (right) to help the specialist physician with implementing his EHR and meeting meaningful use criteria.

Improving Healthcare Delivery
VITL is at the center of Vermont healthcare reform

Vermont Information Technology Leaders (VITL) plays a key role in providing clinical data services that are improving healthcare delivery systems in Vermont.

Accountable Care Organizations: Delivering Clinical Data Services

OneCare Vermont, an accountable care organization (ACO) responsible for coordinating the care of 42,000 Medicare patients throughout the state, is working with VITL to provide clinical data services. These services would electronically provide patient health information that is required to calculate the quality measures which are at the core of the accountable care delivery model.

VITL collects information from the provider's EHR and delivers data to the analytics services provider under contract by OneCare to calculate quality measures. If OneCare Vermont can reduce Medicare spending for these beneficiaries while meeting or exceeding 33 quality measures, all of the providers will share in the savings. According to the Centers for Medicare and Medicaid Services (CMS), before an ACO can share in any cost savings, the ACO must demonstrate it is meeting performance standards in four key areas: patient/caregiver experience; care coordination and patient safety; preventive health; and at-risk populations (e.g. high blood pressure, coronary artery disease, etc.).

OneCare Vermont was formed in 2012 by Fletcher Allen Health Care and Dartmouth-Hitchcock Medical Center. OneCare Vermont is now comprised of every hospital in the state as well as hundreds of primary care physicians and specialists, two federally qualified health centers, and several rural health clinics. In September, the prestigious Becker's Hospital Review named OneCare Vermont as a member of its group "100 Accountable Care Organizations to Know."

VITL has also begun work with Community Health Accountable Care, LLC, and the Accountable Care Coalition of the Green Mountains, to provide the clinical data necessary for the management of this innovative care delivery model.

Chronic Disease Management: Collaborating with Vermont Blueprint for Health

VITL continues to support the HIT infrastructure needs of the Blueprint, and in 2013, added new interfaces from 27 primary care and specialty practices. This brings the total to 133 interfaces transporting an average of 600,000 clinical messages a month through the VHIE to the Blueprint DocSite system.

Practices are connected to the VHIE for three different types of interfaces: admit, discharge and transfer orders (ADT); continuity of care documents (CCD); and medical document management (MDM) reports.

The information transported through the VHIE does more than just populate the Blueprint clinical data repository -- it feeds important reports that improve patient care. Reports generated from the repository help practices manage their patients' preventive and chronic healthcare needs, improve clinical outcomes, and provide comprehensive tools to manage a population of patients.

> "The data services that VITL will provide in support of the analytics needs of OneCare Vermont will leverage the existing VHIE infrastructure, and enable a new level of data-driven improvements in care for our patients across Vermont."
> — Todd Moore, Chief Executive Officer, OneCare Vermont

> "Whether connecting practices to Vermont's health information network, or working with our team to improve the quality of the data that is in the system, VITL is a key partner for successful healthcare reform in Vermont."
> — Craig Jones, Director, Vermont Blueprint for Health

Vermont Department of Health: Transporting Data to the State Immunization Registry

VITL has collaborated with the Vermont Department of Health (VDH) to develop interfaces for the Vermont Immunization Registry. These interfaces enable healthcare organizations to submit immunization data electronically to the registry. The mutual goals of VITL and VDH include:

- Reducing data entry for healthcare organizations
- Improving data accuracy
- Speeding data delivery
- Helping organizations fulfill data reporting requirements and achieve meaningful use
- Improving patient care

VITL has made significant progress in creating this registry connection. Approximately 25 physician practices are sending immunization data to the registry. Half of the state's hospitals are connected, with data in the final testing stages before being incorporated into the registry.

Health Care Reform

With representation on the VITL Board of Directors from the Green Mountain Care Board, the Vermont Association of Hospitals and Health Systems, the Vermont Medical Society, the Vermont Legislature, the Vermont Office of Administration, and major healthcare providers across the state, VITL remains central to the data-centered, information-based transformation currently occurring in the state healthcare delivery system.

eHealth Services

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care from providers. As of December 31, there were 12 sprints underway, and each of them includes a member from the VITL eHealth specialist team and the VITL VHIE team. Four of the sprint teams are being led by a VITL eHealth specialist.

The sprint process highlights the need for accurate patient panels for aggregated population care management. One example of improving data quality is to compare the practice's patient list against the Vermont Death Registry. There may be deceased patients included in the practice's EHR, which would adversely impact population reporting in DocSite. Sprints allow for conversations around workflow and the need to maintain data quality for population reporting.

Sharon Fine, MD, medical director of Northern Counties Health Care, an FQHC in St. Johnsbury, said that NCHC was fortunate to be involved with VITL's sprint process. "This was a focused effort involving all parties to expedite and problem-solve NCHC's Covisint (Blueprint clinical data registry) data issues. We were able to resolve our problems in

a timely manner and now feel confident with the quality of our data," she said.

In November, VITL facilitated the development and recording of a data quality webinar for use by sprint teams, providing yet another tool in training practices in the importance of data quality and the positive downstream impacts on patient management panels.

VITL eHealth services team members also work with Blueprint community health teams to educate providers on the proper implementation and record keeping required for managing patient consent for providers to access information stored in DocSite.

Don Grabowski, outreach coordinator at The Health Center in Plainfield put it this way: "The technical assistance VITL provided during our sprint was invaluable in helping us coordinate with the Blueprint for Health and other organizations to make sure the data we share is timely, consistent, usable, and of high-quality. This work is complex and new to the primary care continuum. VITL was sensitive to the needs of all of the organizations involved to be sure that the data meets each organization's needs."

Community Engagement and Outreach
VITL educates stakeholders about benefits of the VHIE

VITL President and CEO John K. Evans had a busy year in 2013, meeting with stakeholders across the state to update them on the progress of the ongoing development of the VHIE.

A key investor in VITL is the state of Vermont and John met with a number of legislative leaders to not only thank them for their continued support, but to update them on how the state is receiving its return on investment for its support of the VHIE. In 2013, John testified before various legislative committees, including the Joint Legislative Health Care Oversight Committee, and the Senate and House Health Care Committees.

VITL has been working closely on various initiatives with the Vermont Department of Health, as well as the Green Mountain Care Board. In fact, Al Gobeille, chairman of the Green Mountain Care Board, was the keynote speaker at the annual VITL Summit held in September.

As Gobeille stated at the VITL Summit, "…the cost of healthcare is unsustainable and the economics must change. We must be more innovative in coming up with solutions to control and mitigate these costs, but more importantly to provide our citizens with the best care possible. By sharing patient health data through a vibrant and robust health information exchange we can accomplish both and become a national model in doing so."

The VITL Summit convened more than 400 healthcare professionals from throughout the state to discuss data driven healthcare reforms in Vermont. It also was an opportunity

> "We must be more innovative in coming up with solutions to control and mitigate these costs, but more importantly to provide our citizens with the best care possible. By sharing patient health data through a vibrant and robust health information exchange we can accomplish both and become a national model in doing so."
> — Al Gobeille, Chairman
> Green Mountain Care Board

for VITL stakeholders to hear from their peers about their experiences with the VHIE. A survey of participants who attended the Summit confirmed that the healthcare community is feeling extremely positive about the direction that health information technology is taking in Vermont.

The provider community is critically important to the success of the VHIE and the collective goal of improving the healthcare of every resident. As such, VITL has been meeting steadily with hospital officials throughout the state and a number of physician practices, as well as other providers such as federally qualified health centers.

A number of initiatives rolled out by VITL were the focus of various news stories in media outlets throughout the state. In addition, Evans has met with editorial boards at newspapers throughout Vermont and has been interviewed by reporters not only about organizational announcements, but also as a source for information about how health information technology is transforming the delivery of healthcare.

Finally, the investment being made in VITL by the taxpayers is creating good paying health information technology jobs. VITL now has a staff of 32 professionals, a net increase of nine during 2013. These individuals are contributing to the collective efforts to build a health information technology infrastructure to accomplish one overriding goal – to improve the healthcare of *every* Vermonter.

Financial Summary

VITL is a 501(c)(3) non-profit organization. Fiscal years for VITL begin on July 1 of each year and end on June 30 of the subsequent year. The financial summaries presented here are for the fiscal year that ended on June 30, 2013.

VITL receives revenues primarily from state and federal grants (>98%), with a small amount (<2%) of revenues derived from program service fees, and attendance and sponsorship fees from the annual VITL Summit. For Fiscal Year 2013, total revenues amounted to $5,837,070.

Federal grant funding (including grants passed through the Department of Vermont Health Access) and direct state grant funding for Fiscal Year 2013 was a total of $5,774,656.

Total Support and Revenue
Fiscal Year 2013

Federal and State Grants	$5,774,656
Program Service Fees	$23,782
Conference Revenue	$37,877
Interest Income	$755
Total	**$5,837,070**

Total Expenditures
Fiscal Year 2013

HIE Program Services	$2,183,206
eHealth Program Services	$1,577,934
General and Administrative	$1,701,880
Health Care Reform Efforts	$5,663
Total	**$5,468,683**

Grant Funding
Fiscal Year 2013

Federal Grantor Pass-through Grantor Program Title	Pass through #	CFDA Number	Federal Funding	State Funding
Direct funding: U.S. Department of Health and Human Services		ARRA-93.718	$1,420,140	
Passed through the Department of Vermont Health Access: State grants to promote health information technology	03410-0256-13	ARRA-93.719	$1,000,079	
Medical Assistance Program	03410-0256-13	ARRA-93.778	$2,111,277	$1,085,367
Medical Assistance Program	03410-0257-13	ARRA-93.778	$99,414	$58,379
Total: $5,774,656			**$4,630,910**	**$1,143,746**

Roadmap To Financial Stability

VITL recognizes that much of the VHIE infrastructure has been built through grants at the state and federal levels, but VITL continues to work toward a goal of financial independence. During 2013, VITL has taken steps to move towards financial stability, and has outlined three pathways to generate non-grant revenues which have been reviewed and approved by the VITL Board of Directors.

Path 1. *Deriving commercial value from existing services:* While the infrastructure behind the VHIE has been funded through grants, services that allow providers query-based access to the VHIE and access to patient medication histories will be provided on a fee-based model.

Path 2. *Data services for healthcare organizations:* The clinical data available through the VHIE provides a source of information necessary for information-based care delivery systems such as accountable care organizations. Services such as data transport and data analytics to these health delivery systems will be delivered on a fee-based model.

Path 3. *Expanded services:* As VITL's eHealth services team and VHIE development teams continue to develop, VITL is seeking opportunities to generate revenue through consulting services. VITL is also exploring the potential to provide a statewide medical image archival storage system for hospitals, and connections to neighboring HIEs, both of which may provide new sources of revenue.

While it is too early to provide specific revenue targets for these three financial sustainability paths, VITL is taking early steps to ensure the infrastructure, software, and expertise is in place to begin to generate non-grant revenue in calendar year 2014.

It should be noted that the majority of regional and state health information exchanges were created through federal and state government funding and are determining their own models and methods for financial independence. Vermont though remains ahead of the national curve because it has a robust and vibrant HIE that has been enhanced through new services such as VITLAccess.

> "We anticipate that the state and federal funds that have brought us this far will begin to decrease over the next few years. The plans that VITL is pursuing are critically important to keep Vermont in the forefront of healthcare reform and to the longevity of the VHIE."
>
> — Paul Harrington, Chair VITL Board of Directors

Conclusion
Looking forward

VITL originated from the belief that a wide range of stakeholders, committed to the common vision of informing health care decisions through the secure exchange of clinical health information, could bring real change to the healthcare delivery system in Vermont. That belief endures, and VITL would like to acknowledge the efforts of our board of directors, the dedicated staff of health IT experts at VITL, the state of Vermont, the Green Mountain Care Board, and healthcare organizations and professionals around the state, without whom, the accomplishments of 2013 would not have been possible.

Vermonters can be proud of their health information exchange. VITL's innovative approaches accelerated the development of interfaces and the expansion of the VHIE. These new interfaces have connected rich sources of patient data from hospitals and care providers across the state to the VHIE. Healthcare providers are receiving results directly in their EHR system through the VHIE, the Blueprint for Health Clinical Registry is being fed patient information through the VHIE, and the Vermont Immunization Registry is receiving electronic immunization data through the VHIE.

As 2014 unfolds, VITL is on the verge of delivering the next set of value-added services. The provider portal, VITLAccess, will go-live across the state giving secure, query-based patient access to healthcare providers and their staffs. With VITLAccess, providers will also be able to review a patient's medication history. Patient information necessary for Vermont's accountable care organizations to manage the care of their beneficiary populations will flow through the VHIE to the ACO data analytics service provider.

Even as those services become available, early exploratory work is underway on three new fronts: a radiology image network; clinical data analytics; and connectivity to other regional HIEs. Generating the necessary funding for these efforts will be a focus for the Fiscal 2015 budget. A radiology image network would provide a statewide, secondary medical image archive that would result in fewer repeat images, safer care, and lower costs for hospitals. Clinical data analytic services could allow VITL to tap the clinical data accessible through the VHIE to provide customized analysis in support of various healthcare initiatives. And, connectivity to neighboring HIEs would ensure that a patient's data will be available to providers, even for care the patient receives out of state.

Through all of these changes, VITL remains committed to assisting healthcare providers to incorporate this new technology into their practices and will continue to bring expert advice to these providers through the team of eHealth specialists.

As a result of our work in 2013, VITL is positioned to leverage the VHIE in support of Vermont's health care reform efforts.

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