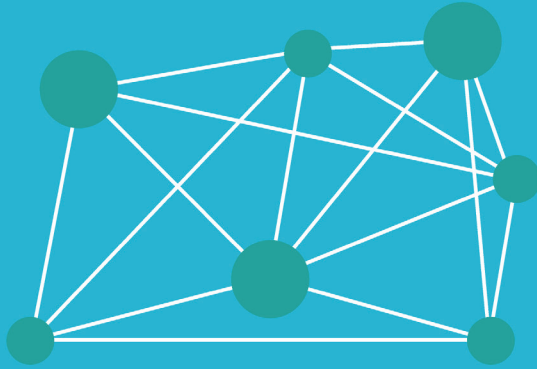
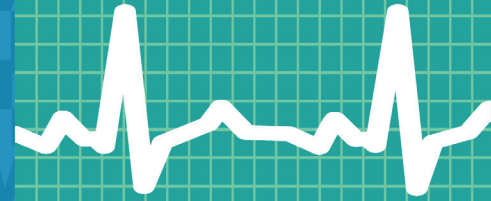


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Vermont Health
Information Exchange
2021 Annual Report

Vermont Information Technology Leaders, Inc.



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A Message from the Board Chair and CEO

We are excited to share this update about VITL's work in 2021 and preview of our plans for 2022.

VITL's board of directors, leadership team, and staff entered the year developing a Strategic Framework to guide our work. Together, we created a plan for accomplishments that advance our mission and vision, and support the State's goals for health information exchange as outlined in the Health Information Exchange Strategic Plan. This report features our new Strategic Framework and the goals we have set out to achieve.

Our work in 2021 was strongly aligned with this new Strategic Framework. In last year's report, we shared information about the Collaborative Services Project, which is creating a shared health data infrastructure to meet statewide needs for the aggregation, standardization, and sharing of health data for Vermonters. In 2021 we implemented a new data repository for the Vermont Health Information Exchange, which will enhance interoperability and make it easier for clinicians, hospitals, practices, and patients to appropriately access data from the Vermont Health Information Exchange data.

In 2021 we also continued our work with the Vermont Department of Health to provide data needed for their effective pandemic response. This included building many connections to new labs performing COVID-19 testing and new sites delivering immunizations and boosters. In addition, the Vermont Legislature supported changes to 18 V.S.A. § 1129, which allowed us to integrate data from the Vermont Immunization Registry with the Vermont Health Information Exchange to enhance patient records and make immunization data more accessible.

Looking beyond COVID-19, the Department of Health's epidemiology team will use the Vermont Health Information Exchange to gather data related to all reportable diseases — continuing to minimize the data collection burden on them and on providers.

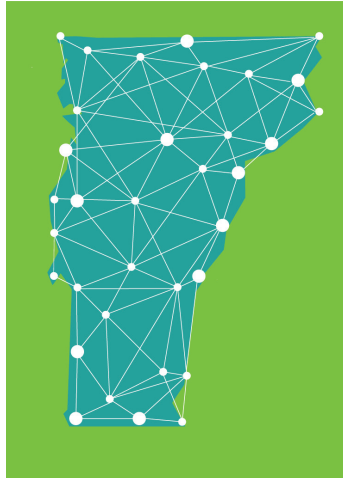
In 2022, we will continue to build on this year's work. We will roll out a new version of VITLAccess, our clinical portal, which will provide a more user-friendly view of an individual's health record to authorized users. We will continue our expansion of the Collaborative Services Project infrastructure, and will launch a service that enables individuals to access their health data through the third-party applications they want to use. And we will continue work to expand the scope and types of data included in the Vermont Health Information Exchange to provide an even more complete record of an individual's health.

We look forward to the year ahead, to working with State agencies, the Legislature, other stakeholders, and participating organizations to advance our mission: to securely aggregate, standardize, and share the data needed to improve the effectiveness of health care for Vermonters.

Beth Anderson
President & CEO

Leah Fullem, MHCDS
Board Chair

About VITL



As the operator of the Vermont Health Information Exchange, VITL aggregates patient health data to create a more complete health record for each Vermonter

and brings all of those records together to help partners provide better patient care, understand the health of the population, and improve the effectiveness and efficiency of our health care system.

VITL Participants

Organizations that send and/or receive data through the Vermont Health Information Exchange

-
- 16** HOSPITALS

 - 188** HOSPITAL-OWNED SPECIALTY AND PRIMARY CARE PRACTICES

 - 75** INDEPENDENT SPECIALTY AND PRIMARY CARE PRACTICES

 - 11** FEDERALLY QUALIFIED HEALTH CENTERS

 - 10** DESIGNATED AGENCIES AND SPECIALIZED SERVICES AGENCIES

 - 10** HOME HEALTH AGENCIES

 - 8** NURSING HOMES AND LONG-TERM CARE FACILITIES

 - 34** EMERGENCY MEDICAL SERVICES

 - 11** PHARMACY CHAINS AND INDEPENDENT PHARMACIES

 - 19** STATE AND COMMERCIAL LABS

 - 3** FEDERAL AND STATE AGENCIES

VITL Services

CONTRIBUTING DATA TO THE VHIE

For organizations that contribute data, connecting to the Vermont Health Information Exchange is a way to ensure their patients' data is available to other clinicians when and where they need it, informing high-quality care.

TYPES OF DATA VITL COLLECTS

Organizations can submit the following data types to the Vermont Health Information Exchange:

- Admission, discharge, and transfer (ADT) notifications
- Patient record summaries, called Continuity of Care Documents (CCDs)
- Laboratory test results
- Radiology reports (specialists' interpretations of diagnostic imaging)
- Clinical notes and transcriptions
- Immunization records
- Home health monitoring data

BENEFIT: In addition to efficiently sharing data with other clinicians, data contributors are connected to national networks, the Vermont Department of Health, and the State's health reform initiatives. One connection to the Vermont Health Information Exchange does the work of many point-to-point connections and countless records requests, saving time and effort for contributing organizations.

ACCESSING DATA FROM THE VHIE

VITL offers hospitals, health centers, primary care and specialty care practices, and other organizations that provide health care, a variety of ways to access the data in the Vermont Health Information Exchange.

VITLACCESS CLINICAL PORTAL

VITLAccess is VITL's secure, web-based clinical portal that enables authorized users to view patient data submitted to the Vermont Health Information Exchange from participating organizations and from connected national health data sharing networks.

BENEFIT: Multi-source patient records available in real time offer clinicians more complete patient health histories, supporting safe, effective care and helping avoid duplication of tests.

RESULTS DELIVERY

VITL creates interfaces that deliver laboratory results, radiology reports, and transcribed reports directly into electronic health records.

BENEFIT: Clinicians at subscribing practices efficiently access results of tests and procedures they have ordered, and practice staff avoid time consuming phone and fax based results collection and processing.

VITL Services continues on page 5

VITL Services continued from page 4

EVENT NOTIFICATION

Through VITL and third-party partners, clinicians can send and receive alerts about their patients based on admission, discharge, and transfer messages submitted to the Vermont Health Information Exchange.

BENEFIT: Subscribing primary care clinicians and practice staff can be notified when patients receive care in other settings, including the emergency department. This information enables effective care coordination, which can support better health and reduce readmissions and avoidable specialty care.

DATA REPORTING

VITL processes and provides select clinical data to organizations and initiatives including OneCare Vermont, Bi-State Primary Care Association, the Vermont Blueprint for Health, and the Vermont Chronic Care Initiative. VITL also submits immunization data to the Vermont Department of Health's Immunization Registry.

BENEFIT: Through one connection to VITL, clinicians and organizations can contribute data to public health and to many health care reform initiatives, meeting program participation and funding requirements without costly point-to-point connections and with fewer chart chases.

CONSULTING

VITL staff also provide consulting and advisory services for organizations that provide health care. More information about VITL's consulting services is available upon request.

Protecting Patient Health Information

The security and confidentiality of patient health records in the Vermont Health Information Exchange has always been a focus of VITL's work. A privacy officer and a security officer oversee policy development and implementation and deliver education for all VITL staff. Accesses of Vermont Health Information Exchange data are logged and audited regularly, in compliance with federal and state laws and VITL policies. This year VITL built a Privacy and Security Commitment into the organization's Strategic Framework. VITL will continue to regularly review and update its security tools and policies to ensure they align with best practices and mitigate the ever-changing threat landscape in order to maintain effective, sustainable protections across all Vermont Health Information Exchange data.

New Strategic Framework

VITL is excited to share our new Strategic Framework, which the team — leadership, board, and staff — developed to guide VITL's work in the coming years. The Framework includes an update to VITL's Mission and Vision for better alignment with the organization's goals, five new Strategic Directions, a statement of VITL's Privacy and Security Commitment, and Values. The Framework incorporates lessons VITL learned in recent years, including the opportunity for the Vermont Health Information Exchange to support and inform public health work, VITL's ability to help organizations that provide health care services as they navigate system changes or downtime, and the capabilities of the new Collaborative Services infrastructure that VITL continues to implement and enhance. The Framework also considers changes occurring at a national level, including The 21st Century Cures Act, aimed at putting patients in control of their health data, and the Trusted Exchange Framework & Common Agreement (TEFCA), with the goal of improving interoperability and data availability.

VITL's work will be founded on five Strategic Directions:

- **Focus on Our Customers**
- **Tell Our Story**
- **Be the Go-To Partner for Exchanging Vermont's Health Information**
- **Build a Learning Organization**
- **Ensure Sustainability**

The Strategic Framework, and all of VITL's work, is based on a Privacy and Security Commitment – ensuring the security of patient data, providing appropriate access to patient data, and honoring patients' rights and preferences.

Staff developed a set of organizational values that define how VITL works with customers, partners, colleagues, and the community:

- Mission Driven
- Customer Centered
- Quality Focused
- Team Inspired

The full Strategic Framework can be found at www.vitl.net.

MISSION: To securely aggregate, standardize, and share the data needed to improve the effectiveness of health care for Vermonters

VISION: To be a leader in collaboratively delivering actionable data that leads to better health

Collaborative Services Project

VITL's new technology enables efficient data exchange and system-wide savings

Through the Collaborative Services Project, VITL has replaced the core technology underpinning the Vermont Health Information Exchange with more advanced and effective tools. These new tools were selected in collaboration with a multi-stakeholder group, with the goals of meeting collective needs and avoiding duplicative investments in essential health data sharing technology.

The Collaborative Services Project launched in 2019, and by the end of 2020, VITL had implemented an advanced patient matching index (MPI), terminology services software, and a hosted interface engine.

Making data more accessible to clinicians and patients

2021 marked the biggest achievement in the project to date, the implementation of a new data repository which will hold all the data in the Vermont Health Information Exchange in a FHIR format. FHIR stands for Fast Healthcare Interoperability Resources, it is the emerging industry standard for organizing and exchanging health data, encouraged by the Centers for Medicare and Medicaid Services (CMS) and increasingly used by health IT developers. Adopting FHIR-native technology is an investment in interoperability — enabling faster, easier sharing of health records with participating clinicians and organizations, and providing individuals more control of their health records including through their preferred health data apps.

Preventing redundant health information technology investments

VITL estimates that the Collaborative Services Project will achieve savings for Vermont's health care system. This includes direct, ongoing annual savings and cost avoidance. The project also eliminates the need for multiple patient-matching software purchases across partners. VITL expects the new data infrastructure will result in additional savings after it is fully implemented and its capabilities are further extended.

Recognition of VITL's Leadership

The VITL team's work is gaining national notice. Civitas Networks for Health is the leading industry organization for health information exchanges. In 2021, Civitas presented its Emerging Leader Award to VITL CEO Beth Anderson.

This award reflects the team's collective commitment to delivering next generation health information exchange services that support Vermont clinicians and their patients.

Delivering Actionable Data

VITL connects to electronic health records, translates and standardizes data, and matches patient records to make data actionable

CONNECTING: VITL receives data through secure interfaces with hospitals, practices, labs, and other organizations. VITL's interface engine processes messages from these systems – receiving, acknowledging, and routing them into VITL's data repository.

VITL currently maintains 1,346 interfaces with organizations that send and receive health data.

TRANSLATING & STANDARDIZING: Data arrives at VITL in many different "languages," representing variation in the way hospitals and practices configure their health records and in how individual clinicians enter data. VITL team members map local codes to standard codes, creating a dictionary that VITL's terminology services software uses in automated translation of select incoming messages. Translation makes the data in the Vermont Health Information Exchange readable by clinicians for patient care and comparable in population health analytics.

In 2021, VITL mapped 3,888 local codes to standard codes. VITL's terminology services software completed 66,962,183 translations.

MATCHING: Many Vermonters see more than one clinician, most of whom submit patient data to the Vermont Health Information Exchange. VITL's patient matching tool identifies when, for instance, the Florence Nightingale seen at one health care facility is the same person as the Flo Nightingale seen at another and merges those records. The goal is one record for each Vermonter.

Since installing the patient matching tool, VITL has demonstrated a cohort match rate increase from about 65% to greater than 95%.

Expanding the Types of Data Included on the Vermont Health Information Exchange

Integrating health care claims data on the Vermont Health Information Exchange

VITL's new data infrastructure is designed to support the inclusion of new data types on the Vermont Health Information Exchange. Adding health care claims data is a priority for Vermont's Agency of Human Services, and in 2021 VITL implemented the capability to import a claims data file, demonstrated the ability to ingest Medicaid claims data, and produced a report linking Medicaid claims and clinical data at the patient level. VITL will continue to work with the Agency of Human Services to define appropriate access to claims data for future reporting and identify opportunities to use the data to advance health care reform, recognizing that claims and clinical data together can offer deeper insights into the effectiveness and efficiency of our health care system than either data type alone.

Exploring the addition of more mental health and substance use disorder treatment data

VITL has also continued to explore the potential to connect new sources of mental health and substance use disorder treatment data to the Vermont Health Information Exchange. In 2022 VITL will reconvene a multi-stakeholder group to consider the possibilities presented by new federal guidance (expected in the first quarter) about the alignment of 42 CFR Part 2 with the Health Insurance Portability and Accountability Act (HIPAA).

Planning for the addition of new social determinants of health (SDoH) data sets

VITL will also work with the State's Health Information Exchange Steering Committee to explore inclusion of social determinants of health (SDoH) data from sources beyond medical records. VITL will work with stakeholders, including the State, who are interested in contributing new data sets, to define governance structures and appropriate access before bringing powerful new datasets onto the Vermont Health Information Exchange.

Partnering with Public Health

Delivering data for COVID-19 response created a foundation for long term strategic partnership

In the first days of the COVID-19 pandemic, VITL asked the Vermont Department of Health (VDH), “How can we help?” Together, VITL and VDH identified a range of ways for Vermont Health Information Exchange data to support the public health response to COVID-19. This partnership continues, with the following advancements in 2021:

- **VITL built interfaces to collect data from new sources of COVID-19 lab test results and COVID-19 immunization records**, and delivered that information to VDH and to other Vermont Health Information Exchange data users.
- **VITL delivered daily COVID-19 hospitalization data to VDH on behalf of participating hospitals.** This automation of required federal reporting helps ensure consistent data quality and saves hospital staff time every day.
- **VITL provided data to support planning for Vermont’s initial COVID-19 vaccination rollout.**
- **The Legislature enabled closer integration between VDH’s Immunization Registry and the Vermont Health Information Exchange** through a statute change. Subsequently, VITL imported COVID-19 immunization histories from the Immunization Registry and combined those records with other patient health information to help clinicians support their patients, including those with risk factors for severe COVID-19.
- **VDH staff use VITLAccess to collect race and ethnicity information to add to COVID-19 immunization records, helping create a more complete picture of immunization equity in Vermont.**
- **VDH’s infectious disease epidemiology team continues to use the VITLAccess clinical portal in COVID-19 case investigation.** VITLAccess has proven so useful that the team requested access for case surveillance for other public health reportable conditions. VDH team members conducted more than 118,000 searches in VITLAccess, accessing data without burdening clinicians with record requests.

In partnering to support COVID-19 response, VITL and VDH have built the foundation of a creative and strategic partnership that will use data in support of ongoing pandemic response and other public health priorities. Plans for 2022 include continuing to advance immunization data systems integration. VITL and VDH will also explore shared opportunities for increasing the consistency of the data needed to advance health equity, such as data about patient gender, sex, race, and ethnicity.

Developing Customer-Centered Services

VITL is building towards co-design of all new products and services, starting with the new VITLAccess clinical portal

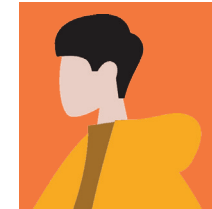
One of VITL's new Strategic Directions is "Focus on Our Customers." VITL commits to proactive engagement to understand customer needs, and to building future products and services with user participation.

In 2021, VITL began developing a new VITLAccess clinical portal. The Client Engagement Team used this opportunity to test and model new approaches to engaging VITL's customers. First, they interviewed current portal users. User insights informed configuration of the new portal. Next, the team will pilot the new portal with more users. User experiences will inform development of portal education and training resources, and their feedback will shape priorities for future portal enhancements.

Thank you to the VITLAccess users who participated. We appreciated the perspectives of professionals whose roles included:



**Primary Care Doctor,
private practice**



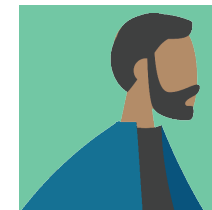
**Naturopathic Doctor,
private practice**



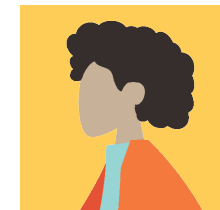
**Psychiatric Nurse
Practitioner, hospital**



**Health Information
Management Data
Integrity Specialist,
hospital**



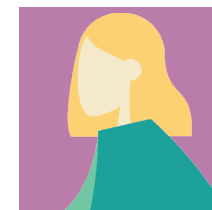
**Case Investigator,
Vermont Department
of Health**



**Epidemiologist and
Contact Tracing
Team Lead, Vermont
Department of Health**



**Chief Operating
Officer, Federally
Qualified Health
Center Center**



**Medical Records
Team Member,
Federally Qualified
Health Center**



**Crisis Team
Psychologist,
Designated Agency**

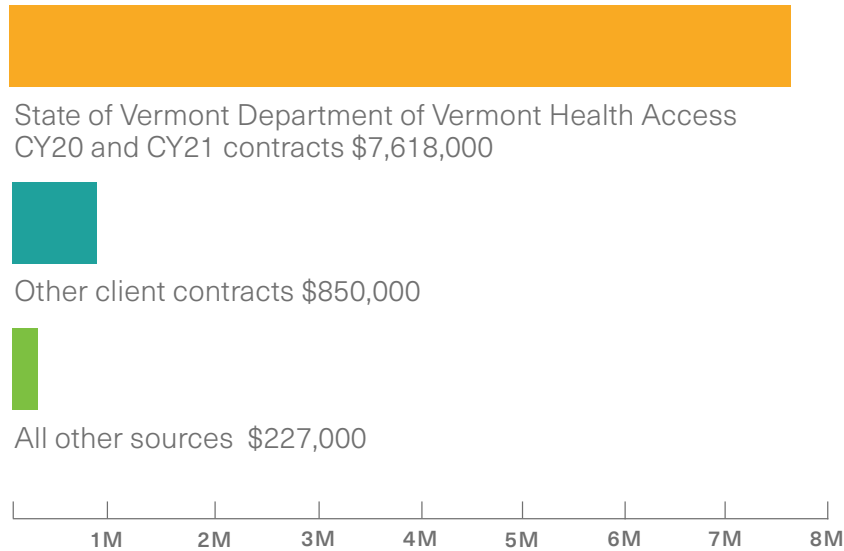
2021 Financials

VITL's audited financials for FY21 show total revenue of \$8,695,000, which was greater than the budgeted revenue. VITL's CY21 contract with the Department of Vermont Health Access included funding to support implementation of the second phase of the Collaborative Services Project, and to continue work in support of the data needs of

the Vermont Department of Health. In addition, new work scope was added to integrate claims data on the Vermont Health Information Exchange. The audited revenues also reflect adoption of the new IRS revenue recognition standard. The FY21 Financial Statements are available at www.vitl.net.

FY21 AUDITED REVENUE

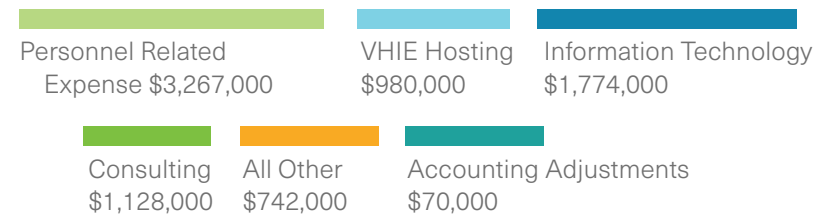
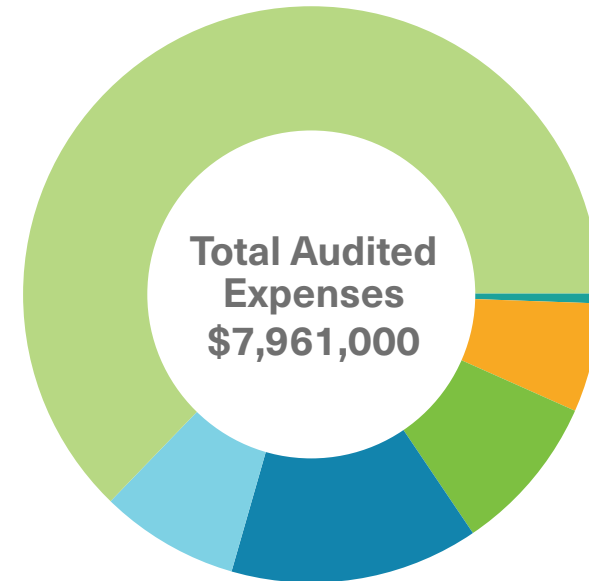
(rounded to the nearest thousand)



Total Audited Revenue
\$8,695,000

FY21 AUDITED EXPENSES

(rounded to the nearest thousand)



For Policymakers

States with a strong connection between their health information exchange(s) and their public health authority have been able to rapidly initiate data-driven responses to the pandemic, through its evolutions. Many public health efforts require data from health care clinicians, and often clinicians benefit from information from the public health authority. Information sharing between the Vermont Health Information Exchange and the Vermont Department of Health (VDH) can minimize the data collection burden on both clinicians and public health officials while avoiding duplicative investment in technical infrastructures. As we look to 2022, VDH and VITL plan to work together to identify opportunities for further partnership and data sharing. An area of particular focus is using Vermont Health Information Exchange data to help evaluate and advance health equity in Vermont.

We appreciate the support the Legislature has already provided for the partnership between VDH and VITL and look forward to future opportunities to support public health data needs.

The VITL Board of Directors



Leah Fullem, MHCDS
University of Vermont
Health Network



Jeff Tieman
Vermont Association
of Hospitals & Health
Systems



Debra Royce
Bogner of America, Inc.



Jessa Barnard, Esq.
Vermont Medical
Society



Susan Besio, PhD
Retired, health policy



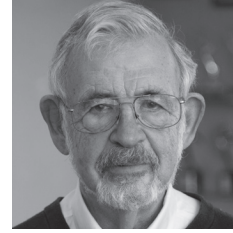
Shawn Burroughs,
MBA
Northeastern Vermont
Regional Hospital



Mary Beth Eldredge,
MHA, MHCDS
Dartmouth-Hitchcock
Health



Richard Elmore
Allscripts



Tom Evslin
Retired, NG
Advantage



Tim Kenney
AI Certain, Inc.
Board member
through November
2021



Kelly Lange
University of Vermont
Health Network



Norman Ward, MD
University of Vermont
Medical Center



Beth Anderson
President & CEO, VITL

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Jeff Tieman - Vice Chair
Debra Royce - Treasurer
Jessa Barnard - Secretary

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Leah Fullem
Kelly Lange
Debra Royce

FINANCE

Debra Royce - Chair
Susan Besio
Mary Beth Eldredge
Leah Fullem
Kelly Lange

TECHNOLOGY

Shawn Burroughs - Chair
Tom Evslin

1,112,031

messages delivered to VDH reporting COVID-19 vaccinations

2,111,724

COVID-19 test results reported to VDH

2021 by the #s

98.65%
of patients sharing records

of patients opted out

1.35%

839

interfaces collecting data

72,402,830

messages received carrying health data

507

interfaces distributing data

532

clinicians receiving results in their electronic health records

1,452,655

results delivered to clinicians, including laboratory test results, radiology reports, and clinical notes and transcriptions

1,346

interfaces maintained

2,442

VITL Access users

724,045

patient record queries



Vermont Information Technology Leaders, Inc.

www.vitl.net