To Be Vision of the Digital Infrastructure of Vermont's Learning Health System: High Level Enterprise Business Architecture

VT Agency of Human Services, Department of Vermont Health Access, Division of Health Reform

(v 7.4 – 1/13/13)

Providers
(Organizations & Individuals)
Source Data Systems

- Payroll & Labor / Tax Systems
- Other State or Insurer Required Data
- Paper Records
- Claims / Billing / Scheduling Practice Management Systems
- Patient/Client Coverage Enrollment & Eligibility Data
- Electronic Health Records
- Clinical Registries
- Clinical Quality Reporting Systems
- Public Health Reporting Systems
- Primary Care Practices (Independent)
- Primary Care Practices (Hospital)
- Rural Health Clinics (Independent)
- Rural Health Clinics (Hospital)
- Community Health Centers (FQHC)
- Specialty Medical (Independent)
- Specialty Medical (Hospital Owned)
- PT / OT / ST / Other Rehab
- Dentists (& Other Oral Health Professionals)
- Naturopathic (Other Complementary Med.)
- Community Mental Health Ctrs
- Developmental Services Agencies
- MH/SA Counselors (Independent)
- SA Treatment Facilities
- DD & LTC Personal Care Attendants
- Community Health Teams
- Community Hospitals
- Independent Diagnostic Centers
- Independent Outpatient Care
- Tertiary Care Hospitals
- Children's Hospitals
- State Hospital
- Corrections Health System
- Public Health Direct Care
- School-based Health Care
- Social Services Programs
- Area Agencies on Aging
- Home Health Agencies
- PACE Programs
- SASH Housing-based Programs
- Adult Day Care Centers
- Residential Care Homes
- Nursing Homes (Independent)
- Nursing Homes (Hospital)
- Assisted Living Facilities
- CCRC (Continuing Care Retirement Communities)
- Other Providers

Loosely coupled, federated Identity Management infrastructure enables patient/provider matching for clinical and administrative provider payment/attribution, care coordination, and evaluation purposes across State Enterprise and Clinical Health IT systems

NOTE: this Border / Fill = Connectivity to Enterprise Services MDM Infrastructure

Data Streams Color Key
- Identity Data
- Eligibility Data

Financial Transaction Data
Administrative Data
Clinical Data

Other State Legacy IT Systems
- Dept. of Labor
- Tax Dept.
- Dept. of Trans.
- Department of Education
- Department of Human Resources
- Sect. of State, Office of Professional Regulation

New AHS
Data Dashboards, Reports, Enterprise Look-up & Query For Other Agency Departments
To Be Solution: Oracle Stack

Other Agency of Human Services Departments
- **DAIL:** DDAS, DBVI, DVR, DLP
- **DCF:** CDD, ESD, FSD, OCS, & CIS/IFS
- **DOC:** Health & Community Connections
- **DMH:** Adults, Children, Community
- **VDH:** ADAP, EPI, Med. Practice Board
- **AHS CO:** Finance, IFS, Data, Quality

200+ legacy IT systems, including: MDS, OASIS, SAMS, MSR, VPMS, EDRS, VFACTS, etc.

New AHS
Data Dashboards, Reports, Enterprise Look-up & Query Across Enterprise Data Stores
To Be Solution: Oracle Stack

VT AHS' Health & Human Services Enterprise Platform (HSEP)
Enterprise Service Bus (ESB) aka Enterprise Information Exchange Gateway
(*To Be* Implemented primarily but not necessarily exclusively on Oracle ULAs stack)

To Be HSEP IDENTITY MANAGEMENT SERVICES

Shared Business and Technical Services
- Enterprise Master Persons Index (EMPI)
- Consent Registry
- State Master Provider Directory
- Health Benefits Eligibilities / Enrollments
- Other Benefits Eligibilities / Enrollments

Master Data Management Systems
- Registry MDM (for Legacy Systems) — Solution: TBD (e.g. Initiate, NextGate)
- Centralized MDM (for New Systems) — Solution: Oracle MDM

Vermont Health Information Exchange (VHIE) Network
for Clinical Transactions, Provider Portal Query, & Gateway to Direct Exchange with other HISPs

Operated by VITL
(VT Information Technology Leaders)
Solutions: Medicity & Updox

Community MPI
(VHIE ID linking individuals across practices and provider sites)

Clinical Data Stores
Available through Provider Portal Q3

Identity & Eligibility Services
API's *To Be* made available to VHIE, commercial carriers, other systems

Green Mountain Care Smart Card
to provide 2nd factor ID for benefits and clinical data

Registry MDM
(for Matching / De-duplicating IDs from Unaffiliated Entities)

Blueprint for Health
IT System
Solutions: Covisint / DocSite & ProviderLink NextGate EMPI & Stone Engineering Platform

Clinical Data Repository, Registry & Integrated Health & Human Services Record Community View with Visit Planning, Outreach & both fixed and *ad hoc* Reporting Tools

Integrated Research Information System (IRIS)
Informatics / Evaluation Platform at UVM Center for Clinical and Translational Science

VHCURES
Vermont Healthcare Claims Uniform Reporting & Evaluation System
Multi-payer Claims Data Base

To Be Enterprise Data Stores
Solution: Oracle Stack

Enterprise Analytics & BI Services
Feed Dashboard & other Reporting Tools
Solutions: TBD

To Be Screening Application Determination (SAD) aka Eligibility Automation Functionality (EAF)

Other *To Be* Reusable Enterprise Services
- Data Integration / ETL
- Security
- Workflow Engine
- Database Management
- Alerts & Notifications
- Rules Engine
- Case Management
- Referral Management
- Client / Provider Look-Up & Query
- SOA Governance Automation
- Case Collaboration / Service Coordination
- Business Process Management
- Transaction Monitor-ing, Logging, & Audit
- Document Management / ECM

PUBLIC HEALTH
Electronic data submissions *To Be* facilitated by VHIE

As Is Registries *To Be* integral data source for ID Mgmnt.

- Surveillance & Mandatory Reporting Systems
- Immunization, Birth, Death & Other Public Health Registries
- Public Health Lab Management Information System

ACCESS Legacy System
(As Is eligibility processing being phased out of ACCESS starting with health care in 2013. Transition of eligibility to be completed by 12/31/15)

Legacy MMIS
(As Is, phased transition starting 2013)

Replacement MMIS
(*To Be* phased in 6/1/13 – 12/31/16)

- New MITA (Medicaid Information Technology Architecture) Business Areas / Functionality added in phases and designed to support future functionality for claims administration under Single Payer
- PBM – Program Integrity – Coordination of Benefits – Provider & Member Services – Clinical & Quality Units – etc.

Integrated Eligibility Solution
(*To Be* Implemented 3/15/13 – 12/31/15)

- Phase 1: Eligibility Determination for Public Health Benefits: Medicaid, CHIP. Close Integration with HBE QHP Benefits
- Phase 2: Non-Health Benefits (e.g., SNAP, TANF, LIHEAP)

Additional New AHS IT Systems with ID Mgmnt. Requirements
as they come on line

ID Proofing / Authentication
Interface to Federal Hub For Data Exchange with CMS, IRS, SSA, DHS

Health Benefit Exchange (HBE)
- Insurance Shopping
- Member Management
- Plan Determination
- Employer Management
- Enrollment
- Plan Management
- Financial Management
- Administration Functions
- Customer Service
- Administration Functions
- Reporting
- Outreach & Education

Blue Button to download data to Personal Health Records & Health 2.0 Apps from the VHIE, provider EHRs, Medicaid, & Blueprint Clinical Registry, Immunization Registry, & Med History

Consumer Portal to Health
To Be: Front End access via Web page & Apps for iPhone, iPad, Droid, PC for HBE, HIE, & Human Services; Phased in, starting with Health Programs – front end to HBE and IE

Possible To Be
Terminology Language Engine / Normalization
Solution: TBD

Possible To Be
Case Management / Care Management Solution
Solution: TBD

Possible To Be
Virtual EHR Solution
Solution: TBD