

Value Based Analytics Roadmap

Prepared for:
Oklahoma State Department of Health
Center for Health Innovation and Effectiveness

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August 27, 2015



Caveats

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- **Project Background**
- National Efforts
- Value Based Analytics Roadmap

Oklahoma State Innovation Model Grant

- Oklahoma State Innovation Model grant award December 2014
 - Goal to improve health, provide better care, and reduce health expenditures
- Value Based Analytics (VBA) tool supports
 - Increased data transparency
 - Statewide population-based information
 - Patient demographics
 - Diagnoses
 - Procedures and use of hospital services
 - Medical school, continuing education, and health workforce data

Project Scope and Approach

- OSDH engaged Milliman to
 - Develop a roadmap for establishing a VBA tool in Oklahoma
 - Highlight considerations based on the experiences in other states
- To develop a VBA roadmap, Milliman
 - Performed research on efforts in other states across the nation
 - Conducted interviews with subject experts
 - Synthesized findings from our research and interviews to develop a decision tree-based roadmap

Key Concepts

- All Payer Claims Database

- An all payer claims database (APCD) includes claims information from multiple payer organizations, usually for the purpose of analyzing aspects of the healthcare environment surrounding those claims

- Value Based Analytics

- A value based analytics tool (VBA) is similar to an APCD in that it includes data from multiple sources and is used for similar types of analysis

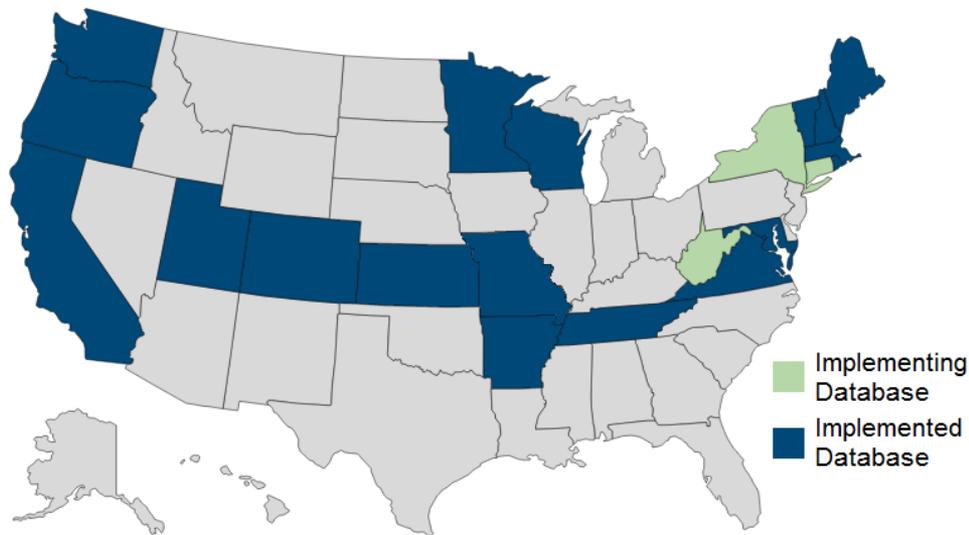
VBA and APCDs are similar systems that aggregate information from multiple sources which can be used to measure state health outcomes, quality, and cost

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National Summary

- 18 states have implemented a multi-payer claims database
- 3 more are in the process of implementation



- 23 states have expressed “strong interest”*

* APCD Council.2015.Interactive State Report Map: <https://www.apcdouncil.org/state/map>

Development Approach

- No single proven blueprint for multi-payer claims databases, although models share similar concepts
 - Wide range of governance, funding, designs, and user types exists
- Typical development process occurs in three phases



Vision and Use

- Establishing a vision is critical
 - Database design is derived from the system's intended use
- Vision and stakeholder-defined use cases vary nationally

Quality Measurement	Performance Analysis	Policy Analysis	Payment Reform	Academic Research	Population Management
20 Systems	16 Systems	12 Systems	12 Systems	4 Systems	5 Systems

Degree of required system scope, maturity, and trust 

- Most states with implemented databases are continuously improving and expanding the system's capabilities

Vision and Uses

- Examples of “use cases” from other states

Support payment reform through transparency and cost analysis

Identify and analyze geographic disparities in care

Inform performance improvement initiatives to address operations and clinical quality

Evaluate effectiveness of primary care demonstration projects, such as Patient Centered Medical Home initiatives

Database Usage Nationally

State	Quality Measures	Academic Research	Payment Reform	Population Management	Policy Analysis	Performance Analysis
Arkansas	✓	✓	✓	-	-	-
California	✓	-	-	-	-	✓
Colorado	✓	✓	✓	-	✓	✓
Kansas	✓	-	-	-	-	✓
Maine	✓	✓	-	-	-	✓
Maine - Voluntary	✓	-	✓	-	-	✓
Maryland	✓	-	✓	-	✓	✓
Massachusetts	✓	✓	✓	-	✓	✓
Minnesota	✓	✓	✓	-	✓	✓
Missouri	✓	-	-	-	-	✓
New Hampshire	✓	-	✓	-	✓	✓
Oregon	✓	-	✓	-	✓	-
Oregon - Voluntary	✓	-	✓	✓	✓	✓
Rhode Island	✓	-	-	-	✓	-
Tennessee	✓	-	✓	-	✓	✓
Utah	✓	-	-	✓	✓	✓
Vermont	✓	-	✓	✓	✓	✓
Virginia	✓	-	✓	✓	✓	✓
Washington - Voluntary	✓	-	-	-	-	✓
Wisconsin	✓	-	-	-	-	✓

Establishing the Database

- Two recognized methods to create multi-payer claims databases
 - State action/legislation
 - Private coalition

Typical Legislation Goals

Establish a database	Require entities to participate
Identify data submission requirements	Designate system oversight
Stipulate funding sources	Limit data sharing or identification

- Coalition-led initiatives may have greater discretion on
 - Governance
 - Data sharing
 - Reporting

Governance and Data Sources

State	Governance					Data Source			
	Legislated	Oversight Model	Participation Model	Commercial Payers	TPA/ Self-Funded	Medicaid	Medicare	PBM	Uninsured
Arkansas	✓	Public-Private	Voluntary	✓	✓	✓	✓	-	-
California	-	Public Non-Profit	Voluntary	✓	✓	Planned	✓	-	-
Colorado	✓	Public-Private	Mandatory	✓	-	✓	✓	-	Planned
Kansas	✓	State Led	Mandatory	✓	-	✓	-	-	-
Maine	✓	State Led	Mandatory	✓	✓	✓	✓	✓	✓
Maine - Voluntary	-	Private Non-Profit	Voluntary	✓	✓	✓	✓	✓	-
Maryland	✓	State Led	Mandatory	✓	✓	✓	✓	-	-
Massachusetts	✓	State Led	Mandatory	✓	✓	✓	✓	✓	-
Minnesota	✓	State Led	Mandatory	✓	✓	✓	✓	✓	-
New Hampshire	✓	State Led	Mandatory	✓	✓	✓	✓	-	Planned
Oregon	✓	State Led	Mandatory	✓	✓	✓	✓	✓	-
Oregon – Voluntary	-	Private Non-Profit	Voluntary	✓	✓	✓	✓	✓	-
Rhode Island	✓	State Led	Mandatory	✓	-	✓	✓	✓	-
Tennessee	✓	State Led	Mandatory	✓	✓	✓	Planned	✓	-
Utah	✓	State Led	Mandatory	✓	✓	✓	-	-	-
Vermont	✓	State Led	Mandatory	✓	✓	✓	✓	✓	-
Virginia	✓	Public-Private	Voluntary	✓	✓	✓	✓	-	-
Washington	✓	State Led	Mandatory	✓	✓	✓	-	-	-
Washington - Voluntary	-	Private Non-Profit	Voluntary	✓	✓	✓	-	-	-
Wisconsin	-	Private Non-Profit	Voluntary	✓	✓	✓	✓	-	-

Operating Cost

- Startup and ongoing costs vary

Factors that Influence Cost	
Number of data sources	Number of covered lives
Reporting scope	Frequency of data loads
Support staffing model	Technology infrastructure

- Annual funding estimates
 - \$350,000 to \$2,000,000 for systems that include 1.3-5.5 million lives*
 - Annual budget examples (approximate)
 - Kansas: \$1.3 million
 - Maryland: \$1 million
 - Tennessee: \$500,000

*Source: APCD Council.2015.All Payer Claims Database Development Manual: <https://www.apcdouncil.org/file/29/download?token=EoozDsLJ>

Funding Sources

- Diversified revenue strategy is desirable
 - Typically more than one source and more than one type of source
 - Minimizes cost to a single stakeholder group
 - Provides stability if one or more sources becomes unavailable

Colorado

- Funded startup costs through foundation grants
- Plans to fund ongoing operations through data and report sales

Utah and New Hampshire

- General appropriation funds and matching Medicaid funds
- Used for implementation costs and ongoing operations

Vermont

- Assessed fees on payers and healthcare facilities

Washington and Wisconsin

- Funded by coalition members

Oversight Entity

- Two-tiered oversight model is common
 - Board of Directors
 - Strategic steering entity to address system usage, privacy, data collection policies, and expansion activities
 - Comprised of stakeholder group representatives
 - Operations Group
 - Manages processes and infrastructure

Oversight Entities

Independent Organization	Virginia Health Information
Purpose-Built State Agency	Maine Health Data Organization
Department of Health	Minnesota Department of Health

Data Management Model

- Use a combination of system vision and use cases to develop rules governing the data collection process
- Data elements vary based on state goals and information availability

Data Management Rules

Which entities must submit data	Submission thresholds for participating entities
Content of submitted files	File structure and layout
Submission frequency	Data quality requirements

Data Elements

State	Eligibility Data	Medical Claims	Dental Claims	Pharmacy Claims	Vision Claims	Provider Data	Clinical Data
Arkansas	✓	✓	-	✓	-	✓	-
California	✓	✓	✓	✓	-	✓	-
Colorado	✓	✓	✓	✓	-	✓	-
Kansas	✓	✓	✓	✓	-	-	-
Maine	✓	✓	✓	✓	-	-	Planned
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Missouri	✓	✓	-	✓	-	✓	-
New Hampshire	✓	✓	Planned	✓	-	-	-
Oregon	✓	✓	-	✓	-	-	-
Oregon - Voluntary	✓	✓	-	✓	-	-	-
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Utah	✓	✓	-	✓	-	✓	-
Vermont	✓	✓	✓	✓	-	Planned	-
Virginia	✓	✓	Planned	✓	-	-	-
Washington	✓	✓	-	✓	-	-	-
Washington - Voluntary	✓	✓	✓	✓	✓	-	-
Wisconsin	✓	✓	-	✓	-	✓	Planned

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VBA Roadmap

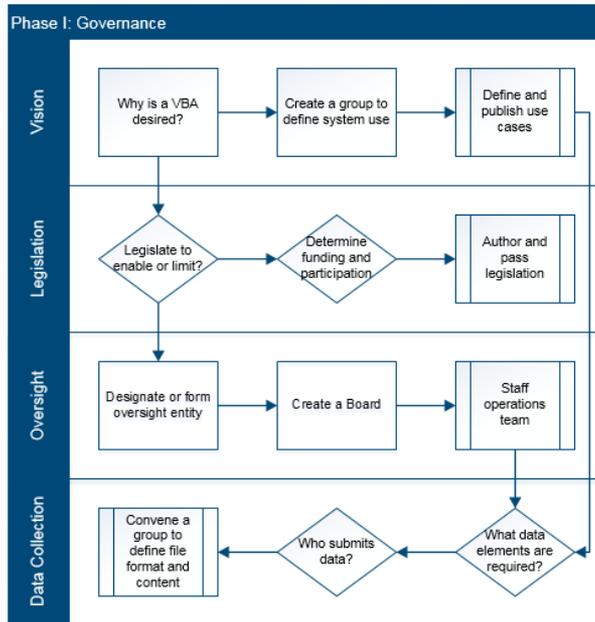
- Oklahoma is interested in developing a VBA to support health-related goals through price transparency and payment reform
- A decision tree based on the development phases can help guide decisions, considerations, and stakeholder engagement



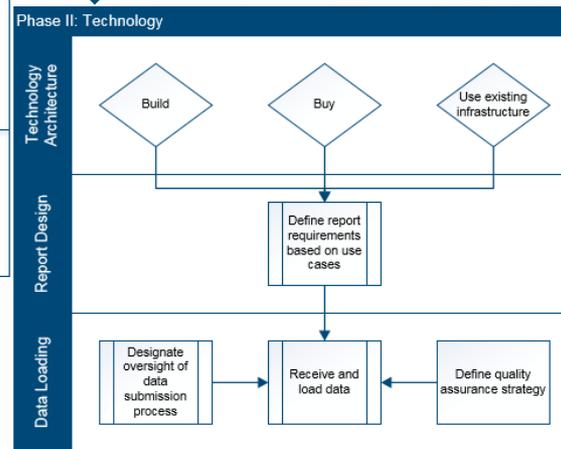
- Once decisions are made, changes can be both difficult and expensive to execute

VBA Roadmap: Decision Tree

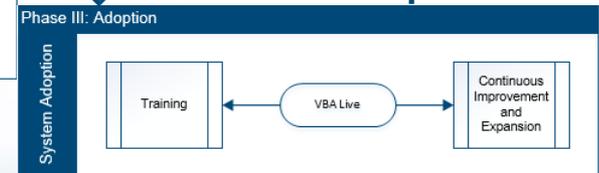
Phase I: Governance



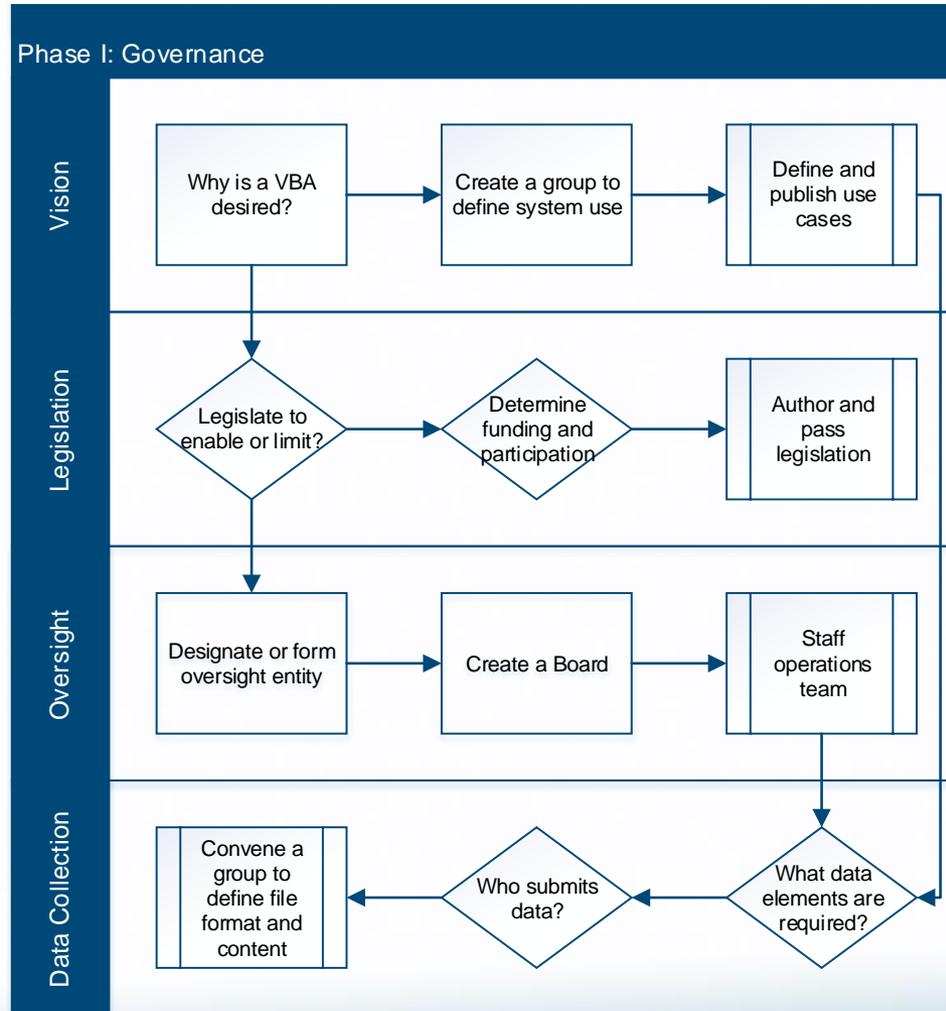
Phase II: Technology



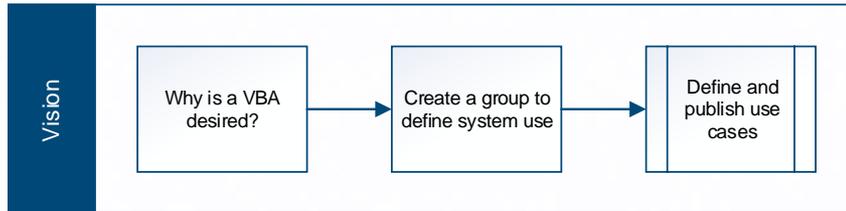
Phase III: Adoption



VBA Roadmap: Phase I Governance

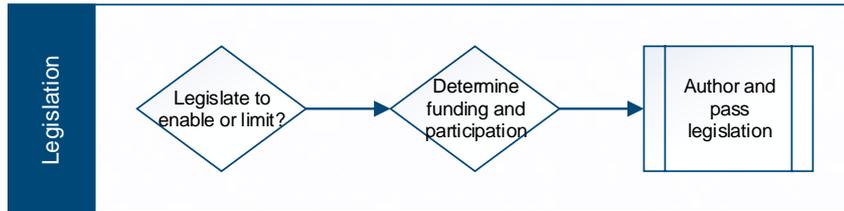


Phase I.A. Vision



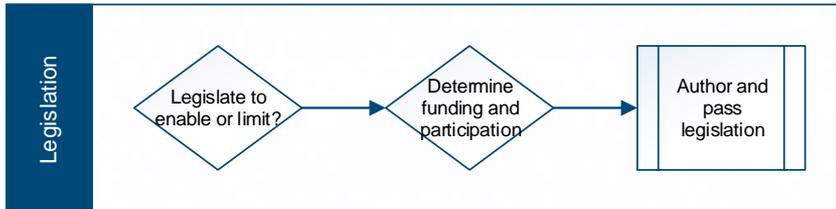
- Articulate a vision for why and how the system will be used
 - Step 1: Define a unifying vision for the system
 - Step 2: Use vision to codify and publish use cases
- Best practices
 - Develop VBA vision through a multi-disciplinary stakeholder group
 - Use the same group that defined the vision to develop use cases
 - Include an expert in multi-payer claims database system development

Phase I.B. Legislation



- The state decides how much direct involvement in VBA process
 - Oklahoma may opt to “remain silent” on any or all aspects of the decision tree, effectively deferring the decision to the free market
- Key components of potential legislation
 - Stipulating system creation
 - Patient identification
 - System funding

Phase I.C. Funding



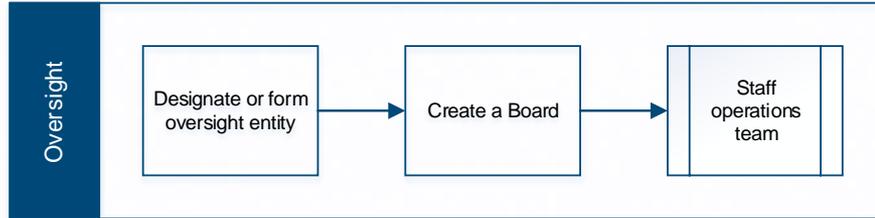
- Most states use multiple funding sources
 - For initial development cost and ongoing operating costs
 - Diverse funding structure helps mitigate risk

Potential Funding Sources

SIM grant money	General allocation funds
Medicaid match	Excise tax on system users
State agency operating budgets	Subscription fees

- Privately led initiatives generally member funded
 - Founding members contribute a share of the required initial investment
 - Ongoing costs funded through subscription fees

Phase I.D. Oversight

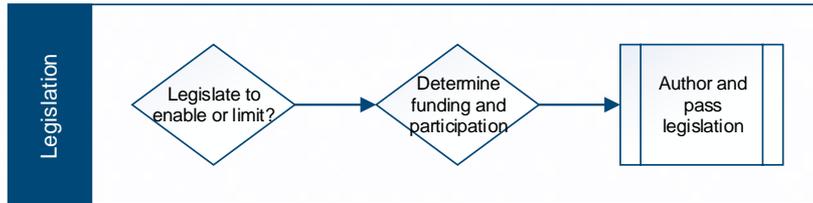


■ Oversight entity role

- Establish management and administration policies and procedures
 - Data collection, processing, storage, analysis, use, and release policies

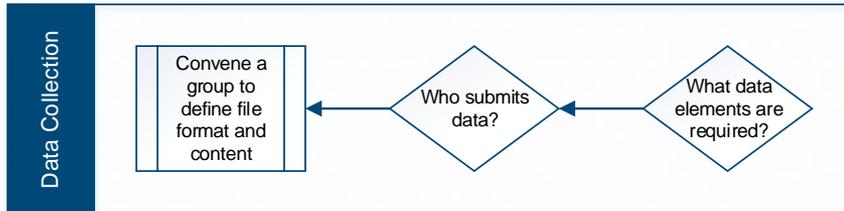
Ownership and Oversight Model	Description
State-led	Most common model. System wholly managed by a state department or treated as a shared service by several departments
Public-private partnership	State delegates system ownership and process oversight to a private entity, either by creating it or through competitive bid
Fully private	Minority model. Fully private governance structures are typically accompanied by voluntary participation models

Phase I.E. Participation Model



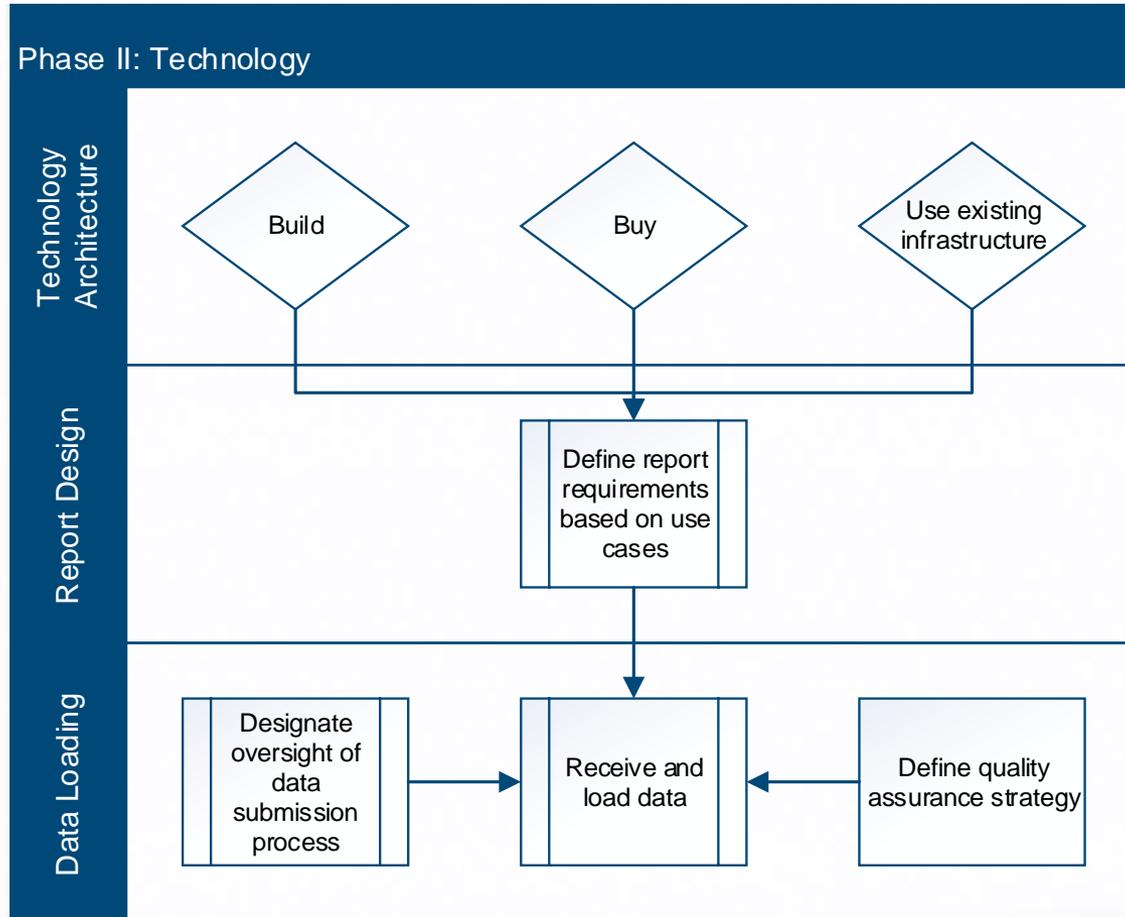
- Decide whether to mandate participation from data contributing organizations and the size threshold for contributing data
 - Two primary considerations
 - Which data is needed to satisfy the vision and use cases
 - The number of participants that need to submit data
 - Most states target between of 70-75% of the population as a representative data sample
- Data transformation, cleansing, and quality responsibility
 - Mandatory model: Submitter role
 - Voluntary model: VBA role

Phase I.F. Data Collection

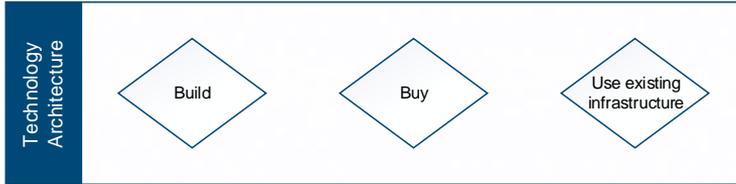


- Four step process to define required data collection elements
 1. Identify data gaps or system enhancements needed to meet use cases
 2. Determine the data feed format
 3. Define quality standards and acceptable error rates
 4. Determine timeline for file readiness from participants
- Collecting data can be challenging
 - Contributors retain and store claims, eligibility, and other data elements in varying levels of detail, formats, and locations

VBA Roadmap: Phase II Technology



Phase II.A. Technology Infrastructure

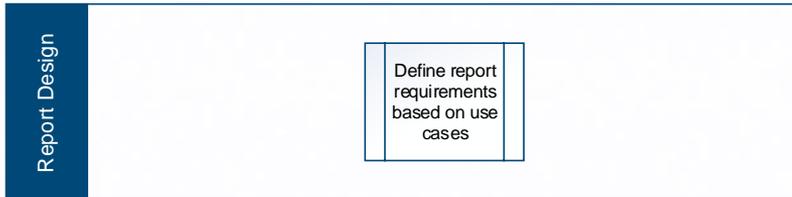


- Information moves from contributors to outputs in a standard process



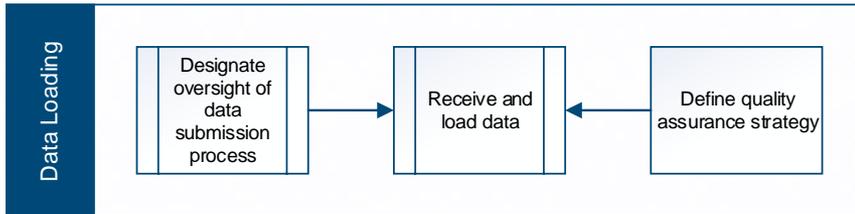
- Decide whether to buy, build, or expand existing technology
 - Entity responsible for technology platform should have prior experience, expertise, and appropriate functionality
 - Implementing technology infrastructure can take up to or over a year

Phase II.B. Report and Output Design



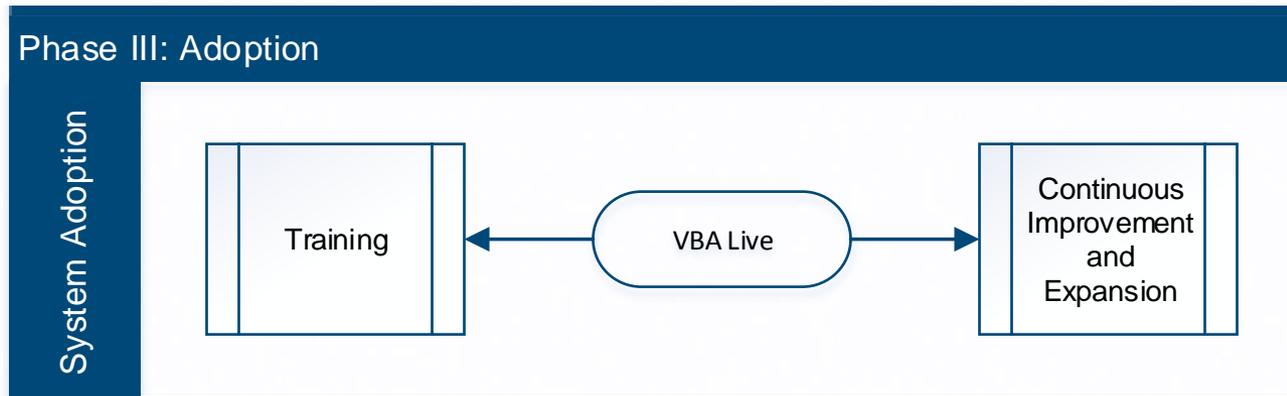
- Two typical models for accessing data and output
 - Users directly query the database
 - Predefined reports are made available to users
- Design process
 - Develop an initial report set that supports the system's vision
 - Involve stakeholders in the report design process to gain buy-in to the selected measurement metrics
- Best practice
 - Assess technology vendor report capabilities during procurement

Phase II.C. Data Loading

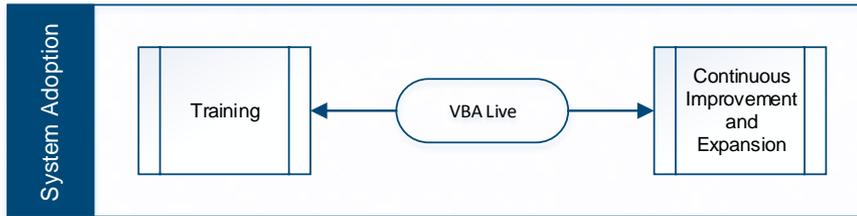


- Trust is likely to be one of the most important determinants of VBA adoption. Data quality is critical to trust
- Data loading requires two critical technical checks
 - Quality checks to ensure received data is complete
 - Validation that the VBA output is correct after files have been loaded
 - The entity responsible for data loading conducts the checks
- Data management can be provided by a vendor or by a stakeholder subgroup

VBA Roadmap: Phase III Adoption



Phase III.A. Adoption



- Adoption strategies
 - Training to familiarize users with the system
 - Continuous improvement cycles to increase tool scope, quality, and reach
- Consider two concurrent adoption initiatives
 - Train core user base on how to interact with and interpret VBA contents
 - Begin continuous improvement and system capability expansion work
- Best practice
 - Structure the initial adoption periods as extended validation periods to create trust and partnership between participants

VBA Roadmap: Implementation Strategies

- Rich national experience may guide Oklahoma's VBA initiative

Common Implementation Themes

Use existing rules and formats where possible

Incrementally expand both the data set and reporting functionality over time

Be transparent about what data will be collected, how it will be used, where it is stored, and how it will be protected

Begin with statewide or aggregate measures and gradually report on more detailed levels as the system becomes more mature and more trust

Involve stakeholders throughout all phases of the process

Communicate with stakeholders and the public on an ongoing basis

Use experienced program and project management

Discussion

