U.S. Centers for Disease Control and Prevention

Navigating the Master Person Index Journey: Insights from Procurement to Implementation

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August 21, 2025

Overview

- Welcome & Introduction
- Session Objectives
- Session Presentations
  1. Building the Foundation: Developing a Request for Proposal for an EMPI
  2. Navigating the Master Person Index
  3. Discussions related to Virginia's Master Person Index Strategy
  4. The Implementation of Washington State's Master Person Index
- Interactive Discussion
- Closing Remarks & Key Takeaways

Introduction

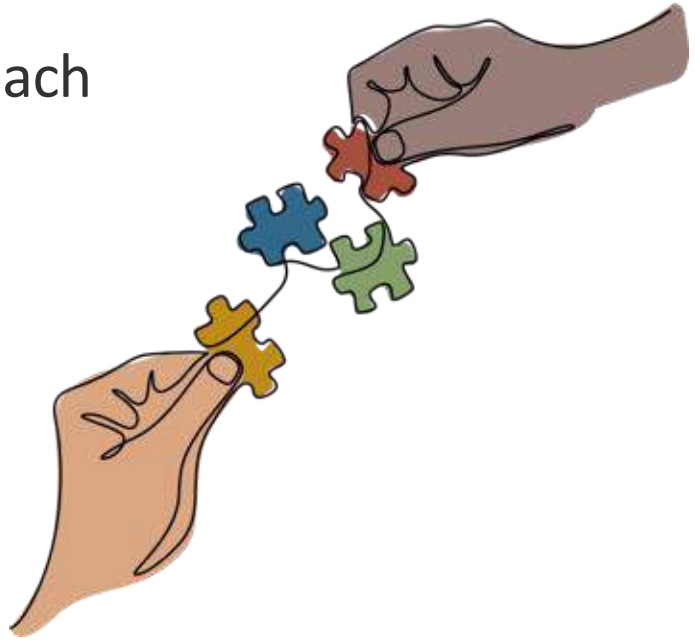
Learning Objectives

- **After this session, participants should be able to:**
  - Understand the importance of a Master Person Index (MPI)
  - Gain insights into the challenges and successes experienced by jurisdictions at various stages of implementation
  - Identify practical strategies to inform participants' own MPI initiatives

What Is A Master Person Index?

- Centralized tool that maintains a unique identifier for each individual within a public health system

- The role of a Master Person Index includes:
  - Enables accurate person matching
  - Reduces duplication and errors
  - Improves data quality



Public Health Infrastructure Grant | Public Health Infrastructure Grant | CDC (https://www.cdc.gov/infrastructure-phig/about/index.html)

Challenges Related to Implementation

- Vendor selection
- Cross-departmental collaboration
- Interest holder engagement
- Change management
- Sustaining improvements
- Workflow integration

Poll Question 1

Does your jurisdiction have an MPI in place?

- ❑ Yes
- ❑ No

  If not, what are the main barriers in pursuing an MPI? (select all that apply)

  - ❑ Leadership buy-in
  - ❑ Lack of understanding/awareness of the benefits and importance of an MPI
  - ❑ Resource constraints
  - ❑ Competing priorities
  - ❑ Other reasons
    - ❑ Please share:_____

Building the Foundation: Developing a Request for Proposal (RFP) for an EMPI

August 2025

Melody C. Brown, Disease Control Informatics Branch

Los Angeles County Department of Public Health

Overview

- Background
- RFP Process Overview
- Market Research
- RFP Key Sections
  - Minimum Requirements
  - Technical Specifications
- Lessons Learned

Background: Why an EMPI Matters for Public Health

Goal: Seamless, accurate integration of individual health data

Challenge: Disparate systems, messy data, and duplicate records

EMPI Benefits:

- Improves individual record matching
- Enhances data quality
- Reduces manual reconciliation
- Supports timely, targeted interventions

Background: Role of an RFP in MPI Procurement

Purpose: Define requirements in advance and select the right solution

Keys to success:

Thoughtful planning	Strong technical specs	Clear evaluation criteria

Request for Proposal (RFP) Process

Define

Define Need and Scope

- Clarify need and use cases
- Identify stakeholders and SMEs
- Determine key needs, functionality, and performance requirements

Research

Market Research

- Scan for current products and vendors
- Evaluate capabilities, limitations, and pricing models
- Optional: Issue a Request for Information (RFI)

Develop

Develop Technical Specifications

- Core MPI Functions: matching type, auditing, integration
- Include functional, security, and usability requirements
- Ensure standards and policies are met (e.g., HIPAA etc.)

Draft

Draft RFP

- SOW & Tech Specs
- Evaluation Criteria
- Proposal Requirements & Min Qualifications

Market Research: Vendor & Capabilities Scan

Capabilities

Automated records cleanup

Cloud-native, API-based

Enables algorithmic and referential matching

HIPAA compliant and HITRUST certified

Data Steward interface

Record overlay detection

Key Vendors

RHAPSODY

verato

Market Research Tools: Evaluation Matrix

Category	Functionality/Usability	W (%)
CORE FUNCTIONS (45%)	**Stand-alone Healthcare Product**. The product should target healthcare data specifically and be available as a stand-alone EMPI product, not part of a suite of products.	10
	Enables algorithmic and referential matching that accurately accounts for common healthcare data detection issues. Utilizes probabilistic algorithms (e.g., fuzzy matching), designed specifically for healthcare data in conjunction with referential matching. Detection capabilities should include record overlay detection, twin detection, and dummy/default value detection	10
	Provides curated, complete, and **accurate reference data**. Data sources should provide robust demographic information relevant to healthcare data needs and cover large amounts of population data and a minimums of 20-year time-frames to accommodate common changes in population demographics	10
	Matching accurately accounts for common healthcare data detection issues. This should include **record overlay detection, twin detection, and dummy/default value detection**	5
	Data history/lineage capabilities to **track changes**. All changes to records and decisions on duplicates should be documented and discoverable.	5
	Graphical User Interface / IDE Richness: drag and drop, toolbox, testing support, vocab/terminology lookup, in-built version management etc.	5

Market Research Tools: Evaluation Matrix

Category	Functionality/Usability	W (%)
OPS AND SECURITY (35%)	Rich Out-of-the-box Connectors / Comm **Protocols ability to interact with a range of different data sources/targets**, protocols and data structure types - cloud connectors support - ability to easily develop and integrate custom interfaces (where OOB option is not available)	7
	Internal data security. **Vendor should not require ingestion or sharing of LAC data into their databases**.	7
	Security HIPPA compliant and HITECH certified.	7
	Operations and Administration facilities for supporting, **managing and controlling MPI matching processes**, rich configuration management options, performance monitoring / statistics, error handling and alerting mechanisms	7
	Deployment Environment: Ease of deployment, support for On-Prem, Cloud and Hybrid models, support for Windows and Linux, support for deployment in a container / container orchestrated environment	7

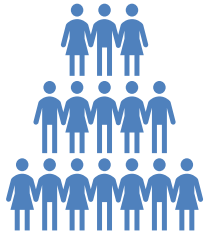
Market Research Tools: Evaluation Matrix

Category	Functionality/Usability	W (%)
OTHER (20%)	**Professional Services and Support**	5
	Training/Certification Programs, Developer Portals/Experience and User Community	2.5
	Effective Implementation Time. Time to implement solution should not exceed 2 months.	5
	Market Share, **Public Health specific clientele inputs from vendor sales team**, publicly available information, inputs from other jurisdictions and state/federal level entities	2.5
	Performance rates are 3rd party verified. Vendor does not rely on self-reported accuracy/performance rates of their model/product and provides evaluation performed by a third party.	2.5
	Proof of Value (PoV) Execution and **Vendor Demo** how well was the vendor able to execute and demo on the use cases provided as part of the PoV - how well was the vendor sales/solution engineering team members able to demo the product and offerings in the demo session	2.5

RFP: Minimum Requirements

Product must have a minimum of 5-year history of commercial availability

Vendor to provide, at least 5 references (2 from Public Health) of healthcare related customers. References should have used the product for a minimum of 5 years in the last 7 years.



One of the 5 references must be using the product to process a dataset of at least 10 million individuals.

Vendor Platform needs to be specialized in the healthcare space with emphasis on solving the business problem and use cases of ‘patient matching.’

Vendor must submit proof that they are registered and not debarred on the System for Award Management (SAM.GOV), website

RFP: Technical Specifications- Patient Matching Requirements

The product must support advanced ML-based techniques for matching on top of the standard approaches of deterministic, probabilistic, and referential methods for patient matching, **including Soundex and nickname-based matching.**

The person datasets may include information collected from **publicly available datasets** (e.g., credit, utilities, etc). If not natively available in the product, then the solution should offer easy integration with third-party providers (e.g., Experian or LexisNexis)

The product must be able to meet a **minimum precision of 95%** and a **minimum recall of 90%** on at least two large person datasets with demographics like those of LAC.

Must provide real time automatic matching capabilities using ML / AI based techniques to **resolve duplicates automatically** and must provide **detailed reporting** of daily counts, merge conditions and actions taken.

RFP: Technical Specifications- Patient Matching Requirements

ML / AI techniques utilized for automatic matching capabilities must be **able to incorporate custom rules and policies** to fit LA DPH needs.

In addition to automatic matching capabilities, the product should offer an **API and UI to manually review the linkages and perform steward functions as desired**. The threshold values for classifying as needing manual review should be **configurable**.

MPI platform should also offer **organization / provider, practitioner registry** and matching capabilities that may be used as an add-on feature in the future in addition to the core patient matching requirement.

MPI platform should also offer **address verification, address standardization, and patient demographic enrichment with Social Determinants of Health (SDOH)** that may be used as an add-on feature in the future in addition to the core patient matching requirement.

Lessons Learned: Takeaways

- Invest time in market research
- Understand the business needs and data needs
- Referential matching is less common
- Tech specs should be detailed
- Evaluation Criteria should target 2-3 Vendors
- Plan for long-term sustainability

Thank you!

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Poll Question 2

What are the main challenges your jurisdiction faces in developing and implementing an MPI? (select all that apply)

- ❑ Regulatory complexity
- ❑ Technical complexity
- ❑ Interest holder buy-in/collaboration
- ❑ Change management resistance
- ❑ Project management challenges
- ❑ Other challenges

  Please share:_____

Pennsylvania
Department of Health

AUGUST 2025

Navigating the Master Person Index

Health Informatics Office

Rae-Ann Ginter, Director-Heath Informatics & Data Modernization

Contents

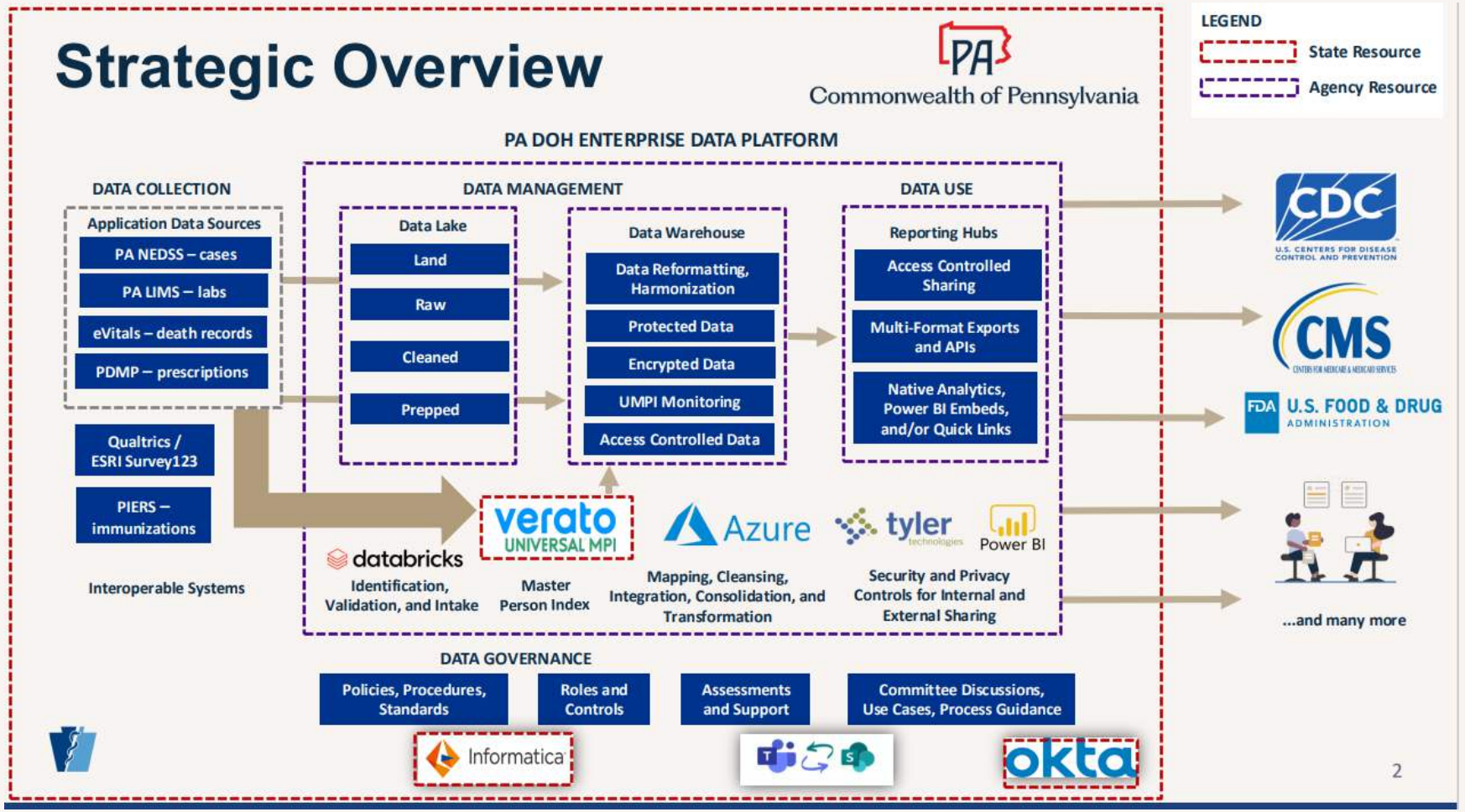
Onboarding Progress

Onboarding Progress – Platform Highlights

Pennsylvania Department of Health
Enterprise Data Platform

Centralized Data Storage	Microsoft Azure
Data Linkage	verato UNIVERSAL MPI
Standard Data Reporting	tyler technologies

Onboarding Progress - Reference Model



Onboarding Progress

What programs are using the MPI

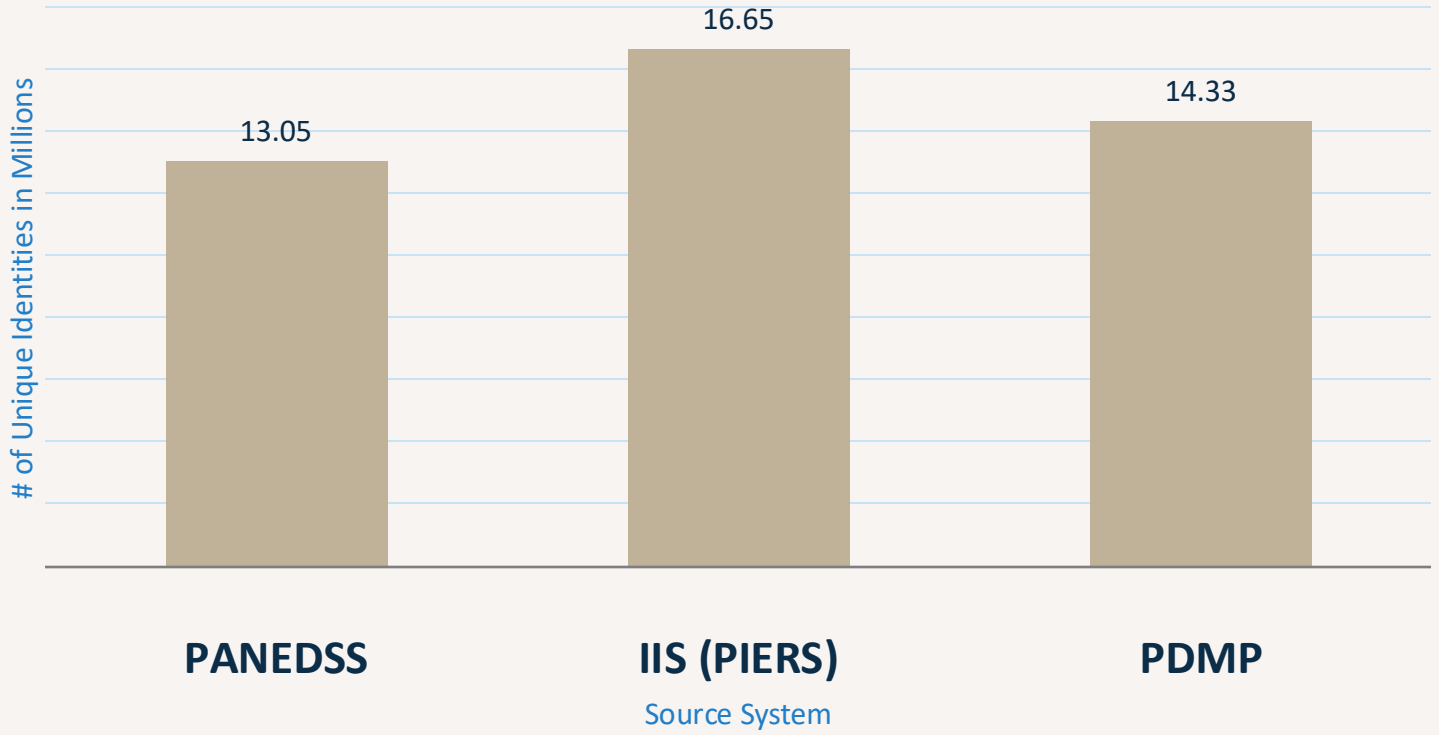
- ✓ PDMP – Prescription Drug Monitoring Program
- ✓ PA NEDSS – Pennsylvania National Electronic Disease Surveillance System
- ✓ PIERS – Pennsylvania Immunization Electronic Registry System

Programs in the pipeline for onboarding to the MPI

- ➢ eVitals – Pennsylvania death registry
- ➢ LIMS – Laboratory Information Management System

Onboarding Progress – UMPI Metrics

Number of Unique Identities by System



Overall Stats

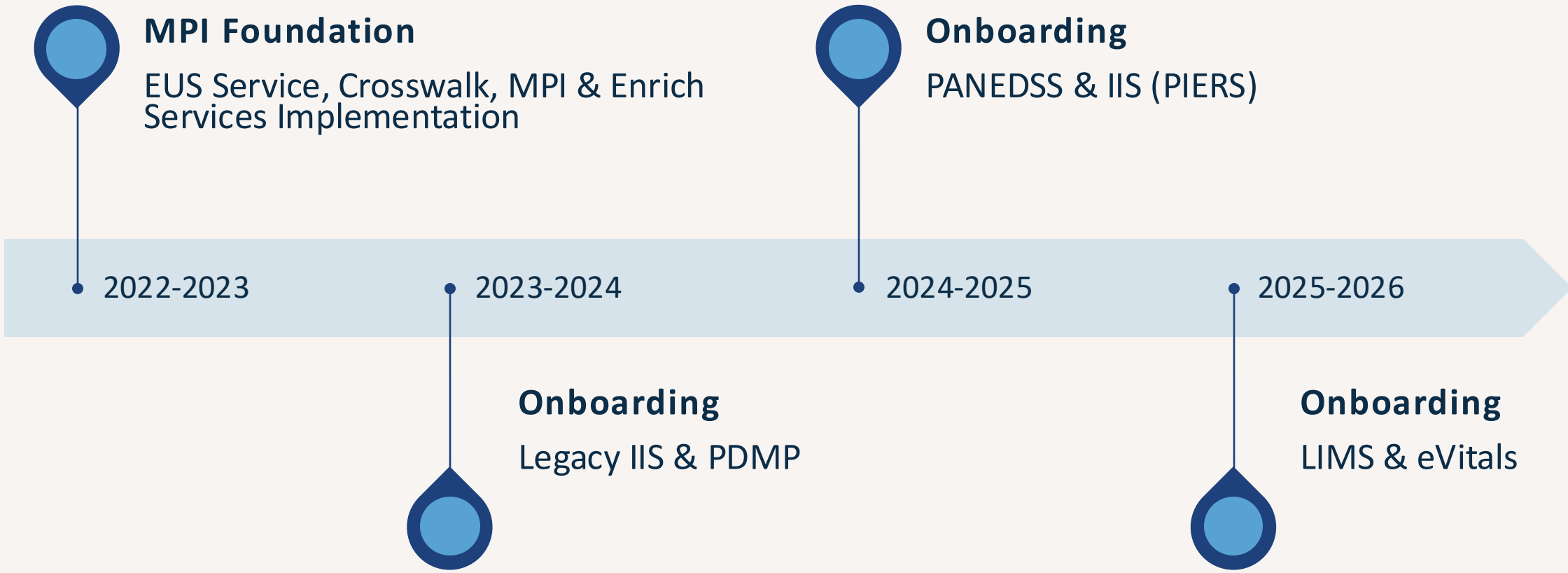
78M
Records Submitted to Verato

26M
Assigned a Unique Link ID

86%
Cross Source Linkage Rate

38%
Same Source Duplicate Rate

Onboarding Progress – Timelines



Strategies for Onboarding

Strategies for Onboarding

Architecture Strategy:

- **Enterprise Service Design:** We developed a centralized DOH enterprise integration service that facilitates secure data exchange with Verato's UMPI platform via API endpoints. This design ensures a scalable, reusable framework for integrating current and future DOH systems.

- **Strategic Data Retention:** By routing all identity data through this enterprise service, DOH retains Verato-generated LinkIDs internally, enabling in-house identity resolution capabilities and auditability while leveraging Verato’s cloud-native infrastructure.

- **Support for Varied Integration Modes:** The architecture accommodates both real-time processing for modern applications and batch mode processing for legacy systems. This dual-mode support ensures compatibility across DOH’s diverse technology stack.

Strategies for Onboarding

Onboarding to the MPI Platform:

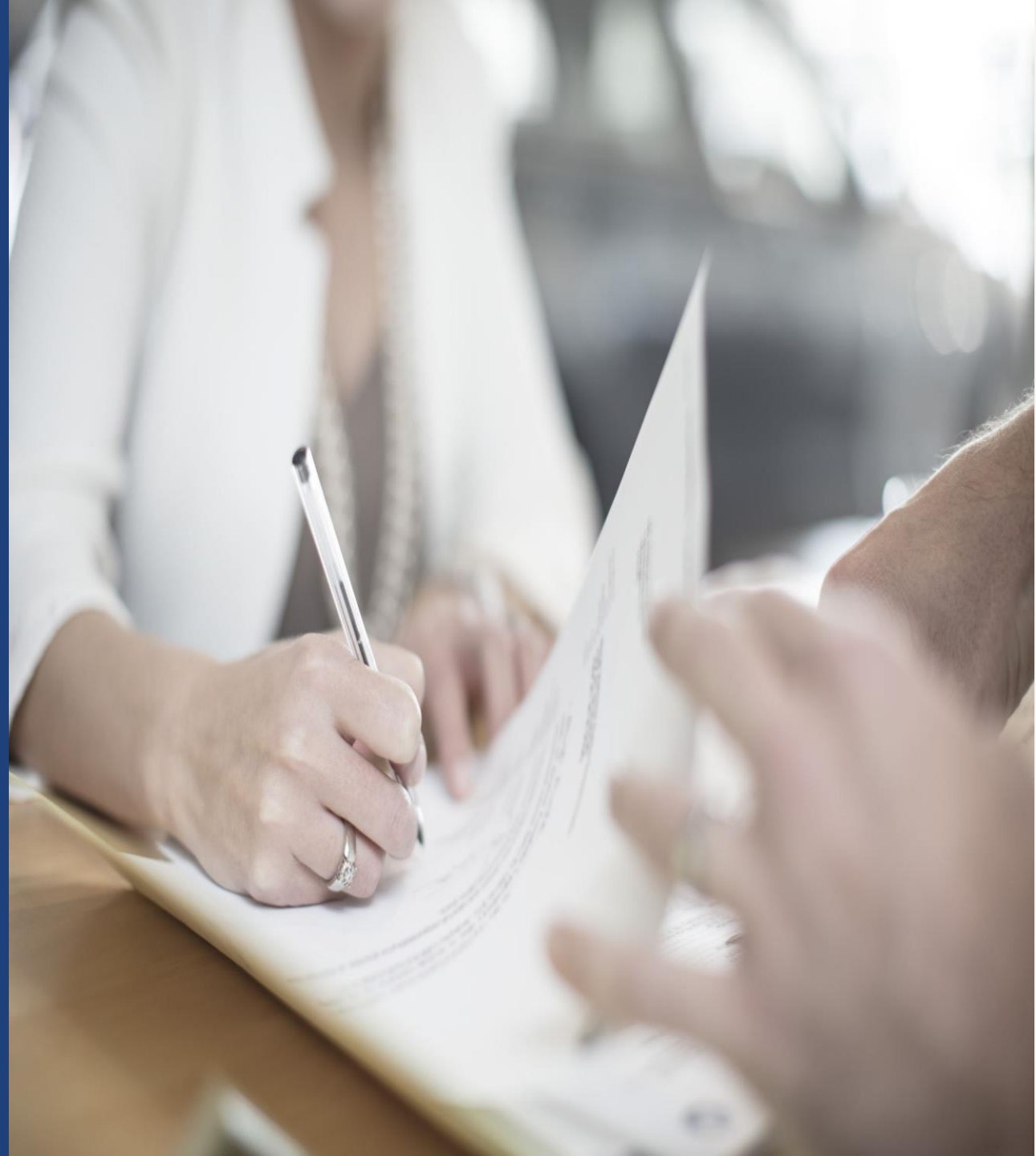
- **Program Alignment:** Assessed and prioritized programs based on data needs, technical readiness, and business impact to ensure efficient onboarding sequencing and alignment with DMI resources.

- **Process Design:** Developed a consistent onboarding framework including clearly defined procedures for bulk and delta load operations, data mapping standards, and documentation templates to support the onboarding process.

- **Support Coordination:** Established a support team including DOH resources and vendor contacts to manage onboarding tasks, troubleshoot issues, and ensure timely communication and escalation.

- **Execution**: Implemented onboarding in structured phases beginning with connectivity testing, followed by data validation, initial bulk data loads, and the setup of automated delta loads for ongoing identity data synchronization.

Stakeholder Buy-In



Stakeholder Buy-In

Challenges with Program Buy-In

- Sustainable Funding for DMI Enterprise Systems and Contracted staff support
- Costs to programs to leverage the enterprise systems
- Lack of understanding the benefits in using an enterprise platform

Addressing Buy-In Challenges

- Prioritization & Re-iterating Goals of the PHDS
- Continue developing our partnership with Legal
- Continue working with programs demonstrating the value-add of these enterprise services
- Continue proving the enterprise services meet commonwealth security standards
- Ensuring we communicate to governance teams how new work fits into the annual plan
- Continue with releasing trainings and “Five-Minute-Friday” videos to DOH staff

Questions

Rae-Ann Ginter, Director
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Poll Question 3

If your jurisdiction has or is pursuing, an MPI, where are you in your MPI implementation journey?

- ❑ Planning
- ❑ Procurement
- ❑ Onboarding
- ❑ Fully implemented
- ❑ If Other
  - ❑ Please share

Virginia Department of Public Health

Anup Srikumar, Director-Center for Public Health Informatics

SUMMARY - VIRGINIA'S MPI STRATEGY

DATA SOURCES & HISTORY

The MPI integrates data from 7 systems of record including immunizations, clinical, vital records, and case investigations—with historical data reaching back to 2015, and vital records as far back as 1960.

FUNCTIONAL SCOPE & LIMITS

The MPI serves as a centralized identity index for public health, but it does not feed other systems, enrich records with demographics, or serve as a population estimate or definitive identity source.

POSITIONING & PURPOSE

Virginia's MPI is a cloud-based, internal solution linking records across seven major systems to strengthen public health identity matching.

MPI CORE STRATEGY

DESIGN PRINCIPLES

The MPI is intentionally designed as a focused record linkage tool—prioritizing accuracy, transparency, and fit-for-purpose use within public health, without overextending into broader AI or data enrichment roles.

ARCHITECTURE & OWNERSHIP

The MPI is a cloud-based solution built and maintained in-house by VDH, ensuring full control over its design, development, and operations.

GOVERNANCE & STRATEGIC ALIGNMENT

Virginia does not have a statewide MPI mandate; the current solution is owned and operated by VDH to support internal public health functions.

VISION AND STRATEGY

"BUILD AND MAINTAIN A UNIFIED, ACCURATE MASTER PERSON INDEX TO SUPPORT PUBLIC HEALTH DATA INTEGRATION AND DECISION-MAKING."

Data Ingestion

Ingests **73.9M+** records from **7+** data feeds from multiple source systems. Tracks data volume, source count, and timeliness.

Health Records

Supports hierarchical data structures ranging from: **1 to 1** mapping for death records and **1 to many** mapping for immunization records per identity. Insights with 1 death and 1–6 immunization records per identity.

Identity Resolution

24.8 million unique identities from over **73.9 million** records.

Record Linkage

Record Linkage focuses on connecting identities across data feeds/core systems to potential singular Identity. Aids with population health efforts. **Potential unique identities vs. No of data feeds: 60%** - 1 data feed, **24%** - 2 data feeds and **16%** - more than 2 data feeds.

Governance & Quality Assurance

Stakeholders are engaged in regular reviews to enforce standards and ensure the MPI remains trustworthy and secure.

Impact by the numbers

Project Pipeline

3	1	3
Complete	In progress	In Development

- Today, **over 50%** of vital records requests have a data linking component.
- Legacy linkage methods often ran on desktops over night. The MPI reduced time-to-analysis by **92%** !

Case study: Identifying duplicates in clinical data (Electronic Health Record data migration)

- Identification of potential duplicates **increased by 15x** compared to previously used methods (from ~*2,500* to ~*38,000* duplicate records)
- Clinic teams plan review cold call patients to resolve duplicates before this data migrates to EHR
  - the golden standard for evaluating a record linkage (deterministic) model!

Implementation

Virginia's MPI is built in-house using cloud infrastructure. This setup allows the team to maintain full control, evolve quickly, and directly manage integrations and identity matching across systems.

Successes

The in-house solution has proven more flexible and effective than previous vendor products. The cloud setup allows rapid processing and easy updates, enabling frequent additions of new datasets and improvements.

Challenges – Governance

Cloud infrastructure was initially unstable, requiring constant coordination with statewide IT. Data governance limits what can be pursued —projects must align with data-sharing agreements.

Challenges – Resource

In-house development demands more ongoing effort and resources. Maintaining and scaling a homegrown solution has required significant investment and staff capacity.

Looking ahead

- **More system-level projects;** how do you get system owners to adopt and integrate this with their system so we can realize the full benefits of a MPI?

- **Data governance;** as we improve at this as an agency, it will enable us to pursue more of our pipeline projects in development

Poll Question 4

What data sources are integrated into your MPI? (Select all that apply)

- ❑ Immunization records
- ❑ Lab reporting
- ❑ Case surveillance
- ❑ Vital records
- ❑ Prescription Drug Monitoring Program (PDMP)
- ❑ If Any Others,
  - ❑ Please share_____

MASTER PERSON INDEX

Washington State Department of Health

Agenda

- Introduction
- Washington HHS Coalition Approach
- Washington DOH Implementation
- Impacts of MPI
- Lessons Learned

IE&E
Integrated Eligibility & Enrollment Modernization Program

WA HHS
Master Person Index

July 2025

Washington State Health Care Authority

Washington State Department of HEALTH

Washington State Department of Social & Health Services
Transforming lives

Washington State Department of CHILDREN, YOUTH & FAMILIES

Department of Corrections WASHINGTON STATE

WaTech
Washington Technology Solutions

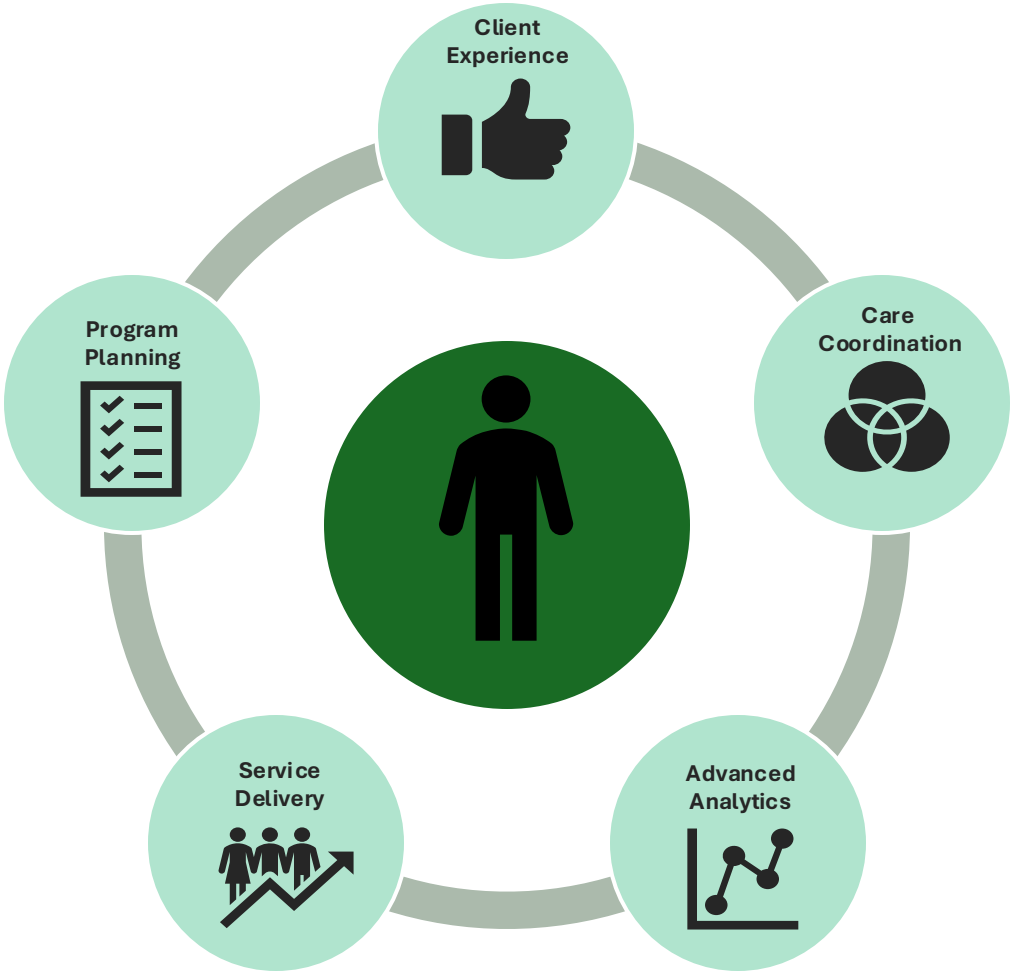
washington healthbenefitexchange
powering washington healthplanfinder

History of HHS Coalition MPI

- The Coalition identified challenges to coordinate services across systems and programs.
- Established as a Coalition priority to enable cross program coordination.
- Have leveraged a mix of Coalition in-kind funding and budgeted funding to build and connect to the MPI.
- Launched with the 1st connected system in September 2022 and now have 6 systems connected from five different agencies.
- As of July 1, 2025, the MPI has transitioned from a project build up to operating in a Maintenance and Operations (M&O) phase.

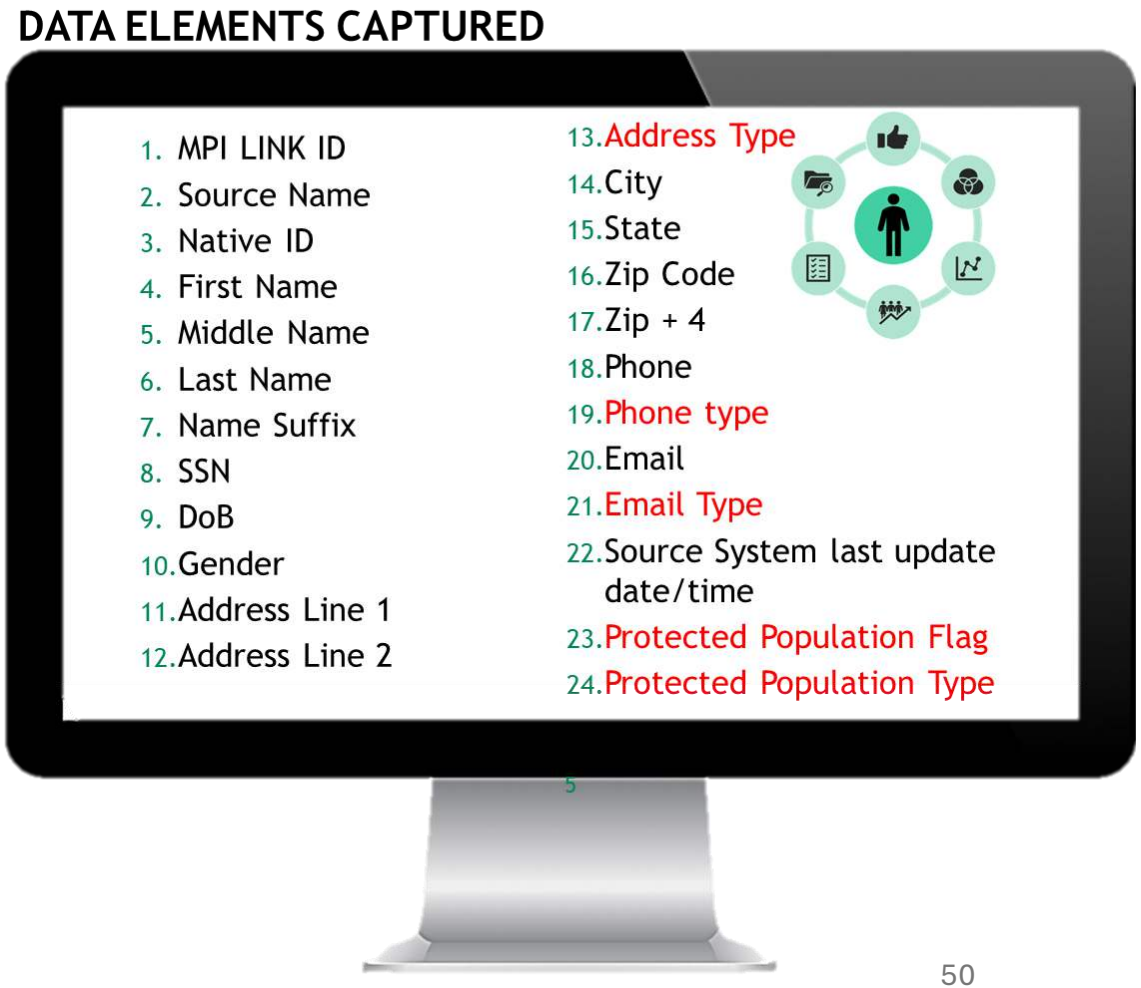
Master Person Index (MPI)

- What is it?
  - Identity matching solution
  - Analyzes a minimal defined set of demographic data
  - Provide a single common identifier across connected systems
- Why is it Important?
  - MPI is foundational to achieving State & HHS Coalition goals
  - Core component of Integrated Eligibility (IE&E)
  - Supports objectives of a) single intake, and b) exchange of eligibility determinations and enrollment for multiple programs
- What value does it provide?
  - Enables coordination of an individual's data, improving data quality, consistency, and accuracy
  - Facilitates effective care coordination, program planning, and advanced analytics across HHS Coalition programs
  - Enhances service delivery and client experience, reducing the need to enter the same data across multiple systems

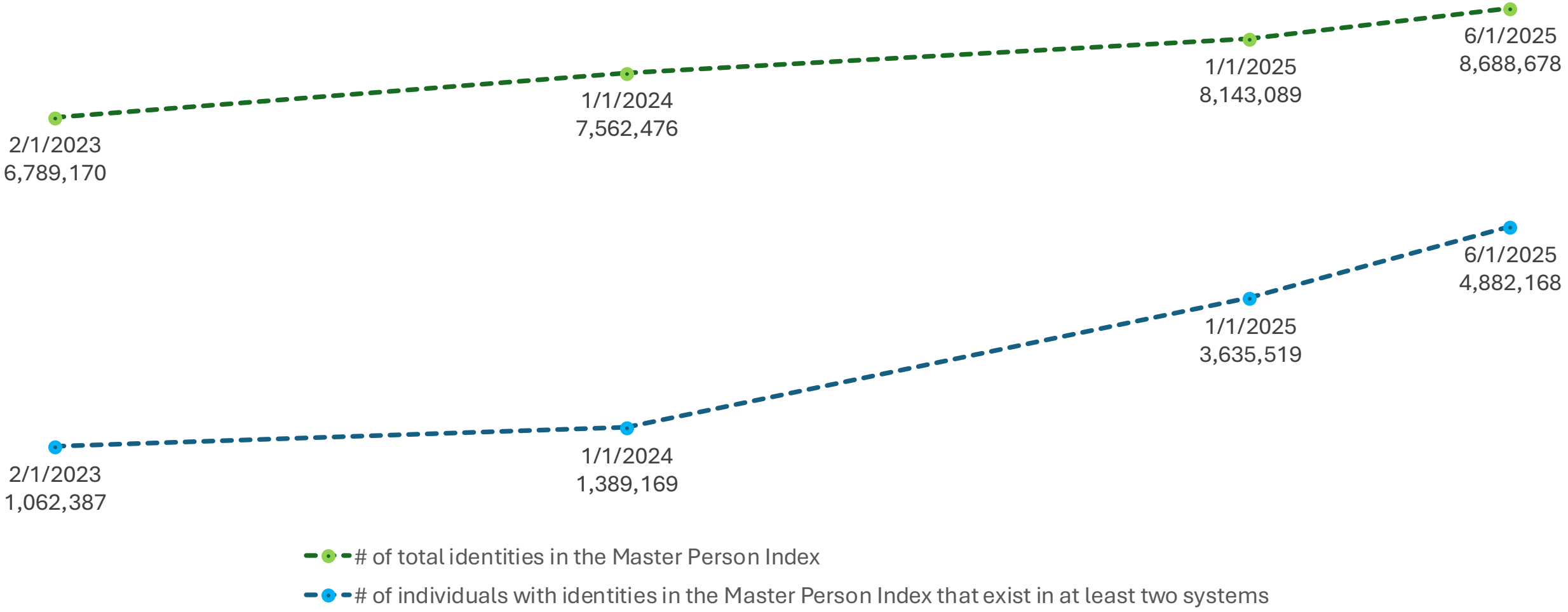


Master Person Index (MPI)

- How it works
  - MPI uses a minimal set of demographic data and referential matching technology to compare HHS Coalition data with a curated repository of more than 300 million identities.
  - This process supports multiple sets of demographic data for each identity, recognizing that an individual's historic data will help to match individuals across HHS Coalition systems.
  - Privacy is a priority, with protection of personal information maintained in compliance with federal rules.



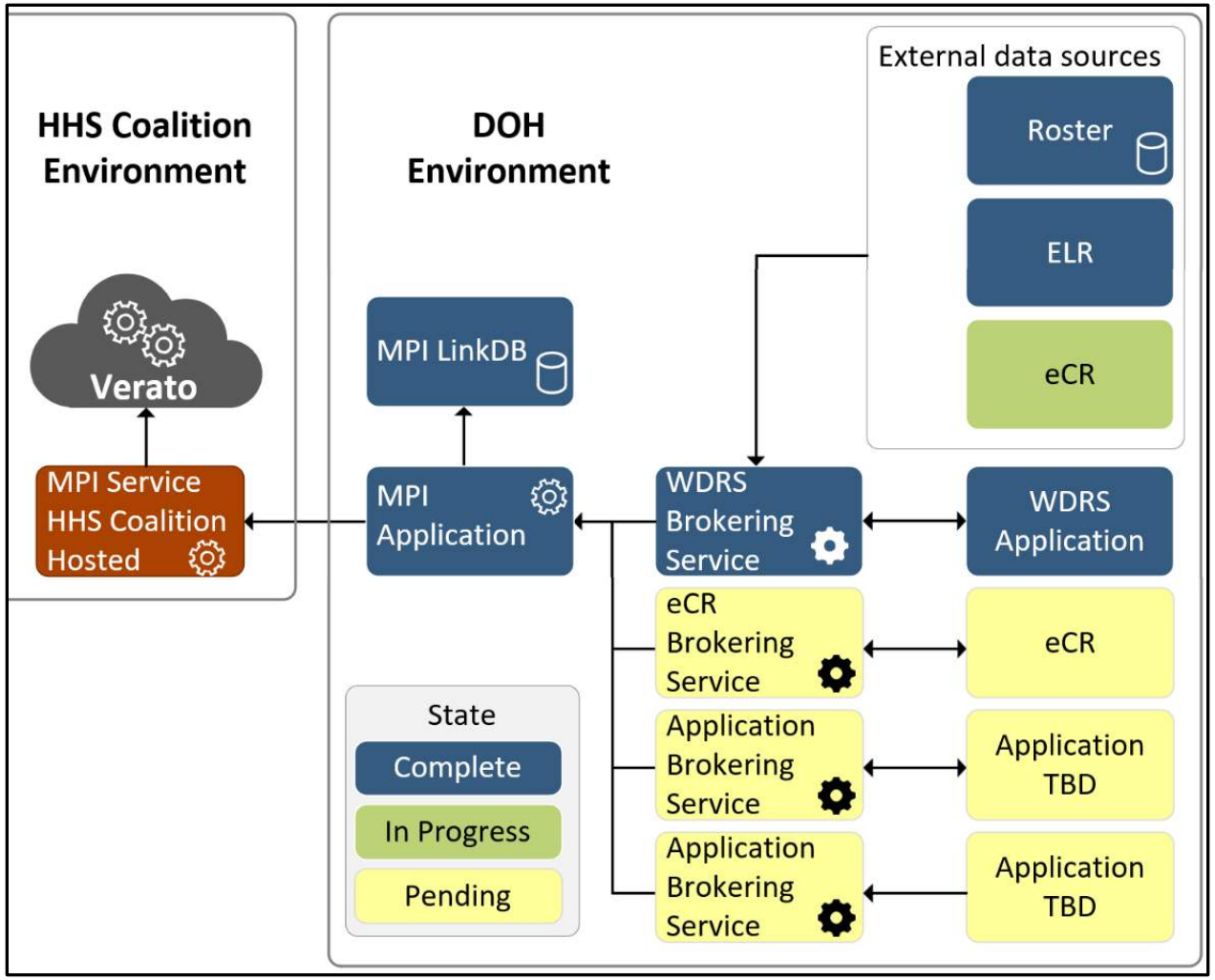
MPI Identity count summary for all systems connected



WA DOH Implementation

- First agency in the HHS Coalition to implement the MPI
- Started with the agency notifiable condition surveillance system (WDRS)
- In addition to providing a unique identifier for each person, MPI was utilized to develop a new deduplication process for WDRS data
- Project includes 3 data ingestion methods
  - ELR
  - Rosters
  - eCR (in development)

Washington Department of Health MPI Architecture



Impacts of MPI

- Increased accuracy, completeness, and timeliness of demographic data
- Increased data linkage across programs and agencies: single unique identifier
- Significantly reduced volume of manual deduplication for notifiable conditions
- Coalition approach provides financial sustainability
- Reduced administrative burden for Washingtonians seeking services

Lessons Learned

- Start Small
- Have a vision for the future
- Commit to security and privacy
- Bring key partners to the discussion early
- Develop a strong governance structure
- Consider initial and ongoing costs
- Thoroughly consider the data model

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Washington State Department of HEALTH

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Poll Question 5

Does your state offer the MPI to be leveraged by local agencies or tribes?

- ❑ Yes
- ❑ No
- ❑ In progress

Solutions: Lessons Learned in the Field by Recipients

- **Strategic Planning & Vision**: Engage in thorough planning while maintaining a long-term growth vision
- **Comprehensive RFP Process:** Invest time for market research
- **Structured Onboarding Plans:** Facilitate integration of MPI across various departments
- **Cross-Department Collaboration:** Key strategy to enhance communication and support during implementation
- **Early Interest Holder Engagement**: Involve key partners from the start to foster collaboration and buy-in
- **Impact Measurement & Sustainability**: Measure operational efficiency and plan for long-term sustainability and costs

Thank you- Questions & Answers

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