



# **Executive Office of Health & Human Services**

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## **Data Ecosystem and Performance Management Brief for the RI Senate HHS Commission**

**February 2, 2022**



**RHODE  
ISLAND**

# Data Ecosystem



# ANALYTICS AT EOHHS AND THE DATA ECOSYSTEM

## People are not slices of data.

### We are whole human beings, raised in families, rooted in communities, and bearing our history.

Because EOHHS uses data – qualitative and quantitative information – to support the people, families and communities we serve, our approach to data must reflect and encourage that complexity.

The Rhode Island Ecosystem is an analytic system that links data at the person and family level across state agencies to drive holistic improvements in human well-being.

It allows the state to ask and answer deep questions about what drives well-being. Through carefully governed, permissioned access to de-identified data, we empower state leaders, researchers, and community voices with the information they need to understand our connectedness.

Learn more: [eohhs.ri.gov/initiatives/data-ecosystem](https://eohhs.ri.gov/initiatives/data-ecosystem)

#### Key project types:

- (1) Curated integrated data sets provided to external requestors
- (2) Team-led studies, evaluations, tool development
- (3) Analytics or data support for internal use including performance management

# ECOSYSTEM GOALS/LEARNING AGENDA:

## PRIORITY AREAS IDENTIFIED BY ECOSYSTEM BOARD, DATA STEWARDS, PROGRAM LEADS

- Since the Ecosystem connects data at the person level, it can answer more nuanced questions than could be answered with a single data source or a single agency's data. The team prioritizes questions identified in its learning agenda, below.

All study and focus areas we undertake must have race-explicit orientations

### (1) Factors of Economic Opportunity

- What helps families escape from poverty cycles?
- Patterns in and effects of stable housing on health and well-being
- Quantify existing disparities that relate to economic mobility – access to benefits, involuntary gov't interactions
- Churn: Influencers and effects of benefit / eligibility / access churn (Covid affects employment and thus benefit access)

### (2) Healthcare Access + Outcomes

- Adult + child behavioral health system: What is most effective way to step down – or up – the intensity of care/state support needs?
- General health and well-being impacts of COVID, particularly for those in high density communities and other vulnerable populations
- Substance Use Epidemic – Who is most vulnerable to “onramps” on the care continuum; how do we curb deaths?
- How do these outcomes differ for subpopulations we haven't yet tracked (refugees, gender minorities, disability status)?

### (3) Childhood:

#### Equitable Access, Well Being and Opportunity

- What leads to a child reading proficiently in third grade?
- What are the characteristics of programs that successfully engage and support families of color?
- How does the quality of a program affect child outcomes?
- Does our system have enough capacity to address needs of all children – particularly those 3-5 years, those in need of housing, social-emotional development, behavioral health and other wraparound services through age 21?

# What data are included in the EOHHS Data Ecosystem?

Some of the data sources in the Ecosystem include:

- **Medicaid** claims, encounters, and enrollment
- **Department of Human Services** programs including: TANF, SNAP, CCAP, and SSI
- Child screening, immunization, and outreach program referral from the **Department of Health**
- Birth and death records
- COVID testing, case, and vaccine information
- Housing insecurity and homelessness data from the **RI Coalition to End Homelessness**
- Wages, income insurance, and job training from the **Department of Labor and Training**
- Developmental disabilities case management data from the **Department of Behavioral Healthcare, Developmental Disabilities, and Hospitals**
- **Department of Corrections** incarceration data (data intake in February 2022)

Standalone, not linked to other sources:

- Medical and Pharmacy claims and enrollment data from the **RI All Payer Claims Database** (HealthFacts RI)

Data that EOHHS would like to add includes Housing data (eviction data via courts) and education data from pre-Kindergarten through college.

# Security is a top priority of the EOHHS Data Ecosystem

**Storage:** All data provided by data providers is stored in SQL Server Databases housed in either the DoIT internal server farm or in the EOHHS Ecosystem VPN within DoIT's AWS (Amazon Web Services) Landing Zone. All data are first staged in files and databases on the validation server. From here, it is anonymized and linked to other data sets, then mapped to a reporting database (Eco\_Analytics), also on the validation server. The data are then either loaded to a production SQL Server Database or securely transmitted for access by the data analysts licensed for a specific project. Some data sets are published to a Snowflake data warehouse, which also resides in AWS.

**Network Security:** All data reside in one of the following: the internal DoIT network, within DoIT's AWS Landing Zone, or within a Snowflake Data warehouse within AWS. Each of the environments follow DoIT security, firewalls, etc. Access to these databases is tightly managed using Active Directory groups and SQL Server roles. Access is only granted to those needing access to the specific data sets.

**Data Transfers:** Data transfers to the Data Ecosystem occur via one of the following methods: *i)* SFTP, *ii)* a secure shared folder only accessible to data sender and EOHHS technical staff, *iii)* or a direct database connection only accessible to EOHHS technical staff.

**Compliance with Data Security Standards.** EOHHS proceeds according to requirements contained in Federal Information Security Management (FISM) Act, National Institute of Standards and Technology (NIST) 800 series, including but not limited to Special Publication (SP) 800-39, Managing Information Risk. Furthermore, EOHHS is responsible for maintaining a secure environment compliant with the Security Rule, state policies, and other applicable law that supports the transmission of Confidential Data in compliance with the standards. EOHHS follows the specifics contained in (FISM) NIST SP800-47, Security Guide for Interconnecting Information Technology Systems and uses appropriate safeguards to prevent use or disclosure of Confidential Data other than as permitted by the IMOU, the (FISM), NIST SP800-47, and applicable law, including appropriate administrative, physical, and technical safeguards that protect the confidentiality, integrity, and availability of that Confidential Data. Appropriate safeguards are those required by applicable law related to data security, including but not limited to (FISM) NIST SP800-53, Security and Privacy Controls for Federal Information Systems and Organizations.

# Legal framework

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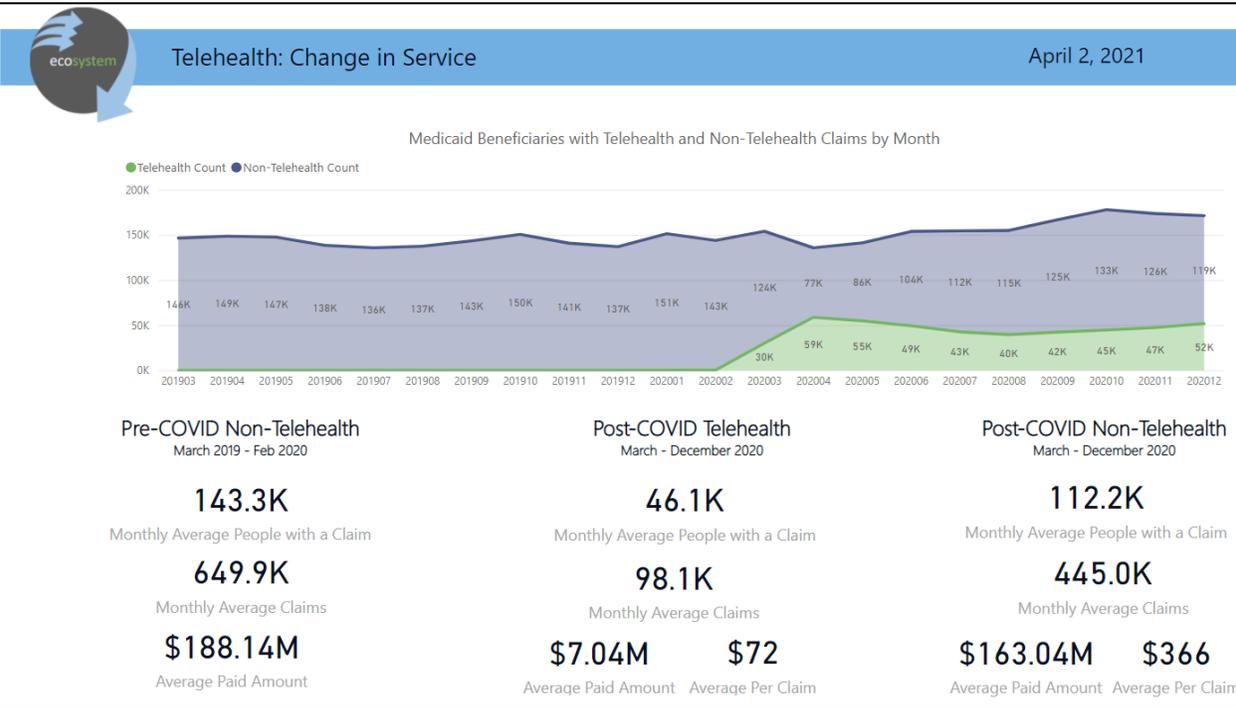
The following legal documents govern cross-agency collaboration and internal and external data access and use:

- The **Inter-Agency Memorandum of Understanding (IMOU)** documents the vision, mission, and governance process of the EOHHS Ecosystem.
- The **Data Sharing Agreement (DSA)** is a two-party agreement signed by each of the data providers and EOHHS that allows data to flow into the Ecosystem.
- The **Data License Request (DLR)** is completed by the Data Requester in coordination with the Ecosystem team. It is executed by all Data Stewards whose data are being requested. The DLR includes the Data Requester's credentials, project purpose, project methodology, a statement of benefit, and how the project will center racial justice. This document lists all data tables and data elements approved for a project.
- The **Data Use License (DUL)** is a multi-party agreement signed by the Data Recipient and EOHHS. Importantly, it only allows for anonymized data to be released to Data Recipients. Additionally, Recipients are required to safeguard the data (security controls, re-disclosure restrictions, and cell suppression policy) and are accountable for unauthorized access, use, or disclosure (24 hour breach notification, and indemnification of the state).

# Recent Ecosystem Projects + Impact

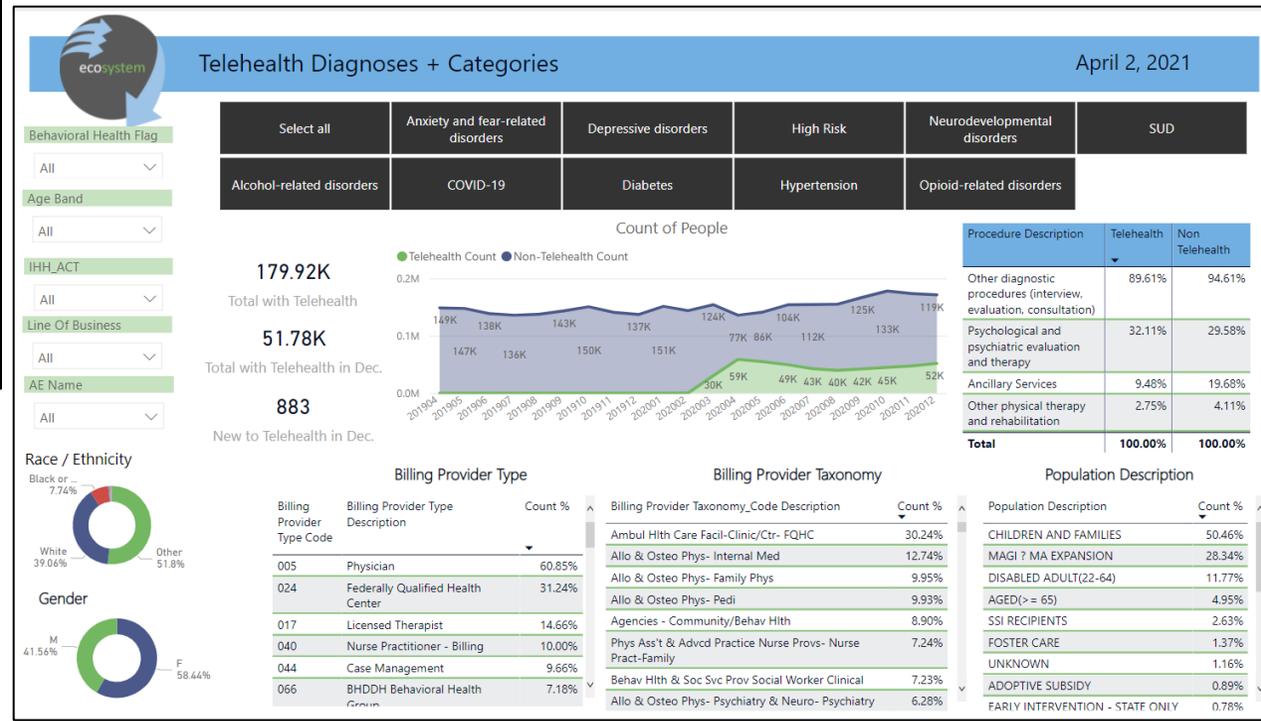
Project description	Agencies providing project guidance	Data sources for this project	Impact
<p><b>Telehealth Analysis:</b> Developed an interactive dashboard for state leadership and policy staff to learn about telehealth uptake, corresponding demographics, most frequent diagnoses and procedures.</p>	<p>Medicaid OHIC leadership</p>	<p>Medicaid All Payer Claims Database</p>	<p>The Ecosystem team worked closely with Medicaid policy staff to develop policy recommendations that informed the <b>state's telehealth bill</b> (2021-S 0004Baa, 2021-H 6032Aaa). The bill resulted in telemedicine coverage requirements for insurers and requires that all Medicaid programs cover telemedicine visits.</p>
<p><b>Overdose Evidence Update:</b> Collaborated with a broad stakeholder group to evaluate the rates and characteristics of deaths from drug overdose before vs during COVID.</p>	<p>RIDOH BHDDH DLT RI Coalition to End Homelessness Medicaid Brown University</p>	<p>RIDOH Vitals Medicaid Claims DLT Wages, UI HMIS homelessness data</p>	<p>The analysis and corresponding recommendations were presented to the <b>Governor's Overdose Task Force</b> and published in a manuscript available on <b>JAMA Open Network</b>. The Ecosystem team and its analytic partners recommend that states establish <b>pilot overdose prevention sites</b> that is now <b>signed into law</b> in RI (2021-S 0016B, 2021-H 5245A). The analyses and recommendations continue to inform the Task Force.</p>
<p><b>Central Providence Opportunities:</b> Ongoing efforts to develop meaningful baseline metrics that will allow long-term understanding of the impacts of place-based investments.</p>	<p>ONB Resident Advisory Council Rhode Island Foundation The Policy Lab</p>	<p>DHS program eligibility COVID testing, cases, and hospitalizations DLT wages, UI, job training</p>	<p>Beyond determining impact of the place-based investment in 02909 and 02908, the Ecosystem team is engaged in the CPO Scaling Working Group that will convene over the coming years to <b>develop optimal strategy and implementation of place-based investments</b>.</p>

# Product Example #1: Telehealth Analysis

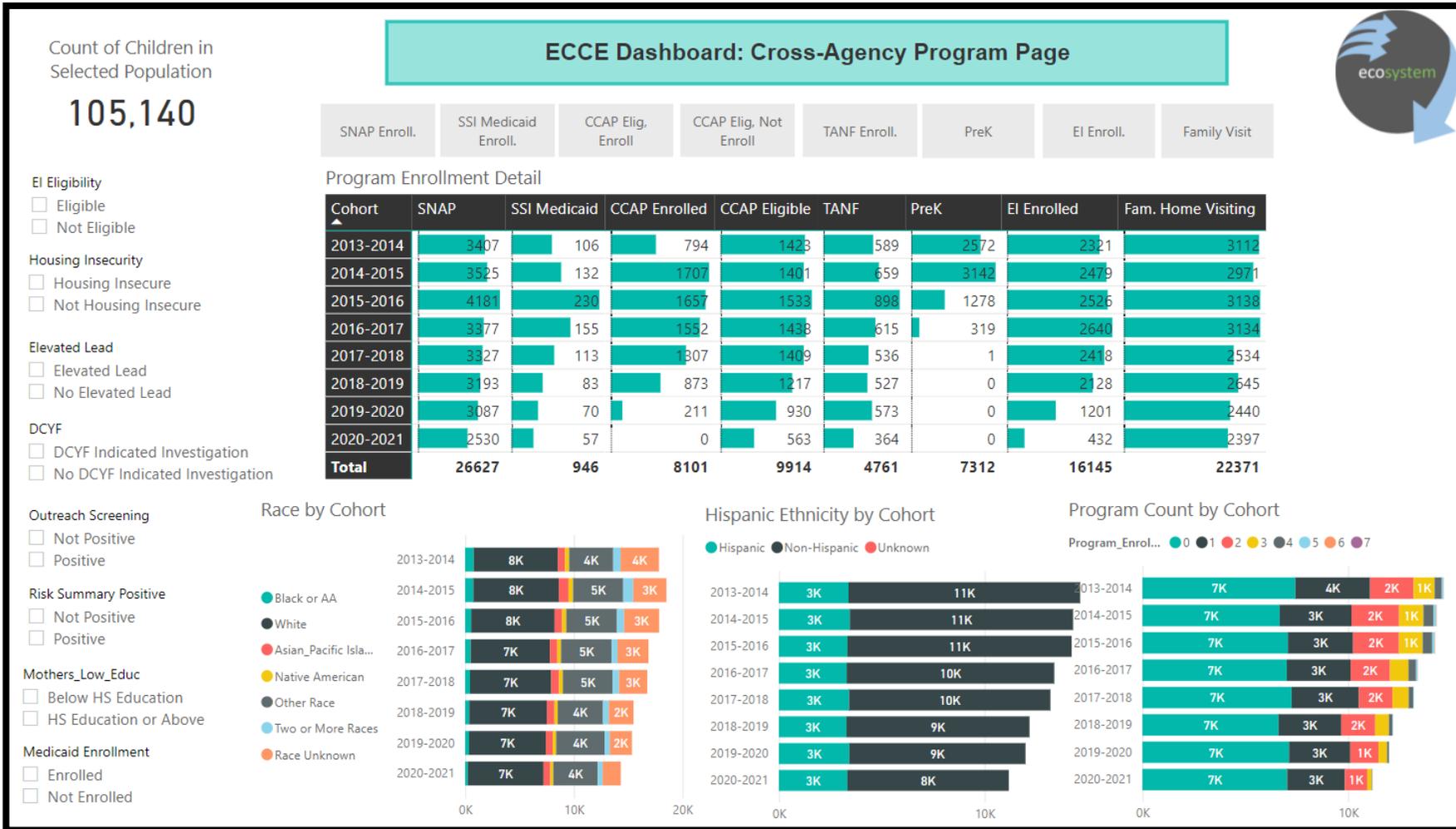


Front dashboard page gives an overview of the change in telehealth uptake since the onset of COVID

Later dashboard pages allow users to delve into detail by diagnoses, age groups, behavioral health services, and more.



# Product Example#2: Early Childhood Care and Education Dashboard



The ECCE Dashboard was designed to have a singular view of Birth to 5-year-old children enrolling in programs across agencies. It merges child-level data across the Department of Human Services, Department of Health, Medicaid/EOHHS, and the Department of Education.

The work was led by cross-agency director and program staff. It was funded by the Preschool Development Grant.

# Ecosystem's Governance Structure

- **Executive Board**

- Ensures Ecosystem work aligns with state priorities; recommends large projects that represent 70% of Ecosystem resources; ensures Ecosystem sustainability and statewide support.
- **Leadership:** EOHHS Secretary Womazetta Jones and Commissioner Patrick Tigue (OHIC) are vice-chairs.
- **Membership:** Directors or designees from each of the contributing Data Providers of the Ecosystem; Governor's office; Department of IT; EOHHS Policy; EOHHS Legal.
- **Meeting operations:** Quarterly meetings; Director facilitates.

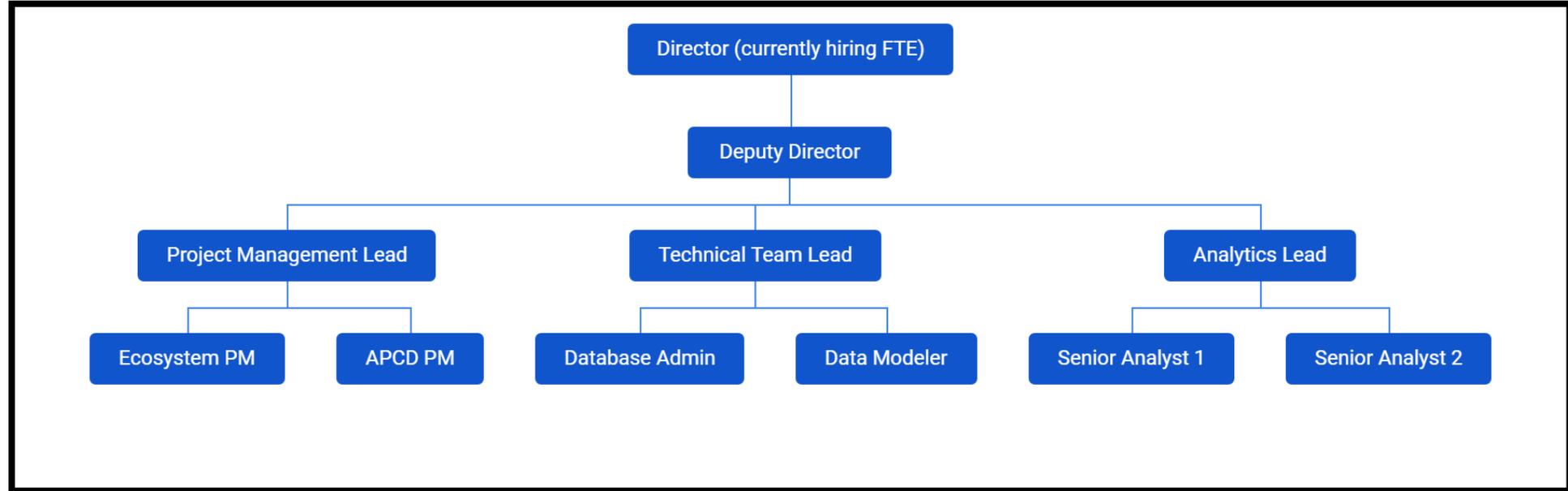
- **Data Stewards Group**

- Committee composed of representatives from each Data Provider with program and data expertise. One designated representative (Data Steward) from each Data Provider has decision-making authority over the use of their Confidential Data to approve use cases and projects.
- **Meeting operations:** Monthly meetings that includes presentations on agency-led projects; Director, Deputy Director, and Project Manager co-facilitate.

- **Ecosystem Team and Roles**

- Director, Deputy Director, Data Architect, Project Manager, technical staff, and analytic staff
- Staff manage use access, permissions, security and project approval.
- **System Oversight:** Take in data from partner agencies, clean it, model it and update on a monthly basis.
- **Data Products:** Complete select centralized analytic work and support agencies in agency-led analysis on cross-agency data.

# Ecosystem Staffing and Org Chart



## Staffing model

- Currently includes one state FTE, the Director of Data and Analytics.
- Freedman Healthcare staff and contractors fill 8 of 9 current positions on the team.
- Takeaway: Fully interagency in approach but with limited dedicated FTEs.

# Ecosystem Operating Costs and Funding

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- Ecosystem Resources: A key challenge for the Data Ecosystem is ensuring staffing and resources – and in particular, additional FTEs.
- Annual operating costs for the Ecosystem and APCD are roughly \$4M. The largest Ecosystem opportunity is its ability to receive CMS match of general revenue or other non-federal funds for its costs that benefit Medicaid.
  - Currently, nearly all costs are considered Design, Development and Implementation and can be matched by CMS with a 90/10 federal match
  - Activities will eventually move to Maintenance and Operations, which will allow for a 75/25 federal match
  - In the future, the goal is that entire state portion (25% of costs) will come from license fees that the Ecosystem charges for its data

# A National Integrated Data System (IDS) Leader

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"Over the last decade, [AISP \[aisp.upenn.edu\]](http://aisp.upenn.edu) has led a national network promoting best practices for responsible data sharing and integration so that agencies can work together to better serve families and communities. In 2017, the Rhode Island **EOHHS was selected through a competitive request for applications** to participate in our Learning Community Initiative, along with 17 other jurisdictions across the country. At no cost to the state of Rhode Island, the EOHHS team was able to take advantage of industry experts and peer learning opportunities as they engaged in the challenging work of building an integrated data system (IDS). In the years since, we have watched the EOHHS Ecosystem grow into **a national IDS leader**. They meet all the key components of quality we look for: **a legal and governance framework for sharing that protects privacy and centers racial equity, sound technical architecture, and state-of-the-art analytics that are routinely used for decision-making**. We look forward to continuing to learn alongside the Ecosystem as they support holistic approaches and better outcomes for the state of Rhode Island."

*Della Jenkins*

*Executive Director, Actionable Intelligence for Social Policy (AISP) at the University of Pennsylvania*

# EOHHS Performance Management

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# Performance Management Overview

## Using data for internal and services delivery accountability across the Secretariat

### Performance management is...

- A mechanism to check on effectiveness across agencies and cross-agency issues
- Part of agency work, not parallel or in addition to other continuous improvement processes
- Agency-led, tied to strategic priorities, and utilizes data to drive program changes
- Designed to strengthen the collective health and human service system by supporting agencies and making connections between bodies of interagency work



# EOHHS Performance Management Process

EOHHS uses a process called **PULSE**. We start with a review of existing **Performance**, diagnose problems by **Utilizing** data, engage **Leadership** for strategic input, provide **Supports** to develop solutions, and finish with the **Execution** of recommended actions (PULSE).

## PRIMARY GOALS OF PULSE

1. Monitor and understand progress made on strategic initiatives using data, context, and expertise provided by the agencies
2. Escalate risks, issues, and questions as well as drive discussions, make decisions, and request resources
3. Develop strategic and coordinated solutions to problems flagged by agencies, EOHHS, and State leadership
4. Encourage continuous improvement through project management and performance management principles
5. Engage interagency team members to understand how they support the key priorities of the Secretariat and State leadership
6. Foster accountability for driving program performance using key metrics to meet objectives and maintain focus on key projects
7. Hold ourselves accountable for meeting milestones and demonstrating effective management and operations

# EOHHS PULSE Check Meetings

## WHAT IS A PULSE CHECK?

- Regularly scheduled meeting with EOHHS leadership and agency staff to review performance data in relation to key priorities, programs, projects, and progress on meeting established goals and objectives
- Point-in-time check-in during continued implementation
- Performance driven dialogues and not report outs
- A tool to help us be proactive, rather than reactive
- A means to identify areas requiring assistance, collaboration, and escalation

*There is a standard cadence for PULSE meetings, typically every other month or quarterly, for the following agencies and interagency priorities:*

**EOHHS**

**DHS**

**BHDDH**

**RIDOH**

**DCYF**

**LTSS**

**OVERDOSE**

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