



STATE OF RHODE ISLAND

EXECUTIVE OFFICE OF HEALTH & HUMAN SERVICES

MEDICAID ENTERPRISE SYSTEM PLANNING

Application to Business Value Map

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1 Introduction

The State of Rhode Island (Rhode Island, State) Executive Office of Health & Human Services (EOHHS) is embarking on a journey to transform the state’s legacy Medicaid Management Information System (MMIS) into a modular Medicaid Enterprise System (MES), through the replacement, modernization, and/or extension of existing MMIS functionality and technology. By leveraging aspects of the legacy system that continue to function well, the State intends to optimize cost effectiveness and the transformation timeline, while reducing the risk of disruption to Medicaid members and providers.

EOHHS’ vision and strategic goals for the future MES are summarized in Exhibit 1: MES Vision and Goals.

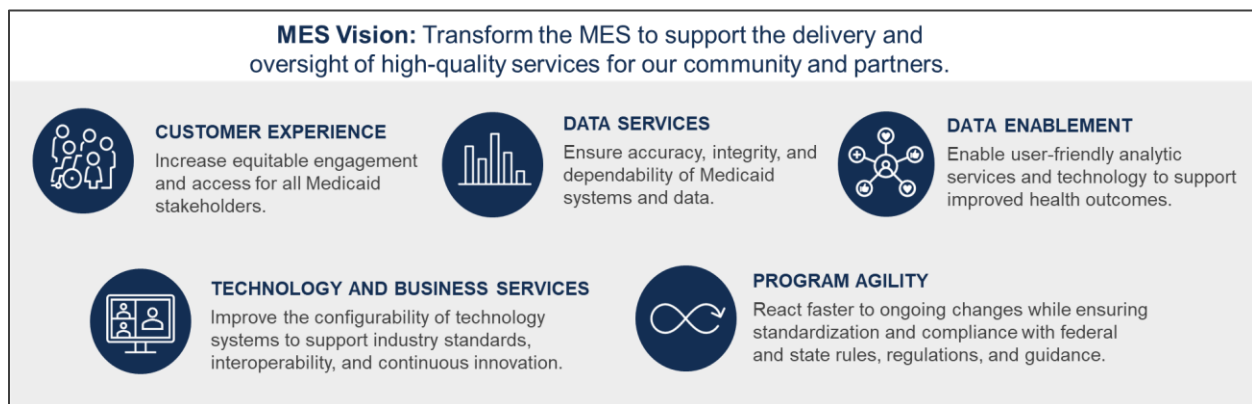


Exhibit 1: MES Vision and Goals

The Application to Business Value Assessment is a systematic process for providing an evidence-based practice to evaluate current and developing technologies to meet business requirements. The goal is to decrease and manage expenses and risk by considering different products and services.

2 Application to Business Value Assessment

As part of the MES transformation planning process, EOHHS must evaluate the current MMIS portfolio of applications and how each aligns to Rhode Island’s business and technical vision. Based on this assessment, each application is assigned to one of the four strategies with respect to the future MES, including maintain, replace, invest, and modernize.

The Application to Business Value Assessment approach and results are presented in the subsequent sections.

2.1 Technical and Business Value Criteria

To evaluate each system, technical and business criteria were established and defined. Exhibit 2: Business Criteria identifies and describes the business criteria.



Business Criteria	Description
Meets Business Need	Meets Business Need uses the number and total cost of change requests by application / system to determine whether that application / system is meeting the current business need. A system in which the costs and volume of change requests were substantially greater than average was rated as not aligned with this criterion, and a system in which the costs and volume were lower than average was rated as aligned.
Meets Strategic Vision	Meets Strategic Vision is defined by the MES strategic goals for modernization in order to assess how the current system supports the future needs. If systems met all MES goals, then the system was rated as aligned with this criterion. If the system met all but one or two, then the system was rated as partially aligned. If the system did not meet half or more than half of the MES goals, then system was rated as not aligned.
Automated Processes	Automated processes are defined by the ratio of automation that touches future state enhancements. A system that heavily relies on manual intervention, and has the potential for automation was rated as not aligned with this criterion. Conversely, a system that currently leverages automated processes was rated as aligned.
Enables Data-Driven Decisions	Enables Data-Driven Decisions is defined by the proportion of proposed changes in the future system related to data-driven decisions, such as reporting and data quality, to the total number of proposed changes. If less than 10% of proposed changes were related to enabling data-driven decisions, then the system was rated as aligned with this criterion. If between 10% and 20% of proposed changes were related to enabling data-driven decisions, then the system was rated as partially aligned. If more than 20% of proposed changes were related to enabling data-driven decisions, then the system was rated as not aligned.
System Quality	System Quality is defined using Key Performance Indicators (KPIs) and Service Level Agreements (SLAs) associated with systems under review. If the system met all KPIs and SLAs, then the system was rated as aligned with this criterion. If the system had less than three outliers, then the system was rated as partially aligned. If the system had more than three outliers, then the system was rated as not aligned.
Usability	Usability is defined by the system's user interface. For a system that uses PowerBuilder and/or green screen as its user interface, then the system was rated as not aligned with this criterion. For a system that uses a web front-end as its user interface, then the system was rated as aligned.

Exhibit 2: Business Criteria

Exhibit 3: Technical Criteria identifies and describes the technical criteria.

Technical Criteria	Description
Service-Oriented Architecture (SOA) / Integration	For SOA and integration purposes, the systems were evaluated for services that provide a business capability, and that can communicate with each other across platforms and languages. The system was evaluated to ensure it promotes loose coupling between software components so they can be reused and utilized via an Enterprise Service Bus.
Maintainability	For maintainability, the systems were evaluated through the source code analysis of the program language, complexity, and risk within the code, and availability of resources to support the system.
Business Services	For business services, the systems were evaluated for reusable business services that can be utilized by multiple parties or different systems such as a different module, provider, agency, or another organization. The

Technical Criteria	Description
	services need to promote consistency, and reduce duplication across systems, programs, and organization boundaries.
Data Services	For data services, the systems were evaluated for reusable data services that include all the necessary functionality to maintain an entity such as foreign-key validation and business rules. These types of services can be considered wrappers for one or multiple data components. The services need to promote consistency and eliminate duplication across systems, programs, and organization boundaries.
Technical Services	For technical services, the systems were evaluated for a reusable set of technical functions which support business service requirements. These reusable technology services include content management, error and event logging, managed file transfer (MFT), enterprise address validation, enterprise rules engine, master data management (MDM) and a job scheduler. The reusability of these technical services promotes consistency and eliminates duplication across systems, programs, and organization boundaries.
Portal Integrations	For portal integrations, the systems were evaluated for an available web service portal or the capability to be utilized in a web portal that would act as the single-entry point for access to all vendor applications regardless of programming language. The portal would require role-based embedded links to the modular applications.
Single Sign-On	For single sign-on, the systems were evaluated for capabilities of an authentication method that enables users to securely authenticate with multiple applications by using just one set of credentials.
Cloud Connectivity	For cloud connectivity, the systems were evaluated for cloud-to-cloud integration that would be utilized to allow users to connect to disparate cloud computing platforms (e.g., Amazon Web Services (AWS), Azure, Google, IBM). When cloud connectivity was established for a system, it was further evaluated if it was a global cloud interconnection solution used to achieve an agile, scalable, and trusted hybrid multi-cloud infrastructure.

Exhibit 3: Technical Criteria

2.1.1 Alignment of Rhode Island’s MES Strategy with Business and Technical Criteria

Rhode Island’s MES strategic vision, to transform the MES to support the delivery and oversight of high-quality services for the State’s community and partners, was used as one of the business criteria by which each of the systems was evaluated to develop the overall business value score and inform its placement on the application to business value matrix.

Exhibit 4: Alignment of MES Strategy with Technical Criteria shows how Rhode Island’s MES strategic goals and objectives are aligned with the technical criteria.

MES Goals & Objectives	SOA / Integration	Maintainability	Services - Business, Data, Technical	Portal Integration	Single Sign-On	Cloud Connectivity	Security	Information Architecture
Increase equitable engagement and access for all Medicaid stakeholders								
Improve ease of system access				X	X	X		
Consistent look, feel, and navigation				X				
Improve system usability, including access to self-services training and best practices				X				
Increase access to technical support				X				
Increase support for multiple languages				X				
Increase the number of high-quality Medicaid providers								
Improve the time it takes to enroll Medicaid providers	X		X					X
All Medicaid providers can submit and view claim information	X		X	X				X
Improve the configurability of technology systems to support industry standards, interoperability, and continuous innovation								
More configurable technology to adapt to existing and evolving business needs	X	X	X			X		
Increase flexibility in the design, configuration, and implementation of technology and business processes to adapt to EOHHS's evolving enterprise strategy, goals, and objectives	X	X	X	X	X	X		
Maintain and stay current with industry standards	X	X	X	X	X	X	X	
Increase use of industry standards	X		X	X	X	X	X	X
Ensure accuracy, integrity, and dependability of Medicaid systems and data								
Improve program integrity compliance and accountability through monitoring, audit, and recovery			X					X
Improve system security					X	X	X	
Enhance data backups to support improved disaster recovery capabilities						X		X
Enable data accuracy and historical data tracking						X		X
Increase integration of existing and new data sources	X		X			X		X
Accurate migration of historical data and linking to new data			X					X
Enable user-friendly analytic services and technology to support improved health outcomes								
Enhance capacity for self-service analytics and reporting through improved tools, workflows, documentation (e.g., data dictionaries), and training for stakeholders				X	X	X		X
Increase access to real-time data, analytics, and reporting				X	X	X		X
Access to user specific dashboards, Key Performance Indicators (KPIs), ad-hoc reporting, including the ability to design and schedule reports						X		X
Increase automation	X		X			X		
Improve audit trail tracking and reporting			X			X		X
React faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance								
More effective and efficient use of data across the organization through the design and deployment of enterprise program, technology, and data governance	X		X			X	X	X
Implement technology and data program governance								X
Increase program and system compliance, including ADA compliance				X				
Improve tracking and prioritization of state and federal compliance gaps								X

Exhibit 4: Alignment of MES Strategy with Technical Criteria

2.2 Business and Technical Ratings and Scores

Each system was rated as having **High**, **Moderate**, or **Low** alignment with the business and technical criteria as defined below.

- **High alignment (●):** The system is currently aligned with the architecture vision of the future state and is given a value rating of 30.
- **Moderate alignment (●):** The system is partially aligned with the architecture vision of the future state and is given a value rating of 20.
- **Low alignment (●):** The system is not aligned with the architecture vision of the future state and is given a value rating of 10.

Note: Criteria considered not applicable for a particular system were not assessed and are identified by a grey indicator (●).

Due to current replacement projects, Consumer Directed Module (CDM) and Community Supports Management System (CSM) were not evaluated against the business criteria and intentionally omitted from the resulting Application to Business Value Map.

With the business and technical value ratings assigned, overall business and technical value scores are prepared using the following inputs and calculations:

- **Business Value Total:** This is the total score based on the individual business criteria relative to a specific application.
- **Business Value Category Count:** The number of relevant criteria for each application.
- **Business Value Score:** The business value total divided by the category count.
- **Technical Value Total:** This is the total score based on the individual criteria for technology relative to a specific application.
- **Technical Value Category Count:** The number of relevant criteria for each application.
- **Technical Value Score:** The technical value divided by the category count.

The business and technical value ratings and scores are presented by system in Exhibit 5: Business and Technical Value Summary.

Application Name	Business						Technology								Business Value Total	Business Value Category Count	Business Value Score	Technical Value Total	Technical Value Category Count	Technical Value Score
	Meets Business Need	Meets Strategic Vision	Automated Processes	Enables Data-Driven Decisions	System Quality	Usability	SOA / Integration	Maintainability	Business Services	Data Services	Technical Services	Portal Integration	Single Sign-On	Cloud Connectivity						
CDM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0	6	0	170	8	21
Core	●	●	●	●	●	●	●	●	●	●	●	●	●	●	90	6	15	80	8	10
CSM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0	6	0	160	8	20
HCP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	120	8	15	170	8	21
TPL	●	●	●	●	●	●	●	●	●	●	●	●	●	●	60	5	12	80	8	10
MRN	●	●	●	●	●	●	●	●	●	●	●	●	●	●	110	5	22	160	6	27
PDM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	100	6	17	80	8	10
SUR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	70	5	14	80	8	10
EDM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	140	5	28	110	4	28
EVV	●	●	●	●	●	●	●	●	●	●	●	●	●	●	130	5	26	150	5	30
HSDW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	150	6	25	80	4	20
EDW (Data EcoSystem)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	150	6	25	120	4	30

Exhibit 5: Business and Technical Value Summary

2.3 Application to Business Value Map

The Application to Business Value Map leverages an industry standard application portfolio scoring model that includes criteria to evaluate the application on business criticality, business function gaps, technology stack, agility for change, and operational cost. The Application to Business Value Map categorizes the applications into the four quadrants, defined as follows:

- Maintain:** Applications that are listed as Maintain do not require any change and are deemed to be stable and undergo limited changes for the foreseeable future. These applications score well in technical architecture but are not business critical.
- Invest:** Applications categorized in the Invest quadrant have met or exceeded all the criteria in the scoring model and should not be touched. These are applications that have scored high on technical and business values.
- Replace:** Applications listed in the Replace quadrant go through a market scan process to make buy versus build decisions. These are Applications that score low on technical and business values.
- Modernize:** Applications listed in the Modernize quadrant have scored high in the business value of the scoring model but have lagged on the technical front. These applications are further vetted to plan the right modernization strategy as described below:

- **Encapsulate:** Application is core to the business and can be leveraged by extending the application features by encapsulating its functions and exposing them as services via API.
- **Re-host:** Also known as “lift and shift”, this strategy involves moving the application into private or public cloud without changing any underlying technology or business service.
- **Refactor:** Restructure and optimize the existing code without altering the functionalities so that future changes can be agile.
- **Re-architect:** Materially alter the code to shift to a new application architecture to support modularity.
- **Re-platform:** Migrate the existing application to a new technology platform making minimal changes to the code and retaining the functionality and service.

By applying the overall business and technical value scores to the application to value matrix depicted in Exhibit 6: Application to Business Value Map, a MES transformation approach for each system is suggested.

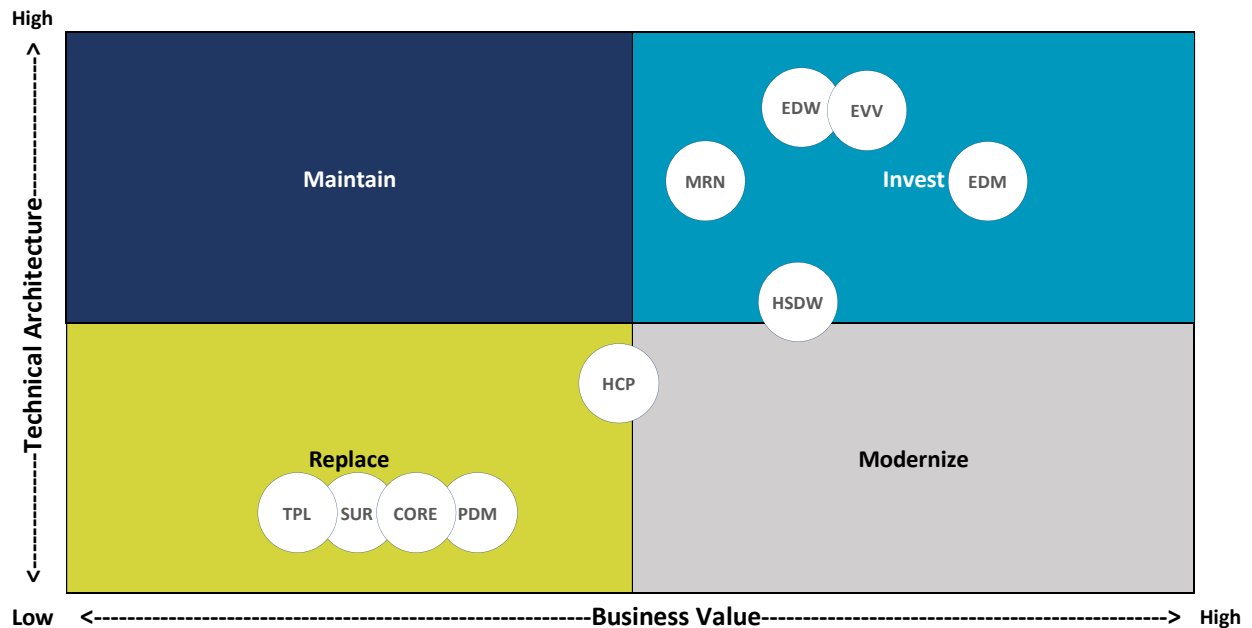


Exhibit 6: Application to Business Value Map

Note: None of the State’s applications was recommended for modernization; therefore, no additional modernization strategy evaluation was required.

2.4 Risk Evaluation

When selecting the proper strategy for each system there are various risks associated with each option that must be considered.

Invest

If antiquated legacy systems are retained, the major risk is that modifications to the system will be expensive and time consuming. Legacy technology runs slower, takes longer to execute tasks, and requires more time-consuming maintenance, patches, updates, and help desk calls than its newer counterparts. Outdated systems essentially expose the State to additional risks for breaches in security and put the integrity of the entire organization at risk. There is an additional risk in maintaining legacy systems where the pool of technologists required to support the systems is shrinking and those resources who are available are expensive.

Modernize

One of the risks in modernizing legacy systems is that the eventual total cost of ownership to make the required modifications may exceed what was originally estimated negating the benefit expected. Due to constraints in how the legacy system was architected, the introduction of the features may not produce the desired results or efficiencies. If the legacy component to be modernized is tightly coupled with other legacy components it may be challenging to detach the desired functionality from the rest of the system. The legacy vendor may also be unwilling to provide the component as a standalone application.

Replace

The main risk in replacing systems is operational change. The workforce must be trained and transitioned to use the new technologies, and it requires a cultural shift in how resources operate. There is often a lack of transparency and communication between stakeholders impacted by the change resulting in reluctance to change. Sometimes the workforce does not have the right skillsets to operate effectively in the new environment. These issues could result in business disruption and end-user resistance.

2.5 Cost Benefit Analysis

A cost benefit analysis (CBA) was performed on systems that fell between two quadrants to inform a final recommendation. Based on their placement on the Application to Business Value Map, both the Healthcare Portal (HCP) and the Human Services Data Warehouse (HSDW) require CBAs.

3 Systems Analysis

Each system was evaluated to inform the future state MES through the State of Rhode Island's vision. Below a business and technical value summary is provided for each system evaluated. Additionally, the risk of maintaining, investing, modernizing, or replacing the system is discussed.

3.1 Consumer Directed Module

CDM is a system utilized for self-directed / personal choice of Medicaid benefits and service management.

3.1.1 Business Value

As this application is being replaced by WellSky, no additional analysis was performed.

3.1.2 Technical Value

CDM was reviewed and rated based on the code provided by the State; however, as this application is being replaced by WellSky, the value rating was not included in the Value Map.

3.2 Core

The “Core” MMIS is an integrated group of procedures and subsystems/modules operated by a Fiscal Agent to help manage the state’s Medicaid program.

3.2.1 Business Value

Exhibit 7: Core Evaluation Against Business Criteria provides the rationale for Core business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	Core was not aligned with the architecture vision of the future state. There were numerous change requests identified over the two-year period analyzed. Additionally, Core had the costliest change requests, indicating that the system does not meet current business needs.
Meets Strategic Vision	Core supports some, but not all the items identified in the MES Strategy Map. Core supports increasing equitable access for Medicaid stakeholders and ensuring accuracy, integrity and dependability of Medicaid systems and data. However, Core has room for improvement on improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation, enabling user-friendly analytics services and technology to support improved health outcomes, and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance.
Automated Processes	Core requires a moderate level of automation to achieve optimal efficiency. This system is only partially aligned with the future state vision; there are a moderate number of manual processes associated with the use of Core functionality.
Enables Data-Driven Decisions	Core has room for improvement with enabling data-driven decisions. While accurately processing transactions, inefficiencies remain around the application of edits, reason codes for adverse outcomes, and reporting to Providers on how to address adverse outcomes.
System Quality	Core generally provides high-quality service to the Agency, but occasionally has some errors. According to the KPIs, claims errors or incorrect payments outside of acceptable thresholds occur a few times per year.

Business Criteria	Rating Rationale
Usability	Core was not aligned with the architecture vision of the future state given its antiquated PowerBuilder / green screen user interface. These obsolete interfaces do not offer the end user a user interface consistent with a modern and efficient system.

Exhibit 7: Core Evaluation Against Business Criteria

3.2.2 Technical Value

The Core MMIS has a technical value score of 10 which is the lowest possible score. Several major factors attributed to this rating. The code for the Core was primarily COBOL which is an antiquated programming language that is expensive to maintain and support. Resources with the skills and experience to maintain it are quickly dwindling. The Core is a monolithic application of sub-systems that are tightly coupled which also increases the cost of maintenance and the time to implement even the smallest of changes. Because the system is older, it does not have the capability to easily and cost effectively use service-oriented architecture for integration that would allow for an efficient, agile, scalable, and modular system that is critical to the State's vision.

3.2.3 Recommendation

Based on the low business and technical scores, replacing the Core MMIS is recommended.

3.2.4 Risks

The main risk in replacing the Core MMIS is operational change. The workforce must be trained and transitioned to use the new technologies, and it requires a cultural shift in how resources operate. There is often a lack of transparency and communication between stakeholders impacted by the change, resulting in reluctance to change. Sometimes the workforce does not have the right skillsets to operate effectively in the new environment. These issues could result in business disruption and end-user resistance.

3.3 Community Supports Management System

CSM is a tool for level of care data and forms that centers around Admission, Discharge, and Change in Acuity for long-term plans.

3.3.1 Business Value

As this application is being replaced by WellSky, no additional analysis was performed.

3.3.2 Technical Value

CDM was reviewed and rated based on the code provided by the State; however, as this application is being replaced by WellSky, the value rating was not included in Value Map.

3.4 Healthcare Portal

The Healthcare Portal is a secure internet portal used by healthcare providers to inquire on the status of claims, verify eligibility, upload electronic claim files, etc. The Healthcare Portal fell between the Maintain and Replace quadrants; however, the additional analysis explained below lowered the technical score and increased the business score placing this between the Replace and Modernize quadrants.

3.4.1 Business Value

Exhibit 8: HCP Evaluation Against Business Criteria provides the rationale for HCP business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	HCP was rated as partially aligned with the architecture vision of the future state as there were a moderate number of relatively costly change requests identified over the two-year period analyzed, indicating that the system only partially meets the current business need.
Meets Strategic Vision	HCP supports some, but not all the items identified in the MES Strategy Map. HCP supports ensuring accuracy, integrity and dependability of Medicaid systems and data. However, HCP has room for improvement on increasing equitable access for Medicaid stakeholders, improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation, enabling user-friendly analytics services and technology to support improved health outcomes, and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance.
Automated Processes	HCP requires a high level of automation to achieve optimal efficiency. This system was rated as not aligned with the architecture vision of the future state due to the significant number of manual processes associated with the use of HCP.
Enables Data-Driven Decisions	HCP has room for improvement with enabling data-driven decisions. While accurately processing transactions, inefficiencies remain in receiving Provider applications, processing enrollment applications, and onboarding Providers.
System Quality	HCP processes transactions accurately and in a timely fashion. However, according to KPIs, HCP is occasionally unavailable outside of acceptable thresholds.
Usability	HCP is aligned with the architecture vision of the future state given its modern web front-end user interface which is consistent with a modern and efficient system.

Exhibit 8: HCP Evaluation Against Business Criteria

3.4.2 Technical Value

The Healthcare Portal (HCP) has a technical value score of 21; however, the additional technical analysis uncovered substantial effort that would be required to integrate HCP with the future state architecture.

This additional effort lowers this score below the midpoint placing this between the Replace and Modernize quadrants.

3.4.3 Cost Benefit Analysis

The cost benefit analysis evaluated Replace and Modernize scenarios for the HCP based on the business and technical values in the Application to Business Value Map. The results of the cost benefit analysis indicate the State should consider replacing HCP to achieve the optimal benefits associated with the implementation and operations of a new Provider module / system. Of the three options evaluated in the Replace scenario, two options presented positive returns on investment, while the Modernize scenario yielded a negative ROI as there were no tangible benefits identified.

3.4.4 Recommendation

While the technology and business value scores place this between the Replace and Modernize categories, there are several investments that would need to be made to integrate this system into the future state architecture. These consist of integrating with the enterprise portal, integrating with a SSO solution, adapting to the use of business, data, and technical services, and integrating with master data management (MDM). These investments would make it cost prohibitive to modernize the HCP. Based on the outsized cost relative to the value added to the HCP, replacing is recommended.

3.4.5 Risks

The main risk in replacing the HCP is operational change. The workforce must be trained and transitioned to use the new technologies, and it requires a cultural shift in how resources operate. There is often a lack of transparency and communication between stakeholders impacted by the change resulting in reluctance to change. Sometimes the workforce does not have the right skillsets to operate effectively in the new environment. These issues could result in business disruption and end-user resistance.

3.5 Third Party Liability (TPL)

TPL refers to the legal obligation of third parties, including individuals, entities, health plans or programs, to pay claims before the Medicaid program pays for the care of an individual eligible for Medicaid. EOHHS primarily works with the Fiscal Agent and Epiq, a legal and business services provider, to conduct TPL activities to ensure Medicaid is the payer of last resort.

3.5.1 Business Value

Exhibit 9: TPL Evaluation Against Business Criteria provides the rationale for TPL business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	TPL was not rated on meeting business need as there were no change requests identified during the two-year period analyzed.
Meets Strategic Vision	TPL has areas for improvement that affect all of the MES Strategy Map items. While TPL mostly supports increasing equitable access for Medicaid stakeholders to the extent that this goal is relevant to TPL, significant improvements are possible for ensuring accuracy, integrity, and dependability of Medicaid systems and data, improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation, enabling user-friendly analytics services and technology to support improved health outcomes, and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance.
Automated Processes	TPL requires a high level of automation to achieve optimal efficiency. This system was rated as not aligned with the architecture vision of the future state due to the significant number of manual processes associated with the current TPL functionality.
Enables Data-Driven Decisions	TPL has significant room for improvement in enabling data-driven decisions. Areas for improvement include using data to more effectively identify TPL, leveraging additional data sources, enabling TPL performance transparency, grading TPL matches, and improving TPL data completeness.
System Quality	The TPL system generally processes transactions accurately and in a timely fashion for TPL that has been identified. However, there are many instances where the system has not identified TPL to process.
Usability	TPL was rated as not aligned with the architecture vision of the future state given its antiquated PowerBuilder / green screen user interface. These obsolete interfaces do not offer the end user a user interface that is consistent with a modern and efficient system.

Exhibit 9: TPL Evaluation Against Business Criteria

3.5.2 Technical Value

TPL has a technical value score of 10, which is the lowest possible score. Because TPL is very tightly coupled with the Core MMIS system, it has the same limitations. It is part of a monolithic system built on an antiquated programming language that is expensive to maintain, support, or modernize. TPL does not support the State's vision.

3.5.3 Recommendation

Based on the business and technical scores relative to the strategic vision, goals, and objectives, replacing the TPL system is recommended.

3.5.4 Risks

The main risk in replacing the TPL system is operational change. The workforce must be trained and transitioned to use the new technologies, and it requires a cultural shift in how resources operate. There is often a lack of transparency and communication between stakeholders impacted by the change resulting in reluctance to change. Sometimes the workforce does not have the right skillsets to operate effectively in the new environment. These issues could result in business disruption and end-user resistance.

3.6 Medicaid Recovery Network (MRN)

MRN is a tool which assists with the process of imposing liens and receiving payments from liable third parties.

3.6.1 Business Value

Exhibit 10: MRN Evaluation Against Business Criteria provides the rationale for MRN business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	MRN is aligned with the future state architecture vision; there were only a few change requests identified over the two-year period analyzed, indicating that the system meets the current business need.
Meets Strategic Vision	MRN supports some, but not all of the items identified in the MES Strategy Map. MRN supports increasing equitable access for Medicaid stakeholders and ensuring accuracy, integrity, and dependability of Medicaid systems and data. However, MRN has room for improvement on improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation, enabling user-friendly analytics services and technology to support improved health outcomes, and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance.
Automated Processes	MRN does not require a significant amount of automation to achieve optimal efficiency. This system is aligned with the future state architecture vision as there are a limited number of manual processes associated with the use of MRN.
Enables Data-Driven Decisions	MRN has room for improvement to enable data-driven decisions, including interfacing with EOHHS and the Legal Services Vendor to receive and transmit claims information, payment data, and lists of tort claimants needed for recovery processes.
System Quality	MRN appears to provide accurate processing and reporting. However, the efficiency of its processes and support for the rest of the Medicaid enterprise could be improved.
Usability	MRN was rated as not aligned with the architecture vision of the future state given its antiquated PowerBuilder / green screen user interface. These obsolete interfaces do not offer the end user a user interface that is consistent with a modern and efficient system.

Exhibit 10: MRN Evaluation Against Business Criteria

3.6.2 Technical Value

MRN has a technical value score of 27, which is a high value score. It falls inside of the invest quadrant and has potential to integrate with new modules. This score is based on MRN being a customizable, turn-key solution allowing for implementations alongside other systems, or as its own web-based tool.

3.6.3 Recommendation

Based on the high business and technical scoring relative to the strategy map, investing in MRN and integrating it into future vendor modules is recommended. It is possible that a new TPL vendor would provide duplicate services in which case the MRN could be replaced by the new TPL vendor.

3.6.4 Risks

There is relatively low risk in investing in MRN as it is a standalone application this is decoupled from the other applications in the MMIS.

3.7 Pharmacy Drug Management (PDM)

The Pharmacy Drug Management function is performed by the Fiscal Agent and its subcontractors to manage prescription drug benefits, on behalf of EOHHS, for Rhode Island’s Medicaid Members. The Fiscal Agent is responsible for maintaining drug formularies, updating, and maintaining the Medicaid FFS preferred drug list, monitoring, tracking, and reporting on rebate payments, and conducting drug utilization review to reduce clinical abuse and misuse of prescription drugs covered under the Rhode Island Medicaid Program.

3.7.1 Business Value

Exhibit 11: PDM Evaluation Against Business Criteria provides the rationale for PDM business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	PDM is partially aligned with the future state architecture vision; there were a moderate number of relatively costly change requests identified over the two-year period analyzed, indicating that the system only partially meets the business need.
Meets Strategic Vision	PDM supports some, but not all of the items identified in the MES Strategy Map. PDM supports increasing equitable access for Medicaid stakeholders and ensuring accuracy; integrity, and dependability of Medicaid systems and data; improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation; and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance. However, PDM has significant room for improvement in enabling user-friendly analytics services and technology to support improved health outcomes.
Automated Processes	PDM requires a moderate level of automation to achieve optimal efficiency. This system is partially aligned to the future state architecture vision as there are a

Business Criteria	Rating Rationale
	relatively moderate number of manual processes associated with the use of PDM functionality.
Enables Data-Driven Decisions	PDM has significant room for improvement in enabling data-driven decisions. Areas for improvement include consolidating data entry and employing robust reporting tools.
System Quality	PDM generally processes transactions and reporting accurately and in a timely fashion. However, there are instances where the system has longer than expected downtime.
Usability	PDM is rated as not aligned to the future state architecture vision given its antiquated PowerBuilder / green screen user interface. These obsolete interfaces do not offer the end user a user interface that is consistent with a modern and efficient system.

Exhibit 11: PDM Evaluation Against Business Criteria

3.7.2 Technical Value

PDM has a technical value score of 10, which is the lowest possible score. Because PDM is very tightly coupled with the Core MMIS, it has the same limitations. Additionally, PDM requires manual manipulation and movement of data using Excel spreadsheets and Access Databases. This resource intensive system is expensive to maintain, support, or modernize. Because of these issues, PDM does not support the State's vision.

3.7.3 Recommendation

Based on the low business and technical scoring relative to the strategy map, replacing the PDM system is recommended.

3.7.4 Risks

The main risk in replacing the PDM system is operational change. The workforce must be trained and transitioned to use the new technologies, and it requires a cultural shift in how resources operate. There is often a lack of transparency and communication between stakeholders impacted by the change resulting in reluctance to change. Sometimes the workforce does not have the right skillsets to operate effectively in the new environment. These issues could result in business disruption and end-user resistance.

3.8 Surveillance and Utilization Review (SUR)

SUR Profiler is a query, reporting, and analysis tool employed by the SUR Team that uses information from the MMIS as its primary data source. The tool's primary function is to run comparisons of similar providers and members to identify outliers / significant differences across peer groups. Case Tracker is an additional SUR tool for case management that is used to assist with identifying and tracking fraud, waste, and abuse within the Medicaid Program.

3.8.1 Business Value

Exhibit 12: SUR Evaluation Against Business Criteria provides the rationale for SUR business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	SUR was not rated on meeting business need as there were no change requests identified during the two-year period analyzed.
Meets Strategic Vision	SUR supports some, but not all of the items identified in the MES Strategy Map. SUR supports increasing equitable access for Medicaid stakeholders; improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation; and. However, SUR has room for improvement on ensuring accuracy, integrity, and dependability of Medicaid systems and data; enabling user-friendly analytics services and technology to support improved health outcomes; and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance.
Automated Processes	SUR requires a high level of automation to achieve optimal efficiency. This system was rated as not aligned to the future state architecture vision due to the significant number of manual processes associated with its use.
Enables Data-Driven Decisions	SUR has significant room for improvement in enabling data-driven decisions. Areas for improvement include increasing the use of analytics, leveraging the All-Payer Claims Database and other data sources for investigations, and using workflows and case management to document and track ongoing reviews.
System Quality	SUR generally processes transactions accurately and in a timely fashion for cases identified for review. However, there are many instances where the system has not identified cases or could more efficiently review cases with further data integration and case management.
Usability	SUR was rated as not aligned to the future state architecture vision given its antiquated PowerBuilder / green screen user interface. These obsolete interfaces do not offer the end user a user interface that is consistent with a modern and efficient system.

Exhibit 12: SUR Evaluation Against Business Criteria

3.8.2 Technical Value

SUR has a technical value score of 10, which is the lowest possible score. Because SUR is very tightly coupled with the Core MMIS, it has the same limitations. It is a monolithic system built on an antiquated programming language that is expensive to maintain, support, or modernize. As such, SUR does not support the State's go forward vision.

3.8.3 Recommendation

Based on the low business and technical scoring relative to the strategy map, replacing the SUR system is recommended.

3.8.4 Risks

The main risk in replacing the SUR system is operational change. The workforce must be trained or transitioned to use the new technologies, and it requires a cultural shift in how resources operate. There is often a lack of transparency and communication between stakeholders impacted by the change resulting in reluctance to change. Sometimes the workforce does not have the right skillsets to operate effectively in the new environment. These issues could result in business disruption and end-user resistance.

3.9 Enterprise Document Management (EDM)

Enterprise Document Management utilizes IBM Content Manager OnDemand as document repository and document retrieval. Document capture is completed through iScan/iCapture which is a scan, index, and OCR tool.

3.9.1 Business Value

Exhibit 13: EDM Evaluation Against Business Criteria provides the rationale for EDM business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	EDM was not rated on meeting business need as there were no change requests identified during the two-year period analyzed.
Meets Strategic Vision	EDM supports most of the items identified in the MES Strategy Map. EDM can improve with more automation and workflows to route documents, but this functionality does not solely depend on EDM.
Automated Processes	EDM requires a moderate level of automation to achieve optimal efficiency. This system was rated as partially aligned to the future state architecture vision due to the relatively moderate number of manual processes associated with the use of EDM functionality.
Enables Data-Driven Decisions	EDM supports the ability to make data-driven decisions. EDM provides necessary information to stakeholders, although some efficiencies in routing can be found in automation and workflows.
System Quality	EDM processes transactions accurately and performs document control within acceptable parameters.
Usability	EDM was rated as aligned to the future state architecture vision given its modern web front-end user interface that is consistent with a modern and efficient system.

Exhibit 13: EDM Evaluation Against Business Criteria

3.9.2 Technical Value

EDM has a technical value score of 27.5 which indicates a moderate to high alignment. The EDM tool is a third-party application from IBM (IBM Content Manager OnDemand). While it is integrated with the Core MMIS it has its own capabilities, functions, and components that could be utilized without the Core MMIS. It has available APIs that can be utilized through the State's investment to integrate with new or modernized modules.

3.9.3 Recommendation

Based on the high business and technical scoring relative to the strategy map, investing in the EDM is recommended. By investing in EDM, the need for a metadata migration and conversion effort is eliminated.

3.9.4 Risks

There is relatively low risk in investing in EDM as it is a commercial-off-the-shelf (COTS) product that is decoupled from the MMIS.

3.10 Electronic Visit Verification (EVV)

The EOHHS EVV system is an in-home visit scheduling, tracking, and billing system that employs controls within the delivery of home-based services to ensure quality of care for Medicaid members. The EOHHS EVV system is administered by Sandata Technologies, LLC. Provider Agencies have three options for using the EOHHS EVV system: a mobile application, telephony, or Fixed Visit Verification (FVV) device.

3.10.1 Business Value

Exhibit 14: EVV Evaluation Against Business Criteria provides the rationale for EVV business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	EVV was not rated on meeting business need as there were no change requests identified during the two-year period analyzed.
Meets Strategic Vision	EVV has areas for improvement that affect all of the MES Strategy Map items. While EVV is a modern system that functions sufficiently to support CMS outcomes and key performance indicators, areas for improvement include increasing equitable access for Medicaid stakeholders; ensuring accuracy, integrity, and dependability of Medicaid systems and data; improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation, enabling user-friendly analytics services and technology to support improved health outcomes, and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance.

Business Criteria	Rating Rationale
Automated Processes	EVV does not require a significant amount of automation to achieve optimal efficiency. This system was rated as aligned to the future state architecture vision due to the limited number of manual processes associated with the use of EVV.
Enables Data-Driven Decisions	EVV supports the ability to make data-driven decisions. EVV provides necessary information to stakeholders, although establishing operational baselines may enhance performance management.
System Quality	EVV processes transactions accurately and efficiently in support of CMS outcomes. However, performance levels and expectations could be standardized between the EOHHS and alternative EVV systems.
Usability	EVV was rated as aligned to the future state architecture vision given its modern web front-end user interface that is consistent with a modern and efficient system.

Exhibit 14: EVV Evaluation Against Business Criteria

3.10.2 Technical Value

EVV has a technical value score of 30 which is the highest possible score. EVV is outsourced to Sandata and provides the technology that is required to integrate into the current MMIS or future state MES platform.

3.10.3 Recommendation

Based on the high business and technical scoring relative to the strategy map, investing in EVV is recommended.

3.10.4 Risks

There is relatively low risk in investing in EVV as it is an outsourced solution that is decoupled from the MMIS.

3.11 Human Services Data Warehouse

Human Services Data Warehouse is the Enterprise Data Warehouse used by EOHHS to support agency-level decision support and analytics activities.

3.11.1 Business Value

Exhibit 15: HSDW Evaluation Against Business Criteria provides the rationale for HSDW business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	HSDW was rated as aligned to the future state architecture vision as there were only a few change requests identified over the two-year period analyzed, indicating that the system meets the current business need.
Meets Strategic Vision	HSDW supports some, but not all the items identified in the MES Strategy Map. HSDW supports increasing equitable access for Medicaid stakeholders; improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation; ensuring accuracy, integrity, and dependability of Medicaid systems and data; and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance. However, HSDW has room for improvement in enabling user-friendly analytics services and technology to support improved health outcomes.
Automated Processes	HSDW requires a moderate level of automation to achieve optimal efficiency. This system was rated as partially aligned to the future state architecture vision due to the relatively moderate number of manual processes associated with the use of HSDW functionality.
Enables Data-Driven Decisions	HSDW has room for improvement in enabling data-driven decisions. While HSDW serves current reporting needs, there is an opportunity to reduce redundancies and streamline reporting workflows by consolidating warehousing and reporting with Enterprise Data Warehouse (EDW – Data Ecosystem).
System Quality	HSDW provides high quality service expeditiously and reliably. HSDW has uptime within specifications and supports completion of reporting within allowable timeframes, according to KPIs.
Usability	HSDW was rated as aligned to the future state architecture vision given its modern web front-end user interface that is consistent with a modern and efficient system.

Exhibit 15: HSDW Evaluation Against Business Criteria

3.11.2 Technical Value

HSDW has a technical value score of 20 which indicates a moderate alignment to future-state vision.

3.11.3 Cost Benefit Analysis

The cost benefit analysis evaluated Invest and Modernize scenarios based on the business and technical values in the Value Map. Modernizing HSDW via implementation of a cloud-based solution is cost beneficial in the long term, providing tangible and intangible benefits in excess of the implementation costs and compared to the status quo. However, it is unclear how long a re-platformed HSDW would operate in an environment with multiple data warehouse and analytics solutions.

The Invest scenario projects slightly higher costs than the Modernize scenario over the eight-year timeframe, but only if the Modernize scenario lasts all eight years. Otherwise, the Invest solution becomes cheaper, due to the up-front DDI costs for Modernizing.

Given the likelihood of consolidation with EDW - Data Ecosystem in the period under analysis, the long-term benefits from adopting an interim cloud-solution may be smaller than estimated and the implementation costs would represent a relatively higher proportion of the cost benefit ratio. As a result, the Invest scenario with marginally higher costs and fewer benefits than the Modernize scenario would be a better solution in the short-term, given a long-term plan to move data warehousing and analytics to EDW - Data Ecosystem.

3.11.4 Recommendation

Based on the moderate business and technical scoring and the transactional systems that feed HSDW being replaced, keeping and investing in HSDW is recommended until the transactional systems are replaced. At which time, HSDW will be gradually transitioned to the EDW – Data Ecosystem. By retaining the HSDW until most module migrations are complete, there would be no impact to the existing agency reporting capabilities.

3.11.5 Risks

There is a very low (or no) risk in keeping the current HSDW until replacement by the EDW. Any data sources (e.g., Core MMIS) that feed the MMIS may need HSDW enhancement/changes to accommodate the new feed. There is a low risk that data feeds coming from new modules to the HSDW would need to be rewritten when HSDW is replaced by the EDW.

3.12 Enterprise Data Warehouse (EDW - Data Ecosystem)

EDW-Data Ecosystem combines data from the HSDW, All Payer Claims Database, and several external programs to support EOHHS analytics and reporting.

3.12.1 Business Value

Exhibit 16: EDW Evaluation Against Business Criteria provides the rationale for EDW business value ratings against each business criterion.

Business Criteria	Rating Rationale
Meets Business Need	EDW was rated as aligned to the future state architecture vision as there were only a few change requests identified over the two-year period analyzed, indicating that the system meets the current and future business needs.
Meets Strategic Vision	EDW supports some, but not all, of the items identified in the MES Strategy Map. EDW supports increasing equitable access for Medicaid stakeholders; improving the configurability of technology systems to support industry standards, interoperability, and continuous innovation; ensuring accuracy, integrity, and dependability of Medicaid systems and data; and reacting faster to ongoing changes while ensuring standardization and compliance with federal and state rules, regulations, and guidance. However, EDW has room for improvement in enabling user-friendly analytics services and technology to support improved health outcomes.

Business Criteria	Rating Rationale
Automated Processes	EDW requires a moderate level of automation to achieve optimal efficiency. This system was rated as partially aligned to the future state architecture vision due to the relatively moderate number of manual processes associated with the use of EDW functionality.
Enables Data-Driven Decisions	EDW has room for improvement in enabling data-driven decisions. While EDW serves current reporting needs, there is an opportunity to reduce redundancies and streamline reporting workflows by consolidating warehousing and reporting with HSDW.
System Quality	System quality was not assessed due to the absence of KPI and SLA data.
Usability	EDW was rated as aligned to the future state architecture vision given its modern web front-end user interface that is consistent with a modern and efficient system.

Exhibit 16: EDW Evaluation Against Business Criteria

3.12.2 Technical Value

EDW – Data Ecosystem has a technical value score of 30, which is the highest possible score. EDW is already an enterprise solution that incorporates data across the enterprise for data analytics and reporting. EDW is using the AWS cloud which is consistent with future-state vision.

3.12.3 Recommendation

Based on the high business and technical scores, investing in the EDW is recommended.

3.12.4 Risks

There is no additional risk of investing in the EDW.