Medicaid Enterprise System (MES) Investment Toolkit Proposal

Proposed Framework for Using Desired Outcomes and Measures to Monitor and Report MES Investment Performance

March 3, 2022

Table of Contents

Table of Tables

Table of Figures

1 MES Investment Toolkit Overview

The Medicaid Enterprise System (MES) Investment Toolkit (Toolkit) document provides a high-level overview of a proposed framework for managing the performance of an MES. The framework is designed to support State Medicaid Agencies (SMAs) in transforming business problems into investment opportunities to improve their MES and manage the performance of that investment throughout its life. The framework addresses the need to transition to an outcomes focused approach to investments, and to better align with similar activities already in place at both an SMA and Federal levels.

The goals for this toolkit address the need to transition to an outcomes-based approach but also address the need for improvement from the current State Self-Assessment (SS-A). The toolkit seeks to accomplish the following:

- Reduce the complexity and improve the end results, through improved methods of measurement
- Reduce the effort and time to perform the activities to increase return on investment
- Improve the meaningfulness and usefulness of the results of the activities

1.1 Investment Overview

An investment represents the allocation of resources with the expectation of bringing increased value to an SMA. Each SMA will identify investment opportunities to improve their MES and bring value to an SMA and its stakeholders. The investments may be "Modules" or components within the MES and help to automate one or more processes. Prior to an investment being selected, the investment opportunity is evaluated by an SMA as well as CMS to ensure that it meets an SMA and CMS goals and objectives. This document provides a framework to help SMAs define, evaluate, and monitor the performance of these investments. Figure X provides a high-level overview of the framework. The flow of this document begins with an Enterprise perspective, follows with the identification of project(s) that address a business problem and ends with the monitoring and reporting on project performance. performance.

Figure X – MES Investment Overview

Investment Opportunities & Target Performance Standards
Define the business problem, identify investment opportunities for solving it, and identify how the investment will align to the desired outcomes.

Investment Performance Monitoring & Reporting
Collect investment data and assess and report the performance. Any deficiencies in performance should include a plan for addressing the deficiency.

Investment Strategy & Desired Outcome
Develop/Update an Enterprise Investment Strategy that includes any desired outcomes that should result from implementing the strategy.

1.2 Toolkit Relationships to Related Frameworks

This proposed toolkit was developed to compliment other frameworks developed to help manage the MES, including the following:

- Medicaid Information Technology Architecture (MITA) Framework – MITA provides a framework that helps SMAs document and manage their enterprise architecture. It provides guidance for developing architectural reference models for an investment that is consistent across SMAs to help identify sharing and reuse opportunities. The MES investment toolkit provides a framework that leverages the reference models from MITA to evaluate investment opportunities and assess investment performance. It also provides guidance on using the reference models established in the MITA framework to define business problems, identify investment opportunities, and ensure performance expectations are met by solutions within the MES.
- MES Certification – MES certification was developed to ensure that MES investments meet all federal requirements and satisfy the objectives and outcomes described in the state's Advanced Planning Document (APD). The MES Investment toolkit provides a framework that helps SMAs define those objectives and outcomes that are used in the APD. It also helps SMAs ensure that MES investments are meeting all state requirements and satisfying SMA objectives and outcomes. CMS is working on revising APDs and developing MES Outcome Based Certification. This framework will be updated when CMS finalizes and publishes their guidance.
- Software Development Lifecycle (SDLC) – The SDLC defines the phased approach that SMAs use in planning, creating, testing, deploying, and maintaining investments into the MES. Each state will define the SDLC that works best for the specific project which may be waterfall, agile, etc. The MES Investment Toolkit is designed to fit with waterfall, agile, and hybrid system development lifecycles. It provides a framework for ensuring the performance of investments throughout the entire SDLC. Figure 1 – MES Investment Toolkit and the SDLC provides a high-level overview of how the MES Investment Toolkit aligns to the SDLC.

Figure 1 – MES Investment Toolkit and the SDLC
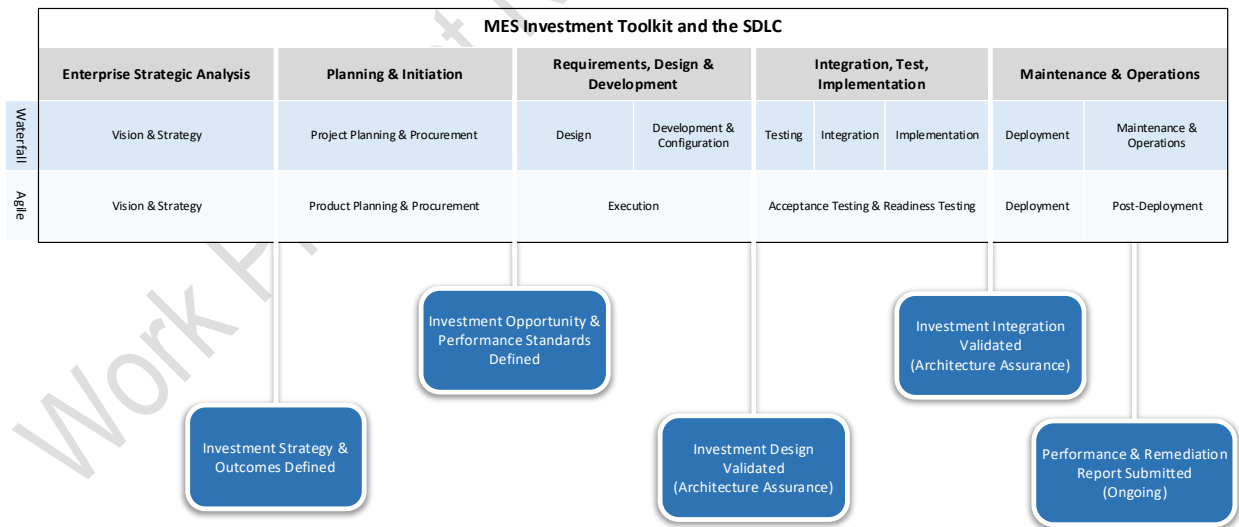
1.3 Toolkit Organization

The proposed Toolkit framework contains high-level activities and guidance that should be performed by an SMA to support the identification, evaluation, and monitoring of investments into the MES. The Toolkit is designed to replace the current point-in-time MITA State Self-Assessment (SS-A) with ongoing performance monitoring driven by desired outcomes and performance standards. The toolkit proposal is organized into (4) primary parts including the following:

- *Part I:* MES Investment Strategy & Desired Outcome Development (Enterprise Strategic level)
- *Part II:* MES Investment Opportunity & Performance Standard Identification (Project, Module or Component level)
- *Part III:* MES Investment Performance Monitoring & Reporting (Both Enterprise and Project, Module and Component level)
- *Part IV:* Recommended Alignment and Modifications to Related Frameworks
- *Appendix:* Supporting Guidance and Templates

Parts I, II and III of this Toolkit proposals define the high-level scope, artifacts, business cases, and activities that are included within each part. The activities are organized in a table and includes the following columns:

- # – Identifies a unique identifier assigned to the activity. Each activity # will include the number of the part (e.g., Part I) and an alpha character that defines the order for which the activity should be performed.
- Activity – Identifies the name of the activity.
- Description – Provides a detailed description of the activity.
- Frequency – Identifies the expected frequency that the specific activity will be performed by an SMA.
- Staffing – Identifies the type of roles that should be assigned responsibility to complete the activity. This will indicate the roles that should be responsible for completing the activity as well as the individual that should be accountable/approver for the completion of the activity.
- Reference – Identifies detailed guidance that has been established that can support SMAs as they perform the activity. If a "Gap" is listed in this column then there is a gap in guidance and will be further elaborated in the Recommendations section of the proposal. The Recommendation section may also have recommendations to the MITA Framework for any of the identified references in this column.

2 Part I: MES Investment Strategy & Desired Outcome Development

The following section defines an Enterprise high-level approach for developing a comprehensive MES Investment Strategy with clear and measurable desired outcomes. A well-developed investment strategy will enable business owners throughout an SMA to transform business problems into investment opportunities, identify the investment opportunity that is most aligned to the vision of the enterprise, and monitor the performance of those investments to make sure they are continuously meeting the desired outcomes.

2.1 Scope

The scope of Part I focuses on supporting SMAs during the enterprise strategic analysis and planning phase. The activities included require SMAs to assess where their organization is currently as well as where they want the organization to be in the future.

2.2 Artifacts Developed

The MES Investment Strategy & Desired Outcome Development process produces the following artifacts:

- *MES Investment Strategy* **–** Documents the strategic vision for an SMAs medium and long-term investment decisions.
- *Investment Approval Criteria* – A list of core requirements that must be met prior to an SMA approving an Investment Proposal. The criteria will be used to evaluate investment proposals and identify the investments that provide the greatest value to an SMA. The requirements will contain both CMS defined requirements as well as State-Specific requirements. Please refer to Appendix C Investment Proposal Template
- *Investment Measure Specification* **–** Documents the business use of the measure along with a defined specification for calculating the measure. This helps ensure that the measure is calculated consistently, serves as a reusable asset for the enterprise, and is clearly defined for all users of the measure. Please refer to Appendix D Investment Measure Specification Template.

2.3 Primary Activities

Table 1 - Investment Strategy & Desired Outcome Activities identifies the high-level activities that should be performed by an SMA to establish an MES Investment Strategy and desired outcomes.

Table 1 - Investment Strategy & Desired Outcome Activities

#	Activity	Description	Frequency	Staffing	Reference
1a.	Assess the current environment	Review any existing strategies, performance reports, and remediation plans to understand the current environment. Identify opportunities for improvement and determine if any goals, objectives, outcomes, measures, or reference models need to be updated.	Annually or As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive *Governance Body*	• Gap

#	Activity	Description	Frequency	Staffing	Reference
1b.	Define/ Update enterprise goals and objectives	Define goals/objectives for the enterprise that will help guide the future of the MES. The goals/objectives should speak to adding value to an SMA, its stakeholders and the way that it operates. If necessary, this should include updating existing goals/objectives based on performance results.	As Needed	*Responsible* • Medicaid business leadership team *Accountable* • Executive Governance Body	• Gap
1c.	Define/ Update enterprise desired outcomes	Review the goals and objectives that have been set for the enterprise and translate the goals and objectives into desired outcomes. Each desired outcome should describe a discrete and measurable improvement in the MES and should trace to an enterprise goal/objective. If necessary, this should include updating the desired outcomes based on performance results and changes to goals/objectives. During this activity, SMA's should consider the prioritization and decomposition of outcomes. This will allow the SMA to align these priority outcomes with their goals and objectives.	As Needed	*Responsible* • Business Owners • Data Owners • Technology Owners *Accountable* • Executive Governance Body	• MES Investment Toolkit Appendix A - Defining Outcomes
1d	Define measures	Review the desired outcomes and define measures that will help quantify the desired outcome. Each measure used to support the desired outcome will help indicate if that desired outcome was reached. Once measures have been defined, a detailed investment measure specification should be documented to define the business case for the measure, the data needed to calculate the measure, and the logic for calculating the measure. The measure and investment measure specification are reusable and should be stored centrally and available for other stakeholders across the enterprise. If available, consult with other SMAs to identify common measures that can be leveraged. Where applicable an SMA should document baselines for defined measures to prepare for thorough documentation and measurement for improvement. The definition of Measures, Metrics and Performance Standards can be found in Appendix B.	As Needed	*Responsible* • Data Analysts *Accountable* • Business Owners • Data Owners • Technology Owners	• MES Investment Toolkit Appendix B - Measures, Metrics and Performance Standards • MES Investment Toolkit Appendix D Investment Measure Specification Template

#	Activity	Description	Frequency	Staffing	Reference
1e.	Develop/ Update the enterprise reference models	Define the enterprise architecture that describes the processes, data and technology that comprise an SMA and the relationships between them. This should include development and maintenance of a current architecture as well as a target reference model that will guide future investments/modules. The enterprise architecture should result in a set of business, data, and technical architecture requirements for future investments/modules to meet enterprise goals and objectives. These should be used as a tool for identifying reuse and leveraging opportunities as well as performing enterprise impact analysis.	Annually or As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Business Owners • Data Owners • Technology Owners	*Business* • MITA 3.0 Part I Chapter 4 Business Process Model *Information* • MITA 3.0 Part II Chapter 3 Conceptual Data Model • MITA 3.0 Part II Chapter 4 Logical Data Model • MITA 3.0 Part II Chapter 5 Data Standards *Technical* • MITA 3.0 Part III Chapter 3 Business Services • MITA 3.0 Part III Chapter 4 Technical Services • MITA 3.0 Part III Chapter 5 Application Architecture • MITA 3.0 Part III Chapter 6 Technology Standards
1f.	Document the enterprise	Define the enterprise business, data, and technical management approach to help support the goals and	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team	• MITA 3.0 Part I Appendix A Concept of

#	Activity	Description	Frequency	Staffing	Reference
	management approach	objectives and their related outcomes and measures. The strategies should identify: • Overarching business needs and the strategy for applicable business areas • High-level data needs to support the business and the enterprise approach for managing the data • High-level technology opportunities to address business and data needs and strategies to improve SMA's services		*Accountable* • Executive Governance Body	Operations Details • MITA 3.0 Part II Chapter 2 Data Management Strategy • MITA 3.0 Part III Chapter 2 Technical Management Strategy
1g.	Develop/ Update roadmap	Develop an enterprise investment roadmap that identifies planned investments. Each planned investment should align to one or more desired outcomes that the investment will help an SMA reach. The roadmap should represent medium (3-5 years) and long-term (5+ years) planning goals. It should include all planned major projects or modernization efforts.	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive Governance Body	• Gap
1h.	Identify approach for making investment decisions	Establish guiding principles that will help stakeholders within and outside an SMA make investment decisions that align to the enterprise desired outcomes. This should include defining an approach for ensuring that stakeholders/users are engaged in the investment opportunity planning and design.	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive Governance Body	• Gap
1i.	Develop Investment Approval Checklist	Develop an investment checklist that includes a standard "core" set of requirements or items which would need to be met, prior to an investment opportunity being approved. This checklist would be used by business owners as they research business problems and develop investment proposals.	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive Governance Body	• Gap
1j.	Review and promote the Investment Strategy	Gather the information that results from completing the activities discussed above and ensure that all key stakeholders have access to the information and know how	Annually	All	• Gap

#	Activity	Description	Frequency	Staffing	Reference
		to use it to guide investment decisions and for understanding where an SMA is going.			

2.4 Business Cases

The MES Investment Strategy developed in this Part I can be used by SMAs to support other day-to-day activities that an SMA performs. A sample of these business cases include the following:

- Defining Priorities – An SMA, with competing priorities, needs to determine how to proceed. An SMA can use their MES Investment Strategy document to help make decisions on sequencing and prioritization.
- Updating APDs – An SMA that needs to do an APD update can reuse and leverage the work from their MES Investment Strategy document to reduce level of effort required to create the update.
- Making Investment Decisions –   An SMA that needs to identify an investment opportunity and make an investment decision can use their MES Investment Strategy to assist in making investment decisions and ensure investments and outcomes are aligned with their overall strategy, goals, and objectives.
- Proposal Selection – An SMA that wants proposals for solutions that will fit their goals, objectives, and strategy can reuse information from their MES Investment Strategy document to help vendors understand a state's enterprise goals, objectives and strategy.
- Staff Onboarding – An SMA that is onboarding a new staff member who needs to understand the State's plan and strategy for Medicaid Enterprise investments can use their MES Investment Strategy document to efficiently communicate with stakeholders and bring them up to speed.
- State Officer Onboarding – A new State Officer with CMS, who needs to gain general knowledge on a state's plan and strategy for Medicaid investments, can use the State's MES Investment Strategy document to quickly understand the strategy for Medicaid investments, eliminating the need to navigate a large or complex set of documents.
- Legislature Reporting – An SMA that needs to report to their legislature and/or their Agency or Department leadership can reuse information from their MES Investment Strategy document for reporting needs within their state.
- Collaboration Opportunity Identification – An SMA is working on its Enterprise planning and strategy and wants to know what other states are doing. SMAs and CMS can easily compare Investment Strategies across states that use the toolkit and artifact component templates.

2.5 Part I Provider Enrollment Outcome Example

Figure 2 provides an example of Enterprise high-level outcomes and measures defined for an SMA to support the enrollment of providers. It illustrates the relationships between the primary elements described in the MES Investment Strategy including:

- Goal and Objective – The goals and objectives for the enterprise identify something that an SMA would like to achieve. To understand if that goal/objective has been reached, a clear outcome is needed that describes what it means to successfully reach that goal/objective. An example of an enterprise objective is "Ensure efficient, effective and economical management of the Medicaid program"
- Outcome – The outcome describes what it means to successfully reach a goal/objective. It describes success in business-user language that is easy for the average stakeholder to understand. It provides the bases for quantifiable measures to be defined that align to the outcome. An example of an enterprise outcome that aligns to the goal/objective of "Ensure efficient, effective and economical management of the Medicaid program" is "Core operational processes are performed efficiently"
- Investment Measure – The investment measure identifies a unit of measure that is used to determine if an outcome has been achieved. One of the core operational processes is to Enroll Providers timely. To determine if providers are enrolled timely, you need to measure how much time it takes to enroll a

provider. An example measure that aligns to this outcome is "Provider Enrollment Processing Time". The measure calculates the average amount of time that it takes to enroll a provider in each reporting period.

- Roadmap – The roadmap defines opportunities for further exploration and projects that are planned to help support the enterprise over the next 3-5 years. To address providers not being enrolled timely an SMA could explore opportunities for Provider Enrollment efficiencies. Specific modules, projects or components planned would be added to the roadmap when an SMA reached Part II MES Investment Opportunity & Performance Standard Identification.

Figure 2 - Part I Provider Enrollment Outcome Example

Enterprise Investment Strategy	Enterprise Objective	Enterprise Outcome	Enterprise Measure	Enterprise Roadmap
	Ensure efficient, effective and economical management of the Medicaid Program	Core operational processes are performed efficiently.	Provider Enrollment Processing Time *(Total Time to Enroll Providers / Total number of providers enrolled)*	Provider Enrollment
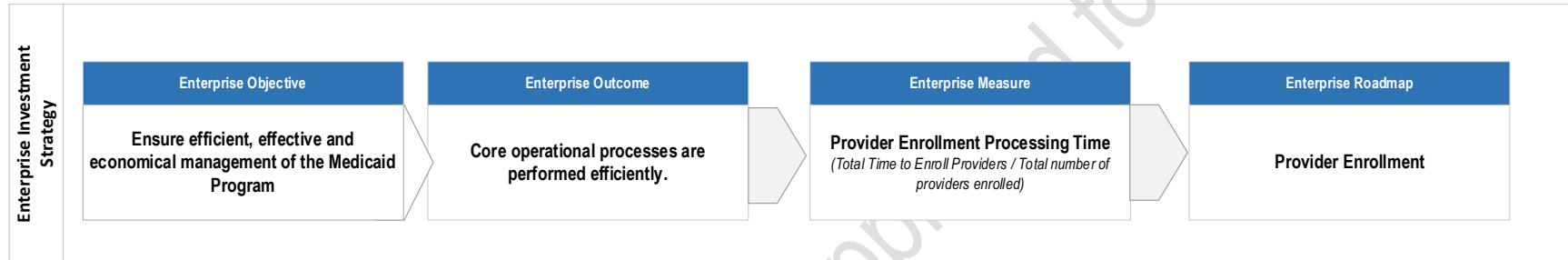
3 Part II: MES Investment Opportunity & Performance Standard Identification

The following section defines a high-level approach for transforming business problems into investment opportunities that align to the enterprise investment strategy and desired outcomes. A well-defined business problem helps stakeholders understand the business issue and can be used to identify opportunities for leveraging solutions across and within SMAs. It helps identify the best solution for resolving those business problems and turning the possible solution into a project, module, or component investment opportunity for an SMAs consideration. Only those investment opportunities that align to an SMA goals and objectives and bring the greatest value should be considered for approval.

Business Problems

Business problems are issues or challenges that prevent an SMA from executing their strategy and achieving their stated goals and objectives. Business problems can arise at any time and do not always align to a pre-defined roadmap. While some SMAs may know exactly what business problem needs to be solved and can address them in the roadmap, other SMAs may only have an idea that a problem exists or may not yet even realize that there is a problem. Once a business problem arises it is important to thoroughly define the business problem so a solution to resolving the problem can be identified. To avoid future delays, unnecessary work, and change requests, it is important that SMAs avoid trying to solve a business problem before a clear definition for the problem has been established. Once a clear business problem has been defined, an SMA can then use that information to identify where this business problem fits in the enterprise, including the business processes that the problem is associated with. The business processes will help identify leverage opportunities both within and outside of an SMA. If there is an existing or planned technical solution in the roadmap that may help to solve the business problem, it can be leveraged to solve this business problem. The following list provides examples of questions that a clearly defined business problem should address:

- What is the root cause of the business problem trying to be solved?
- What data is available and has been analyzed to document that the business problem exists?
- What enterprise goals/objectives/outcomes are impacted by this business problem?
- What are the gaps/deficiencies in our current MES to solving this business problem?
- Who else does the business problem impact?
- Are there any social factors impacting the business problem?
- What is the impact of the business problem on the user experience?
- Are there any existing processes/systems/planned projects for the MES or with any of our partners that can be leveraged?
- What are the alternative solutions that were considered to solve the business problem?
- What are the leverage opportunities that exist both within and outside of an SMA?
- What processes will the investment opportunity support?
- Who are the stakeholders impacted by the investment opportunity?
- How will the investment opportunity fit into the MES?
- How will the investment opportunity be funded?
- What are the desired outcomes that the investment opportunity will support?
- What are the performance standards that will be calculated to indicate that the desired outcome has been reached?

- What are the requirements associated with the investment opportunity?
- What are the service level agreements associated with the investment opportunity?

3.1 Scope

The scope of Part II focuses on supporting SMAs during the planning and initiation phase of a technical solution for a project, module, or component. The activities identified in Part II focus on defining business problems and investment opportunities and establishing performance standards for evaluating the performance of the investment. The activities result in a thorough and well-defined investment proposal that has been approved by an SMA and an associated Advanced Planning Document (APD) that is ready for CMS to review and approve.

3.2 Artifacts Developed

The MES Investment Opportunity & Performance Standard Identification process produces the following artifacts:

- *Investment Proposal* – A high-level document that describes the business problem and investment opportunity. It is used to communicate the investment opportunity to stakeholders and seek their approval to move to the next phase and secure funding. The document will provide sufficient information that shows that the business problem was thoroughly investigated, other investment opportunities considered, and the investment opportunity was mapped back to the MES Investment Strategy document. The information from this can be leveraged and included in the APD document. Please refer to Appendix C for the Investment Proposal Checklist Template.
- *Advanced Planning Document(s) / Request for Funding* – The business problem and investment opportunity should be thoroughly documented to support requests for funding or investment approval decisions. Each SMA should review their state and agency specific information needed to make investment approval decisions and incorporate that into the business problem/investment proposal templates and checklist. This helps ensure that all the needed information is gathered once to satisfy all applicable reporting agencies. All outcomes and performance standards that will be used to assess the performance of the investment opportunity should be included in these document(s).
- *Service Level Agreements* – Service Level Agreements that define measure reporting requirements and expectations should be documented and included in any procurement/contracts for organizations that will be responsible for developing/implementing the solution. This helps to ensure that all required data needed to calculate the measure and determine if outcomes have been met will be collected and ready for reporting.
- *Performance Standard Specification* **–** Performance Standard specification documentation should be established that defines the business use of the measure along with a defined formula or criteria for calculating the measure. This helps ensure that the measure is calculated consistently, serves as a reusable asset for the enterprise, clearly defined for all users of the measure. The definition of Measures, Metrics and Performance Standards can be found in Appendix B Measures, Metrics and Performance Standards. Please refer to Appendix D for the Measure Specification Template.

3.3 Primary Activities

Table 2 - Investment Opportunities & Performance Standards Activities identities the high-level activities that should be performed by an SMA to establish and to identify investment opportunities (project, module, or component) and performance standards.

Table 2 - Investment Opportunities & Performance Standards Activities

#	Activity	Description	Frequency	Staffing	Reference
2a.	Define the business problem	Identify the suspected business problem and conduct an in-depth root cause analysis to thoroughly define the business problem and identify potential solutions.	As Needed	*Responsible/ Accountable* • Business Owner	• Gap
2b.	Identify how the business problem fits within the MES	Use enterprise reference models to describe how the business problem impacts the enterprise. The business problem should be aligned with the enterprise's business, data, and technical reference models to identify, all business processes that are impacted by the business problem. This will help identify users impacts, reuse opportunities and enterprise requirements that must be met by a possible solution.	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Business Owners • Data Owners • Technology Owners	*Business* • MITA 3.0 Part I Chapter 4 Business Process Model *Information* • MITA 3.0 Part II Chapter 3 Conceptual Data Model • MITA 3.0 Part II Chapter 4 Logical Data Model • MITA 3.0 Part II Chapter 5 Data Standards *Technical* • MITA 3.0 Part III Chapter 3 Business Services • MITA 3.0 Part III Chapter 4 Technical Services • MITA 3.0 Part III Chapter 5 Application Architecture • MITA 3.0 Part III Chapter 6 Technology Standards
2c.	Identify leverage and reuse opportunities	Review the existing technical solutions and identify if there is a solution that can be leveraged to solve the business problem. If yes, leverage the existing solution. If not, review the roadmap and identify if there are planned	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable*	• Gap

#	Activity	Description	Frequency	Staffing	Reference
		solutions or investment opportunities that have been defined that may solve the business problem. If so, leverage the existing investment opportunity.		• Business Owners	
2d.	Identify collaboration opportunities	Use the reference models to identify other business areas or partners that may also be impacted by the business problem. Form a workgroup/partnership to ensure that they can contribute to the root cause analysis and identification of the investment opportunity.	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Business Owners	• Gap
2e.	Establish Investment Opportunity	Use the root-cause analysis to identify a solution to the business problem. If the solution will require an investment into the MES, begin the development of the investment proposal.	As Needed	*Responsible/ Accountable* • Business Owner	• Gap
2f.	Identify outcomes & measures	Identify the impacted enterprise goals, objectives, outcomes, and measures for the investment opportunity. If there are new outcomes that should be met by the investment opportunity, define new outcomes and measures that support those outcomes and align them to enterprise goals and objectives. If identifying new measures that are specific to the investment, define measure specification documents for each.	As Needed	*Responsible/ Accountable* • Business Owner	• MES Investment Toolkit Appendix A – Defining Outcomes
2g.	Identify the current performance	Use measure specifications in the Measure Specification Template to determine the current performance levels. Please refer to Appendix B Measures, Metrics and Performance Standard and Appendix D Measure Specification Template. The current measures will be used assess how the implementation of the investment opportunity improves performance. In many instances, the data needed to calculate the current measure may not be available.	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Business Owners	• Gap

#	Activity	Description	Frequency	Staffing	Reference
2h.	Develop performance standards & deficiency approach	Use the Measure Specification Template document (Appendix D) and defined outcomes to identify performance standards. This should include defining an approach for evaluating the actual measures against the performance standard and the identification of deficiencies. This will define the boundaries of acceptable deviation from the performance standard and the triggers for a measure deficiency to be reported in the Measure Performance Remediation Report discussed in Part III and in Appendix G Measure Performance Remediation Report Template.	As Needed	*Responsible/ Accountable* • Business Owner	• Gap
2i.	Complete and submit Investment Proposal	Use the information collected to develop an Investment Proposal and submit it to an SMA for approval.	As Needed	*Responsible/ Accountable* • Business Owner	• MES Investment Toolkit Appendix C – Investment Proposal Checklist Template
2j.	Assess Investment Proposal	Use the Investment Approval Criteria to assess the investment proposal. Please refer to Appendix C Investment Proposal Checklist Template. This includes reviewing the checklist item and identifying if the investment proposal meets the desired criteria. Based on this assessment, a decision must be made on whether to move the investment opportunity to the next phase and request state or federal funding, if applicable. Once funding decision is made, timing for the investment should be determined, the roadmap updated, and a project plan created.	As Needed	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executives Governance Body	• Gap
2k.	Define Service Level Agreements	Use the Measure Specification Template document (Appendix D) to identify the data needs to calculate the measure and define service level agreements that ensure that the data needed will be collected and reported in a timely manner.	As Needed	*Responsible* • Business Owner	• Gap

#	Activity	Description	Frequency	Staffing	Reference
2I.	Prepare and submit the APD	Use the Investment Proposal, including performance standards and outcomes, to develop and submit the APD to request enhanced federal funding. This information should also be reused to support any agency/state-specific investment approval and funding requests.	As Needed	*Responsible* • Business Owner *Accountable* • Executives Governance Body	• Gap

3.4 Business Cases

The Investment Proposal developed in this Part II can be used by SMAs to support other day-to-day activities that an SMA performs. A sample of these business cases include the following:

- Solving a Business Problem – An SMA has identified a business problem and is unsure where to begin defining an enhancement/change/upgrade/replacement. An SMA can use this Investment Opportunities & Performance Standards process to identify and document a business problem to make an investment decision.
- Leadership Updates – Periodic update for Executive Leadership on the health of a State's overall performance activity for a specific year or timeframe and to inform the Leadership of a possible business problem or new investment opportunity early in the process. An SMA can use artifacts produced by the Investment Opportunities & Performance Standards process to prepare annual updates, periodic health checks when considering a new investment or writing a new investment proposal.
- Completing/Updating the APD – An SMA completes and submits an APD update to request a large enhancement or module replacement but must perform its due diligence using a reliable tool to determine the true need. An SMA first creates an Investment Proposal to document their needs. It then uses the Investment Proposal to outline the plan for the enhancement/ replacement. An SMA can then use the Investment Proposal information to assist in drafting the APD update.
- Developing an RFP – An SMA creates an RFP for a project, module, or component update or replacement once the need is determined. An SMA can use the Investment Proposal to determine the appropriate requirements to be added to the RFP which will ensure CMS requirements are met and approval granted.

3.5 Part II Provider Screening Performance Standard Example

 Figure 3 describes how a business problem can be identified and translated into an investment opportunity with performance standards that align to the MES. The figure includes the following:

- Business Problem – Defines a problem that is preventing an SMA from achieving a goal, objective, or outcome. The Part I enterprise example identifies a problem with "Provider Enrollment" taking a long time, providers are not enrolled timely and an SMA is receiving complaints from providers. An SMA investigates the problem and reviews the amount of time that it takes to enroll a provider. After investigation, an SMA realizes that the longest portion is associated with provider screening. Provider screening is being done manually and adds unnecessary time to the enrollment process. An SMA realizes that it is a common problem and another SMA in their region also had similar issues with provider screening.
- Business Outcome – Defines the specific outcome that the investment opportunity will seek to meet. The Part I enterprise example identifies "one of the core operational processes is to Enroll Providers timely" which aligns to an enterprise defined outcome that "Core operational processes are performed efficiently". The investment will only focus on provider screening since that is the identified business problem and the outcome will also only focus on improving provider screening process.
- Performance standard – Defines the performance standard that will be used to assess if the investment is improving performance. This example identifies a performance standard that the "Provider Screening Processing Time takes less than 20 minutes". The target time for provider screening time is 20 minutes or lower. Once the solution has been implemented, the time it takes to screen will be calculated and it should take less than 20 minutes.
- Procurement – Defines the investment opportunity that will help solve the business problem. The example identifies "Provider Screening Automation" as the investment opportunity. This will include the identification of alternatives considered such as procure a SaaS vendor solution to meet the provider screening automation requirements or use an existing technology to build out an automated screening process in house as well as

collaboration considerations with other SMAs in their region that have similar problems with provider screening.

Figure 3 – Part II Provider Screening Performance Standard Example
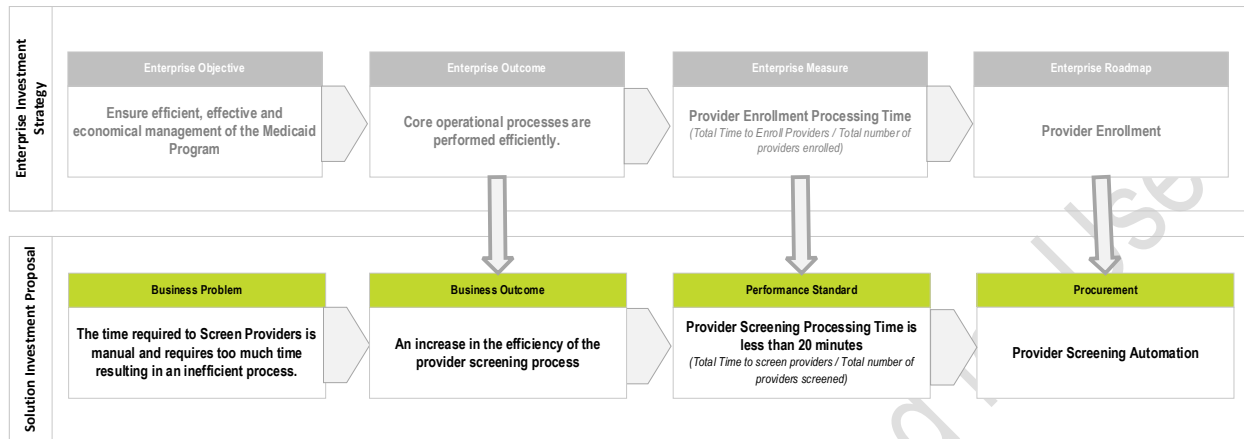
4 Part III: MES Investment Performance Monitoring & Reporting

The following section provides a high-level approach for monitoring and reporting on the performance of investment opportunities and the larger enterprise investment strategy. The activities defined in this section use the Part II MES Investment Opportunity and Performance Standards Identification process along with data provided from individuals providing MES solutions to determine if outcomes are being met. It also includes the validation that the solution architecture provided by the MES solution, aligns to the enterprise reference model to ensure alignment and interoperability across the MES.

4.1 Scope

The scope of Part III of the toolkit focuses on supporting SMAs during the design, development, implementation, maintenance, and operations phases for a technical solution project, module, or component. The scope of the activities defined in this section support:

- Validating Investment Design – Comparing the solution architecture design documents and the enterprise reference models to ensure that the two models are aligned and identifying any gaps in alignment. Enterprise architecture requirements should be included in procurement documentation that describe the expectations. This validation helps ensure that the conceptual solution architecture will integrate into the MES as expected. Any gaps or issues with alignment should be identified early and remediation plans developed prior to moving into the next phase. This review can also be performed in iterations to support agile projects.
- Validating Investment Integration – Comparing the actual solution architecture to the enterprise reference models to ensure that the actual solution is aligned to the enterprise architecture and that the system was able to integrate into the MES as expected. Any gaps or issues with alignment should be identified early and remediation plans developed. This review can also be performed in iterations to support agile projects.
- Calculating Measures – Collecting the data needed to calculate the measures defined for investments and the enterprise. Once the data is collected, measures should be calculated, and reports and dashboards generated and submitted to the appropriate stakeholders. Any gaps between the performance standards and expected measures should be identified and a remediation plan developed. These reports can be used for a variety of different purposes including MES Certification. The reporting should be developed in a manner that allows for reporting the measures at various levels of the organization including enterprise, business area, business process or investment/module.

4.2 Artifacts Developed

The MES Investment Performance Monitoring & Reporting process produces the following artifacts:

- *Architecture Assurance Report* – Identifies how solutions within the MES are aligning to the enterprise reference models. This is based on defined criteria that are not associated with measures and include the results of the solution design and integration validations.
- *Performance Report – Compares* performance standards against actual performance measures using actual data to identify if the associated outcomes, goals, and objectives have been reached. Please refer to Appendix E for the Performance Report Template.
- Enterprise *Performance Report –Compares* performance standards against actual performance measures using actual data to identify if the associated outcomes, goals, and objectives have been reached. This Enterprise Performance Report will include several investments from across the enterprise and helps see how the enterprise is performing towards meeting the desired enterprise goals/objectives. Please refer to Appendix F for the Enterprise Performance Report Template.

- *Measure Performance Remediation Report* – A report developed when an outcome has not been achieved. It documents the plan for improving the actual measure or modifying the performance standard to ensure that the desired outcome is reached. Please refer to Appendix G for the Measure Performance Remediation Report Template.

4.3 Primary Activities

Table 3 identities the high-level activities that should be performed by an SMA to monitor and report MES and investment performance.

Table 3 – Investment Performance Monitoring & Reporting Activities

#	Activity	Description	Frequency	Staffing	Reference
3a.	Validate solution design	Once the solution architecture and design has been proposed, it needs to be reviewed and validated that it aligns to the Enterprise Reference Model. This validation helps ensure that the solution will meet the desired outcomes for the enterprise and seamlessly integrate with other solutions within the MES. The results of this activity will be documented in the Architecture Assurance Report. The report should be published and made available to all key stakeholders including CMS. Any differences between the actual solution architecture and the enterprise reference models should be identified and assessed. If it requires significant work to resolve, it should be identified as a deficiency and a Measure Performance Remediation Report developed.	*Waterfall* • One-Time *Agile* • Each Design related Sprint	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive • Governance Body	*Business* • MITA 3.0 Part I Chapter 4 Business Process Model *Information* • MITA 3.0 Part II Chapter 3 Conceptual Data Model • MITA 3.0 Part II Chapter 4 Logical Data Model • MITA 3.0 Part II Chapter 5 Data Standards *Technical* • MITA 3.0 Part III Chapter 3 Business Services • MITA 3.0 Part III Chapter 4 Technical Services • MITA 3.0 Part III Chapter 5 Application Architecture • MITA 3.0 Part III Chapter 6 Technology Standards

#	Activity	Description	Frequency	Staffing	Reference
					• MES Investment Toolkit Appendix A – Measure **Error! Not a valid result for table.**
3b.	Validate solution integration	Once the solution has been implemented and integrated into the MES, it needs to be reviewed and validated that it is meeting all business, data, and technical integration expectations. This shall include the collection and storage of all architecture and design models and metadata into the enterprise metadata repository. The results of this activity will be documented in the Architecture Assurance Report. The report should be published and made available to all key stakeholders including CMS. Any differences between the actual solution architecture and the enterprise reference models should be identified and assessed. If it requires significant work to resolve, it should be identified as a deficiency and a Measure Performance Remediation Report developed.	*Waterfall* • One-Time *Agile* • Each Integration related Sprint	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive • Governance Body	*Business* • MITA 3.0 Part I Chapter 4 Business Process Model *Information* • MITA 3.0 Part II Chapter 3 Conceptual Data Model • MITA 3.0 Part II Chapter 4 Logical Data Model • MITA 3.0 Part II Chapter 5 Data Standards *Technical* • MITA 3.0 Part III Chapter 3 Business Services • MITA 3.0 Part III Chapter 4 Technical Services • MITA 3.0 Part III Chapter 5 Application Architecture • MITA 3.0 Part III Chapter 6 Technology Standards • MES Investment Toolkit Appendix A – Measure **Error! Not a valid result for table.**

#	Activity	Description	Frequency	Staffing	Reference
3c.	Collect measure data	Once the solution has been implemented and is in maintenance and operations, Collect the data from all applicable data sources and store it in a central data store that will enable easy and fast calculation of measures.	Monthly or As Needed *(After Go-Live)*	*Responsible* • Data Administrator or SMA Enterprise Architects / MITA Team *Accountable* • Business Owners	Gap
3d.	Calculate measures	Using the data collected for the measures and the measure specifications to calculate the measure.	Monthly or As Needed *(After Go-Live)*	*Responsible* • Data Analysts or SMA Enterprise Architects / MITA Team *Accountable* • Business Owners	Gap
3e.	Develop data visualizations	Use the calculated measures to develop graphics and visualizations. The data visualizations selected should be appropriate for the type of data they represent.	Monthly or As Needed *(After Go-Live)*	*Responsible* • Data Analysts or SMA Enterprise Architects / MITA Team *Accountable* • Business Owners	• Gap
3f.	Develop and publish Performance Report	Develop a performance report that describes the performance of a single investment and publish to a central location. The reports should include relevant data visualizations that show how the investment has performed for that measure for the last (6) reporting periods. The Performance Reports should be published and made available to all key stakeholders including CMS.	Monthly (After Go-Live)	*Responsible* • Business Owner / SMA Enterprise Architects / MITA Team *Accountable* • Executive Governance Body	• MES Investment Toolkit Appendix E – Performance Report Template
3f.	Identify performance deficiencies	Compare the actual calculated measures against the established performance standards and identify if the actual calculated measure meets performance standards. If not, identify the gap as a performance deficiency and assess the cause of the deficiency. The	As Needed	*Responsible* • Data Analysts or SMA Enterprise Architects / MITA Team *Accountable* • Business Owners	Gap

#	Activity	Description	Frequency	Staffing	Reference
		assessment should use the performance deficiency approach defined in Part II.			
3g.	Develop and publish Measure Performance Remediation Report	Once the deficiency has been assessed, develop a Measure Performance Remediation Report that describes the deficiency along with the cause and action plan for resolving. The Performance Remediation Report should be published to a central location.	As Needed	*Responsible* • Business Owner SMA Enterprise Architects / MITA Team *Accountable* • Executive Governance Body	• MES Investment Toolkit Appendix A – Measure **Error! Not a valid result for table.**
3h.	Develop and publish Enterprise Performance Report	Use the enterprise outcomes and measures to develop a roll-up performance report that describes the performance of the enterprise. This performance report will include several investments from across the enterprise and helps see how the enterprise is performing towards meeting the desired enterprise goals/objectives. The reports should include relevant data visualizations that show how the enterprise has performed for that measure for the last (6) reporting periods. The Enterprise Performance Report should be published and made available to all key stakeholders including CMS.	Quarterly	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive Governance Body	• MES Investment Toolkit Appendix A – Enterprise **Error! Not a valid result for table.**
3i.	Identify opportunities to modify and update the investment strategy	Based on the Enterprise Performance Report, architectural assurance results and identified deficiencies, identify opportunities to modify the investment strategy including goals, objectives, measures, reference models and roadmap.	Quarterly	*Responsible* • SMA Enterprise Architects / MITA Team *Accountable* • Executive Governance Body	• MES Investment Toolkit Appendix A – Enterprise **Error! Not a valid result for table.**
3j.	Submit Outcomes for MES Certification	Outcomes being monitored in the Enterprise Performance Report should be reused and submitted to CMS for MES Certification.	As Needed	*Responsible* • Business Owner *Accountable* *Executives Governance Body*	• MES Investment Toolkit Appendix A – Enterprise **Error! Not a valid result for table.**

4.4 Business Cases

The results of performing the activities defined in Part III can be used by SMAs to support other day-to-day activities that an SMA performs. A sample of these use cases include the following:

- Tracking Performance Improvements/Degradation – Continuous monitoring of measures, metrics and outcomes will allow SMAs to monitor the Enterprise and project, module, and component performance over time.
- Update Leadership on Performance – Periodic updates that are needed for Executive Leadership on the health of a State's overall performance, activity for specific year or timeframe can use the performance and remediation reports to provide concrete quantitative information.
- Sharing Performance Information – Provides the ability for SMAs to standardize the way they share how they are performing with key stakeholders. Including for the purpose of Federal Funding and MES Certification with CMS.

4.5 Part III Provider Screening Performance Reporting Example

The following diagram describes how a business performance measure can be included in the performance reporting and monitoring for the Enterprise. The diagram includes the following:

- Source Data – Once a solution has been implemented and integrated into the MES, it starts to collect and store information that is needed to calculate measures. Requirements and SLAs should describe the required content, timing, and format that the solution owner must submit the source data needed to calculate the desired measure. To calculate Provider Screening Processing Time, the solution owner must collect, track, and submit data regarding the amount of time it takes to screen each provider as well as the total number of providers screened in a pre-defined time-period.
- Provider Screening Processing Time Chart – Identifies a bar chart that can be created based on the submitted source data and the measure specification identified during the investment opportunity and performance standard development. It allows for stakeholders to view the data graphically and easily identify if the performance standard is being met.
- Provider Enrollment Processing Time Chart – Identifies a bar chart that can be created based on the source data and measure specification identified in the investment strategy and desired outcome development. It allows for stakeholders to view the data graphically and easily identify if the performance standard is being met.

Figure 4 – Part III Performance Monitoring & Reporting Example
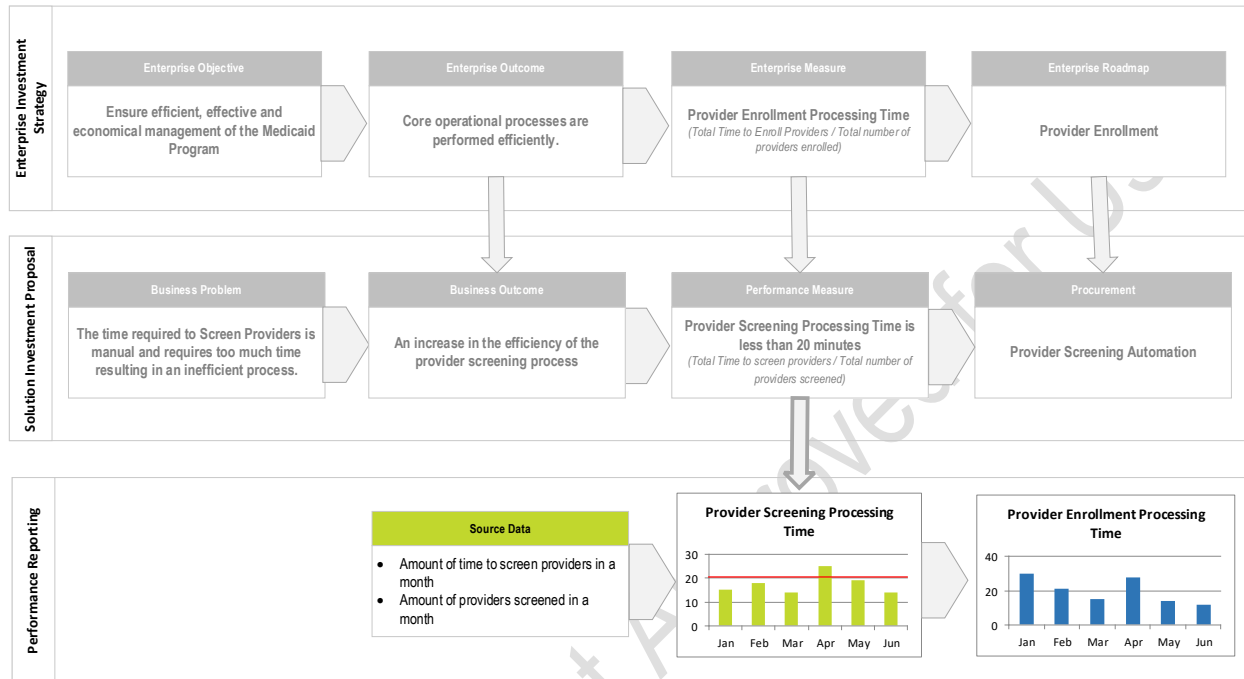
5 Part IV: Recommended Alignment & Modifications to Related Frameworks

The following section identifies recommended modifications to better align the proposed framework to the current related frameworks. CMS is working on revising APDs and developing MES Outcome Based Certification. This framework will be updated when CMS finalizes and publishes their guidance.

5.1 MITA 3.0 Framework

The following section identifies recommendations for better aligning the MITA 3.0 to an outcome focus and the proposed MES Investment Toolkit framework.

5.1.1 Establish Guidance for a Streamlined Investment Strategy

The current MITA 3.0 Framework identifies strategies and documentation to help SMAs identify their approach to managing the business, data, and technology. Although these serve as an important, valuable, and powerful tool for some SMAs, the high-value and usefulness is not universal across all SMAs. Since the goals and objectives that are identified in the strategy documents are a key component to the identification of outcomes, it is important that SMAs have a strategy document that helps establishes those goals and objectives, as well as the desired outcomes and guidelines for making investment decisions.

As a result, new guidelines should be developed that allows SMAs that do not find the strategy documents valuable, to create a streamlined investment strategy document that replaces and/or supplements the other strategic documentation in the MITA 3.0 framework. The guiding principle of the document should be that is concise and provides value to an SMA as well as CMS. It should specify the level-of detail that is required for an Investment Strategy as well as examples. The following table identifies the strategic document from the MITA 3.0 Framework and the content from the document that should be included in the Investment Strategy.

Table 4 - Recommended Investment Strategy Content

MITA 3.0 Strategic Document	Investment Strategy Content
MITA Concept of Operations	• Defines Enterprise goals and objectives • Identifies Enterprise outcomes and performance measures, aligned with the Enterprise goals and objectives • Provides high-level documentation of current systems, planned future capabilities, and transformation plans to modernize business operations • Defines guiding principles for investments • Describes strategies for stakeholder or user engagement • Business Management Strategy - Defines overarching business needs and the strategy for applicable business areas
Data Management Strategy	• High-level data needs to support the business and the enterprise approach for managing the data
Technical Management Strategy	• Defines high-level technology opportunities to address business needs and strategies to improve an SMA's services
Roadmap	• Medium (3-5 years) and long-term (5+ years) planning goals • Major projects or modernization efforts planned

5.1.2 Establish a Business Requirement Checklist to Support Business Problem Analysis

The current MITA framework includes a business reference model that helps identify high-level processes that an SMA performs. This is an excellent tool for helping SMAs classify types of business problems and how they fit into the larger enterprise.

An effort should be initiated to establish a checklist/ granular list of requirements that SMAs can use to evaluate business problems and identify investment opportunities. The checklist would include a standard "core" set of requirements or criteria which would need to be met by an SMA. It should also include the ability for an SMA to add state-specific requirements and criteria in alignment with their business process reference model. The checklist would be used by business owners to select the requirements that have already been met or are partially met. It will allow them to easily identify gaps and link them to business problems.

Example: An SMA is in the middle of their Design, Development, and Implementation (DDI) for the modular MMIS. The SMA realized that their legacy system was not compliant with all provider requirements, thus making the provider module the first to be deployed in the DDI schedule. When an SMA reviews the standard "core" requirements within the assessment, there are a few requirements that an SMA felt were not met or partially met. An SMAs selected the appropriate boxes and went on to explain the identified gap within the assessment. For the partially met requirement, an SMA documented what the desired outcome is for the new provider module and identified a target date of implementation. An SMA also documented that this was an area that was currently in development and no further actions were necessary outside of the DDI. For the requirement that was not met, an SMA did not realize they were non-compliant until they performed the assessment. This assessment helped identify the gap and provided the opportunity for an SMA to initiate a deeper analysis to scope out the necessary work, identify funding, and determine the implementation timing of this deficit, with the help of the templates and processes within the MES Investment Toolkit. Additionally, the further analysis helped an SMA shape the desired outcome, as well as impacts to other areas, such as user experiences, timing of funding requests, certification, etc. The assessment used to determine specific gaps will also assist an SMA in tracking desired outcomes throughout the Enterprise, helping to ensure that projects are not initiated in a silo and any potential impacts (positive or negative) are considered to existing or planned systems or processes.

5.1.3 Transform the MITA Capabilities into Standard CMS Measures

The current MITA framework includes MITA Capabilities for business, information, technical and the seven standards and conditions. Although the maturity ratings are complicated for SMAs to identify and produce inconsistent and unreliable results, the purpose behind the associated capability is still relevant. Many of the capabilities can easily be converted into a measure.

An effort should be initiated to convert the current MITA maturity capabilities into baseline measures. Each measure should be connected to a goal within the MITA framework and should include a standard measure business case and measure specification. This can then be used by SMAs to incorporate into their performance monitoring process and establish standard measures for SMAs to include in their performance monitoring. This will enable the ability to compare performance consistently across SMAs.

Table 5 – Member Eligibility Inquiry Processing Time Measure Example

Item	Description
Desired Outcome	Improve the member experience
Process	Inquire Member Eligibility
MITA Business Capability Quality	Timeliness of Process
MITA Capability Question	How timely is the end-to-end process?

Item	Description
MITA Capability Level	3
MITA Capability Statement	SMA improves timeliness through use of automation. Timeliness always meets legal requirements. SMA completes eligibility inquiries in one (1) business day.
Proposed Measure	Member Eligibility Inquiry Processing Time
Proposed Measure Calculation	Average amount of time it takes to complete the Inquire Member Eligibility process. The process starts once a member eligibility request is received and ends once the member eligibility information or request denial is sent to the requestor. It should be calculated using the total amount of time that it took to complete the process / the number of requests received for a given reporting period.
Proposed Target	1 Business Day

The current MITA framework defines Data Access and Accuracy measures as business capabilities. Assessing data should not be by process, but by a specific subject area of data (i.e., Provider Management). The capabilities defined for data access and accuracy should be incorporated as part of the Information Architecture and should be considered data quality measures.

An effort should be initiated to establish common data quality dimensions (e.g., Completeness, Accuracy, Timeliness, etc.) and definitions. The data quality dimensions should be used to create data quality measures by subject area as defined in the Conceptual Data Model (CDM). Where feasible, they should be aligned to T-MSIS data reporting and rules.

5.1.4 Establish a Central Repository for Investment Opportunities

To enable and encourage reuse by SMAs a repository for investment opportunity artifacts should be established. The repository should include artifacts such as:

- RFPs
- Investment proposals
- Requirements/Requirements Analysis
- Goals/Objectives
- Outcomes
- Measures

5.1.5 Establish guidance on developing a cross-architecture reference model

The current MITA framework provides guidelines for developing business, data and technical reference models that help describe the enterprise architecture. Although these are great tools that help SMAs understand why and how to develop domain specific reference models (e.g., Conceptual Data Model) there is no guidance on creating cross-architectural models that can be used to describe an investment or proposed solution. These types of models can help visually communicate the business, data and technical components that are needed to support an investment and how it fits into the larger MES.

To help improve the understanding of an investment and the overall MES, additional guidance should be developed to:

- Create cross-architectural models that describe the business, data, and technical components in a single model. This can leverage the existing guidance in the MITA framework and other Enterprise Architecture frameworks such as TOGAF.

- Add additional guidance in the existing reference model documentation that describes how the enterprise reference models should be used to align to solution specific architectural reference models and deliverables (e.g., Database Design Document)

5.2 MES Certification

The following section identifies recommendations for better aligning the MES Certification process to the proposed MES Investment Toolkit framework. CMS is working on developing MES Outcome Based Certification. This framework will be updated when CMS finalizes and publishes their guidance.

5.2.1 Classify the Proposed MES Outcomes

The proposed set of outcomes that are being used for MES certification are a mix of outcomes that can be calculated using a measure and those that are used to ensure that the architecture of a solution meets expectations. Both are powerful tools that help indicate performance, but only one set needs a defined measure and can be calculated. Making the distinction will help provide clarity to SMAs on expectations and what it means to define outcomes that help indicate value has been added to an SMA from outcomes that help ensure that a solution is meeting architectural requirements. See *Appendix A - Defining Outcomes* for additional information on recommended outcome types.

5.2.2 Align the Proposed MES Outcomes to MITA/CMS Goals and Objectives

The MITA framework identifies high-level goals and objectives that should be considered when modernizing an MES. Each of the Proposed MES Outcomes should be aligned to overarching CMS goals and objectives. This will help SMAs understand the big picture and how each outcome contributes to CMS goals and objectives. It also provides a powerful example that SMAs can mimic to identify state-specific outcomes that align to their state goals and objectives.

5.2.3 Align the required MES Certification Reporting w/ MES Investment Toolkit

As the MES Certification framework is updating, the required reporting should align to the MES Investment Toolkit. The mandatory reporting of outcomes should map to the mandatory performance reporting described in the MES Investment toolkit. This helps ensure that all information needed to support certification is available when needed and there is not a duplication of effort.

5.3 Transformed Medicaid Statistical Information System (T-MSIS)

5.3.1 Aligning T-MSIS Business Rules to MES Data Quality Outcomes and Measures

SMAs data quality is independently assessed monthly as part of their T-MSIS file submission. The results of these data quality assessments help indicate the overall quality of their data and helps to identify data issues/business problems that need to be assessed and resolved. The business rules used to perform the T-MSIS data quality should be translated into business-friendly data quality outcomes and measures and performance tracked like other outcomes and measures for the enterprise and individual investments. The T-MSIS Data Quality outcomes and measures should be assessed and tracked by an SMA as well as CMS. Additional state-specific data quality outcomes and measures should also be assessed, tracked, and connected to individual investment opportunities. The T-MSIS data quality measures should be categorized using a standard set of data quality dimensions that can be leveraged by SMAs that may include dimensions such as:

- Data Accuracy – Degree that data correctly represents "real-life" entities
- Data Completeness – Degree that all required data is present
- Data Consistency – Degree that data values are consistently within and between data sets
- Data Integrity – Degree that data has referential integrity
- Data Uniqueness – Degree that data is unique, and no entity exists more than once within a data set
- Data Validity – Degree that data values are consistent with a defined domain of values

6 Closing

We thank CMS and the MITA Governance Board for the opportunity to collaborate and innovate a better, more user-focused way to plan for MES modernizations, make investment decisions and be accountable for those decisions. If adopted, we believe SMAs, and the private sector will benefit in a myriad of ways and CMS will be equipped with the right information from which to approve and certify investments.

Working Group Members
Julie Cato, State of New Jersey
Kaitlin Epstein, State of Vermont
Avery Flowers, State of Georgia
Patti Garofalo, NTT Data
Sean Kasten, CSG Government Solutions
Emily McCoy, Berry Dunn
Christine Nolan, Washington State
Alan Shugart, General Dynamics Information Technology

Co-Chairs
Dwayne Carter, BLU Strategies
Austin Wagenknecht, InterVision Systems
MITA Governance Board Liaison
Renea Steele, Cambria Solutions
PSTG Sponsors
Carrie Moore, Magellan Health
Lorrie Scardino, Blue Tack Consulting
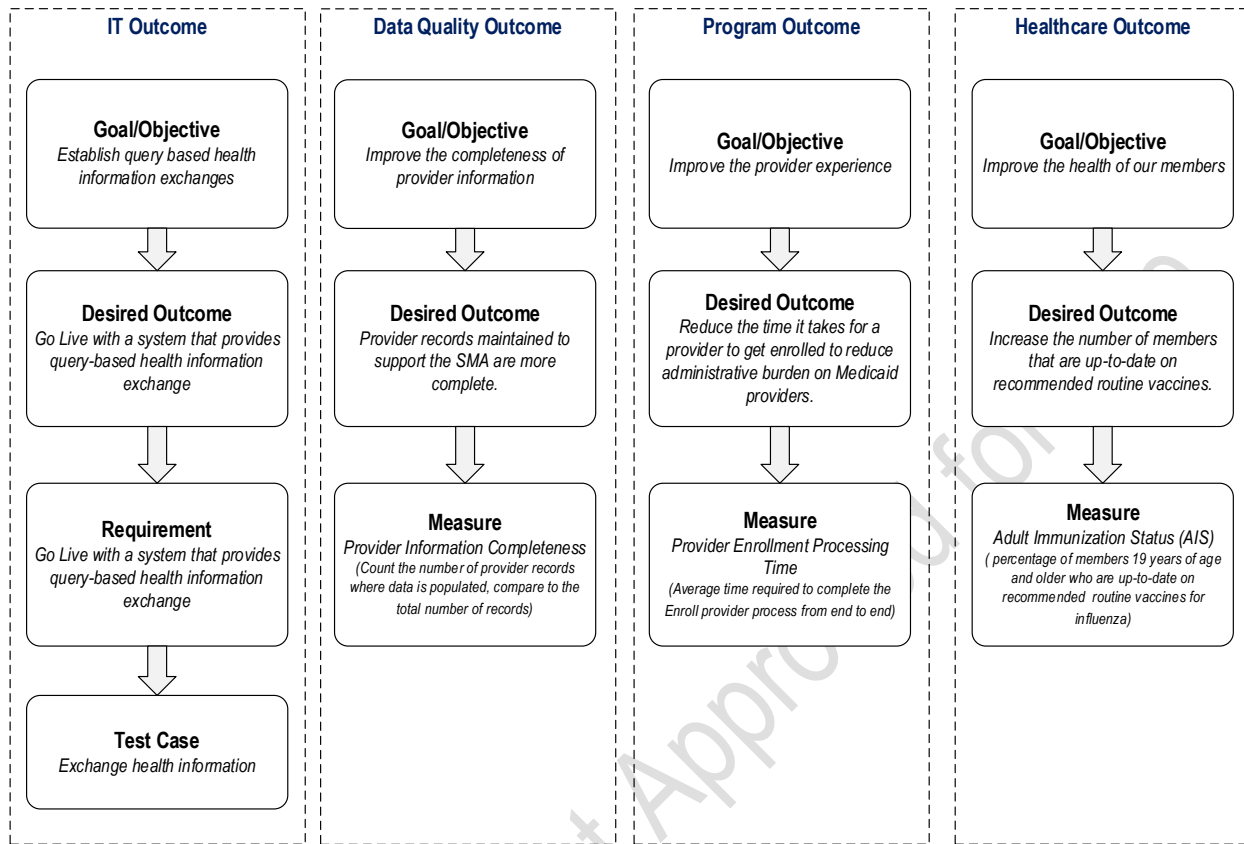
Appendix A Defining Outcomes

Outcomes represent the final product or result from taking some action. Outcomes defined to support an SMA should describe a discrete and measurable improvement to an SMA operations based on an investment that was made into the MES. Each outcome should align to a goal/objective that has been established for an SMA as well as a measure that can be used to indicate if the outcome has been achieved. Outcomes should be utilized to support the entire Enterprise and their use is not limited for the purpose of MES Certification or APD Submission(s).

Outcome Types

The performance of an SMA can be assessed based on their ability to achieve their goals/objectives and reach their desired outcomes. Assessing the performance is dependent on the type of outcome which may include one of the following types:

- IT Outcomes – Represents outcomes that identify the successful alignment of an IT solutions architecture to the MES architecture. These outcomes help describe how the IT solution has met base architectural requirements and was designed in a manner that allow it to easily integrate into the MES. IT outcomes are those that cannot be measured, they are either met or not met. Therefore, IT outcomes are connected to requirements and not a measure. Assessing architectural outcomes requires the review of test case results and solution documentation. Example: Go live with a system that provides query-based health information exchange.
- Data Quality Outcomes – Represents outcomes that identify the data needed to support an SMA is fit for use and meets all SMA expectations. Data Quality outcomes are measurable and should align to an SMA data management strategy and their defined approach to data quality. Assessing data quality outcomes requires establishing performance standards, collecting source data, calculating the measure, and assessing if the calculated measure meets the performance standard for that measure. Example: No less than 95% of Provider Records stored in the Provider Data Store are complete.
- Program Outcomes – Represents outcomes that identify the improvement of one or more programs that are administered by an SMA. These outcomes help describe how an SMA is improving the administration of a program. Program outcomes are measurable. Therefore, program outcomes should be associated with a program goal/objective as well as a measure. Assessing program outcomes requires establishing a performance standard, collecting source data, calculating the measure, and assessing if the calculated measure meets the performance standard for that measure. Example: Reduce the time it takes for a provider to get enrolled to reduce administrative burden on Medicaid providers.
- Healthcare Outcomes – Represents outcomes that identify an improvement in the health of the members that are served by an SMA. These outcomes help describe how an SMA is helping to improve the health of their members. Healthcare outcomes are measurable. Therefore, healthcare outcomes should be associated with a healthcare goal/objective as well as a measure. Assessing healthcare outcomes requires establishing a performance standard, collecting source data, calculating the measure, and assessing if the calculated measure meets the performance standard for that measure. The source data for healthcare outcome related measures will be driven by the services and diagnoses that were provided to members. Example: There is a decrease in the HEDIS measures Immunization for Adolescents or Flu Vaccinations.

Figure 5 - Outcome Types

IT Outcome	Data Quality Outcome	Program Outcome	Healthcare Outcome
Goal/Objective *Establish query based health information exchanges*	**Goal/Objective** *Improve the completeness of provider information*	**Goal/Objective** *Improve the provider experience*	**Goal/Objective** *Improve the health of our members*
Desired Outcome *Go Live with a system that provides query-based health information exchange*	**Desired Outcome** *Provider records maintained to support the SMA are more complete.*	**Desired Outcome** *Reduce the time it takes for a provider to get enrolled to reduce administrative burden on Medicaid providers.*	**Desired Outcome** *Increase the number of members that are up-to-date on recommended routine vaccines.*
Requirement *Go Live with a system that provides query-based health information exchange*	**Measure** *Provider Information Completeness* *(Count the number of provider records where data is populated, compare to the total number of records)*	**Measure** *Provider Enrollment Processing Time* *(Average time required to complete the Enroll provider process from end to end)*	**Measure** *Adult Immunization Status (AIS)* *(percentage of members 19 years of age and older who are up-to-date on recommended routine vaccines for influenza)*
Test Case *Exchange health information*			

Outcome Key Relationships

Although outcomes are key in measuring how an SMA is performing, they have key relationships to other important components such as goals/objectives. The following diagram identifies the key relationships that exist between outcomes and other components that are defined and managed by an SMA.

Figure 6 - Outcome Key Relationships
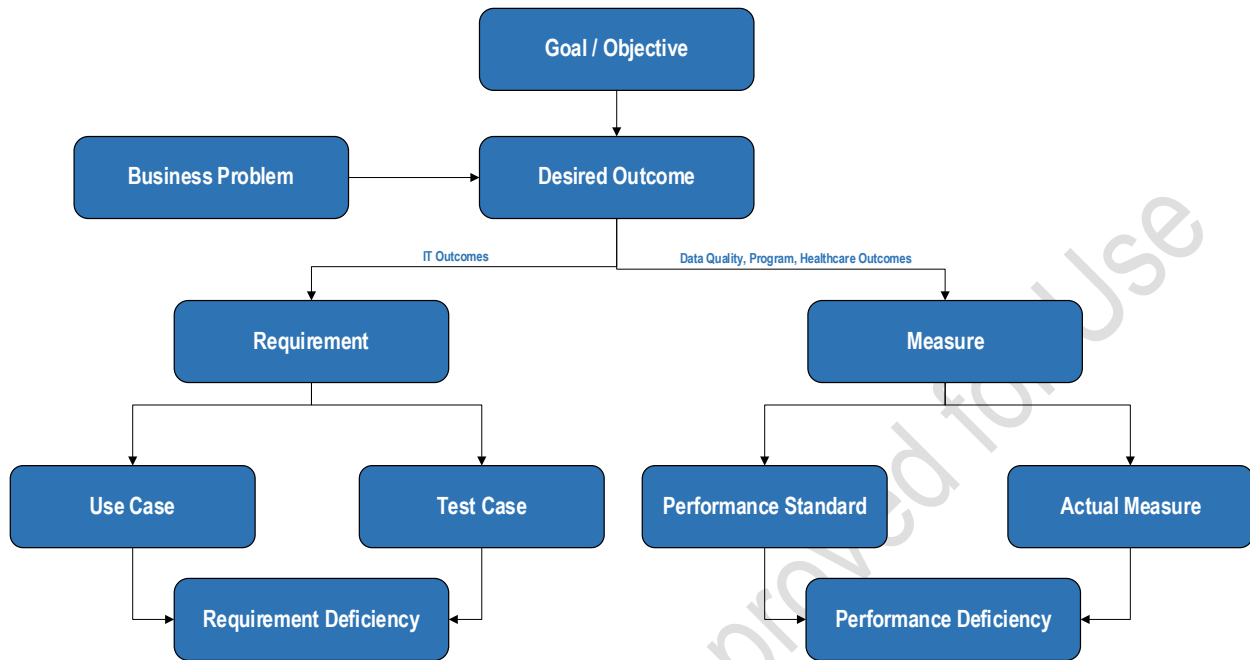
Outcome Development Considerations

The following list identifies items that an SMA should consider when developing outcomes:

- Outcome development should start with the definition of goals/objectives
- Data Quality, Program and Healthcare outcomes should all be driven by business goals/objectives. They will be aligned to a specific solution based on the functionality and scope of the solution
- IT outcomes will be driven by system/specific goals/objectives and should focus on the important capabilities provided by the IT solution

Appendix B Measures, Metrics and Performance Standards

Measure represents a unit used to express the size or amount of something that provides objective evidence of the degree to which an outcome is achieved over time. (e.g., Number or percentage of members enrolled). Measures provide the ability to identify if an outcome has been achieved or not. Measures should be standardized. Once a measure is identified, a measure specification should be developed that describes how 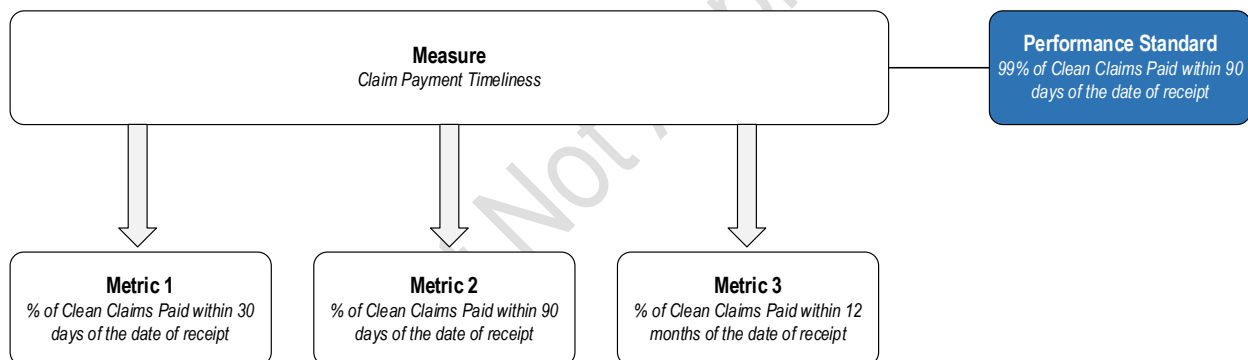that measure is used and should be calculated. This helps ensure that the measure is reusable and will be calculated for any stakeholder that uses it within an SMA. The methodology used to calculate the "number of providers" that are enrolled in the Medicaid program should be consistent across an SMA, regardless of a specific outcome the measure may support. This ensures consistent reporting at all levels of the organization.

Metrics represent a specific type of measure. Metrics represent a standardized numeric description of a measure based on a specific dimension/category. Each measure may have one or more metrics that have been defined to support specific reporting requirements. The methodology for calculating the measure is consistent across all its metrics, therefore only the measure requires a measure specification. Metrics should be described within the associated measure specification.

Performance Standards represent a management-approved expression of the performance threshold, requirement, or expectation that management expects to be met to appraise at a particular level of performance. Performance standards are synonymous with target measures.

Figure 7 - Measure vs. Metric Example

Measure
Claim Payment Timeliness

Performance Standard
99% of Clean Claims Paid within 90 days of the date of receipt

Metric 1
% of Clean Claims Paid within 30 days of the date of receipt

Metric 2
% of Clean Claims Paid within 90 days of the date of receipt

Metric 3
% of Clean Claims Paid within 12 months of the date of receipt

Appendix C Investment Proposal Checklist Template

The purpose of the Investment Proposal Checklist is to provide items to document the results of investigating a business problem and identifying an investment opportunity project, module, or component to solve the business problem. It serves as background information that should inform the development of an APD and other SMA funding/project approval processes. Completing the items in the checklist help SMAs with their internal planning and decision making prior to making an investment.

The following information identifies possible information that should be included in an Investment Proposal Checklist. The specific content should be tailored to meet the specific information needs of an SMA.

Project / Investment Purpose – Provide clear information on the business objective

☐ Objective: Business Problem Identified - Describe the business problem to be addressed. Describe the scope of the solution, including business processes. Describe how the project has been constructed to realize early and consistent value. Note: Technical scope should be described in the Justification Section. Proposed Technology Solution to the Business Opportunity.

☐ Outcome: Business Benefits and Performance - Describe the desired outcomes and the associated measures that will be used to quantify the desired outcome. Outcomes are a discrete and measurable improvement to Medicaid program management, monitoring, or administration, resulting from the delivery of IT system functionality. These outcomes may be either CMS required outcomes or state proposed outcomes.

☐ Performance Standards: Describe the performance standards that will be used to evaluate the performance of the investment. A performance standard should be established for each defined measure.

☐ Metrics: Measurement for success - Describe how you will demonstrate whether the outcome is being met, how will you determine progress has been made in meeting the outcome(s), how will this be measured. Metrics should demonstrate whether a system is meeting an outcome and should be quantitative. These are the minimum outcome measures the state will be expected to report on as part of the APD process. Provide not only the specific measures/outcomes this project will achieve, but also the first date the measure(s) will be available, and how you plan to share with CMS.

Justification – Tell the story of how the state arrived at the proposed technical solution.

☐ Discovery: Describe the discovery or market analysis that has been done, if any, in regards for this investment.

☐ Alternative & Cost Benefit Analysis: Include any alternatives considered before selecting proposed solution or add an appendix of analysis from the feasibility review or study, environmental scan, etc.

☐ Proposed Technology Solution for Business Opportunity/Technical Scope: Describe the proposed solution, why you chose it, and how it addresses the business problem.

☐ Alignment with CMS MITA Architecture: Describe how the technical solution aligns with the CMS technical direction, principles, goals, and objectives.

☐ Alignment with the State's current MES Technology Infrastructure: Provide an explanation of the investment as it relates to the state's MES technology infrastructure. Discuss the integration with current MES modules, platforms, Technical Services, Application Architecture, etc.

Procurement – Describe all procurement activity required to obtain the proposed business and technical solution

☐ Acquisition Plan: Describe how the state plans to procure any part of the technical solution that must be procured or purchased (if applicable). Include information regarding the purchase of vendor products, but also procuring vendor services or resources. Will the project leverage existing contracts or will the state do competitive procurement(s)? When do you plan to request CMS approval?

Schedule – Provide a project timeline

☐ Schedule - Identify key dates and milestones from the project schedule to include lifecycle phases, procurement tasks, anticipated deliverables. Cover the period from project start through implementation, stabilization, and operations. The plan should address key dependency areas such as security design reviews, network reviews, partner interface testing, operational readiness review, certification review, and organizational change management activities.

Project Governance & Management – Describe how the state plans to manage the investment so that it meets the business objective

☐ Project Governance: Attach a copy of the project charter OR include a description of the project and the project governance (authority and decision making) structure. The name and title of the project sponsor must be identified.

☐ Project Stakeholders: Describe the stakeholder groups involved in the project.

☐ Business User Involvement: Describe how business users will be engaged throughout the SDLC of the project. How will the project train the business users to follow project management protocols? Are the users aware of the limitations of the project?

☐ Organizational Change Management: Describe the project's organizational change management plan. Will the organizational change management be handled internally or externally? If it will be handled internally, describe your state's capacity and experience to manage this.

☐ Dependencies: Identify any dependencies with other state activities or projects that may pose a risk to the successful completion of this investment. For example, are there other projects competing for resources? Are the significant policy or business process change activities pending that would impact the project? Do you have system interfaces with other systems that you need to coordinate?

Risk – Describe how the state is addressing risks to ensure project success

☐ Project Risks: Describe the project's risk management plan including all known high-level risks associated with this project and mitigations deployed or planned. Examples of risks might include fixed schedule requirements, reliance on grant funding that must be expended by a certain date, funding for future maintenance and operations not identified, ramifications if the project does not complete on schedule, etc.

☐ Funding – Describe how the state intends to fund the project as well as support any increase in on-going costs

☐ Project Funding: Describe how this project will be funded through all phases, including budgeted sources and amounts, and any associated funding risks, limitations, or constraints, if project has secured only partial State related funding, describe the approach to secure the entire funding for the project costs through implementation or otherwise address the risk.

☐ Maintenance Funding: Describe the state's funding source(s) for maintenance costs after project implementation.

Appendix D Measure Specification Template

The Measure Specification Template provides a template for documenting measure definitions. The measure specification template can be used to support a variety of different types of measures and is designed to describe how the measure will be used as well as how the measure should be calculated.

Table 6 – Measure Specification Template

Item	Description
Version	
Version	Identifies the version number associated with the content of this measure specification and the release date.
Status	Identifies the status of the measure specification which may include either Draft or Approved.
Release Date	Identifies the date that this measure specification was approved and published.
Business Case	
Measure Name	Identify the name that should be used to reference the measure.
Measure Description	Provide a brief description of the measure and include the measure focus and the target population.
Why It Matters	Provide a high-level summary that explains why the measure is important and is important to the enterprise. This should include what is being measured, and how the measure will support the enterprise. This should include how the measure will support a specific enterprise outcome such as contributing to better health, promoting better care, leading to more affordable care, etc. Incidence and prevalence data should be presented, highlighting any disparities that may exist.
Measure Uses	Identify the primary uses for the measure which may include but not be limited to the following: • Public Reporting • Public Health/Disease Surveillance • Budget Support • Legislation Support • Program Administration • Quality Improvement
Policies	Provide a description of any policies that are driving the development of this measure.
Current Use	Provide a high-level description of the current baseline of the measure and specify if there are gaps in performance and/or knowledge. If disparities are known, describe any subpopulations.
Current Reports	Provide a high-level description of any known reports or dashboards that currently include this measure.
Program/Business Area Impacts:	Provide a brief description on the primary programs/divisions/business areas that the measure will support.
Outcome Impacts	Provide a description on the measure focus and anticipated impact on enterprise outcomes. Include details on structure, process, intermediate outcome(s), and any evidence to support this. Provide supporting evidence as appropriate. If no anticipated

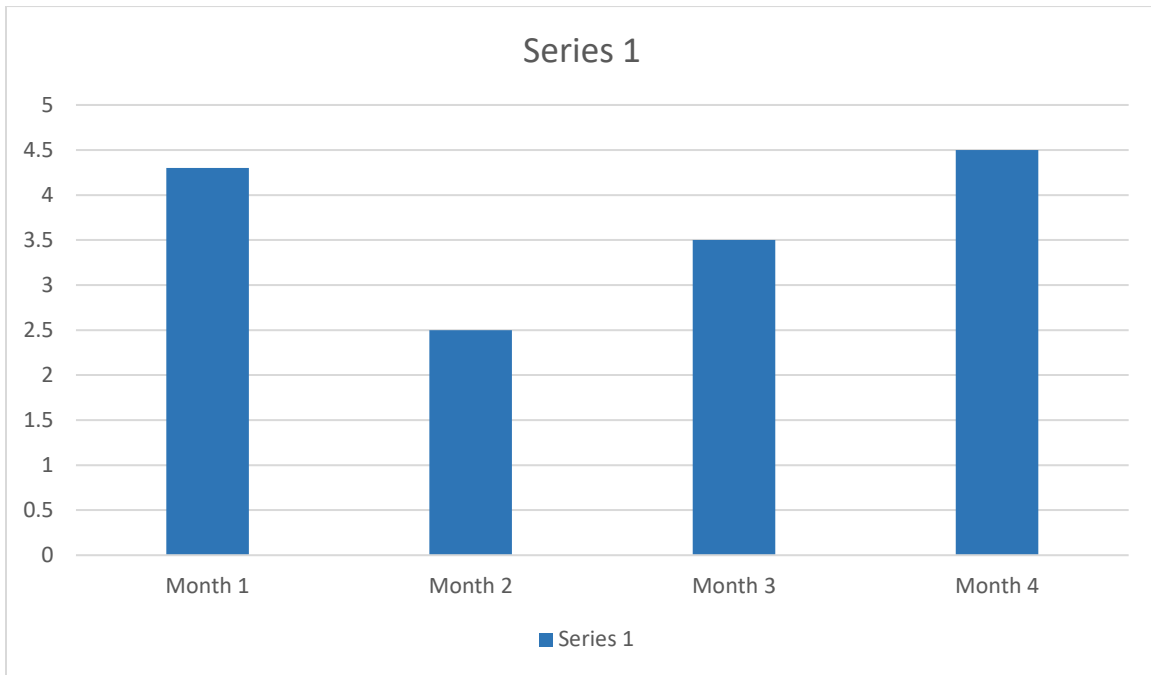| Item	Description
	impact, state no impacts but include a brief explanation of why there is still a strong business case for the measure.
Influencing Factors	Provide a description of the factors that may influence adoption, implementation, and endorsement of a measure. This may include legislation and regulation, endorsement, stakeholder feedback, data infrastructure, technical assistance, etc. If there are any concerns about the feasibility of implementing a measure, those should be explicitly stated in this section. (e.g., Trading partners inability to provide data for the measure)
Limitations of the Analysis	Provide a description of any known limitations on the ability to use the measure for analysis.
Measure User Group	Identify the individuals that will be responsible for supporting the management of the measure.
Data Specification	
Denominator	Identifies a statement that describes the population evaluated by the measure and is the lower part of a fraction used to calculate the measure. (i.e., Ratio, proportion, or ratio) It can be the same as the initial population or a subset of the initial population to further constrain the population for the purpose of the measure. Continuous Variable measures do not have a denominator, but instead define a measure population.
Denominator Exclusions	Identifies entities that should be removed from the measure population and denominator before determining whether numerator criteria are met. Proportion and ratio measures use denominator exclusions to help narrow the denominator. (I.e., Patients with bilateral lower extremity amputations would be listed as a denominator exclusion for a measure requiring foot exams.)
Numerator	Defines the numerator which is the upper portion of a fraction used to calculate the measure (i.e., rate, proportion, or ratio). Also called the measure focus, it is the target process, condition, event, or outcome. Numerator criteria are the processes or outcomes expected for each patient, procedure, or other unit of measurement defined in the denominator. A numerator statement describes the clinical action that satisfies the conditions of the measure.
Numerator Exclusions	Identifies the instances that should not be included in the numerator data. These are primarily relevant in ratio and proportion measures.
Stratifications	Identifies the different values that divides a population or resource services into distinct, independent groups of similar data, enabling analysis of the specific subgroups. This type of adjustment can show where disparities exist or where there is a need to expose differences in results.
Calculation Algorithm	Identifies the ordered sequence of data element retrieval and aggregation through which the numerator and denominator events or continuous variable values are identified by a measure.
Metrics	Identifies the different metrics that are needed to understand this metric. Metrics represent a numerical observation based on standard systems, methods, calculations, and data sources. (i.e., per 100,000 members)
Data Sources	Identifies the primary source for the data that is used to calculate this measure.
Data Refresh Schedule	Identifies the frequency for which data needs to be pulled from the data source to ensure that the measure is as accurate as possible.
Relevant Reference Code Guidance	Identifies a reference to a location where additional guidance can be found on reference data that is relevant to this measure.
Relevant Billing Guidance	Identifies a reference to a location where additional guidance can be found on billing.

Item	Description
Publication Guidelines	Identifies specific guidelines associated with using and publishing data related to this measure.
Approval	Identifies the approval date as well as a bulleted list of the individuals in the user group that reviewed and approved the specification. Each bullet should include the name of the individual and the division/section they represent.
Reference Data / Code Sets	Populate all the relevant reference codes needed to calculate this measure based on this specification. Each different reference code system should have its own section with code tables that describes their values. At minimum, the table should include: • Table Name – The name of the table where data is pulled from the data source. • Element Name – A definition for the data element. • Code – The specific code • Level – If the code is hierarchical, this field identifies the level of the specific code. • Description – Identifies a description or the detail associated with the code.

Appendix E Performance Report Template

The Performance Report is meant to be a snapshot of the performance of a measure. This report will encompass all active measures being monitored and will link to more detailed information for reporting purposes. This report focuses primarily on providing information to the enterprise at a level that meets the needs of all stakeholders. The performance report is built for continuous monitoring of measures.

Table 7 - Performance Report Template

Series 1

Field	Description
Measure Name	Measure Name
Reporting Period	Reporting period associated with the calculated value
Performance Standard/ Success Criteria	Identifies the performance standard (e.g., Target Measure).
Calculated Value	Identifies the observed actual value that was calculated based on the measure specification
Last Period Observed Value	Identifies the observed actual value that was calculated based on the measure specification for the last reporting period.
Measure Goal Met	Yes/No
Measure Specification Details	Link to Measure Specification

Appendix F Enterprise Performance Report Template

The Enterprise Performance Report Template provides a high-level overview of an SMA performance. It identifies if the enterprise is meeting its enterprise goals/objectives and desired outcomes. It documents how each investment is contributing to the overall health of an SMA.

Reporting Period: Fall 2021

Investment	Outcome	Measure	Metric	Performance Standard	Calculated Value	Deficiency Indicator
Goal/Objective: *Improve the provider experience*						
Provider Management Module	Reduce the time it takes for a provider to get enrolled.	Provider Enrollment Processing Time	Provider Enrollment Processing Time over 30 days	15 min	12 min	No
Claim Processing Module	Reduce the time it takes to process claim	Average Claim Processing Time	N/A	1 day	5 days	Yes

Appendix G Measure Performance Remediation Report Template

The Measure Performance Remediation Report's purpose is to provide a report of all measures not meeting specified goals within the desired timeframe and provide summary level information about the actions being taken to mitigate any deficiencies. This report should have data feeds that allow for frequent updates so that performance and reporting is accurate and so that SMAs are taking the appropriate actions to mitigate issues.

Table 8 – Measure Performance Remediation Report Template

Dashboard Component	Description
Measure Name	Measure Name
Measure Description	Description of the Measure
Measure Success	Describe whether the measure is being met or not and by what Measurement
Measure Owner	Identify the business owner of the measure for tracking purposes
Remediation Status	Reportable Status of remediation Mitigation in Progress Pending Review Closed In Review
Remediation Actions	Actions being taken to remove the outcome from the remediation report. Data Analysis of systems Process Improvement Software/Hardware Purchase Policy Change
Remediation Success Criteria	Criteria required to remove the outcome from the remediation report