

# Enterprise Objective Monitoring and Control Services

Cost Management Plan Aid

V1.0



GOVERNMENT OF PUERTO RICO

Department of Health  
Medicaid Program

**Submitted by:**

BerryDunn  
2211 Congress Street  
Portland, ME 04102-1955  
207.541.2200

**Bill Richardson, Principal**

[brichardson@berrydunn.com](mailto:brichardson@berrydunn.com)

**Zach Rioux, Engagement Manager**

[zrioux@berrydunn.com](mailto:zrioux@berrydunn.com)

**Andrea Thrash, Program Manager**

[athrash@berrydunn.com](mailto:athrash@berrydunn.com)

**Submitted On:**

22 June 2022

# Table of Contents

<b>Section</b>	<b>Page</b>
Table of Contents.....	i
Revision History .....	1
1.0 Introduction .....	2
1.1 Purpose and Objectives.....	3
1.2 Scope .....	3
1.2.1 In Scope.....	4
1.2.2 Out of Scope .....	4
1.3 Approach .....	5
1.3.1 Assumptions.....	5
1.3.2 Constraints .....	5
1.3.3 Dependencies .....	5
1.3.4 Standards and References.....	6
2.0 Roles and Responsibilities.....	7
2.1 PRMP Leadership.....	8
2.2 PRMP Program Director .....	8
2.3 PRMP Project Lead .....	8
2.4 PRMP PgMO .....	8
2.5 Vendors .....	8
3.0 Cost Management Approach.....	10
3.1 Cost Estimation.....	10
3.2 Budget Determination .....	11
3.3 Project Budget .....	11
3.4 Cost Control.....	12
3.5 Cost Performance .....	13
3.6 Cost Control Monitoring, Controlling, and Reporting .....	13
Appendix A – Acronyms List .....	15

## Revision History

The Puerto Rico Medicaid Program's (PRMP's) Program Management Office (PgMO) will store the approved Cost Management Plan Aid and any approved revisions on the PgMO SharePoint site or in an alternative location specified by PRMP. PRMP and the PRMP PgMO will make the plan available to project stakeholders as needed. Currently, BerryDunn provides PRMP PgMO services.

Table 1 presents the revision history for this document. When changes occur, the PRMP PgMO will increment the version number and the date. The PRMP PgMO will record the name of the person or entity making the change and a description of the change in the revision history.

**Table 1: Revision History**

Date	Document Version	Description	Author(s)
6/22/2022	V1.0	Initial delivery	The PgMO Team

## 1.0 Introduction

The PRMP is committed to successful projects for the residents of Puerto Rico and has established a Puerto Rico Medicaid Enterprise Systems (PRMES) PgMO to provide guidance, support, and oversight for vendor projects within the Medicaid Enterprise.<sup>1</sup> The PRMP PgMO has created plan aids to assist in effectively and efficiently accomplishing executed projects. Project management involves applying best practice processes, tools, and techniques. The PRMP PgMO aids provide guidance for more predictable and consistent plans, processes, and practices, which will result in meeting the goals and objectives of PRMP and vendor partners, and in meeting stakeholder expectations.

The Cost Management Plan Aid is a living document intended to provide PRMP vendors with guidance on PRMP’s expectations regarding management of project costs. PRMP expects vendors to develop and submit a Cost Management Plan for the project(s) for which they are providing services. Vendors should reference this document when creating their Cost Management Plans to help ensure PRMP’s expectations are met and that there is a common understanding between PRMP and the vendor regarding cost management. The PRMP PgMO will update this Cost Management Plan Aid when new applicable standards (or versions of a standard) are released or when there are changes to PRMP policies that affect cost management.

If a vendor finds a contractual conflict with guidance provided in this plan aid, vendors should defer to their contract and/or any updated PRMP guidance.

The Introduction section of this document provides information on the Cost Management Plan Aid’s purpose and objectives, scope, standards, assumptions, dependencies, and constraints. To help ensure an understanding of project cost, Table 2 provides definitions for processes involved in planning estimating, budgeting, financing, funding, managing, and controlling costs.

**Table 2: Cost Management Definitions**

Term	Definition
<b>Cost Management</b>	The process of defining how the project costs will be estimated, budgeted, managed, monitored, and controlled.
<b>Cost Estimation</b>	The approximation of funds needed to complete project activities.
<b>Budget Determination</b>	The process of aggregating the estimated costs of individual activities to establish a baseline for the project budget.
<b>Cost Control</b>	The process of monitoring the status of project spending, updating the project budget, and managing changes to the budget baseline on an ongoing basis.

<sup>1</sup> In this aid, “vendor” refers to solution vendors that implement and maintain systems within the Medicaid Enterprise Solution (MES), as well as contractors and other entities that provide non-solution-related MES services to PRMP.

<sup>2</sup> Unless otherwise noted, all references to the *PMBOK Guide*<sup>®</sup> are for the seventh edition.

Term	Definition
<b>Cost Performance</b>	The process of measuring and controlling project costs.

## 1.1 Purpose and Objectives

The purpose of the Cost Management Plan Aid is to:

- Document the processes for managing costs, including coordinating with PRMP Project Managers to report on, manage, and control costs, including enterprise environmental factors.
  - Three reasons to include enterprise environmental factors in PRMP projects are:
    - Organizational culture and structure can influence cost management.
    - Market conditions for products and services that are available in regional and global markets greatly influence resource costs.
    - Inflation needs to be understood and built into the budget and cost estimate process.

The objectives of the Cost Management Plan Aid are to:

- Provide guidance to PRMES vendors in developing their Cost Management Plans. PRMES vendor Cost Management Plans shall include provisions to help ensure all costs and cost variances are transparent to PRMP.
- Provide guidance in the development of cost planning, cost management, cost control and changes, cost reconciliation, reporting, and metrics.
- Provide a process to identify who is responsible for managing costs.
- Define a process to facilitate communication among PRMP stakeholders and minimize uncertainty around costs.
- Establish consistency across all PRMP Medicaid Enterprise projects and initiatives related to cost management.

## 1.2 Scope

The Cost Management Plan shall address how the project cost will be planned, structured, and controlled. As part of cost management, vendors are required to:

- Define process steps
- Document when and how often they will conduct the cost management process throughout the life cycle of the project
- Define methods for calculating and monitoring cost-related progress, including, but not limited to:

- Units of measure
- Level of accuracy
- Control thresholds
- Rules for performance measurement
- Define cost reporting and formats, including, but not limited to, mechanisms for reporting cost-related progress

The Cost Management Plan should also include:

- **Templates:** All documents that standardize information capture and communication related to cost management
- **Processes:** Descriptions about how vendors estimate and manage costs, including tracking, management, quality processes, reporting, and tools used
- **Standards:** Descriptions of the industry standards vendors employ to manage risks and issues

### 1.2.1 In Scope

Vendors should identify all the items subject to cost management as part of the overall project. This pertains to the entirety of the project and includes all changes that impact scope, schedule, and cost. Vendor-specific Cost Management Plans shall include content describing:

- Cost estimating methods
- Reporting methods
- Cost budgeting tools
- Developing the budget
- Resource planning
- Change requests (CRs)
- Invoicing
- Updating, monitoring, and controlling methods

### 1.2.2 Out of Scope

Vendors should list the items related to cost management considered out of scope. Any scope exclusions must be in alignment with the request for proposals (RFP), vendor's proposal, and the final signed contract as necessary.

## 1.3 Approach

This section describes assumptions, dependencies, constraints, standards, and references. The Cost Management Plan takes into consideration the assumptions, dependencies, and constraints for the system implementation projects as described in this section.

### 1.3.1 Assumptions

Per the *Guide to the Project Management Body of Knowledge® (PMBOK® Guide)*, an assumption is a factor expected to be in place or to be in evidence. The following are assumptions considered in the development of the Cost Management Plan Aid and are applicable to all PRMP projects. Vendors should coordinate the process with PRMP Project Managers and will provide transparency to PRMP. The vendor's own cost management process will adhere to guidelines provided in this document.

- The vendor will have cost budgeting tools and reporting methods to support planning and tracking spending on a monthly basis
- The vendor will compare planned spending to actual spending at multiple levels of detail over multiple time periods
- The vendor will use Earned Value Management (EVM) or another vendor suggested method for measuring and controlling the project costs
- The vendor will provide a dashboard that details, at a minimum, budgeted-to-actual figures, estimated cost to completion, and forecasts of remaining costs
- The vendor will manage costs throughout the project's life cycle
- The vendor will have regularly scheduled budget status meetings
- PRMP PRMES projects are expected to follow this plan aid to help ensure standardization

### 1.3.2 Constraints

Per the *PMBOK Guide®*, a constraint is a limiting factor that affects the execution of a project or process. Vendors should identify constraints in their Cost Management Plan relating, but not limited, to:

- Cost management methodology, including, but not limited to, tools and data sources
- Data quality
- Tool access

### 1.3.3 Dependencies

Per the *PMBOK Guide*<sup>®</sup>, a dependency is a logical relationship between two activities, or between an activity and a milestone. For example, an activity that cannot begin until another activity has been finished has a dependency.

This Cost Management Plan Aid has dependencies on the following plans listed, but not limited to:

- **Project Management Plan:** The Project Management Plan documents the tasks, responsibilities, and supporting activities related to project implementation.
- **Quality Management Plan:** The Quality Management Plan documents the necessary information required to manage project quality from project planning to delivery. It defines a project's quality policies, procedures, criteria for and areas of application, along with roles, responsibilities, and authorities.
- **Risk and Issue Management Plan:** The Risk Management Plan describes how a project team will identify, analyze, and monitor risks.
- **Change Management Plan:** The Change Management Plan defines the activities, roles, and tools used to manage and control change during each stage of the project.
- **Schedule Management Plan:** The Schedule Management Plan defines the processes required to manage timely completion of the work needed to complete a project.
- **Scope Management Plan:** The Scope Management Plan includes two components:
  - Product scope is a collection of functions and features that characterize a product, service, or result.
  - Project scope is the work performed to deliver the product, service, or result related to performance management.

### 1.3.4 Standards and References

This section provides an initial list of standards and references applicable to the Cost Management Plan. Per the *PMBOK Guide*<sup>®</sup>, a standard is a document established by an authority, a custom, or general consent as a model or an example. A reference is a source of information and context.

The PRMP PgMO and PRMP vendors are required to use the appropriate standards and references. The PRMP PgMO and PRMP vendors might incorporate additional standards and references if appropriate for the plan content.

Vendors should develop a Cost Management Plan based on this plan aid and using the following industry standards:

- *A Guide to the Project Management Body of Knowledge (PMBOK*<sup>®</sup>*), Seventh Edition, Project Management Institute*<sup>®</sup>*, Chapter 7.1 Project Cost Management*
- *Practice Standard for Earned Value Management, Second Edition, PMI*<sup>®</sup>

Additionally, vendors may wish to consult the following reference:



- Generally Accepted Accounting Principles (GAAP) issued by the Financial Accounting Standards Board (FASB)

The Cost Management Plan should be developed in accordance with applicable standards and industry best practices. The Enterprise Project Management Office (ePMO) and PRMP vendors shall work with PRMP to determine if updates are required to the Cost Management Plans when a new applicable standard (or version of a standard) is released.

## 2.0 Roles and Responsibilities

This section describes the primary roles and responsibilities of the groups that consist of the project staff, sponsors, and stakeholders as they relate to cost management. Table 3 illustrates which stakeholders are responsible (R), accountable (A), consulted (C), and informed (I) (RACI), defined as:

- **Responsible:** This stakeholder does the work to complete the task area. This stakeholder may also serve as an Accountable stakeholder for some task areas.
- **Accountable:** This stakeholder delegates work and is the last one to review the task area before it is deemed complete. According to best practice, one stakeholder (or the lowest number possible) should be deemed Accountable.
- **Consulted:** This stakeholder provides input based on how the task area will impact the future work of the project and the stakeholder’s expertise.
- **Informed:** This stakeholder should be aware of the progress associated with the task area.

Table 3 aims to provide insight into how PRMP and the PgMO will interact with project cost management processes and responsibilities. The vendor should propose its own stakeholder groups and RACI matrix according to its team’s organizational structure. Table 3 provides vendors with the RACI matrix for PRMP and/or PgMO responsibilities. This matrix can be edited from this baseline if deviations are discussed with PRMP and the PgMO to determine what is appropriate for the project.

**Table 3: RACI Matrix for Project Cost Management**

Task Area	PRMP Leadership	PRMP Program Director	PRMP PgMO	PRMP Project Lead	Vendor
Plan Cost Management	C	C	I	A	R
Estimate Costs	I	I, C	I	A	R
Determine Budget	I	I, C	I	A	R
Control Costs	I	I, R	I	A	R
Cost Change Control	C	C	I	A	R
Monitoring/Reporting	I	I	I	A	R

The following subsections describe each stakeholder group.

## 2.1 PRMP Leadership

PRMP is the Medicaid agency responsible for administering the Medicaid Program in Puerto Rico, including the Children's Health Insurance Program (CHIP), and a waiver-based section 1915(a) program. PRMP is an agency within the Puerto Rico Department of Health (PRDoH). While leadership roles might vary between projects, in general, the PRMP Leadership stakeholder group refers to the PRDoH Secretary, PRMP Executive Director, and the PRMP Executive Steering Committee.

## 2.2 PRMP Program Director

The PRMP PRMES Program Director is a member of the PRMP PgMO.

An important aspect of the PRMP Program Director's role is to monitor and control project costs for all PRMES projects.

## 2.3 PRMP Project Lead

PRMP appoints a Project Lead to oversee each of the PRMES projects under the PRMP programs utilizing the defined PRMP PgMO processes. The Project Lead collaborates with the vendor's Project Manager to help ensure the project execution and implementation are in accordance with the approved schedule and processes defined by the PRMP PgMO.

The PRMP Project Lead will have joint responsibility with the vendor Project Manager (PM) for estimating, monitoring, controlling, and verifying cost with the PRMP PgMO.

## 2.4 PRMP PgMO

PRMP has designated the PgMO to provide program management guidance and collaborative oversight for its information technology initiatives. As part of this responsibility, the PRMP PgMO has developed this Cost Management Plan Aid as a guide for project-specific Cost Management Plans.

Each vendor shall create an individual Cost Management Plan to manage costs and shall collaborate with the PRMP PgMO to gain approval of their process. The PRMP PgMO is responsible for helping to identify and document cost management and budgeting processes used for communicating with the project team; however, the PRMP Project Lead and vendor(s) have primary responsibility for identifying and documenting all cost management approaches.

## 2.5 Vendors

The vendors supporting PRMP in one or more information technology projects or supporting other PRMP activities are responsible for developing a project-specific Cost Management Plan, obtaining PRMP and PRMP PgMO approval of the plan, and managing costs in accordance with that plan. The vendor Project Manager is responsible for reporting costs to the PRMP project lead and the PRMP PgMO.

In accordance with the assumptions described in this document, PRMP anticipates that vendors will manage and control costs according to their PRMP-approved Cost Management Plan. The vendor Project Manager will have joint responsibility with the PRMP Project Lead for defining, developing, monitoring, controlling, and verifying change.

## 3.0 Cost Management Approach

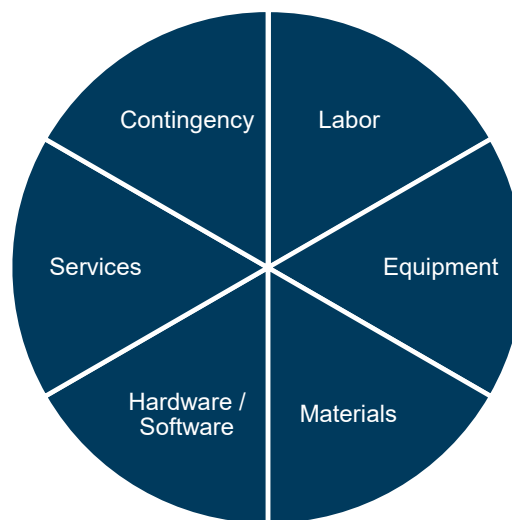
Cost management is the process of defining how the project costs will be estimated, budgeted, managed, monitored, and controlled. Cost management includes information for products and services, and how cost information is recorded, analyzed, reported, and used in decision-making. The vendor's plan shall provide an approach that includes:

- Aligning with the *PMBOK Guide*® for cost management
- Estimating the overall project budget
- Determining the budget requirements
- Comparing expenditures to approved budget
- Assuring that all necessary financial information is available to produce accurate and timely reports to PRMP, Project Leads, and PRMP PgMO to manage and control costs

### 3.1 Cost Estimation

Cost estimation involves developing an approximation of the cost of resources needed to complete the project activities. It is an iterative process of collecting and analyzing data, and applying quantitative models, techniques, tools, and databases. Cost estimates are a prediction based on information known at a given point in time. Cost estimates include the identification and consideration of costing alternatives to initiate and complete the project. Costs are estimated for all resources that will be charged to the project and should include considerations for cost trade-offs and risks. Figure 1 displays cost estimation attributes.

**Figure 1: Cost Estimation Attributes**



Cost estimates should be prepared using the best information available at the time of the estimate. This timeframe for each of these estimates must be documented and shared with PRMP to provide further context behind each estimate and to serve as a reference if these estimates need to be revisited. The basis for the estimate must also be fully documented and determine whether the costs in each account are fixed or variable. Metrics and variance analysis must be applied to these components throughout the project life cycle for tracking, re-estimating, and adjusting the budget if needed.

### 3.2 Budget Determination

Budget determination involves the process of aggregating estimated costs of individual activities or work packages to establish an authorized cost baseline. The steps are dependent upon the cost estimations, task durations, and allocated resources. A budget baseline should be established for the entire project in an amount equal to the total cost of ownership calculated during cost estimation. This forms the baseline for cost control.

### 3.3 Project Budget

The project budget is a total sum of money allocated for a particular purpose of the project for a specific period. The project budget controls project costs within the approved budget to deliver the expected project goals. Budgeting serves as a control mechanism where actual costs can be compared with and measured against the project budget. The vendor PM is responsible for estimating the budget required to complete budget activities; estimating costs; developing the budget; and updating, monitoring, and controlling costs. The vendor PM can use manual or automated tools to generate the budget estimate. Budgeting tools may be simple spreadsheets or complex budget estimating tools. Every month, the vendor PM will review project expenditure reports to implement changes to keep the project on track. At minimum, vendors should track the attributes indicated in Table 4.

**Table 4: Project Budget Attributes**

Project Budget Attribute	Description
<b>Project Title</b>	Name of the project
<b>Summary Cost of the Project</b>	Total budgeted and actual costs during the period
<b>Total Budgeted Cost</b>	Total budgeted costs allocated to complete all the activities and work associated with the project
<b>Total Actual Cost</b>	Total costs incurred for the actual work completed
<b>Total Variance</b>	The difference between total budgeted and actual costs
<b>Budgeted Costs</b>	All budgeted costs will be divided into the following categories: <ul style="list-style-type: none"> <li>Material Cost: Calculated by the multiplying the number of units within the cost per unit</li> <li>Labor Cost: Calculated by multiplying the number of hours with the cost per hour</li> </ul>

Project Budget Attribute	Description
	<ul style="list-style-type: none"> <li>Fixed Cost: Costs incurred against fixed expenses</li> <li>Miscellaneous Expenses: Other incurred costs</li> </ul>
<b>Budgeted Amount</b>	Total amount of money that is allocated for the project
<b>Actual Cost</b>	Actual cost incurred for each budget line item
<b>Cost Variance</b>	The difference between a budgeted and actual cost for each budget expenditure
<b>Reporting Period</b>	Time interval for which the actual project performance will be compared to the planned performance
<b>Completed Milestones and Deliverables (if applicable)</b>	Milestones, deliverables, and their associated costs (if applicable) completed thus far.
<b>Upcoming Milestones and Deliverables (if applicable)</b>	Milestones, deliverables, and their associated costs (if applicable) coming up in the next 2-3 months.

### 3.4 Cost Control

Cost control is the process of monitoring the status of project spending, updating the project budget, and managing changes to the budget baseline. Updating the budget involves recording actual costs spent to date, as well as tracking costs that are approved but not realized. Project cost control includes, but is not limited to:

- Influencing factors that create changes to the cost baseline
- Managing the actual changes as they occur
- Monitoring cost performance to isolate and understand variances from the approved cost baseline
- Monitoring work performance against funds expended
- Preventing unapproved changes from being included in the reported cost or resource usage
- Informing appropriate stakeholders of all approved changes and associated cost
- Bringing expected cost overruns within acceptable limits
- Making adjustments to the baselined budget to address any overages in spending should occur through the CR process.

In most cases, the vendor PM will be responsible for managing and reporting on the project costs throughout the project. During the monthly project status meeting, the PM will present and review the project’s cost performance and it will be measured using earned value analysis (EVA). EVA is a quantitative technique used to evaluate project performance by computing schedule and cost variances to provide an early and accurate picture of the contract status. EVA allows the vendor to define thresholds for the project and determine what actions will be

taken if the project triggers a control threshold. The vendor can propose an alternative cost management quantitative technique or an alternative measurement of the project cost performance approved by PRMP.

### 3.5 Cost Performance

The approach for cost performance is to use EVM for measuring and controlling costs. EVM integrates project scope, cost, and schedule to help vendors assess and measure project performance and progress. EVM provides an early warning of performance problems and allows the vendor to communicate objective progress as defined by the PRMP PgMO. The vendor can propose an alternative cost performance technique or alternative cost performance measurements approved by PRMP.

The vendor will measure progress against the budget (or planned) value of work scheduled, the actual work completed, and the earned value of the physical work completed. The vendor shall identify cost variances outside of the thresholds set forth in the vendor’s Cost Management Plan, along with any planned corrective actions. CRs triggered by project cost overruns will be identified and tracked in accordance with the Change Management Plan Aid. Table 5 depicts the EVM attributes vendors should use to measure cost performance.

**Table 5: EVM Measures**

EVM Attributes	Description
<b>Planned Value (PV)</b>	Total budget or planned budget to be spent on work performed
<b>Earned Value (EV)</b>	Budget authorized for completed work
<b>Actual Cost (AC)</b>	Direct and indirect costs incurred for work performed
<b>Schedule Variance (SV)</b>	Calculation of actual progress against expected progress
<b>Cost Variance (CV)</b>	Difference between actual costs and budgeted costs
<b>Estimated Cost (EC)</b>	Projection of the amount of costs that will be incurred
<b>Schedule Performance Index (SPI)</b>	Measure of schedule efficiency expressed as a ratio of EV to PV
<b>Cost Performance Index (CPI)</b>	Measure of cost efficiency of budgeted resources expressed as a ratio of EV to AC
<b>Forecasting</b>	Estimation or prediction of all cost information to determine future trends
<b>Trend Analysis</b>	Measure of project performance over time, often displayed with graphs

### 3.6 Cost Control Monitoring, Controlling, and Reporting

The ePMO is responsible for the development of a standardized budget, by project, to be approved by PRMP. The reporting tools should retain a historical record of cost measures and

shall be monitored by the Project Lead, PRMP, and the PRMP PgMO in accordance with the assumptions in this document. The ePMO will collaborate with PRMP PgMO and the PRMP Project Manager to plan, monitor, and control costs in reports agreed upon with PRMP.



## Appendix A – Acronyms List

Table 7 presents a list of the acronyms and their definitions used in this document.

**Table 6: Acronyms**

Term or Acronym	Definition
<b>AC</b>	Actual Cost
<b>CHIP</b>	Children's Health Insurance Program
<b>CPI</b>	Cost Performance Index
<b>CR</b>	Change Request
<b>CV</b>	Cost Variance
<b>EOMC</b>	Enterprise Objective Monitoring and Control
<b>EC</b>	Estimated Cost
<b>ePMO</b>	Enterprise Project Management Office
<b>EV</b>	Earned Value
<b>EVA</b>	Earned Value Analysis
<b>EVM</b>	Earned Value Management
<b>FASB</b>	Financial Accounting Standards Board
<b>GAAP</b>	Generally Accepted Accounting Principles
<b>MES</b>	Medicaid Enterprise Systems
<b>PgMO</b>	Program Management Office
<b>PM</b>	Project Manager
<b>PMBOK®</b>	A Guide to the Project Management Body of Knowledge®
<b>PMP</b>	Project Management Plan
<b>PRDoH</b>	Puerto Rico Department of Health
<b>PRMES</b>	Puerto Rico Medicaid Enterprise Systems
<b>PRMP</b>	Puerto Rico Medicaid Program
<b>PV</b>	Planned Value
<b>RACI</b>	Responsible, Accountable, Consulted, Informed
<b>RFP</b>	Request For Proposals
<b>SME</b>	Subject Matter Expert
<b>SPI</b>	Schedule Performance Index
<b>SV</b>	Schedule Variance