BerryDunn

Enterprise Objective Monitoring and Control Services

Scope Management Plan Aid

V1.0

GOVERNMENT OF PUERTO RICO

Department of Health
Medicaid Program

Submitted by:

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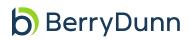
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Revision History

The Puerto Rico Medicaid Program's (PRMP's) Program Management Office (PgMO) will store the approved Scope Management Plan Aid and any approved revisions on the Enterprise Objective Monitoring and Control (EOMC) KnowledgeLink (KL) 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 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	BerryDunn PgMO Team

1.0 Introduction

The Puerto Rico Medicaid Program (PRMP) is committed to the implementation of successful projects for the residents of Puerto Rico and has established a Program Management Office (PgMO) to provide guidance, support, and oversight for vendor projects within the Medicaid Enterprise.[1] The PRMP PgMO has created plan aids to assist with completing projects effectively and efficiently. Project management involves applying best practice processes, tools, and techniques. The PRMP PgMO plan aids provide guidance for delivering more predictable and consistent plans, processes, and practices, which will result in meeting the goals and objectives of PRMP, vendor partners, as well as meeting stakeholder expectations.

The Scope Management Plan Aid is a living document intended to provide PRMP vendors with guidance on PRMP's expectations regarding management of scope. PRMP expects vendors to develop and submit a Scope Management Plan for the project(s) for which they are providing services. Vendors should reference this document when creating their Scope Management Plans to help ensure PRMP's expectations are met and that there is a common understanding between PRMP and the vendor regarding scope management. The PRMP PgMO will update this Scope Management Plan Aid when new applicable standards (or versions of a standard) are released or when there are changes to PRMP policies that affect scope 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 Scope Management Plan Aid's purpose and objectives, scope, standards, assumptions, dependencies, and constraints. To help ensure an understanding of scope, Table 2 provides definitions for product scope, project scope, and scope management.

Table 2: Scope Definitions

Term	Definition
Product Scope	The collection of functions and features that characterize a product, service, or result.
Project Scope	The work performed, including implementation and federal certification, to deliver the product, service, or result with the specified functions and features.
Scope Management	A component of the project plan that describes how the scope will be defined, developed, monitored, controlled, and verified.
Work Breakdown Structure (WBS)	The WBS makes the deliverables and objectives more precise and concrete for the project, which enables the project team to know exactly what has to be accomplished within each deliverable. The most common way this is done is by using a hierarchical tree structure. Each level of this structure breaks the project

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[1] In this aid, "vendor" refers to solution vendors that implement and maintain systems within the PRMES, as well as contractors and other entities that provide non-solution-related PRMES services to PRMP.

Term	Definition
	deliverables or objectives down to more specific and measurable components. According to best practice, the project schedule should be built based on an approved WBS.

1.1 Purpose and Objectives

The purpose of the PgMO Scope Management Plan Aid is to:

- Provide guidance to the project-specific vendors and other Puerto Rico Medicaid Enterprise Systems (PRMES) vendors in the development of their scope management deliverables, including the WBS.
  - Four reasons to use a WBS in PRMP projects are that the WBS:
    - Defines and organizes the scope of the total project.
    - Assigns responsibilities, allocates resources, and provides insight into who will be monitoring and controlling the project.
    - Allows for better estimating of cost, risk, and time.
    - Creates a process for double-checking all deliverable specifications with the stakeholders to help ensure there is nothing missing or overlapping.
- Provide guidance to the project-specific PRMES vendors to be in alignment with Centers for Medicare & Medicaid Services (CMS) requirement for a phase-based system development life cycle (SDLC), as well as PRMP's requirement for phase entrance and exit criteria.

The objectives of the Scope Management Plan Aid are to:

- Provide guidance to PRMP PRMES vendors in the development of their Scope Management Plans. These plans shall demonstrate the vendor's processes for managing scope, including how the PRMES vendors document the plan for scope management, define the scope, develop the WBS, and control scope.
- Establish consistency across all PRMP Medicaid Enterprise projects and initiatives.

2.0 Scope

The scope statement defines both the work included and the work not included in the scope of a project. For purposes of this PgMO Scope Management Plan Aid, this section addresses what is in scope and what is not in scope for an anticipated plan. The plan provides guidance to the PRMES vendors to also address both the work included and not included in their scope statement.

2.1 In-Scope

The Scope Management Plan scope includes:

- Processes for defining the work required to complete the project successfully

- Processes for creating a WBS

- Processes to validate and control scope

- Processes to manage the project life cycle, including federal certification

The Scope Management Plan must include processes for managing all aspects of the scope from initiation until project closure.

2.2 Out-of-Scope

For purposes of providing guidance to the vendors, this Scope Management Plan does not include the following processes:

- Processes to manage requirements definition, validation, and traceability. The Requirements Management Plan defines these processes.

- Processes to manage the project schedule. The Schedule Management Plan addresses these processes.

PRMES vendors should list the items considered out-of-scope for their specific project related to scope management. Any scope exclusions must be in alignment with the Request for Proposal (RFP) and the final signed contract. Other project management subsidiary plans required by PRMP address these processes.

3.0 Approach

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

3.1 Assumptions

Per the *Project Management Body of Knowledge*® (*PMBOK*) *Guide*®,[2] an assumption is a factor expected to be in place or to be in evidence. The Scope Management Plan is based on the following assumptions:

- The project life cycle and the related entrance and exit criteria are part of a phase-based predictive (often called a waterfall) life cycle that the vendor shall adopt regardless of the development life cycle used.

- The vendor's team performing the work will develop the WBS with PRMP participation. It is important that those defining the work should be the ones performing the work.

PRMES vendors should list assumptions for their specific project-related to scope management.

3.2 Constraints

Per the *PMBOK Guide*®, a constraint is a limiting factor that affects the execution of a project or process. The Scope Management Plan and the scope management processes have the following constraint:

- The WBS submitted as part of the Scope Management Plan must be approved by PRMP before the project schedule is submitted for approval.
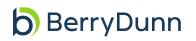
PRMES vendors should list constraints for their specific project related to scope management.

3.3 Dependencies

Per the PMBOK Guide®, 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. The Scope Management Plan and the scope management processes are dependent on the following processes and related components of the Project Management Plan (PMP):

- The scope management processes defined in this plan do not address requirements management processes. However, there is a dependency between this Scope Management Plan and the Requirements Management Plan.

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[2] Unless otherwise noted, all references to the *PMBOK Guide*® are for the sixth edition.

- The approved WBS provides the basis for the project schedule. As such, there is a dependency between the Scope Management Plan and the Schedule Management Plan.

- The project team creates a baseline for the approved scope as defined through the scope statement and the WBS.

- Once the project team creates the baseline, it can only change through the formal change control process as defined in the Integrated Change Management Plan.

- Deliverables and other work products are an integral part of the scope. The Deliverable Management Plan describes the process for submission and review of deliverables, including Deliverable Expectation Documents (DEDs).

PRMES vendors should list dependencies for their specific project related to scope management.

3.4 Standards and References

PRMES vendors shall develop a Scope Management Plan, along with a WBS and entrance and exit criteria, based on this Scope Management Plan Aid and using the following industry standards and best practices:

- *A Guide to the Project Management Body of Knowledge® (PMBOK®)*, Seventh Edition, Project Management Institute® (PMI®), Chapter 5 – Project Scope Management

- *Practice Standard for Work Breakdown Structures,* Second Edition (Reaffirmed), PMI®

- *Capability Maturity Model Integration (CMMI®) for Development*, Version 1.3, Software Engineering Institute, Process Area: Project Planning; Specific Practice: Establish Estimates

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

4.0 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 scope 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: RACI Matrix for Scope Management

Task Area	PRMP Leadership	PRMP Program Director	PRMP PgMO	PRMP Project Lead	Vendor
Plan Scope	C	C	C	A	R
Create WBS	C	C	C	A	R
Validate Scope	I	C	I	A	R
Control Scope	I	I	I	A	R
Manage Project Life Cycle	I	C	I	A	R

4.1 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 MES Executive Steering Committee (ESC).

4.2   PRMP Program Director

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

The PRMP Program Director supervises program scope in terms of all benefits delivered by PRMES initiatives.

4.3   PRMP Project Lead

PRMP appoints a Project Lead to oversee each of the PRMES projects under 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.

PRMP Project Lead and the vendors shall be the individuals initially responsible for implementing the scope management processes defined in this plan.

The PRMP Project Lead will have oversight of the vendor Project Manager for defining, developing, monitoring, controlling, and verifying scope.

4.4   PRMP PRMES PgMO

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

Each vendor shall create an individual Scope Management Plan to manage scope and shall collaborate with the PRMP PgMO to gain approval of its processes.

4.5   Vendors

Vendors implementing one or more information technology projects or supporting other PRMP activities are responsible for developing a project-specific Scope Management Plan, obtaining PRMP and PRMP PgMO approval of the plan, and managing scope in accordance with that plan.

In accordance with the assumptions described in this document, PRMP anticipates that the vendors will maintain the scope according to their PRMP-approved Scope Management Plan. The vendor project manager will have joint responsibility with the PRMP project lead for defining, developing, monitoring, controlling, and verifying scope.

5.0 Scope Management Plan

Either as part of the PMP or as a separate stand-alone subsidiary plan, the vendor shall submit a Scope Management Plan. This plan shall contain, at a minimum:

- A scope statement

- A WBS with WBS dictionary

- A process for PRMP to validate the scope and approve the plan

- A description of how the vendor proposes to control scope

- A description of the project life cycle management

The following subsections describe each of these items.

5.1   Prepare Scope Statement

The scope statement is the description of the entire scope of the project, including both project and product scope. The scope statement describes in detail the product(s) resulting from the project. This description does not require a repetition of the detailed product requirements, but a high-level description of the products.

The scope statement provides a detailed description of the project deliverables and work products. This includes ancillary work products such as project management reports. In the scope statement, the vendor shall describe the deliverables at a summary level. The vendors shall provide a progressive elaboration of the deliverables and work products in DEDs as defined in the Deliverable Management Plan.

Vendors shall identify the exclusions to the scope in the scope statement. Explicitly stating both what is in scope and out of scope is important to confirm alignment of expectations between the vendors and PRMP.

5.2 Create WBS

Vendors shall provide a WBS as part of the PMP. This is a detailed, deliverable-based decomposition of the project work required to implement the product(s). This section describes the process for creating the WBS.

The most common tool for defining scope is the WBS. The *PMBOK Guide*® defines the WBS as "a hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables."

The Scope Management Plan submitted by the vendor shall contain a WBS. Where the project results in multiple products, the vendor may provide multiple WBSs. However, where there are common work packages among the products, the WBS shall identify and depict them.

5.2.3   WBS Terminology

Of all terms used in the WBS construct, the term *deliverable* is the most difficult. RFP and other solicitation documents frequently use the term *deliverable* to represent a physical document or product. In this context, a deliverable often represents a payment milestone.

The Scope Management Plan Aid, and resulting Scope Management Plan for each vendor, should use the term *deliverable* in accordance with the *PMBOK Guide*® definition: "Any unique and verifiable product, result, or capability to perform a service that is required to complete a process, phase, or project."

Table 4 presents other terms used in this document. For the most part, these definitions do not deviate from PMBOK® terminology.

Table 4: WBS Terminology

WBS Term	Definition
Work Breakdown Structure (WBS)	The WBS is a hierarchical decomposition of the work required to produce the desired product. The decomposition must be to the level of executable work packages.
Executable Work Packages (EWPs)	The EWPs are the last level of decomposition of the work; they represent a task or group of tasks that provides discrete results.
Project Work Plan	The Project Work Plan is an artifact that describes how the vendor plans to accomplish the work needed to implement the desired product. The project work plan is not a WBS, but it may contain a WBS.
Project Schedule	The Project Schedule represents *when* the vendor plans to accomplish the work. The WBS may provide the structure for the schedule, but PRMP must validate and approve the WBS prior to the review and approval of the schedule.
WBS Element	The WBS Element can be any single WBS component. An element may be the EWP, or it may be an interim component in the structure.

WBS Term	Definition
Level-of-Effort Work	The Level-of-Effort Work is a support-type activity that does not produce definitive work packages that roll up to the desired product. Level-of-Effort work consists of a uniform rate of work performed over time.

5.2.3   WBS Characteristics

Multiple characteristics of a WBS exist. Vendors should include these characteristics when developing their WBSs. The WBS decomposes the work into deliverables and further decomposes the deliverables into EWPs. The vendor must determine the level of detail of decomposition. There should be sufficient detail that the EWPs represent discrete components of work that projects can effectively manage.

The EWPs are unique and should not be duplicated across the WBS. For example, where a project has multiple products and there are common work packages that benefit all products, these work packages should only be represented once in the WBS.

WBSs are subject to the "100% Rule." This rule states that the WBS contains 100% of the work required to implement the product and complete the project successfully. The rule applies to all levels of the WBS. The sum of work at a "child" level in the WBS hierarchy must equal 100% of the work represented by the "parent."

The WBS should not include any work that falls outside the actual scope of the project. This includes level-of-effort work, such as project management office activity and other support activity.

Vendors may structure the WBS as an outline, an organization chart, or another method that characterizes the hierarchical structure.

5.2.4   WBS Dictionary

A WBS dictionary shall accompany the WBS the vendor submits. The WBS dictionary defines, details, and clarifies the WBS elements. The purpose of the WBS dictionary is to provide a detailed description of each WBS element and to communicate that detail to anyone referencing the WBS. For each WBS element, the WBS dictionary shall include:

- WBS element identifier

- A description of the work of the element

- Any assumptions, dependencies, or constraints

- The responsible organization

- Any schedule milestones associated with the element

5.3   Progressive Elaboration

Progressive elaboration is the iterative process of increasing the level of detail in a project plan as greater amounts of information and estimates that are more accurate become available. This process can produce more detailed and accurate WBSs as the project progresses.

Vendors' Scope Management Plans may use progressive elaboration techniques, such as rolling wave planning, provided the initial plan addresses—at least at a high level—all the deliverables and work packages that are known at the time of preparation of the plan. Further, if the vendors use progressive elaboration techniques, then they should add processes to ensure that they make updates to the WBS as soon as the additional information and more accurate estimates are known.

Progressive elaboration of the WBS might reveal work that was not initially part of the baseline, requiring a change request. The vendor should use the PRMP project-approved Change Management Plan for the process of creating and submitting change requests.

5.4 Validate Scope

The Scope Management Plan shall describe the processes that allows PRMP to validate and approve the scope. Once PRMP approves the scope statement and the WBS, the vendor creates a scope baseline. This section describes the process for validation of the scope, PRMP approval of the Scope Management Plan, and the process to maintain the integrity of the scope baseline.

Vendors shall include a process to validate scope in their Scope Management Plan. This process shall include a formal acceptance of the scope by PRMP. PRMP must approve the Scope Management Plan, including the WBS, prior to creating derivative work products, such as the project schedule.

5.5 Validate WBS

The WBS represents the scope. To validate the scope and approve the Scope Management Plan, PRMP shall use the checklist illustrated in Table 5.

Table 5: Scope Validation Checklist

WBS Characteristic	Y/N	Comment
Is the WBS a deliverable-oriented decomposition of the project work?		
Is the WBS a graphical, textual, or tabular breakdown of the scope?		
Does the WBS have at least two levels and one level of decomposition?		
Does the WBS employ a coding scheme for each WBS element that identifies its hierarchical position when viewed in any format, such as a chart or outline?		
Do the WBS and the Scope Management Plan define the entire scope of the project?		
Do the WBS and the WBS dictionary clarify the work and enable communication of the scope to the stakeholders?		
Does the WBS contain 100% of the work needed to implement the product(s)?		
Is the WBS constructed so that each level of decomposition contains 100% of the work in the parent level?		

WBS Characteristic	Y/N	Comment
Does the level of decomposition define the EWPs in sufficient detail so that the project team can specify estimates of project tasks, responsibilities, and schedule?		
Do the EWPs capture all deliverables and work products required in the contract?		
Do the EWPs define the deliverables and work products in a manner that the required work to produce the deliverables and work products can be determined?		
Does the WBS arrange the deliverables and work products in a hierarchical structure that includes interim work products?		
Were the WBS, WBS dictionary, and Scope Management Plan developed by those intended to perform the work?		

5.6   Establish the Scope Baseline

PRMP approval of the scope package shall constitute the scope baseline. As mentioned previously, the scope package consists of:

- The scope statement

- The WBS

- The WBS dictionary

5.7   Control Scope

This section provides guidance to vendors on how to manage and control scope. It also provides guidance on the use of the WBS to provide information on project progress, periodic status, and project performance.

The *PMBOK Guide*® defines scope creep as the "uncontrolled expansion to product or scope without adjustments to time, cost, and resources." Scope creep is a risk in any project, and project management must be attentive to prevent it.

Section 1 of this document made the distinction between the terms *project scope* and *product scope* and noted that this Scope Management Plan focused on the processes to help ensure that the project includes all the work and only the work needed to implement the specified product. It also referred to the Requirements Management Plan processes for controlling the product scope. However, the linkage between the two could result in scope creep through either product scope expansion or scope expansion.

Another source of scope creep is the discovery of additional work during updates of the WBS when using progressive elaboration techniques.

A third source of scope creep is when project stakeholders request that a vendor perform work that is not necessary to successfully complete the project. The Scope Management Plan shall include processes through which the vendor can identify work requested by stakeholders and to determine if the work is necessary to successfully complete the project. The vendor should share any such requests immediately with the PRMP project manager. In general, the process should be consistent with the implementation change control processes.

The Scope Management Plan, submitted by the vendors, shall describe the processes to manage and control the scope of the project. The processes shall include:

- Removing ambiguity in the product requirements through the requirements validation process (see the Requirements Management Plan)

- Managing the product scope through the Requirements Traceability Matrix as defined in the Requirements Management Plan

- Refining scope and removing any ambiguity in the work effort during the development of the WBS and WBS dictionary

- Managing the scope through regular progress reporting

Sometimes, the scope creep might result in an approved change in the scope. Any such change must be consistent with the change control process defined in the vendor's approved Change Management Plan.

5.8   Manage Project Life Cycle

Vendors shall provide a description of their proposed development life cycle in the PMP. This section provides a detailed description of the phase-based project life cycle along with the phase entrance and exit criteria. This section also discusses the integration of the Medicaid Enterprise Certification Life Cycle (MECL), outcomes-based certification, and the PRMP project life cycle as applicable. The section provides guidance to the vendors to integrate their development life cycle with the project life cycle, as applicable.

As mentioned in Section 1 of this document, CMS requires, as part of the Modularity Standard, that projects have a defined SDLC that has distinct, well-defined phases. PRMP meets this requirement using a project phase entrance and exit criteria process. PRMP has used this process in prior projects to help manage scope and confirm that the vendor has successfully completed a project phase and is fully prepared to initiate the next phase.
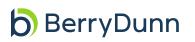
This document uses the *PMBOK Guide*® definition of the project life cycle as "the series of phases that a project passes through from its start to its completion." This definition makes a distinction between the project life cycle and the development life cycle. Although the latter can be either predictive or adaptive, the former is predictive.

Vendors shall include a proposed set of entrance and exit criteria for each project phase. PRMP project manager and the vendor's project manager shall refine and finalize the entrance and exit criteria during the project initiation phase.

Table 6 presents a sample of entrance and exit criteria for the initiation phase of a system development project. The vendor is not required to use these sample criteria, but entrance and exit criteria must include the listed fields, at a minimum.

Table 6: Entrance and Exit Criteria Sample

ID	Criterion	Verification Process	Comments	Met? (Y/N)
Initiation Phase Entrance Criteria				
	Contract Signed	Signed contract posted to configuration management repository		
	Approved Project Charter	Project Charter approved by project sponsor and posted to configuration management repository		
Initiation Phase Exit Criteria				
	Project Kickoff Meeting Completed	Notes from Kickoff Meeting approved and posted to configuration management repository		
	Initial Risk Meeting Conducted	• Risk register updated • Meeting notes approved and posted to configuration management repository		

ID	Criterion	Verification Process	Comments	Met? (Y/N)
	Lessons Learned Updated	Lessons learned document updated and posted to configuration management repository		

Vendors shall complete a full set of criteria for all project life cycle phases in the development of their Scope Management Plan.

Appendix A: Acronyms List

Table 7 presents acronyms and abbreviations used in this document.

Table 7: Common Acronyms and Abbreviations

Acronym	Definition
CHIP	Children's Health Insurance Program
CMMI®	Capability Maturity Model Integration®
CMS	Centers for Medicare & Medicaid Services
DED	Deliverable Expectation Document
EOMC	Enterprise Objective Monitoring and Control
ESC	Executive Steering Committee
EWP	Executable Work Package
KL	KnowledgeLink
OIAT	Oficina de Informática y Avances Tecnológicos
MECL	Medicaid Enterprise Certification Life Cycle
PgMO	Program Management Office
PMBOK®	*A Guide to the Project Management Body of Knowledge*®
PMI®	Project Management Institute®
PMP	Project Management Plan
PRDoH	Puerto Rico Department of Health
PRMES	Puerto Rico Medicaid Enterprise Systems
PRMP	Puerto Rico Medicaid Program
RACI	Responsible, Accountable, Consulted, and Informed
RFP	Request for Proposals
SDLC	System Development Life Cycle
WBS	Work Breakdown Structure