

# Medicaid Enterprise Systems

## Analysis of Alternatives

### Document Version History

| Version Number | Date Updated | Update Description | Updated By | Approved By |
|----------------|--------------|--------------------|------------|-------------|
|                |              |                    |            |             |
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|                |              |                    |            |             |

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**Instruction:**

Remove all instructions before submission.

## AoA Background

An Analysis of Alternatives (AoA) is a structured, comprehensive process used in information technology (IT) project management to evaluate multiple potential solutions before selecting the most effective approach. It enables stakeholders to make informed, objective decisions by comparing each alternative's strengths, weaknesses, risks, costs, and benefits. The AoA may also reveal opportunities to leverage existing solutions or adopt new technologies, ensuring that states consider a range of options to identify the most efficient, economical, and effective path forward.

As described under 45 CFR §95.610, states must complete an AoA—including reuse considerations—during the planning phase or prior to initiating new system implementations, system replacement or takeover, and/or hardware acquisitions.

States are expected to “promote sharing, leverage, and reuse of Medicaid technologies and systems within and among states.” Guidance on reuse is detailed in State Medicaid Director Letter (SMDL) #18-005, issued by CMS on April 18, 2018. Leverage and reuse are key considerations as state Medicaid Agencies conduct their AoA and meet Conditions for Enhanced Funding (CEF).

## Using This Document

This AoA template is designed to help states efficiently document their analysis and rationale for selecting a solution for an MES project. States are encouraged to reuse relevant content from Advance Planning Documents (APD) or other existing materials when completing the template.

All sections of the AoA template should be completed. If a section is left incomplete, the state must provide a justification. The examples provided are illustrative and can be modified to reflect the specifics of the state's project. Submissions missing required sections without explanation will be considered incomplete by CMS.

CMS also recommends that states update the AoA as needed. Keeping the analysis current ensures that the most accurate and relevant information informs decisions.

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# AoA Executive Summary

**Instruction:**

Complete each section of the AoA using the CMS-provided guidance and checklist tables. If there is a reason any of the checklist items cannot be included, please note this rather than omitting the item.

Before delivery, delete all instructions and guidance tables in the template. If the state elects to adopt any of the sample text, please update and reformat the text before submitting the AoA.

## Table A: Guidance for AoA Executive Summary

| Template Information | Description   |
|----------------------|---|
| <b>Guidance</b>      | <p>An AoA executive summary should encapsulate the key findings, conclusions, and recommendations of the analysis. The executive summary section should be no longer than one (1) page.</p> <p>Complete Sections 1 through 6 of the AoA first. Once the AoA is complete, return to this Executive Summary section and summarize key findings, conclusions, and recommendations in a few paragraphs.</p> <p>The target audience of this section is the executive leadership team of the State Medicaid Agency (SMA), State Office of Information Technology (IT), and CMS.</p> |

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# 1. AoA Approach

## Table B. Guidance and Checklist for AoA Approach

| Template Information | Description  |
|----------------------|--|
| <b>Guidance</b>      | <p>A complete AoA begins with a well-crafted approach that delineates responsibilities and guides the analysis process. It is driven by the needs of the project stakeholders and decision-makers, previous analyses, and constraints.</p> <p>In this section, states should detail their approach to conducting the AoA. This is sometimes called an AoA Study Plan.</p> <p>The AoA approach section should not exceed two (2) pages.</p>   |
| <b>Checklist</b>     | <ul style="list-style-type: none"><li>Explain the scope of the AoA and how it was defined, who participated in the AoA exercise, and how they were identified or selected.</li><li>Explain how and where participants collaborated, the state's approach to documentation, key AoA milestones, and the time frames associated with the overall exercise.</li><li>Provide the state's approach to identifying, analyzing, and selecting alternatives, along with the methods to remove bias.</li><li>Provide details on any other key methodology for developing the AoA.</li><li>If the state has AoA process documents, a study/project plan, or an internal "scope of work," include these items here or as an appendix.</li></ul> |

[Click **here** and type text.]

# 2. Market Research

## Table C. Guidance and Checklist for Market Research

| Template Information | Description  |
|----------------------|--|
| <b>Guidance</b>      | <p>Use this section to describe the state's market research under consideration for this project. Market research is the systematic gathering and analysis of information about vendors, state-supported products/solutions, market trends, pricing, and product availability to support informed decision-making.</p> <p>In the context of an MES project, the state's market research should include a search of current solutions that are (1) available on the market or used in other agencies, (2) in the state's enterprise, or (3) in other state, federal, and local government organizations. The process may entail surveys, phone calls, an official request for information (RFI), or professional contacts, and must be documented along with the search results.</p> <p>This research is essential because it may also reveal opportunities for partnerships to enable CMS and states to leverage existing IT assets effectively.</p> <p>In evaluating options for building a state MES, the state should select solutions that maximize partnership and can be acquired by leveraging an existing contract through a partnership with another State, District, or Territory.</p> |
| <b>Checklist</b>     | <p><b>For the Market Research:</b></p> <ul style="list-style-type: none"><li>• Describe how the market research was conducted and the options selected for consideration.</li><li>• The submission must contain an explanation if leveraging an existing partnership, creating a new partnership, or reusing systems components from another State/District/Territory are not among the options selected.</li></ul>  |

[Click **here** and type text.]

### 2.1 Market Research

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# 3. Evaluation Criteria

## Table D. Guidance and Checklist for Evaluation Criteria

| Template Information | Description  |
|----------------------|--|
| <b>Guidance</b>      | <p>Alternatives must be compared in a thorough and non-biased fashion. This section should include:</p> <ol style="list-style-type: none"> <li>1. A brief explanation of the process for choosing the evaluation criteria.</li> <li>2. A table identifying and defining the evaluation criteria (including considerations and benchmarks for evaluation and scoring).</li> <li>3. A scoring guide to assess the alternatives.</li> </ol> <p>Criteria should align with the project goals, requirements, and constraints. Evaluation criteria <b>must include, but are not limited to, partnerships, reuse, functionality, and estimated cost</b>. Other standard criteria are ease of implementation, risks/issues, scalability, user experience, innovation potential (use of modern tools/technology stacks), organizational impact, schedule, maintainability, security, and accessibility. Consider having stakeholders vote on the most critical selection criteria based on business and technical needs and weigh the criteria accordingly. If the criteria are not weighted, remove that column from Table E.</p> <p>Assigning weights reflects the criterion's importance to the business and Medicaid program and is used in calculating the score. The weights should add up to 100 percent or 1.0.</p> |
| <b>Checklist</b>     | <ul style="list-style-type: none"> <li>• Summarize evaluation criteria selection methodology, including the weighting, if applicable.</li> <li>• Describe the state-specific analysis criteria (optional to use Table E).</li> <li>• The description of each criterion in Table E should assist the stakeholders in scoring.</li> <li>• Identify the scoring guide in Table F based on the state's preferred approach (optional to use Table F).</li> <li>• Ensure that the scoring approach applies consistently across all criteria in Table E.</li> </ul>   |

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### 3.1 Evaluation Methodology

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## Table E. Example Alternatives Analysis Criteria

| Criteria               | Description   | Weight |
|------------------------|---|--------|
| Partnerships           | The solution can be acquired by leveraging an existing contract through a partnership with another State, District, or Territory.   |        |
| Reuse                  | Solution adapts existing capabilities within the state, capabilities in use by another state, or those available from the vendor community, with minimal customization and/or incorporates reuse into the design of new capabilities. |        |
| Functionality          | Solution meets the technical requirements and functional specifications identified by the state. (Each alternative may be scored against multiple requirements.)  |        |
| Estimated Cost         | The solution is evaluated for its total estimated cost of ownership, including design, development, testing, training, migration, implementation, licensing, and operations and maintenance.  |        |
| Ease of Implementation | Solution can be implemented without disrupting existing operations. Solution can be implemented using minimal configuration, as opposed to custom development, to meet non-financial business needs and objectives.                   |        |
| Risks/Issues           | Expectations for the overall solution risk/issues are low. (Each alternative may be scored against multiple risks.)   |        |
| Scalability            | Solution can effectively and efficiently scale with the project's growth and changing needs.  |        |
| User Experience        | Solution is user friendly, and the end users will not require extensive ongoing training.   |        |
| Innovation Potential   | Solution is well-positioned to support future technical enhancements and leverages modern tools/technology stacks.  |        |
| Organizational Impact  | Solution can be supported by the current organizational and personnel structure and constraints.  |        |
| Schedule               | Solution will be implemented within a time frame that meets the business needs.   |        |
| Maintainability        | Solution could be difficult or costly to maintain during the operational phase.   |        |
| Security               | Solution will conform to government and industry security standards.  |        |
| Accessibility          | Solution meets accessibility standards established under Section 508 of the Rehabilitation Act or standards that provide greater accessibility for individuals with disabilities and comply with federal civil rights laws.           |        |

## 3.2 Scoring Guide

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## Table F. Scoring Guide (Example)

| Score | Description  |
|-------|--|
| 1     | The alternative is not viable because it does not meet the criterion.  |
| 2     | The alternative is suboptimal because it requires more than minimum custom development to meet the needs of the criterion. |
| 3     | The alternative meets the needs of the criterion with minimum configuration.   |
| 4     | The alternative meets the basic needs out of the box with existing functionality.  |
| 5     | The alternative exceeds the basic needs, offering a significant competitive advantage.                                     |

# 4. Identification and Evaluation of Alternatives

**Table G. Guidance and Checklist for Identification and Evaluation of Alternatives**

| Template Information | Description   |
|----------------------|---|
| <b>Guidance</b>      | <p>This section should define and document the various alternatives or solutions under consideration. These alternatives or solutions may include different technologies, vendors, implementation strategies, or combinations thereof. The state describes the current state or at least two proposed alternatives (a minimum of at least three alternatives in the absence of a legacy solution).</p>  |
| <b>Checklist</b>     | <p>For each alternative, provide:</p> <ul style="list-style-type: none"> <li>• <b>Background</b> on the solution via a short narrative.</li> <li>• <b>Risk summaries*</b> – include technical risks, project management risks, and any other factors that may impact the success of the IT project.</li> <li>• A <b>qualitative and/or quantitative assessment</b> against the goals/objectives, requirements, and other criteria identified in Section 3 (inclusive of reuse and functionality).</li> </ul> <p><b>* For risk/issues summaries:</b> Describe the risks and issues. Consider the effects and magnitude of the alternative to the existing business and technical architecture. Impacts may include:</p> <ul style="list-style-type: none"> <li>• Modification/optimization/elimination of existing processes, procedures, and systems.</li> <li>• Integration of processes and procedures within or across business units.</li> <li>• Interruption to service.</li> <li>• Modification of organizational structure.</li> <li>• Modification of service level agreements.</li> <li>• Development of technical staff skills and experience in operations and maintenance.</li> <li>• Impacts on providers and beneficiaries.</li> </ul> <p><b>** For cost-analysis:</b></p> <ul style="list-style-type: none"> <li>• Identify estimated costs, include the cost for implementations and M&amp;O.</li> <li>• Use the same cost model for all alternatives and provide the model in the appendices.</li> </ul> |

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## 4.1 Alternative 1

[Click **here** and type text.]

## 4.2 Alternative 2

[Click **here** and type text.]

## 4.3 Alternative 3

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# 5. Evaluation Matrix

## Table H. Guidance and Checklist for Evaluation Matrix

| Template Information | Description  |
|----------------------|--|
| <b>Guidance</b>      | In this section, the state provides an evaluation matrix or rubric for scoring each alternative against the evaluation criteria from Section 3. Including a rubric in the AoA process enhances transparency and objectivity by providing a structured framework for evaluating alternatives. A rubric also ensures that all stakeholders use established criteria and weights in the decision-making process to increase reliability and rigor in the evaluation. The rubric should be well-defined, clearly communicated, and consistently applied across all alternatives.   |
| <b>Checklist</b>     | <ul style="list-style-type: none"> <li>For each alternative, assess and score its performance against each criterion using the scoring system provided in the Scoring Guide in Section 3.</li> <li>Optionally, weights can be applied to criteria if certain factors are deemed more critical than others. Multiply the score by the assigned weight for each criterion.</li> <li>Obtain a total score by summing up the weighted scores for each alternative.</li> <li>The alternative with the highest total score may be considered the most favorable option, which should be annotated in the solution rank section of the table.</li> <li>Remember to customize the rubric based on your project's specific needs, objectives, and context. Adjust the criteria, weights, and scoring system to align with the analysis's priorities and goals.</li> </ul> |

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## Table I. Evaluation Matrix (Example)

| Criteria                      | Weight              | Score:<br>Alternative 1                            | Score:<br>Alternative 2                            | Score:<br>Alternative 3                            |
|-------------------------------|---------------------|--|--|--|
| Delete this row for delivery. | Copied from Table E | Score (per Scoring Guide), then multiply by weight | Score (per Scoring Guide), then multiply by weight | Score (per Scoring Guide), then multiply by weight |
| Partnerships                  |                     |  |  |  |
| Reuse                         |                     |  |  |  |
| Functionality                 |                     |  |  |  |

| Criteria               | Weight | Score:<br>Alternative 1 | Score:<br>Alternative 2 | Score:<br>Alternative 3 |
|------------------------|--------|-------------------------|-------------------------|-------------------------|
| Estimated Cost         |        |                         |                         |                         |
| Ease of Implementation |        |                         |                         |                         |
| Risks/Issues           |        |                         |                         |                         |
| Scalability            |        |                         |                         |                         |
| User Experience        |        |                         |                         |                         |
| Innovation Potential   |        |                         |                         |                         |
| Organizational Impact  |        |                         |                         |                         |
| Schedule               |        |                         |                         |                         |
| Maintainability        |        |                         |                         |                         |
| Security               |        |                         |                         |                         |
| Accessibility          |        |                         |                         |                         |
| Total                  |        |                         |                         |                         |
| Solution Rank          |        |                         |                         |                         |

## 6. AoA Identified Solution

**Table J. Guidance and Checklist for AoA Identified Solution**

| Template Information | Description   |
|----------------------|---|
| <b>Guidance</b>      | This section must present a well-informed decision regarding the selection of the identified solution based on the evaluation matrix. The narrative should highlight the chosen solution's benefits and mitigations for any areas in which it did not score well. |
| <b>Checklist</b>     | <ul style="list-style-type: none"><li>• Provide a short narrative on the identified solution.</li></ul>   |

[Click **here** and type text.]