October 26, 2020

The Honorable Ronald D. Kouchi,  
President, and  
Members of The Senate  
Twenty-Ninth State Legislature  
Hawaii State Capitol, Room 409  
Honolulu, Hawaii  96813

The Honorable Scott K. Saiki,  
Speaker, and  
Members of The House of Representatives  
Twenty-Ninth State Legislature  
Hawaii State Capitol, Room 431  
Honolulu, Hawaii  96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

Pursuant to HRS section 27-43.6, which requires the Chief Information Officer to submit applicable independent verification and validation (IV&V) reports to the Legislature within ten days of receiving the report, please find attached the report the Office of Enterprise Technology Services received for the State of Hawaii Department of Health Hawaii BHA Integrated Case Management System Project.

In accordance with HRS section 93-16, this report may be viewed electronically at http://ets.hawaii.gov (see “Reports”).

Sincerely,

DOUGLAS MURDOCK  
Chief Information Officer  
State of Hawai‘i

Attachment (2)
Hawaii BHA Integrated Case Management System Project – Phase 3

Final IV&V Report for the period of
September 1 – September 30, 2020

Final submitted: October 9, 2020
Agenda

Executive Summary
IV&V Findings & Recommendations

Appendices

• A – Rating Scales
• B – Inputs
• C – Project Trends
Executive Summary

There were no planned functional release deployments into production for September. The Project Team has done well during this reporting period to establish single environments for both SIT and UAT to effectively test all functionality for a given release. IV&V has opened a new finding (Medium Issue) which addresses the need for improved quality.

The RSM Team continued to provide essential support during September alleviating some of the bandwidth concerns expressed by DOH to meet crucial project needs. IV&V continues to recommend that BHA seek additional state technical resources to help support on-going development work.

The Project continues to make good progress on the planning and execution of all three iterations for Release 3.10 as well as the Help Desk and Semantic Layer/Business Intelligence workstreams. IV&V notes there has been a higher than expected volume of M&O User Story Points for R3.10.

<table>
<thead>
<tr>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Category</th>
<th>IV&amp;V Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Sprint Planning</td>
<td>There were no substantive changes for this category which remains Yellow (medium criticality) for the September reporting period. The BHA Technical Team’s bandwidth is still a concern and the need for BHA to continue to pursue additional skilled technical MS Dynamics resources to permanently fill their technical support needs and increased volume of work is still recommended. IV&amp;V will continue to monitor this risk moving forward.</td>
</tr>
<tr>
<td>G</td>
<td>G</td>
<td>G</td>
<td>User Story (US) Validation</td>
<td>IV&amp;V reports no active findings for User Story (US) Validation category which remains Green (low criticality) for the September reporting period. IV&amp;V will continue to monitor the US development and validation process in upcoming reporting periods.</td>
</tr>
<tr>
<td>G</td>
<td>Y</td>
<td>Y</td>
<td>Test Practice Validation</td>
<td>The criticality rating for this category remains a Yellow (medium) for the September reporting period. IV&amp;V was not able to observe improvements to regression testing as there were no production releases in September. Despite this, IV&amp;V has observed updates to release schedules to allow for regression testing timeframes.</td>
</tr>
</tbody>
</table>
# Executive Summary

<table>
<thead>
<tr>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Category</th>
<th>IV&amp;V Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Release / Deployment Planning</td>
<td>The criticality rating for this category remains Yellow (medium) for the September reporting period. The Project Team has addressed IV&amp;V’s concerns regarding non-production environment differences and have established single environments with all functionality for both SIT and UAT.</td>
</tr>
<tr>
<td>G</td>
<td>G</td>
<td>G</td>
<td>OJT and KT Sessions</td>
<td>The criticality rating for the OJT and KT Sessions category remains Green (low) for the September reporting period with no active findings.</td>
</tr>
<tr>
<td>G</td>
<td>G</td>
<td>G</td>
<td>Targeted KT</td>
<td>The Targeted KT criticality rating remains Green (low) for the September reporting period. A new preliminary concern was added in September to address the needs for knowledge transfer of the Semantic Layer Reporting and IDM tools.</td>
</tr>
<tr>
<td>G</td>
<td>G</td>
<td>G</td>
<td>Project Performance Metrics</td>
<td>IV&amp;V has discontinued the Project Performance Metrics reporting until the next agile release R3.11.</td>
</tr>
<tr>
<td>G</td>
<td>G</td>
<td>G</td>
<td>Organizational Maturity Assessment</td>
<td>The criticality rating for the Organization Maturity Assessment (OMA) will remain Green (low) up through the completion of R3.10 when the next agile release will be implemented.</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Project Management</td>
<td>The criticality rating for the Project Management category remains Yellow (medium) for the month of September. DDD continues to refine their Resource Plan for their priority resource needs. The Project Team continues to fare well despite the COVID-19 pandemic. Although BHA submitted its IAPDU to DHS on July 1st, CMS approval of the BHA IAPDU is still pending which places the project at risk.</td>
</tr>
</tbody>
</table>
As of the September 2020 reporting period, there are a total of four open findings – two Medium Issues and three Medium Risks spread across the Sprint Planning, Release / Deployment Planning, Test Practice Validation, Targeted Knowledge Transfer, and Project Management assessment areas.
IV&V Findings & Recommendations
IV&V Findings & Recommendations
Assessment Categories

Throughout this project, IV&V will verify and validate activities performed in the following process areas:

• Sprint Planning
• User Story Validation
• Test Practice Validation
• Release / Deployment Planning
• On-the-Job Training (OJT) and Knowledge Transfer (KT) Sessions
• Targeted Knowledge Transfer (KT)
• Project Performance Metrics
• Organizational Maturity Assessment
• Project Management
# IV&V Findings & Recommendations

## Sprint Planning

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td><strong>Medium Risk</strong> - The BHA Technical Team bandwidth may not be adequate to meet the needs of the project, which could compromise project productivity. There were no substantive changes to this finding during September. IV&amp;V will continue to monitor.</td>
<td>M</td>
</tr>
</tbody>
</table>

### Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Project should investigate mechanisms of increasing the bandwidth of the BHA Technical Team, either by adding resources through new hires, or vendor contracts.</td>
<td>In progress</td>
</tr>
<tr>
<td>• The Project should assess, where possible, if there are responsibilities of the BHA Technical Team that can be reassigned to other project staff.</td>
<td>In progress</td>
</tr>
<tr>
<td>• The Project should evaluate where process inefficiencies can be addressed and streamlined to possibly free up the BHA Technical Team’s availability.</td>
<td>In progress</td>
</tr>
<tr>
<td>• The Project should consider the formation of a first level M&amp;O resource team to triage/address production defects in a timely manner, without disrupting new development work.</td>
<td>In progress</td>
</tr>
</tbody>
</table>
# IV&V Findings & Recommendations

## Test Practice Validation

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><strong>Medium Issue</strong> – As a result of regression testing not being consistently performed, production releases are breaking and/or deprecating existing functionality in the production environment. No releases were planned for the month of September and consequently regression testing was not performed. IV&amp;V will continue to monitor this issue for upcoming releases.</td>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Updating the regression test scripts to ensure consistency with system configuration.</td>
<td>Completed</td>
</tr>
<tr>
<td>• Modifying release schedules to allow for regression testing timeframes.</td>
<td>Completed</td>
</tr>
<tr>
<td>• Planning releases by functionality type to avoid unnecessary repetitive work being performed in any given section of the solution.</td>
<td>Completed</td>
</tr>
</tbody>
</table>
## IV&V Findings & Recommendations
### Test Practice Validation (cont’d)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Performing regression testing after every release, or possibly every other release, or potentially tying regression tests to full solution upgrade releases. In addition, consider alternating the DDD and CAMHD scripts every other release.</td>
<td>Completed</td>
</tr>
<tr>
<td>• Modifying regression test scripts to start AFTER case creation, limiting the time it takes to execute.</td>
<td>Completed</td>
</tr>
<tr>
<td>• Modify the deployment scripts based on information gained from previous release deployments.</td>
<td>Completed</td>
</tr>
<tr>
<td>• Pursuing additional formal training in AzureDevOps for test automation at the earliest possible juncture and commence efforts to automate at least the 2 primary regression test scripts.</td>
<td>Open</td>
</tr>
<tr>
<td>• Consulting with RSM to determine how the ‘interim testing processes’ can be improved until such time that automated testing is available for repeatable and complete industry standard regression testing.</td>
<td>Completed</td>
</tr>
<tr>
<td>• Implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed.</td>
<td>Completed</td>
</tr>
</tbody>
</table>
## Release / Deployment Planning

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td><strong>Medium Risk</strong> - Due to the project not following a detailed deployment script, the project may continue to experience defects related to deployment activities. The Project Team efforts to ensure that all functionality of any given release are available to be tested in a single environment for both SIT and UAT were completed as of the week of 9/25/20. Other non-production environments were re-purposed to support the current Release 3.10 development, test, and deployment activities, as well as to set up the Teams for the development and testing of Agile Release 3.11. IV&amp;V will continue to monitor this risk.</td>
<td>M</td>
</tr>
</tbody>
</table>

### Recommendations

<table>
<thead>
<tr>
<th></th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IVV recommends documenting deployment scripts for both the patch method and the full solution upgrade method. The script(s) should be in the form of a step-by-step procedure that walks through from start to finish of the deployment process and involve several technical staff to ensure staff availability to accomplish these tasks when primary deployment personnel are unavailable.</strong></td>
<td>Completed</td>
</tr>
<tr>
<td><strong>Standardize the content of all developer deployment task notes, with a goal of eliminating any potential ambiguity to the Deployment Team, resulting in a cleaner and more repeatable set of deployment processes and instructions.</strong></td>
<td>Completed</td>
</tr>
</tbody>
</table>
## IV&V Findings & Recommendations

### Release / Deployment Planning (cont’d)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• As appropriate, consult with RSM on best practices that BHA could employ to support deployment.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• Look at implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed.</td>
<td>Completed</td>
</tr>
<tr>
<td>• Request the assistance of the RSM Solution Architect in reviewing and correcting issues associated with consistency of the configurations across environments, ensuring that the test environment is capable of testing ALL functions of any given release without the need for using multiple test environments.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• Request the assistance of the RSM Solution Architect in review of deployment scripts as a double check for accuracy and completeness prior to commencing deployment activities.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• Ensure an operational and fully functional test environment is available to effectively conduct end-to-end regression testing prior to deploying a release to production.</td>
<td>Completed</td>
</tr>
<tr>
<td>• The Project Team should consider evaluating potential changes to improve/enhance existing processes and communications to address current release/deployment shortfalls.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• IV&amp;V recommends performing a Root Cause Analysis in collaboration with RSM for the continued concerns surrounding environment differences.</td>
<td>In Progress</td>
</tr>
</tbody>
</table>
# IV&V Findings & Recommendations

## Targeted KT

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td><strong>New Preliminary Concern</strong> – Usage of Semantics and IDM for development and ongoing maintenance of the system requires BHA to take a proactive approach to support of these tools. The project noted its intent to obtain more targeted knowledge transfer for both the Semantics Reporting and IDM tools. IV&amp;V will continue to monitor this concern.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• IV&amp;V recommends BHA continue to work with RSM to schedule and execute Semantic Layer Reporting and IDM targeted KT sessions to better understand the tools and how to support them.</td>
<td>New</td>
</tr>
</tbody>
</table>
## IV&V Findings & Recommendations
### Project Management

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td><strong>Medium Risk</strong> - The COVID-19 pandemic and the related &quot;stay at home&quot; order could hinder project activities and negatively impact the project schedule and budget. The Stay at Home/Work from Home Order was extended by the Mayor of the City and County of Honolulu for an additional 2 weeks, which subsequently expired on 9/23/2020. On 9/22/2020, the Mayor announced the new City and County of Honolulu Reopening Framework. The Reopening Framework provides a cautious approach to re-opening the economy. Regardless of any Executive Orders to date, the project continues to operate effectively with staff working remotely. IV&amp;V notes that key project staff have voiced concerns about recent increases in participation of non-project activities to support the COVID-19 crisis. IV&amp;V continues to note that there may also be future potential budget actions by the Governor which may affect the project, including staff furloughs.</td>
<td>M</td>
</tr>
</tbody>
</table>

### Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• IV&amp;V recommends BHA to ramp up efforts to setup, train, and assist stakeholders on remote work devices and tools and make every effort to help them to become highly functional with remote access technology (e.g. MS Teams/Skype).</td>
<td>Completed</td>
</tr>
<tr>
<td>• IV&amp;V recommends the project and DOH create a detailed, documented risk mitigation strategy and plan that is reviewed regularly and revised to address the current state of the COVID-19 threat and related impacts over the next 6 to 12 months.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• IV&amp;V recommends updates to the OCM Plan to include any new activities or updates to planned activities to aid the organization through this COVID-19 situation in the short and long term.</td>
<td>Open</td>
</tr>
</tbody>
</table>
### IV&V Findings & Recommendations
#### Project Management (cont’d)

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td><strong>Preliminary Concern – DDD Project staffing shortages may have a continued negative effect on user adoption, training, and overall OCM activities.</strong> DDD continues to refine its draft plan for their priority resource needs. DDD continues to work on developing a procurement to assist with user adoption training and overall OCM activities. As an option, DDD is also considering procurement of tools to provide interactive training for onboarding new staff members and providing refresher training.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• IV&amp;V recommends that DOH pursue the addition of an OCM resource(s) to re-enforce and manage the effect of new business processes on staff members and who would facilitate with user adoption and training on the system to ensure it is being utilized as intended.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• Develop a plan to identify, prioritize, and track DDD resource needs which need to be filled.</td>
<td>In Progress</td>
</tr>
</tbody>
</table>
### IV&V Findings & Recommendations

#### Project Management (cont’d)

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td><strong>Preliminary Concern – PII/PHI data in non-production environments.</strong> DOH recognizes this concern and is in the process of establishing a plan to manage this data. When completed, this plan will include reducing the volume of PHI/PII data in non-production environments as well as mask PHI/PII data that is required for project activities. IV&amp;V will continue to monitor this preliminary data security concern.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Recommendations**

- IV&V recommends if production data is necessary in any non-production environment that DOH establishes a plan for effectively managing the security of the PII/PHI data, including the potential masking of data.

**Status**

- In Progress
### IV&V Findings & Recommendations

#### Project Management (cont’d)

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td><strong>Preliminary Concern – Project unable to access activity logs.</strong> DOH reported that Microsoft’s implementation of the logging features is split between mandatory and non-mandatory components. The mandatory components were released by Microsoft during the week of 9/14/2020, and the rollout of this functionality is currently in process for DOH’s non-production environments. Release of the optional components are scheduled by Microsoft for 10/31/2020. IV&amp;V will continue to monitor.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• IV&amp;V recommends that DHS continues to collaborate with Microsoft until the activity logging feature is available in all BHA non-production environments.</td>
<td>In Progress</td>
</tr>
</tbody>
</table>
New Medium Issue – Due to multiple quality concerns, the project may continue to face impactful system defects. System defects identified in August that affected claims were due to multi-faceted quality issues were individually addressed during this reporting period. IV&V notes that there is one remaining defect still being evaluated that affects a limited number of claims. Overall, the Project Team has responded with a commitment to increase project quality and is in the process of identifying improvements to associated testing processes. These currently include:

- Performing Revenue Neutrality Testing to ensure expected revenue streams are largely unchanged from one period to the next.

IV&V will continue to monitor the testing efforts throughout the balance of Release 3.10 and validate that enhanced quality processes, including industry standard regression testing, continue for Agile Release 3.11 forward.

Finally, IV&V reviewed and provided feedback on the Help Desk and Semantic Layer design documents per request and found that both documents lacked design details.

<table>
<thead>
<tr>
<th>#</th>
<th>Key Findings</th>
<th>Criticality Rating</th>
</tr>
</thead>
</table>
| 15 | **New Medium Issue** – Due to multiple quality concerns, the project may continue to face impactful system defects. System defects identified in August that affected claims were due to multi-faceted quality issues were individually addressed during this reporting period. IV&V notes that there is one remaining defect still being evaluated that affects a limited number of claims. Overall, the Project Team has responded with a commitment to increase project quality and is in the process of identifying improvements to associated testing processes. These currently include:  
  - Performing Revenue Neutrality Testing to ensure expected revenue streams are largely unchanged from one period to the next.  
IV&V will continue to monitor the testing efforts throughout the balance of Release 3.10 and validate that enhanced quality processes, including industry standard regression testing, continue for Agile Release 3.11 forward.  
Finally, IV&V reviewed and provided feedback on the Help Desk and Semantic Layer design documents per request and found that both documents lacked design details. | M |

**Recommendations**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Perform revenue neutrality fiscal balance testing on a monthly basis to ensure revenues are as expected.</td>
<td><strong>In Progress</strong></td>
</tr>
<tr>
<td>• Perform typical project testing including System Integration, User Acceptance, Performance, and Regression Testing.</td>
<td><strong>In Progress</strong></td>
</tr>
</tbody>
</table>
# IV&V Findings & Recommendations
## Project Management (cont’d)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Assign dedicated resources to provide oversight of CAMHD Fiscal Processes.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• BHA and RSM to collaborate on the necessary revisions to the submitted design deliverables to increase level of detail and quality.</td>
<td>New</td>
</tr>
<tr>
<td>• Monitor implemented improvements for effectiveness.</td>
<td>New</td>
</tr>
</tbody>
</table>
### IV&V Findings & Recommendations

#### Project Performance Metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
<th>IV&amp;V Observations</th>
<th>IV&amp;V Updates</th>
</tr>
</thead>
</table>
| Velocity | • Review and validate the velocity data as reported by the project  
• Verify the project is on pace to hit the total target number of US/USP for Phase 3 | N/A | IV&V has suspended the Velocity Metrics reporting for the R3.10 & R3.11 scrum-waterfall releases. This metrics reporting will commence at the next agile release. |
# IV&V Findings & Recommendations

## Project Performance Metrics (cont’d.)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
<th>IV&amp;V Observations</th>
<th>IV&amp;V Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Point Estimates vs Actuals</td>
<td>• Verify the project is tracking US Point estimates and actual data</td>
<td></td>
<td>IV&amp;V has suspended the US Point Estimates vs Actuals Metrics reporting for the R3.10 &amp; R3.11 scrum-waterfall releases. This metrics reporting will commence at the next agile release.</td>
</tr>
<tr>
<td></td>
<td>• Determine the delta between estimates and actuals</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Based on the delta (if any) investigate the potential root cause for the delta</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## IV&V Findings & Recommendations

### Project Performance Metrics (cont’d.)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
<th>IV&amp;V Observations</th>
<th>IV&amp;V Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defect Metrics</td>
<td>Understand and track the following:</td>
<td>N/A</td>
<td>IV&amp;V has suspended the Defects Metrics reporting for the R3.10 &amp; R3.11 scrum-waterfall releases. This metrics reporting will commence at the next agile release.</td>
</tr>
<tr>
<td></td>
<td>• Defects by category (bug fixes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• US Points assigned to defects in a release vs US Points assigned to planned US in a release</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Organizational Maturity Assessment

<table>
<thead>
<tr>
<th>Measure</th>
<th>IV&amp;V Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Organizational Maturity Assessment (OMA) is updated on a bi-monthly basis. The next OMA will be planned for the next agile release which is after the R3.10 &amp; R3.11 scrum-waterfall releases.</td>
</tr>
</tbody>
</table>
Appendix A: IV&V Rating Scales
### Appendix A

#### IV&V Rating Scales

This appendix provides the details of each finding and recommendation identified by IV&V. Project stakeholders are encouraged to review the findings and recommendations log details as needed.

- See Findings and Recommendations Log (provided under separate cover)
- IV&V Assessment Category Rating Definitions

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>The assessment category is under control and the current scope can be delivered within the current schedule. The assessment category’s risks and issues have been identified, and mitigation activities are effective. The overall impact of risk and issues is minimal. The assessment category is proceeding according to plan (&lt; 30 days late).</td>
</tr>
<tr>
<td>Y</td>
<td>The assessment category is under control but also actively addressing resource, schedule or scope challenges that have arisen. There is a clear plan to get back on track. The assessment category’s risk and/or issues have been identified, and further mitigation is required to facilitate forward progress. The known impact of potential risks and known issues are likely to jeopardize the assessment category. Schedule issues are emerging ( &gt; 30 days but &lt; 60 days late). Project Leadership attention is required to ensure the assessment category is under control.</td>
</tr>
<tr>
<td>R</td>
<td>The assessment category is not under control as there are serious problems with resources, schedule, or scope. A plan to get back on track is needed. The assessment category’s risks and issues pose significant challenges and require immediate mitigation and/or escalation. The project’s ability to complete critical tasks and/or meet the project’s objectives is compromised and is preventing the project from progressing forward. Significant schedule issues exist (&gt; 60 days late). Milestone and task completion dates will need to be re-planned. Executive management and/or project sponsorship attention is required to bring the assessment category under control.</td>
</tr>
</tbody>
</table>
# Appendix A

## Finding Criticality Ratings

<table>
<thead>
<tr>
<th>Criticality Rating</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H</strong></td>
<td>A high rating is assigned if there is a possibility of substantial impact to product quality, scope, cost, or schedule. A major disruption is likely, and the consequences would be unacceptable. A different approach is required. Mitigation strategies should be evaluated and acted upon immediately.</td>
</tr>
<tr>
<td><strong>M</strong></td>
<td>A medium rating is assigned if there is a possibility of moderate impact to product quality, scope, cost, or schedule. Some disruption is likely, and a different approach may be required. Mitigation strategies should be implemented as soon as feasible.</td>
</tr>
<tr>
<td><strong>L</strong></td>
<td>A low rating is assigned if there is a possibility of slight impact to product quality, scope, cost, or schedule. Minimal disruption is likely, and some oversight is most likely needed to ensure that the risk remains low. Mitigation strategies should be considered for implementation when possible.</td>
</tr>
</tbody>
</table>
Appendix B: Inputs
Appendix B

Inputs

This appendix identifies the artifacts and activities that serve as the basis for the IV&V observations.

Meetings attended during the September 2020 reporting period:
1. Daily Scrum Meetings (selected)
2. Twice Weekly RSM Issues Meeting
3. Weekly BHA-ITS Project Status Meeting
4. Bi-Weekly Check-in: CAMHD
5. Bi-Weekly Check-in: DDD
6. BHA IAPDU Planning Meeting
7. IV&V Draft IV&V Status Review Meeting with DOH
8. IV&V Draft IV&V Status Review Meeting with RSM and DOH
9. INSPIRE – Case Management Testing #1

Artifacts reviewed during the September 2020 reporting period:
1. Daily Scrum Notes (selected)
2. Twice Weekly Issues Meeting Notes (selected)
4. Semantics Layer Design Document
5. Help Desk Design Document

Eclipse IV&V® Base Standards and Checklists
Appendix C: Project Trends
## Appendix C
### Project Trends

#### Trend: Overall Project Health

<table>
<thead>
<tr>
<th>Process Area</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dec</td>
<td>Jan</td>
</tr>
<tr>
<td>User Story Validation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test Practice Validation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sprint Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release / Deployment Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OJT and KT Sessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Targeted KT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Performance Metrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Maturity Metrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Project Management</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

| **Total Open Findings**                   | 3    | 7    | 5    | 6    | 6    | 6    | 6    | 7    | 7    | 7    |
| Issue - high                              | 0    | 1    | 1    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Issue - medium                            | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    | 1    | 2    |
| Issue - low                               | 0    | 0    | 0    | 0    | 0    | 1    | 1    | 1    | 0    | 0    |
| Risk - high                               | 0    | 0    | 0    | 1    | 1    | 1    | 0    | 1    | 0    | 0    |
| Risk - medium                             | 0    | 0    | 1    | 1    | 0    | 2    | 2    | 3    | 3    |      |
| Risk - low                                | 0    | 1    | 1    | 3    | 4    | 3    | 2    | 1    | 0    | 0    |
| Preliminary Concern                        | 3    | 5    | 2    | 0    | 0    | 1    | 1    | 1    | 3    | 3    |
Solutions that Matter
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Resolution</th>
<th>Recommendation</th>
<th>Status</th>
<th>Process Area</th>
<th>Risk Owner</th>
<th>Finding Type</th>
<th>Priority</th>
<th>Issue</th>
<th>Medium</th>
<th>Open</th>
<th>Close</th>
<th>Validation</th>
<th>Test Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/2019</td>
<td>Detailed investigation into the project's sprint planning processes and adoption of generally accepted agile best practices.</td>
<td>- 02/01/2020 - IV&amp;V is closing the concern, and will be tracking items related to Definition of Done, roadmap, measuring, and backlog grooming in new, separate findings.</td>
<td>- IV&amp;V is currently investigating the following topics as they relate to Sprint Planning and the project's overall approval of agile software development:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- IV&amp;V acknowledges that the project is now planning three sprints each, however, it appears that only a 'high-level' sprint planning roadmap has been produced, and it is unclear exactly how the project is targeting features for each release through the end of Mod 4.</td>
<td>- IV&amp;V is not aware of the project's current definition for &quot;Done&quot; for Mod 3 and Mod 4. Additionally, in the January 2020 reporting period, IV&amp;V will seek additional information and visibility into the project's processes specific to prioritizing requests and how user stories in 'TO' are tagged to features, as well as the migration of project development and configuration resources to complete the scope of Release 3.5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- While having a high-level roadmap is good, the project should be able to identify what feature enhancements will be targeted for each planned release. This roadmap will help the project manage scope and productivity. However, the 'definition done' is an important artifact to ensure that the project is successful. Otherwise, the project will struggle to prioritize requests/enhancements and manage scope.</td>
<td>- As much as possible, the project should identify what feature enhancements will be targeted for each release and should clearly map out the roadmap out through the last Phase 2 release in September 2020. Additionally, the project should clearly define &quot;Done&quot; to ensure the project team is working towards the same goal and increase opportunities for success. Having a clear &quot;definition of done&quot; will help provide the project with guidance on how to stay within scope.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/30/2020</td>
<td>As a result of regression testing not being consistently performed, production releases are both breaking and deprecating existing functionality in the production environment.</td>
<td>- 09/30/2020 - No releases were planned for the month of September and consequently no regression testing was not performed. IV&amp;V will continue to monitor this issue for upcoming releases.</td>
<td>To address regression testing, the Project should continue to pursue and/or consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 08/31/2020 - The Project Team decided not to perform regression testing for Mid Sprint Deployments based on the time required to perform the testing versus the perceived benefit. This continues to conflict with best practices and is not recommended by IV&amp;V.</td>
<td>1. Updating the regression test scripts to ensure consistency with system configuration.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Test Team has previously reported that fail regression testing was not required approximately a day to execute. However, the Project Team may spend more time resolving production issues attributed to a Mid Sprint Deployment than it would take to perform regression testing. The Project discovered a high exposure defect that resulted in one of many issues for the sprint being generated by the system for a significant number of historical data issues. Initial investigation indicates that approximately 15% of claim lines are affected. The Project has determined there were three causes attributing to this defect, two of which have already been resolved and the last will be pushed to production MOD as soon as possible. The Project is considering</td>
<td>2. Modifying the deployment scripts based on information gained from previous release deployments - Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>a high exposure defect that resulted in one of many issues for the sprint being generated by the system for a significant number of historical data issues. Initial investigation indicates that approximately 15% of claim lines are affected. The Project has determined there were three causes attributing to this defect, two of which have already been resolved and the last will be pushed to production MOD as soon as possible. The Project is considering</td>
<td>3. Grouping releases by functionality to avoid unnecessary repetitive work being performed in any given section of the solution - Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>R3.3 introduced a defect that deprecates features in production specific to Integrated Support and life trajectory functionality. DDD has informed IV&amp;V that there are other examples of functionality being deprecated after a release, some of which are still being investigated. As of this report, IV&amp;V has not evaluated the project's root cause analysis (RCA) process used to determine why such functionality was deprecated but will discuss further with DDD in January 2020.</td>
<td>4. Modifying release schedules to allow for regression testing timelines - Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Through vetting and validation of regression test cases is necessary to prevent both defects and the depression of production functionality when a release is pushed live. When defects occur in production, the project should follow a defined and repeatable process for determining the root cause of the problem.</td>
<td>5. Modifying release test scripts to start after testing the project through the clear definition of &quot;Done&quot; will help provide the project with guidance on how to stay within scope.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>To address regression testing, the Project should continue to pursue and/or consider:</td>
<td>6. Implementing 'hard' code freeze dates as well as test environment deployment - Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Updating the regression test scripts to ensure consistency with system configuration - Completed</td>
<td>7. Pursuing additional formal training in AzureDevOps for test automation at the earliest possible sprint and commence efforts to automate at least the 2 primary regression test scripts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Modifying release schedules to allow for regression testing timelines - Completed</td>
<td>8. Consult with RFID to determine how the 'Iterative testing process' can be improved until such time that automated testing is available for repeatable and complete industry standard regression testing - Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Grouping releases by functionality to avoid unnecessary repetitive work being performed in any given section of the solution - Completed</td>
<td>9. Implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed - Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Final IVV Findings Log Sep 2020**
Page 2
The lack of consistent backlog grooming could result in the project backlog having obsolete, non-estimated, and poorly defined user stories.

06/30/2020 - IV&V has observed for another month that the project continues to groom the backlog. As a result, we are closing this finding.

07/31/2020 - The project team has determined the backlog grooming effort has caught up, so details for release 3.9 are complete and 3.10 is near completion. IVV will keep the finding open for an additional month to verify that the backlog continues to be groomed as new stories and defects are identified. Efforts to keep the backlog groomed should take place each month so that release planning efforts are not delayed.

08/31/2020 - The project reported that 97% of the original backlog has been estimated at this time. That said, CAMHD has determined that there are several older, and possibly no longer necessary user stories in the backlog that are candidates for deletion. IVV will keep this finding open and will reassess for impact during the month of May.

09/30/2020 - For Release 3.10, the project team has determined the backlog grooming effort has made great progress, however it is still in progress. The revised backlog of defects, requests, and user stories continues to grow. Currently, there are approximately 429 work items that may not ever be completed for any reason, they should be removed from the backlog to ensure its viability.

05/31/2020 - The project team has determined the backlog grooming effort has made great progress, however it is still in progress. The revised backlog of defects, requests, and user stories continues to grow. Currently, there are approximately 429 work items that may not ever be completed for any reason, they should be removed from the backlog to ensure its viability.

06/30/2020 - IV&V validates that the backlog grooming effort has made great progress, however it is still in progress. The revised backlog of defects, requests, and user stories continues to grow. Currently, there are approximately 429 work items that may not ever be completed for any reason, they should be removed from the backlog to ensure its viability.

03/31/2020 - IV&V validates that the backlog grooming effort has made great progress, however it is still in progress. The revised backlog of defects, requests, and user stories continues to grow. Currently, there are approximately 429 work items that may not ever be completed for any reason, they should be removed from the backlog to ensure its viability.

04/30/2020 - The project reported that 97% of the original backlog has been estimated at this time. That said, CAMHD has determined that there are several older, and possibly no longer necessary user stories in the backlog that are candidates for deletion. IVV will keep this finding open and will reassess for impact during the month of May.

05/31/2020 - IV&V validates that the backlog grooming effort has made great progress, however it is still in progress. The revised backlog of defects, requests, and user stories continues to grow. Currently, there are approximately 429 work items that may not ever be completed for any reason, they should be removed from the backlog to ensure its viability.

06/30/2020 - IV&V validates that the backlog grooming effort has made great progress, however it is still in progress. The revised backlog of defects, requests, and user stories continues to grow. Currently, there are approximately 429 work items that may not ever be completed for any reason, they should be removed from the backlog to ensure its viability.

07/31/2020 - For Release 3.9, BHA continues to only use the BHA Technical Team for Solution Architect and Technical Team support. While this is clearly a positive move to increase bandwidth of the BHA Technical Team and team for the short term, the volume of work for this team continues to exceed existing capacity and may be contributing to ongoing deployment and code promotion issues. IVV is raising the rating for this risk from low to medium and will continue to monitor this finding for the month of August.

08/31/2020 - No change during this reporting period. Release 3.10 is being managed. IVV will continue to monitor this risk in July.

The BHA Technical Team plays a role that is critical to project success. Currently, the responsibilities associated with the BHA Technical Team have expanded beyond their collective available bandwidth. IVV notes that BHA feels it is not feasible to ensure the bandwidth of the BHA Technical Team to meet its needs. IVV notes that BHA began addressing this bandwidth issue, which includes increased collaboration with key RSM resources, and are working to potentially change the structure of the Technical Team.

The BHA Technical Team leads the efforts of all technical DoH staff on the project. As such, the Team’s time is both extremely valuable and scarce. If the Team’s workload exceeds bandwidth, the project could experience bottlenecks. Optimization of the BHA Technical Team’s time is to the benefit of the project and plays a critical role in the project’s ability to hit performance targets and achieve the Phase 3 definition of done.

IVV recommends that the project consider utilizing an age-based methodology for the deprecation of older user stories in the backlog that may no longer be applicable or needed by the Product Owners and developing a process for periodic cleaning of the backlog using the same methodology. (Closed)

The BHA Technical Team plays a role that is critical to project success. Currently, the responsibilities associated with the BHA Technical Team have expanded beyond their collective available bandwidth. IVV notes that BHA has initiated this effort to prioritize grooming the backlog by the end of February. A comprehensive, up-to-date backlog is a primary tenet of agile software development. If a backlog is carrying work items that may not ever be completed for any reason, they should be removed from the backlog to ensure its viability.

IVV recommends that CAMHD and DDD groom the backlog to bring it as current and accurate as possible. This should include deprecating items no longer needed, and fully defining those items that are not yet fully defined, readying them for configuration or developer resources. To the extent feasible, BHA should involve IBM SMEs in this process, if only for the interim to get “caught up” on grooming efforts. (Closed)

The BHA Technical Team plays a role that is critical to project success. Currently, the responsibilities associated with the BHA Technical Team have expanded beyond their collective available bandwidth. IVV notes that BHA began addressing this bandwidth issue, which includes increased collaboration with key RSM resources, and are working to potentially change the structure of the Technical Team.

The BHA Technical Team leads the efforts of all technical DoH staff on the project. As such, the Team’s time is both extremely valuable and scarce. If the Team’s workload exceeds bandwidth, the project could experience bottlenecks. Optimization of the BHA Technical Team’s time is to the benefit of the project and plays a critical role in the project’s ability to hit performance targets and achieve the Phase 3 definition of done.

IVV recommends that the project investigate mechanisms of increasing the bandwidth of the Solution Architect, either by bringing in additional resources through new hires, or through existing vendor contracts. Additionally, the project should assess, where possible, if there are responsibilities of the Solution Architect that can be reassigned to other project staff. Further, the project should evaluate where process inefficiencies can be addressed and streamlined to possibly free up the Solution Architect’s availability.

The BHA Technical Team plays a role that is critical to project success. Currently, the responsibilities associated with the BHA Technical Team have expanded beyond their collective available bandwidth. IVV notes that BHA began addressing this bandwidth issue, which includes increased collaboration with key RSM resources, and are working to potentially change the structure of the Technical Team.
09/00 11/11/2020
The lack of a Product Roadmap and Definition of Done may hinder project activities and negatively impact the project schedule and budget.

IV&V recommends that the Project complete this by the end of February 2020 to understand if there are any key constraints, roadblocks, or technical challenges that may hinder the project from releasing the needed functionalities/features targeted for Phase 3 as documented in the Definition of Done.

10/00 11/11/2020
The COVID-19 pandemic and the related “stay at home” order could hinder project activities and negatively impact the project schedule.

IV&V recommends that the project be successful.

11/00 11/11/2020
The lack of design revisions for complex user stories has resulted in the promotion of complete solutions into production.

IV&V recommends that the project complete this by the end of February 2020 to understand if there are any key constraints, roadblocks, or technical challenges that may hinder the project from releasing the needed functionalities/features targeted for Phase 3 as documented in the Definition of Done.

---

Page 4
Final IV&V Findings Log Sep 2020

12.00 7/31/2020

DDD Project staffing shortages may have contributed negative effect on user adoption, training, overall OCM activities.

08/03/2020 - DDD continues to refine its staff plan to prioritize resource needs. DDD continues to work in developing a process to assist with user adoption training and overall OCM activities. As an option, DDD is also considering procurement of tools to provide interactive training for onboarding new staff members and providing refresher training.

8/31/2020 - DDD has drafted a plan to identify their priority resource needs and options for filling those needs. The plan includes resource for a variety of disciplines beyond OCM such as Training, Report Writing, Help Desk and deployment staff to support the current application as well as staffing needs for future system application functionality.

13.00 8/31/2020

PII/PHI data in non-production environments

08/31/2020 - DDD recognizes this concern and is in the process of establishing a plan to manage this data. When completed, this plan will include reducing the volume of PII/PHI data in non-production environments as well as mask PII/PHI data that is required for project activities. FDD will continue to monitor this preliminary data security concern.

DDD has been made aware that PII/PHI data currently exists in a non-production environment to meet project needs. Generally, FDD is not a signed security practice as the presence of PII/PHI data in non-production environments increases the potential for theft, loss of exposure or misuse of the organization's role. Failure to secure PII/PHI data leaves the organization open to highly targeted social engineering attacks, heavy regulatory fines, and loss of client trust and loyalty.

IV&V recommends that the Project consider employing Audit Logging for security purposes - New Project Management Concern

Failure to secure PII/PHI data leaves the organization open to highly targeted social engineering attacks, heavy regulatory fines, and loss of client trust and loyalty.

IV&V recommends if production data is necessary in any non-production environment that DOH continues to collaborate with Microsoft until the activity logging feature is available in all BHA non-production environments.

The Project recently deployed Audit Logging functionality into production whereby these logs can be accessed and reported as needed. However, FDD was made aware access to activity logging for users with just view permissions will not be available from Microsoft in the public sector environment until the end of September 2020. The unavailability of these specific activity logs could potentially hamper the investigation of future security breaches.

IV&V recommends that BHA continues to collaborate with Microsoft until the activity logging feature is available in all BHA non-production environments.

Concern

15.00 8/31/2020

Due to multiple quality concerns, the project may continue to face impactful system defects.

Sixteen defects identified in August that affected claims were due to multi-faceted quality issues were individually addressed during the reporting period. FDD notes that there is one remaining defect still being evaluated that affects a limited number of claims. Overall, the Project Team has responded with a commitment to increase project quality and is in the process of identifying improvements to associated testing processes. These currently include:

- Performing Revenue Neutrality Testing to ensure impacted revenue streams are largely unchanged from period one to the next.
- FDD will continue to monitor the testing efforts throughout the balance of Release 3.10 and evaluate that enhanced quality processes, including industry standard regression testing, continue for Release 3.11 forward.

Finally, FDD reviewed and provided feedback on the Help Desk and Semantic Layer design documents per request and found that both documents looked design details.

The identified quality issues have negatively affected DOH's billing procedure and DOH has stated these are the most impactful defects discovered to date.

To address quality issues, the Project should continue to pursue and/or consider:

1) Perform revenue neutrality holistic testing on a monthly basis to ensure revenues are as expected.
2) Performing system/project testing including System Integration, User Acceptance, Performance, and Regression Testing.
3) Assigning a dedicated resource to provide oversight of OAH& MS Fiscal Processes.
4) Work with IBM to collaborate on the necessary revisions to the submitted design deliverables to increase level of detail and quality.
5) Monitor implemented improvements for effectiveness.

Testing Validation Issue Medium Open Barrier: Macdonald

Page 5
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>IV&amp;V Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/5/2020</td>
<td>Usage of Semantics and IDM for development and ongoing maintenance of the system requires BHA to take a proactive approach to support of these tools.</td>
<td>IV&amp;V recommends BHA continue to work with RSM to schedule and execute Semantic Layer Reporting and IDM targeted KT sessions to better understand the tools and how to support them.</td>
</tr>
</tbody>
</table>

Targeted KT Concern: Darren Macdonald