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January 20, 2021

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

The Honorable Scott K. Saiki,  
Speaker, and  
Members of The House of Representatives  
Thirty-First 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 (Jan 20, 2021 14:39 HST)

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  
December 1 – December 31, 2020*

*Final submitted: January 11, 2021*

# Agenda

## Executive Summary

## IV&V Findings & Recommendations

## Appendices

- A – Rating Scales
- B – Inputs
- C – Project Trends












# Executive Summary

*The Project Team deployed Release 3.11 into production in December. As with previous releases, a subsequent mid-sprint deployment (MSD) is necessary to address/fix a few high priority production defects introduced as part of Release 3.11. This MSD is planned for January.*



















*The RSM Team continued to provide essential support during December, alleviating some of the bandwidth concerns expressed by DOH to meet crucial project needs. BHA has received approval to pursue a State technical resource to help support on-going development work. IV&V continues to recommend that BHA seek additional state technical resources.*

*The Project continues to acknowledge the on-going quality issues/concerns and has taken steps to improve the quality assurance efforts for each release going forward.*

*The development of the IDM and Semantics Layer workstreams continue to progress and most of the technical hurdles causing schedule slippages have been resolved.*

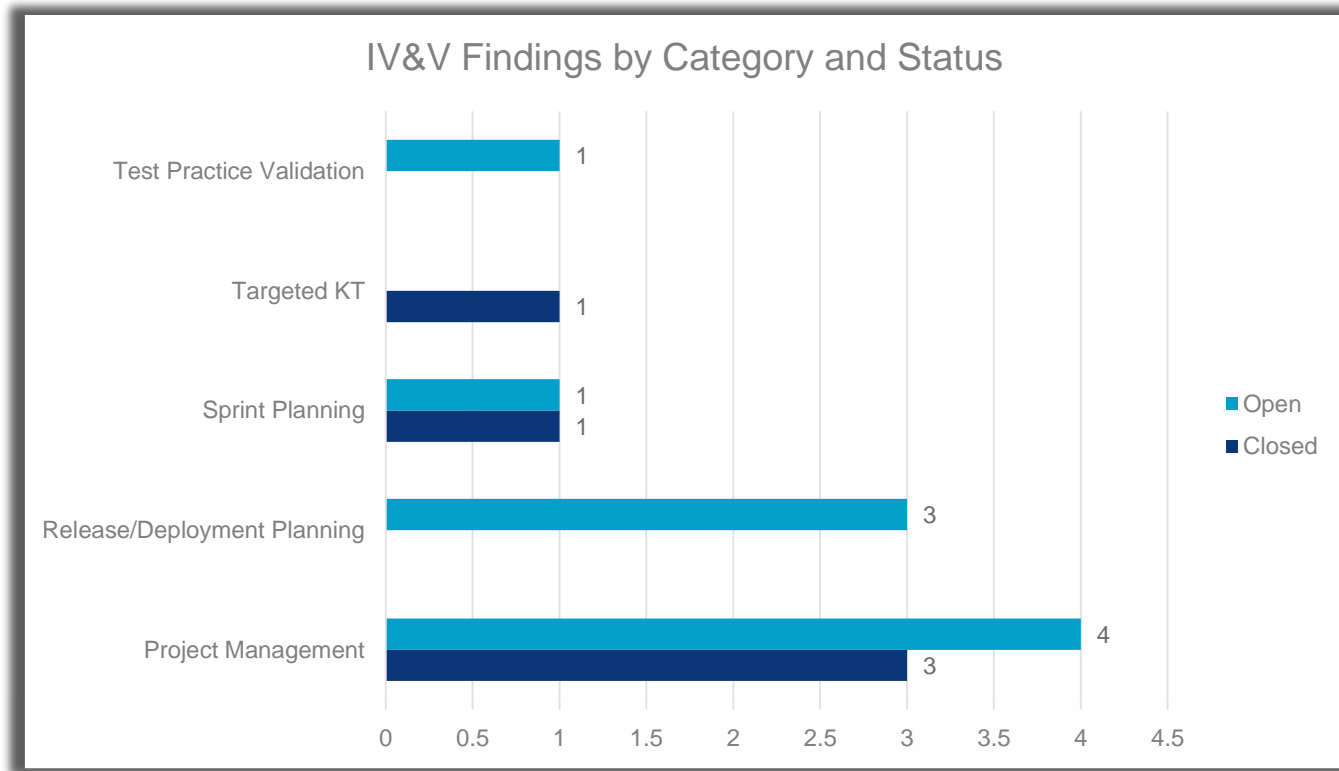
Oct	Nov	Dec	Category	IV&V Observations
			<b>Sprint Planning</b>	BHA received approval to pursue a technical resource in December. IV&V continues to recommend BHA seek additional skilled technical MS Dynamics resources to permanently fill their technical support needs to assist with the increased volume of work. The rating for this category remains a Yellow (medium criticality) for the December reporting period. IV&V will continue to monitor this category moving forward.
			<b>User Story (US) Validation</b>	IV&V reports no active findings for User Story (US) Validation category which remains Green (low criticality) for the December reporting period. IV&V will continue to monitor the US development and validation process in upcoming reporting periods.
			<b>Test Practice Validation</b>	The project deployed R3.11 to production in December. A mid-sprint deployment is planned for January to address R3.11 high-priority defects as well as other defects and leftover R3.11 user stories. DOH and RSM agreed to defer R3.11 work items to R3.12 due to insufficient testing time. IV&V continues to recommend the development of automated regression test scripts. The criticality rating for this category remains a Yellow (medium) for the December reporting period. IV&V will continue to monitor this category.

# Executive Summary

Oct	Nov	Dec	Category	IV&V Observations
			<b>Release / Deployment Planning</b>	The criticality rating for this category remains Yellow (medium) for the December reporting period. As with previous releases, deployment issues impacted R3.11 resulting in a subsequent mid-sprint deployment. IV&V has provided additional recommendations to aid in improving future release deployments. IV&V will continue to monitor this category in January.
			<b>OJT and KT Sessions</b>	The criticality rating for the OJT and KT Sessions category remains Green (low) for the December reporting period with no active findings.
			<b>Targeted KT</b>	The Targeted KT criticality rating remains Green (low) for the December reporting period. The Project Team has commenced planning efforts for the KT sessions on Semantics Reporting and IDM tools. IV&V will continue to monitor this need moving forward.
			<b>Project Performance Metrics</b>	Although the project did not meet its planned velocity expectation for the R3.11 December deployment, the velocity for R3.10 far exceeded its original estimate. As a result, IV&V will keep the criticality rating for this category a Green (low) and will continue to monitor this category moving forward.
			<b>Organizational Maturity Assessment</b>	The criticality rating for the Organization Maturity Assessment (OMA) will remain Green (low). The next OMA will be planned for March 2021.
			<b>Project Management</b>	<p>The criticality rating for the Project Management category remains Yellow (medium) in December. Quality and BHA Leadership bandwidth continues to remain a concern for IV&amp;V, which we will be monitoring moving forward. The Project Team continues to fare well despite the COVID-19 pandemic.</p> <p>Both the procurement of the interactive training toolset to address DDD's OCM/Training priority resource needs and the BHA IAPDU were approved in December.</p>

# Executive Summary

*As of the December 2020 reporting period, there are a total of nine open findings – four Medium Issues, two Medium Risks, and three Low 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

#	Key Findings	Criticality Rating
8	<b>Medium Risk - The BHA Technical Team bandwidth may not be adequate to meet the needs of the project, which could compromise project productivity.</b> BHA stated that although most vacant positions cannot be filled at this time, they have approval to fill a vacant IT Technician position. IV&V will continue to monitor this finding.	M

Recommendations	Status
<ul style="list-style-type: none"> <li>The Project should investigate mechanisms of increasing the bandwidth of the BHA Technical Team, either by adding resources through new hires, or vendor contracts.</li> </ul>	In progress
<ul style="list-style-type: none"> <li>The Project should assess, where possible, if there are responsibilities of the BHA Technical Team that can be reassigned to other project staff.</li> </ul>	In progress
<ul style="list-style-type: none"> <li>The Project should evaluate where process inefficiencies can be addressed and streamlined to possibly free up the BHA Technical Team's availability.</li> </ul>	In progress
<ul style="list-style-type: none"> <li>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.</li> </ul>	In progress
<ul style="list-style-type: none"> <li>The Project should consider procurement of an online training toolset to support OCM and technical efforts to offset the need for in-person training.</li> </ul>	Complete

# IV&V Findings & Recommendations

## Test Practice Validation

#	Key Findings	Criticality Rating
2	<p><b>Medium Issue – As a result of regression testing not being consistently performed, production releases are breaking and/or deprecating existing functionality in the production environment.</b></p> <p>Release 3.11 was promoted to production on 12/13/2020. The quality assurance and regression testing was rushed due to an incomplete deployment to test, which resulted in insufficient time to adequately test all functionality in the release from a business perspective prior to the planned deployment date. The project employed a risk-averse strategy that prioritized quality over schedule resulting in a much smaller release than originally planned. This created the need for another unplanned Mid Sprint Deployment in January to promote high priority functionality to production in advance of Release 3.12.</p> <p>Activities to automate regression testing continue to be delayed due to the lack of available staff to complete the initial setup. Since the project burn rate is expected to decrease after Release 3.12, DOH plans to concentrate on developing the setup efforts for automated regression test scripts to reduce the time needed for regression testing.</p>	M

Recommendations	Status
• Updating the regression test scripts to ensure consistency with system configuration.	Completed
• Modifying release schedules to allow for regression testing timeframes.	Completed
• Planning releases by functionality type to avoid unnecessary repetitive work being performed in any given section of the solution.	Completed

# IV&V Findings & Recommendations

## Test Practice Validation (cont'd)

Recommendations	Status
<ul style="list-style-type: none"><li>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.</li></ul>	In Progress
<ul style="list-style-type: none"><li>Modifying regression test scripts to start AFTER case creation, limiting the time it takes to execute.</li></ul>	Completed
<ul style="list-style-type: none"><li>Modifying the deployment scripts based on information gained from previous release deployments.</li></ul>	Completed
<ul style="list-style-type: none"><li>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.</li></ul>	Open
<ul style="list-style-type: none"><li>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.</li></ul>	Completed
<ul style="list-style-type: none"><li>Implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed.</li></ul>	Completed

# IV&V Findings & Recommendations

## Release / Deployment Planning

#	Key Findings	Criticality Rating
5	<b>Closed Medium Issue</b> - Due to not following a detailed deployment script, the project may continue to experience defects related to deployment activities. IV&V has closed this issue as the related recommendations below has been completed. A subsequent medium issue finding (#19) has been opened to address ongoing deployment processes and technical execution issues.	Closed

Recommendations	Status
<ul style="list-style-type: none"> <li>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.</li> </ul>	Completed
<ul style="list-style-type: none"> <li>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.</li> </ul>	Completed

# IV&V Findings & Recommendations

## Release / Deployment Planning

#	Key Findings	Criticality Rating
19	<p><b>New Medium Issue</b> - Due to on-going deployment processes and technical execution issues, the project may continue to encounter defects and challenges in meeting projected timelines for production and non-production deployments. Release 3.11 was promoted to production on 12/13/2020. The promotion to the test environment for final testing and execution of regression test scripts prior to production deployment was missing software components. As a result, several user stories and defects were not tested as planned and were excluded from the production deployment. These items were subsequently re-prioritized to be resolved in a Mid Sprint Deployment in mid January or R3.12 in February.</p>	M

Recommendations	Status
<ul style="list-style-type: none"> <li>Develop a plan to institutionalize the execution of “Smoke Testing” for promotions to non-production and production environments. This will help to ensure that all components needed to test have been properly deployed prior to the actual execution of test activities.</li> </ul>	New
<ul style="list-style-type: none"> <li>Work in collaboration with RSM to establish a plan for DOH to assume all deployment activities to ensure complete ownership of these processes. This should assist with consistency in approach and execution going forward.</li> </ul>	New
<ul style="list-style-type: none"> <li>As appropriate, consult with RSM on best practices that BHA could employ to support deployment.</li> </ul>	In Progress
<ul style="list-style-type: none"> <li>Look at implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed.</li> </ul>	Completed

# IV&V Findings & Recommendations

## Release / Deployment Planning (cont'd)

Recommendations	Status
<ul style="list-style-type: none"><li>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.</li></ul>	In Progress
<ul style="list-style-type: none"><li>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.</li></ul>	In Progress
<ul style="list-style-type: none"><li>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.</li></ul>	Completed
<ul style="list-style-type: none"><li>The Project Team should consider evaluating potential changes to improve/enhance existing processes and communications to address current release/deployment shortfalls.</li></ul>	In Progress
<ul style="list-style-type: none"><li>IV&amp;V recommends performing a Root Cause Analysis in collaboration with RSM for the continued concerns surrounding environment differences.</li></ul>	In Progress

# IV&V Findings & Recommendations

## Release / Deployment Planning (cont'd)

#	Key Findings	Criticality Rating
18	<b>Medium Issue – Due to consistent technical issues requiring escalation to Microsoft, the IDM and Semantic Layer project efforts are being delayed.</b> While most of the issues requiring escalation to Microsoft were adequately addressed during December, the Azure Data Factory (ADF) 'first 10 rows missing data' issue remain open. BHA has created a work around for this issue while awaiting a permanent and reliable resolution from Microsoft. Additionally, the Project awaits the "Datalake" function fix from Microsoft to address a priority IDM issue. The fix was intended to be delivered the end of 2020 but that did not pan out. No new target date has been provided by Microsoft. IV&V will continue to monitor this issue in January.	M

Recommendations	Status
<ul style="list-style-type: none"><li>IV&amp;V recommends the project to continue to monitor the status of outstanding Microsoft tickets and to escalate the priority of these tickets as deemed necessary.</li></ul>	In Progress

# IV&V Findings & Recommendations

## Targeted KT

#	Key Findings	Criticality Rating
16	<b>Preliminary Concern – Use of Semantics and IDM for development and ongoing maintenance of the system requires BHA to take a proactive approach to learn and support these tools.</b> IV&V is aware that an overview of the Semantics Layer KT session was held on 12/16/20. The planning effort will result in additional Semantic Layer and IDM KT sessions in the coming months. IV&V will continue to monitor this finding.	N/A



# IV&V Findings & Recommendations

## Project Management

#	Key Findings	Criticality Rating
10	<p><b>Medium Risk -The COVID-19 pandemic and related "stay at home" order could hinder project activities and negatively impact the project schedule and budget.</b> The project continued to maintain its ability to operate with staff working remotely. As previously reported, key project staff continue to have increases in participation of non-project activities to support the COVID-19 crisis. This includes the expedited development of a high priority D365 solution for Disease Tracking as well as the planning work for the expansion of the D365 environment to additional DOH business units. Aside from the Disease Tracking solution, IV&amp;V notes that the CAMHD leadership time dedicated to the COVID-19 response declined during December. The HI Governor announced in late December that furloughs will be delayed due to the potential of the COVID Relief bill funding from the federal government. IV&amp;V continues to note that there may also be future potential budget actions by the Governor which may affect the project due to projected State budget shortfalls.</p>	M

Recommendations	Status
<ul style="list-style-type: none"> <li>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).</li> </ul>	Completed
<ul style="list-style-type: none"> <li>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.</li> </ul>	In Progress
<ul style="list-style-type: none"> <li>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.</li> </ul>	Open

# IV&V Findings & Recommendations


## Project Management (cont'd)

#	Key Findings	Criticality Rating
15	<b>Medium Issue – Due to multiple quality concerns, the project may continue to face impactful system defects.</b> BHA recognizes the impact of the quality concerns and has initiated weekly meetings with the development and test teams in order to increase the quality assurance effort of each release going forward. This effort has expanded to more of a team approach to managing quality for releases and includes efforts to further develop the quality components of all user stories and requests to ensure the test goals are well known by all prior to development being initiated. IV&V will continue to monitor this medium priority project issue.	M

Recommendations	Status
• Perform revenue neutrality fiscal balance testing on a quarterly basis to ensure revenues are as expected.	In Progress
• Perform typical project testing including System Integration, User Acceptance, Performance, and Regression Testing.	In Progress
• Assign dedicated resources to provide oversight of CAMHD Fiscal Processes.	In Progress
• BHA and RSM to collaborate on the necessary revisions to the submitted design deliverables to increase level of detail and quality.	Completed
• Monitor implemented improvements for effectiveness.	In Progress

# IV&V Findings & Recommendations

## Project Management (cont'd)

#	Key Findings	Criticality Rating
13	<b>Low Risk – PII/PHI data in non-production environments.</b> BHA is still in the process of establishing a plan for managing PHI/PII data and plans to complete this effort in February after Release 3.12. IV&V will continue to monitor this finding.	

Recommendations	Status
<ul style="list-style-type: none"><li>IV&amp;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.</li></ul>	In Progress
<ul style="list-style-type: none"><li>IV&amp;V recommends that DOH mitigates this finding by removing and/or masking any PHI/PII data in its non-production environments.</li></ul>	In Progress

# IV&V Findings & Recommendations

## Project Management (cont'd)

#	Key Findings	Criticality Rating
12	<b>Low Risk – DDD Project staffing shortages may have a continued negative effect on user adoption, training, and overall OCM activities.</b> The contract to procure the interactive training toolset for onboarding new staff members and providers and to provide refresher training to existing staff members was successfully executed. Planning for the design of the necessary training will commence in January. Additionally, DDD has secured a contract for temporary Report Writing services. IV&V will continue to monitor.	L

Recommendations	Status
<ul style="list-style-type: none"> <li>IV&amp;V recommends that BHA does as much as possible within its sphere of influence to increase user adoption and training. This includes procurement of the online training toolsets to offset the need for in-person training, and adding staff as needed to support OCM and technical efforts.</li> </ul>	In Progress
<ul style="list-style-type: none"> <li>IV&amp;V recommends DOH perform a detailed investigation of the specific variations as to how the system is currently being used by the user community. Consequently, users would be provided with constructive feedback on how the system should be utilized where gaps exist. This will likely lead to additional refresher training to close identified system knowledge gaps.</li> </ul>	In Progress

# IV&V Findings & Recommendations

## Project Management (cont'd)

#	Key Findings	Criticality Rating
14	<b>Low Risk – Project unable to access activity logs.</b> The planning effort for identifying the entities that will require activation of the new activity logs was completed during December. The implementation effort has been prioritized for inclusion in Release 3.12. IV&V will continue to monitor this finding until implemented.	L

Recommendations	Status
<ul style="list-style-type: none"><li>IV&amp;V recommends that DHS continues to collaborate with Microsoft until the activity logging feature is available in all BHA non-production environments.</li></ul>	In Progress

# IV&V Findings & Recommendations

## Project Management (cont'd)

#	Key Findings	Criticality Rating
17	<b>Preliminary Concern – The bandwidth of CAMHD Leadership is being hampered by planning tasks and activities for assessing project expansion to other divisions.</b> The planning effort for the expansion of the case management solution to the other DOH divisions continued during December. CAMHD Leadership continues to dedicate approximately 25% of available time to this planning effort and it is anticipated that the level of effort will continue to increase in the coming months. On the positive side, CAMHD leadership time dedicated to the COVID response decreased during December. IV&V will continue to monitor this concern.	N/A

# IV&V Findings & Recommendations

## Project Performance Metrics

Metric	Description	IV&V Observations	IV&V Updates
<b>Velocity</b>	<ul style="list-style-type: none"> <li>Review and validate the velocity data as reported by the project</li> <li>Verify the project is on pace to hit the total target number of US/USP for Phase 3</li> </ul>	<p><b>December</b> - Available velocity was estimated at 234 User Story Points (USPs) for Release 3.11. A total of 142 USPs were completed (approximately 61%).</p> <p>Overall, the cumulative Phase 3 targeted USPs through release 3.11 was planned for 738. The cumulative completed USPs total is currently 1096.</p>	<p>IV&amp;V notes that there were a number of nearly-completed functionality items developed during R3.11 that did not get tested prior to the deployment Release date.</p> <p>It is anticipated that most of these will be included in either the Mid Sprint Deployment in January or Release 3.12 in February. This should help to make up the unanticipated USPs drop for the R3.11 production deployment.</p>

# IV&V Findings & Recommendations

## Project Performance Metrics (cont'd.)

Metric	Description	IV&V Observations	IV&V Updates
<b>US Point Estimates vs Actuals</b>	<ul style="list-style-type: none"> <li>• Verify the project is tracking US Point estimates and actual data</li> <li>• Determine the delta between estimates and actuals</li> <li>• Based on the delta (if any) investigate the potential root cause for the delta</li> </ul>	<p><b>December</b> - The Project Scrum Master closely tracks the USP daily. Determining the delta between USP estimates and actuals is a work in progress.</p>	<p><b>December</b> – DDD and CAMHD have standardized a format for resources to track hours. The recording of resource hours is not completed by all team members making it difficult to calculate the variance between actual vs. projected hours.</p>



# IV&V Findings & Recommendations

## Project Performance Metrics (cont'd.)

Metric	Description	IV&V Observations	IV&V Updates
Defect Metrics	<p>Understand and track the following:</p> <ul style="list-style-type: none"><li>Defects by category (bug fixes)</li><li>US Points assigned to defects in a release vs US Points assigned to planned US in a release</li></ul>	<p><b>December</b> – Release 3.11 was comprised of 142 User Story Points that were released to production.</p> <ul style="list-style-type: none"><li><b>86%</b> of the total USPs were associated with planned user stories and requests</li><li><b>14%</b> of the total USPs were associated with defects from the backlog</li></ul>	N/A

# IV&V Findings & Recommendations

## Organizational Maturity Assessment

Measure	IV&V Observations
The Organizational Maturity Assessment (OMA) is updated on a bi-monthly basis. IV&V will plan the next OMA in March 2021.	

The background is a solid blue color. It features several abstract geometric elements: some are solid squares of varying shades of blue, while others are squares defined by thin white outlines. These shapes are scattered across the page, with a higher concentration in the upper left and lower right areas.

# **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

G

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 (< 30 days late).

Y

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 ( > 30 days but < 60 days late).

Project Leadership attention is required to ensure the assessment category is under control.

R

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 (> 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.

# Appendix A

## Finding Criticality Ratings

Criticality Rating	Definition
	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.
	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.
	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.



# **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 December 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. GLRA #4 Meeting
10. R3.11 Deployment Planning Meeting

### Artifacts reviewed during the December 2020 reporting period:

1. Daily Scrum Notes (selected)
2. Twice Weekly Issues Meeting Notes (selected)

### Eclipse IV&V® Base Standards and Checklists



Document



# **Appendix C: Project Trends**



# Appendix C

## Project Trends

Trend: Overall Project Health										
Process Area	2020									
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
User Story Validation										
Test Practice Validation										
Sprint Planning										
Release / Deployment Planning										
OJT and KT Sessions										
Targeted KT										
Project Performance Metrics										
Organizational Maturity Metrics										
General Project Management										
<b>Total Open Findings</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>10</b>	<b>11</b>	<b>11</b>
Issue - high	0	0	0	0	0	0	0	0	0	0
Issue - medium	1	1	0	0	0	1	2	2	4	4
Issue - low	0	0	1	1	1	0	0	0	0	0
Risk - high	1	1	1	0	1	0	0	0	0	0
Risk - medium	1	0	0	2	2	3	3	3	2	2
Risk - low	3	4	3	2	1	0	0	0	3	3
Preliminary Concern	0	0	1	1	1	3	3	5	2	2



**Solutions that Matter**

ID No	Identified Date	Title	Observation	Significance	Recommendation	Updates	Process Area	Finding Type	Priority	Status	Closure Reason	Risk Owner
1.000	12/31/2019	Detailed investigation into the project's sprint planning processes and adoption of generally accepted agile best practices.	IV&V is currently investigating the following topics as they relate to Sprint Planning and the project's overall approach to agile software development: - IV&V acknowledges that the project is now planning three sprints out, 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. - IV&V is not aware of how the project is currently defining "done" for Mod 3 and Mod 4 Additionally, in the January 2020 reporting period, IV&V will seek additional information and visibility into the project's processes specific to prioritizing requests and how user stories in TFS are tagged to features, as well as the realignment of project development and configuration resources to complete the scope of Release 3.5.	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. Relatedly, 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.	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 3 release in September 2020. Additionally, the project should clearly define "Done" to ensure the project team is working towards the same goal and increase opportunities for success. Having a clear "definition of done" will help provide the project with guidance on how to stay within scope.	01/31/2020 - IV&V is closing this concern, and will be tracking items related to Definition of Done, roadmap, resourcing, and backlog grooming in new, separate findings.	Sprint Planning	Concern	N/A	Closed	Due to multiple new items being tracked at a more granular level, this item has been closed.	V Ramesh
2.000	12/31/2019	As a result of regression testing not being consistently performed, production releases are both breaking and deprecating existing functionality in the production environment.	R3.3 introduced a defect that deprecated features in production specific to Integrated Support and Life Trajectory functionality. DDD has informed IV&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&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 BHA in January 2020.	Thorough vetting and validation of regression test cases is necessary to prevent both defects and the deprecation 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.	To address regression testing, the Project should continue to pursue and/or consider: 1. Updating the regression test scripts to ensure consistency with system configuration - Completed 2. Modifying release schedules to allow for regression testing timeframes - Completed 3. Grouping releases by functionality type to avoid unnecessary repetitive work being performed in any given section of the solution - Completed 4. 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 - In Progress 5. Modifying regression test scripts to start AFTER case creation, limiting the time it takes to execute - Completed 6. Modifying the deployment scripts based on information gained from previous release deployments - Completed 7. 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 - Open	12/31/2020 - Release 3.11 was promoted to production on 12/13/2020. The quality assurance and regression testing was rushed due to an incomplete deployment to test, which resulted in insufficient time to adequately test all functionality in the release from a business perspective prior to the planned deployment date. The project employed a risk-averse strategy that prioritized quality over schedule resulting in a much smaller release than originally planned. This created the need for another unplanned Mid Sprint Deployment in January to promote high priority functionality to production in advance of Release 3.12. Activities to automate regression testing continue to be delayed due to the lack of available staff to complete the initial setup. Since the project burn rate is expected to decrease after Release 3.12, DOH plans to concentrate on developing the setup efforts for automated regression test scripts to reduce the time needed for regression testing. 11/30/2020 - Release 3.10 was promoted to production on 11/11/2020. Approximately nine (9) new defects were identified after the deployment. Root causes are suspected to be a combination of insufficient testing from a business perspective coupled with deployment	Test Practice Validation	Issue	Medium	Open		D Macdonald

3.000	12/31/2019	Usage of open source JavaScript framework for development and ongoing maintenance of Calculator 3.0 requires BHA to take a proactive approach to support and security.	IV&V learned in December 2019 that the Calculator 3.0 functionality is built in Vue.JS, an open source JavaScript framework. As this framework is relatively new, the open source support community is small. IV&V's concerns include: - The availability of reliable support for Vue.JS - The project's understanding of any known vulnerabilities with Vue.JS, and development of a process to remain current on vulnerabilities discovered by the support community. - The RSM lead for Calculator 3.0 went on extended parental leave in December 2019 IV&V acknowledges that BHA has downloaded Vue.JS to start getting familiar with it.	Open source tools and frameworks offer organizations great opportunities to build and configure customized solutions at lower costs than through software purchase or licensing. However, open source tools and frameworks often do not come with support models, other than those offered through the tool's community. Because of this, the organization bears the weight of seeking out reliable help and support, as well as much take a proactive approach to security and identifying any vulnerabilities in the tools.	IV&V recommends BHA work to establish a reliable and repeatable process for keeping abreast of communal updates and support opportunities for a new suite of tools - Completed IV&V recommends BHA continue to hold targeted KT sessions with RSM on maintaining Calculator 3.0 via a suite of tools, and determine what additional skillsets, training, and/or resources are needed to support BHA's long-term ownership of Calculator 3.0 - Completed	08/31/2020 - IV&V is unaware of any additional KT gaps being identified by DOH, and as such, is closing this finding.  07/31/2020 - The Project resolved the majority of the outstanding Calculator 3.0 defects during July which was implemented in the mid-sprint release on 7/17/2020. The final Calculator 3.0 Knowledge Transfer session was conducted on 7/17/2020. IV&V recommends BHA to identify and communicate any additional KT gaps to RSM during the month of August. If no additional needs are identified, IV&V will close this finding. 06/30/2020 - The project continued to focus attention on the Calculator 3.0 defects during the month of June. RSM conducted another Calculator 3.0 Knowledge Transfer session on 6/26/2020 and scheduled a final session for 7/17/2020.  05/31/2020 - The project continued to focus attention on the Calculator 3.0 user stories and defects during the month of May. RSM conducted another Calculator 3.0 Knowledge Transfer session on 5/29/2020 which IV&V attended. This session included the new C3.0 year-end changes. Additional KT sessions is	Targeted KT	Risk	Low	Closed	RSM has successfully held several KT sessions for this technology and functionality, and DOH staff have stated that it was well received.	D Macdonald
5.000	1/31/2020	Due to the project not following a detailed deployment script, the project may continue to experience defects related to deployment activities.	There have been several defects pushed to production with Phase 3 releases. Some of the defects introduced to production have been narrowed down to environmental promotional activities. In these instances, the DEV and TEST environments were not in sync with the production environment (missing business rules, missing components, missing dependencies, etc.). IVV is aware that DOH staff shadowed RSM staff for all deployment releases during Phase 2 with RSM providing instruction and DOH staff physically executing the tasks and activities via keyboard. For Phase 3, it is unclear whether a complete, up to date, and documented deployment script, or deployment notes, are being utilized by BHA for deployment activities.	A complete, up to date, and documented deployment script is needed to ensure the repeatability and stability of DOH's production deployments. Since there are currently two deployment types (patches and full solution upgrades), two scripts may be warranted. An embedded process and documented script will help ensure that mistakes are minimized, and that functionality is not mistakenly deprecated when deployments take place.	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. 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.	12/31/2020 - IV&V has closed this issue as the related recommendations below has been completed. A subsequent medium issue finding (#19) has been opened to address ongoing deployment processes and technical execution issues. 11/30/2020 - Release 3.10 was promoted to production on 11/11/2020. Approximately nine (9) new defects were identified after the deployment. Root causes are suspected to be a combination of insufficient testing from a business perspective coupled with deployment issues. A bulk record update task required as part of the implementation was not included in the deployment, resulting in contacts being deprecated from the Circle of Support in Inspire. It is unclear if any other deployment issues may have also contributed to the new defects. Deployment corrections were applied in a mid sprint release on 11/27/2020. Based on the recurrence of this finding, IV&V has changed this Risk to an Issue and will continue to monitor until resolved. 10/31/2020 - The RSM and DOH Teams have collaborated to develop a detailed Production Deployment Guide for R3.10 and are in the process of rehearsing some of the primary activities to help ensure a smooth production	Release/Deployment Planning	Issue	Medium	Closed	Key finding has been addressed and proposed IV&V recommendations have been completed. A subsequent finding #19 has been created to address on-going deployment processes and technical execution issues.	D Macdonald

6.000	1/31/2020	The project lacks a documented 'Definition of Done', which could challenge the project's ability to fully achieve the goals of Phase 3.	BHA does not have a documented 'Definition of Done' (DOD) for the BHA Top 100 User Stories of for Phase 3. Because of this, it is unclear how proposed functionality/features are prioritized for each sprint, and throughout Phase 3.	The 'Definition of Done' document guides the Project's vision, business, and technical goals that are important inputs for stakeholders to develop a Roadmap for Phase 3. Without the 'Definition of Done' document, the project is likely to struggle to prioritize proposed functionality/features which may be equally important but are at odds with each other.	Project is currently in the process of creating the Definition of Done. IV&V recommends that the project create this document and socialize this with project team before end of Feb 2020 IV&V recommends that the project consider the items from the prioritized list, available resources and define "Done" as a percentage of the identified priority list with room for flexibility to add any other features/enhancements that will be identified during Phase 3.	02/29/2020 - The project created and documented the Phase 3 Definition of Done and socialized it in February. IV&V recommends the project continually review and update the Definition of Done, adjusting as/if necessary. IV&V will continue to monitor the project's adherence to Definition of Done and progress against it but is closing out this concern as of the February report.	Project Management	Concern	N/A	Closed	Definition of Done completed and socialized.	V Ramesh
7.000	1/31/2020	The lack of consistent backlog grooming could result in the project backlog having obsolete, non-estimated, and poorly defined user stories.	The backlog of defects, requests, and user stories continues to grow. Currently, there are approximately 429 defects and requests, of which almost 200 have a status of 'New'. IVV notes that a large percentage of the backlogged work items do not have user story points estimated. Many of the items listed in the backlog are old, and some may have had needs or requirements change over time or may now be obsolete. IV&V notes that DDD and CAMHD have initiated this effort and agreed 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 RSM SMEs in this process, if only for the interim to get "caught up" on grooming efforts. (Closed)  VV 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 cleansing of the backlog using the same methodology. (Closed)	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. 05/31/2020 - The project team has determined the backlog grooming effort has caught up, as details for release 3.9 are completed and 3.10 is near completion. IV&V will keep this finding open for an additional month to validate 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.  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. IV&V will keep this finding open and will re-assess it for impact during the month of May.  03/31/2020 - IV&V validates that the backlog grooming effort has made great progress, however it is still in progress. The revised target date for completion was most recently 3/31/2020. The estimation effort has reached	Project Management	Risk	Low	Closed	The project has demonstrated they are consistently grooming the backlog.	D Macdonald

8.000	1/31/2020	The BHA Technical Team bandwidth may not be sufficient to meet the needs of the project, which could compromise project productivity.	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. IV&V 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 expected 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.	The Project should investigate mechanisms of increasing the bandwidth of the BHA Technical Team, either by adding resources through new hires, or vendor contracts. The Project should assess, where possible, if there are responsibilities of the BHA Technical Team that can be reassigned to other project staff. The Project should evaluate where process inefficiencies can be addressed and streamlined to possibly free up the BHA Technical Team's availability. The Project should consider the formation of a first level M&O resource team to triage/address production defects in a timely manner, without disrupting new development work. The Project should consider procurement of an online training toolset to support OCM and technical efforts to offset the need for in-person training.	12/31/2020 - BHA stated that although most vacant positions cannot be filled at this time, they have approval to fill a vacant IT Technician position. IV&V will continue to monitor this finding. 11/30/2020 - There were no substantive changes to this finding in November. IV&V will continue to monitor. 10/31/2020 - There were no substantive changes to this finding during October. IVV will continue to monitor. 09/30/2020 - There were no substantive changes to this finding during September. IV&V will continue to monitor. 08/31/2020 - There were no substantive changes to this finding during August. IVV will continue to monitor. 07/31/2020 - For Release 3.10, BHA continues to rely on the RSM Technical Team for Solution Architect and Technical Team support. While this is clearly a positive move to increase bandwidth of the BHA Technical Architect 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. IV&V is raising the rating for this risk from low to medium and will continue to monitor this	Sprint Planning	Risk	Medium	Open		D Macdonald
9.000	1/31/2020	The lack of a Product Roadmap that provides direction on the top product features to be delivered in the near term (next 3 months), midterm, and long term could have an adverse impact on the Project's scope and schedule.	BHA does not have a single, definitive Product Roadmap for Phase 3 that addresses the functionalities, features, and / or enhancements to be built in order to fully address BHA's business needs. IV&V met with RSM and BHA on this topic in January, and notes that the project is actively working to address this concern.	A Roadmap is a tool that guides an agile project on what functionalities/features are targeted to be built and released and when users can have access to these functionalities. Without a defined Roadmap the project may not be able to effectively scope the top features to be released within Phase 3 and ensure the correct resources are available to accomplish the goal of each sprint and the Phase.	IV&V understands that the Project is in the process of creating a Short Term; Mid Term, and Long Term Roadmap. IV&V recommends the Project complete this by the end of February 2020 to understand if there are any constraints (resources, budget) that may hinder the project from releasing the needed functionalities/features targeted for Phase 3 as documented in the Definition of Done.	02/29/2020 - In February, the project further defined the Phase 3 Product Roadmap and aligned it with the Phase 3 Definition of Done. IV&V recommends the project continually review and update both the Product Roadmap and Definition of Done, adjusting as necessary. IV&V will continue to monitor the project's adherence to the Product Roadmap and progress against it but is closing out this concern as of the February report.	Project Management	Concern	N/A	Closed	Product Roadmap aligned with Definition of Done	V Ramesh

10.000	3/31/2020	The COVID-19 pandemic and the related "stay at home" order could hinder project activities and negatively impact the project schedule and budget.	On 3/23/2020, the Governor issued a "stay at home, work from home order" that has reduced state departments ability to be fully functional as the large majority of state workers will be required to work from home/remotely at least until the end of April and some offices may be completely shut down until that time as well. Unclear if the order will extend beyond that date.	DOH stakeholder participation in key activities could be significantly hindered, not only by required remote work by DOH and SI staff, but also by the flood of activities that could occur as the department could become overwhelmed processing and providing services due to the resulting economic impacts to citizens. Some stakeholders may be unable (due to stricter shutdown policies) or unwilling to perform these activities during this chaotic time. Planned SI on-site visits will also likely be changed to remote which could reduce the effectiveness of their project activities. Going forward most if not all project activities will more than likely be conducted	- IV&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) - Completed - IV&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 - In Progress - IV&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 - Open	12/31/2020 - The project continued to maintain its ability to operate with staff working remotely. As previously reported, key project staff continue to have increases in participation of non-project activities to support the COVID-19 crisis. This includes the expedited development of a high priority D365 solution for Disease Tracking as well as the planning work for the expansion of the D365 environment to additional DOH business units. Aside from the Disease Tracking solution, IV&V notes that the CAMHD leadership time dedicated to the COVID-19 response declined during December. The HI Governor announced in late December that furloughs will be delayed due to the potential of the COVID Relief bill funding from the federal government. IV&V continues to note that there may also be future potential budget actions by the Governor which may affect the project due to projected State budget shortfalls. 11/30/2020 - The project has maintained its ability to operate with staff working remotely. As previously reported, key project staff continue to have increases in participation of non-project activities to support the COVID-19 crisis. IV&V continues to note that there may also be future potential budget actions by the	Project Management	Risk	Medium	Open		D Macdonald
11.000	5/31/2020	The lack of design reviews for complex user stories has resulted in the promotion of incomplete solutions into production.	There were a couple incidents during May where the code promoted to production did not fully meet all requirements of associated user stories for CAMHD Progress Notes. The components that were developed and implemented were functional, however the effort was complicated by additional requirements being added during development that necessitated additional changes to the design. IV&V will continue to monitor the design review activity for large user stories moving forward	If all requirements within a functional design are not met, users could experience the inability to complete required processes, resulting in incomplete data collection and potential issues in service delivery.	IV&V recommends (and DOH has commenced) conducting technical design reviews for complex user stories prior to development to ensure designs are complete and all requirements associated with the design are met. IV&V observed this activity has been implemented by DOH in the month of May.	07/31/2020 - The Project continues to to spend additional time on the designs of complex user stories during June to ensure requirements and user story components were fully captured in design sessions. This process change has proven successful, and as such, IV&V recommends closing this concern. 06/30/2020 - IV&V acknowledges the Project Team continued to spend additional time on the designs of complex user stories during June to ensure requirements and user story components were fully captured in design sessions. IV&V will continue to monitor in July.		Concern		Closed	This process change to spend extra time on the design of complex user stories to ensure that all requirements are represented has proven to be successful.	

12.000	7/31/2020	DDD Project staffing shortages may have a continued negative effect on user adoption, training, overall OCM activities.	The user adoption and training efforts are hampered based on staffing shortages. DDD has stated that its users have been found to not be utilizing the system to its fullest extent in terms of system workflow, provide their insights and input, follow up, etc. To assist in OCM activities, DDD has defined the need for an interactive training tool to support Inspire.	The significance and impact of OCM can never be understated. It is clearly a best practice that best that all staff utilize the solution in the same manner. Variations in how the system is utilized by its users is likely to cause variations in data collection and analytical efforts using the data collected.	IV&V recommends that BHA does as much as possible within its sphere of influence to increase user adoption and training. This includes procurement of the online training toolsets to offset the need for in-person training, and adding staff as needed to support OCM and technical efforts. IV&V recommends DOH perform a detailed investigation of the specific variations as to how the system is currently being used by the user community. Consequently, users would be provided with constructive feedback on how the system should be utilized where gaps exist. This will likely lead to additional refresher training to close identified system knowledge gaps.	12/31/2020 - The contract to procure the interactive training toolset for onboarding new staff members and providers and to provide refresher training to existing staff members was successfully executed. Planning for the design of the necessary training will commence in January. Additionally, DDD has secured a contract for temporary Report Writing services. IV&V will continue to monitor. 11/30/2020 - Procurement of the interactive training toolset for onboarding new staff members and providers and to provide refresher training to existing staff members is currently pending RSM agreement of terms and subsequent completion of an MOU. This is expected to be finalized in December. DOH has also posted a procurement request for Report Writing services, and the end date for the posting is 11/30/2020. Lastly, DOH is considering the addition of a technical deployment specialist for the project, however this procurement has not yet been released. IV&V will continue to monitor. 10/31/2020 - To assist in OCM activities, DDD has submitted a draft Agreement of Services to procure an interactive training toolset for onboarding new staff members and providers and to provide refresher training to existing	Project Management	Risk	Low	Open		D Macdonald
13.000	8/31/2020	PII/PHI data in non-production environments	IV&V has been made aware that PII/PHI data currently exist in a non-production environment to meet project needs. Generally this is not a good security practice as the presence of PII/PHI data in non-production environments increases the potential for theft, loss or exposure thus increasing the organization's risk. 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.	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 establishes a plan for effectively managing the security of the PII/PHI data, including the potential masking of data. IV&V recommends that DOH mitigates this finding by removing and/or masking any PHI/PII data in its non-production environments.	12/31/2020 - BHA is still in the process of establishing a plan for managing PHI/PII data and plans to complete this effort in February after Release 3.12. IV&V will continue to monitor this finding. 11/30/2020 - DOH is still in the process of establishing a plan for managing PHI/PII data and plans to complete this effort in December. Due to the security nature of PHI/PII data, IV&V has escalated this finding from a preliminary concern to a low priority risk and will continue to monitor this finding. 10/31/2020 - DOH is still in process of establishing a plan for managing PHI/PII data. IV&V will continue to monitor this finding. 09/30/2020 - 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&V will continue to monitor this preliminary data security concern.	Project Management	Risk	Low	Open		D Macdonald



14.000	8/31/2020	Project not able to access Activity Logs	The Project recently deployed audit log functionality into production whereby these logs can be accessed and exported as needed. However, IV&V 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 events until implemented.	The unavailability of activity logs may hamper the investigation of future security breaches.	IV&V recommends that DHS continues to collaborate with Microsoft until the activity logging feature is available in all BHA non-production environments.	12/31/2020 - The planning effort for identifying the entities that will require activation of the new activity logs was completed during December. The implementation effort has been prioritized for inclusion in Release 3.12. IV&V will continue to monitor this finding until implemented. 11/30/2020 - The DOH technical team has commenced the analytical effort to determine which entities to activate the logging features for, as well as which entities will not require this action. IV&V will continue to monitor this finding until successfully implemented. 10/31/2020 - Microsoft's implementation of the optional components of the logging features remain scheduled for 10/31/2020. IVV will continue to monitor the implementation of these features in the DOH non-production environments during November.  09/30/2020 - 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	Release/Deployment Planning	Risk	Low	Open		D Macdonald
15.000	9/30/2020	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. Conducting System Integration Testing, User Acceptance Testing, Performance Testing, and Regression Testing for Release 3.10. 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	The identified quality issues have negatively affected DOH billing processes 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 fiscal balance testing on a quarterly basis to ensure revenues are as expected. 2) Performing typical project testing including System Integration, User Acceptance, Performance, and Regression Testing. 3) Assigning a dedicated resource to provide oversight of CAMHD Fiscal Processes. 4) BHA and RSM to collaborate on the necessary revisions to the submitted design deliverables to increase level of detail and quality - Completed 5) Monitor implemented improvements for effectiveness.	12/31/2020 - BHA recognizes the impact of the quality concerns and has initiated weekly meetings with the development and test teams in order to increase the quality assurance effort of each release going forward. This effort has expanded to more of a team approach to managing quality for releases and includes efforts to further develop the quality components of all user stories and requests to ensure the test goals are well known by all prior to development being initiated. IV&V will continue to monitor this medium priority project issue. 11/30/2020 - . Quality issues persist as approximately nine (9) new defects were found in Release 3.10. RSM has acknowledged the quality concerns and inclusive of their weekly status reporting have stated they are incorporating additional testing considerations into the SIT/Regression, and UAT processes, to include: - Tagging Provider Portal and Consent Registry development team items affecting screens that display PHI - Adding negative test steps to Test Cases to verify minimum necessary data visibility when testing these functions, and - To revisit the Regression Testing approach to	Project Management	Issue	Medium	Open		D Macdonald

16.000	10/5/2020	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 of both the Semantics Reporting and IDM tools. IV&V will continue to monitor this concern.			12/31/2020 - IV&V is aware that an overview of the Semantics Layer KT session was held on 12/16/20. The planning effort will result in additional Semantic Layer and IDM KT sessions in the coming months. IV&V will continue to monitor this finding. 11/30/2020 - The project conducted two high-level overview sessions of the Semantic Layer Reporting tools during November. One session was focused on the overall Semantic Layer, and the second session was focused on Semantic Layer Security. Additional targeted Knowledge Transfer sessions on the Semantic Layer tools will need to be provided by RSM; however, these have not been scheduled. IV&V will continue to monitor this finding. 10/31/2020 - The project intends to obtain more targeted knowledge transfer for both the Semantics Reporting and IDM tools and will be planning and scheduling these sessions with the RSM team in the near future. IV&V will continue to monitor this concern.	Targeted KT	Concern					D Macdonald
17.000	10/27/2020	The bandwidth of CAMHD Leadership is being hampered by planning tasks and activities for assessing project expansion to other divisions.	CAMHD has been provided with an approval to commence planning efforts for expansion of the project for ADAD and AMHD & HSH. CAMHD Leadership currently spends 25% of their available time dedicated to this planning effort.	CAMDH Leadership participation in key activities could be significantly hindered by the flood of activities that could occur as the department assesses expansion of this project to the balance of divisions.		12/31/2020 - The planning effort for the expansion of the case management solution to the other DOH divisions continued during December. CAMHD Leadership continues to dedicate approximately 25% of available time to this planning effort and it is anticipated that the level of effort will continue to increase in the coming months. On the positive side, CAMHD leadership time dedicated to the COVID response decreased during December. IV&V will continue to monitor this concern. 11/30/2020 - The planning effort for the expansion of the case management solution to the other DOH divisions project continued. CAMHD Leadership continues to dedicate approximately 25% of available time to this planning effort, and it is anticipated that the level of effort will likely continue to increase in the coming months.	Project Management	Concern					D Macdonald

18.000	11/30/2020	Due to consistent technical issues requiring escalation to Microsoft, the IDM and Semantic Layer project efforts are being delayed.	The IDM and Semantic layer efforts have experienced several delays attributable to issues escalated to Microsoft. The issues have ranged from administrative / communication (entering issues into the Commercial support instance vs the Government Cloud support instance), to several key technical issues requiring assistance to resolve. To date, these support needs have added over a month to the IDM and Semantic Layer project schedules.		IV&V recommends the project to continue to monitor the status of outstanding Microsoft tickets and to escalate the priority of these tickets as deemed necessary.	12/31/2020 - While most of the issues requiring escalation to Microsoft were adequately addressed during December, the Azure Data Factory (ADF) 'first 10 rows missing data' issue remain open. BHA has created a work around for this issue while awaiting a permanent and reliable resolution from Microsoft. Additionally, the Project awaits the "Datalake" function fix from Microsoft to address a priority IDM issue. The fix was intended to be delivered the end of 2020 but that did not pan out. No new target date has been provided by Microsoft. IV&V will continue to monitor this issue in January. 11/30/2020 - The IDM and Semantic layer efforts have experienced several delays attributable to issues escalated to Microsoft. The issues have ranged from administrative/communication (entering issues into the Commercial support instance vs the Government Cloud support instance) to several key technical issues requiring assistance to resolve. To date, these support needs have added over a month to the IDM and Semantic Layer project schedules.	Release/Deployment Planning	Issue	Medium	Open		D Macdonald
19.000	12/31/2020	Due to on-going deployment processes and technical execution issues, the project may continue to encounter defects and challenges in meeting projected timelines for production and non-production deployments.	There have been several defects pushed to production with Phase 3 releases. Some of the defects introduced to production have been narrowed down to environmental promotional activities. In these instances, the DEV and TEST environments were not in sync with the production environment (missing business rules, missing components, missing dependencies, etc.). IVV is aware that DOH staff shadowed RSM staff for all deployment releases during Phase 2 with RSM providing instruction and DOH staff physically executing the tasks and activities via keyboard. For Phase 3, it is unclear whether a complete, up to date, and documented deployment script, or deployment notes, are being utilized by BHA for deployment activities.	Repeatable documented release and deployment will help ensure that mistakes are minimized, and that functionality is not mistakenly deprecated when deployments take place.	Develop a plan to institutionalize the execution of "Smoke Testing" for promotions to non-production and production environments. This will help to ensure that all components needed to test have been properly deployed prior to the actual execution of test activities. Work in collaboration with RSM to establish a plan for DOH to assume all deployment activities to ensure complete ownership of these processes. This should assist with consistency in approach and execution going forward. As appropriate, consult with RSM on best practices that BHA could employ to support deployment. Look at implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed. COMPLETED 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	12/31/2020 - Release 3.11 was promoted to production on 12/13/2020. The promotion to the test environment for final testing and execution of regression test scripts prior to production deployment was missing software components. As a result, several user stories and defects were not tested as planned and were excluded from the production deployment. These items were subsequently re-prioritized to be resolved in a Mid Sprint Deployment in mid January or R3.12 in February.	Release/Deployment Planning	Issue	Medium	Open		D Macdonald