DAVID Y. IGE
GOVERNOR

DOUGLAS MURDOCK
CHIEF INFORMATION OFFICER

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

P.O. BOX 119, HONOLULU, HAWAI'I 96810-0119
Ph: (808) 586-6000 | Fax: (808) 586-1922
ETS.HAWAII.GOV

March 23, 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 (Mar 23, 2021 13:36 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

February 1 – February 28, 2021

Final submitted: March 8, 2021

PUBLIC CONSULTING GROUP

Solutions that Matter

Agenda

Executive Summary

IV&V Findings & Recommendations

Appendices

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

Executive Summary

The Project deployed Release 3.12 (R3.12) to production on 2/14/2021. Post-production issues and deprecated system functionality resulted. Due to the higher volume of post-production defects, BHA is pursuing a Root Cause Analysis (RCA) to address the R3.12 defects, which IV&V recommended and believes should be instituted as part of all future post-production deployment activities to promote continuous quality improvement.

IV&V continues to monitor high criticality findings for release deployment, regression testing, quality, and Microsoft Issues. We encourage the Project to consider our recommendations to mitigate risk and avoid the reoccurrence of issues in upcoming planned releases.

Initial production deployments for both the IDM and Semantics Layer workstreams were completed on 2/26/2021. Efforts to prioritize the planning for additional workstream phases are underway.

Dec	Jan	Feb	Category	IV&V Observations
Y	Y	Y	**Sprint Planning**	Although IV&V continues to recommend the need for skilled MS Dynamics resources to permanently support BHA's technical needs, CAMHD's recruitment activities continue to be delayed due to lack of administrative approvals to post the open IT Technician position. The rating for this category remains Yellow (medium criticality) for the February reporting period. IV&V will continue to monitor this category moving forward.
G	G	G	**User Story (US) Validation**	There are no active findings in User Story (US) Validation category which remains Green (low criticality) for the February reporting period. IV&V will continue to monitor the US development and validation process in upcoming reporting periods.
Y	R	R	**Test Practice Validation**	The project deployed R3.12 to production in February which again resulted in post release defects and deprecated system functionality. The project is performing an RCA to determine the source of defects as it pertains to testing. IV&V continues to recommend the development of automated regression test scripts. The rating for this category remains Red (high) for the February reporting period. IV&V will continue to monitor this category in upcoming reporting periods.

Executive Summary

Dec	Jan	Feb	Category	IV&V Observations
Y	R	R	**Release / Deployment Planning**	The criticality rating for this category remains Red (high) for the February reporting period. Deployment issues continue to negatively impact releases, as experienced with R3.12 in February. The project is actively performing an RCA to determine the source of defects as it pertains to releases/deployments. IV&V will continue to monitor this category in March.
G	G	G	**OJT and KT Sessions**	The criticality rating for the OJT and KT Sessions category remains Green (low) for the February reporting period with no active findings.
G	G	G	**Targeted KT**	The Targeted KT criticality rating remains Green (low) for the February reporting period. The Project Team has completed planning efforts for the KT sessions on Semantics Reporting and IDM tools, and has moved forward with the execution of the KT plan. IV&V will continue to monitor this category moving forward.
G	G	G	**Project Performance Metrics**	The Project met its performance metrics for R3.12. IV&V will keep the criticality rating for this category a Green (low) and will continue to monitor this category moving forward.
G	G	G	**Organizational Maturity Assessment**	The criticality rating for the Organization Maturity Assessment (OMA) will remain Green (low). Planning efforts for the next OMA (in March) is currently in progress.
Y	Y	Y	**Project Management**	Quality issues that impact DDI activities continue to be an IV&V concern. The Project has implemented formal RCA processes to identify the cause of ongoing defects which should help to improve overall quality. BHA Leadership bandwidth also remains a concern for IV&V. The criticality rating for this category remains Yellow (medium) for the February reporting period. IV&V will continue to monitor this category in March.

Executive Summary

As of the February 2021 reporting period, there are a total of ten open findings – four High Issues, two Medium Risks, and four Low Risks spread across the Sprint Planning, Release / Deployment Planning, Test Practice Validation, Targeted Knowledge Transfer, and Project Management assessment areas.
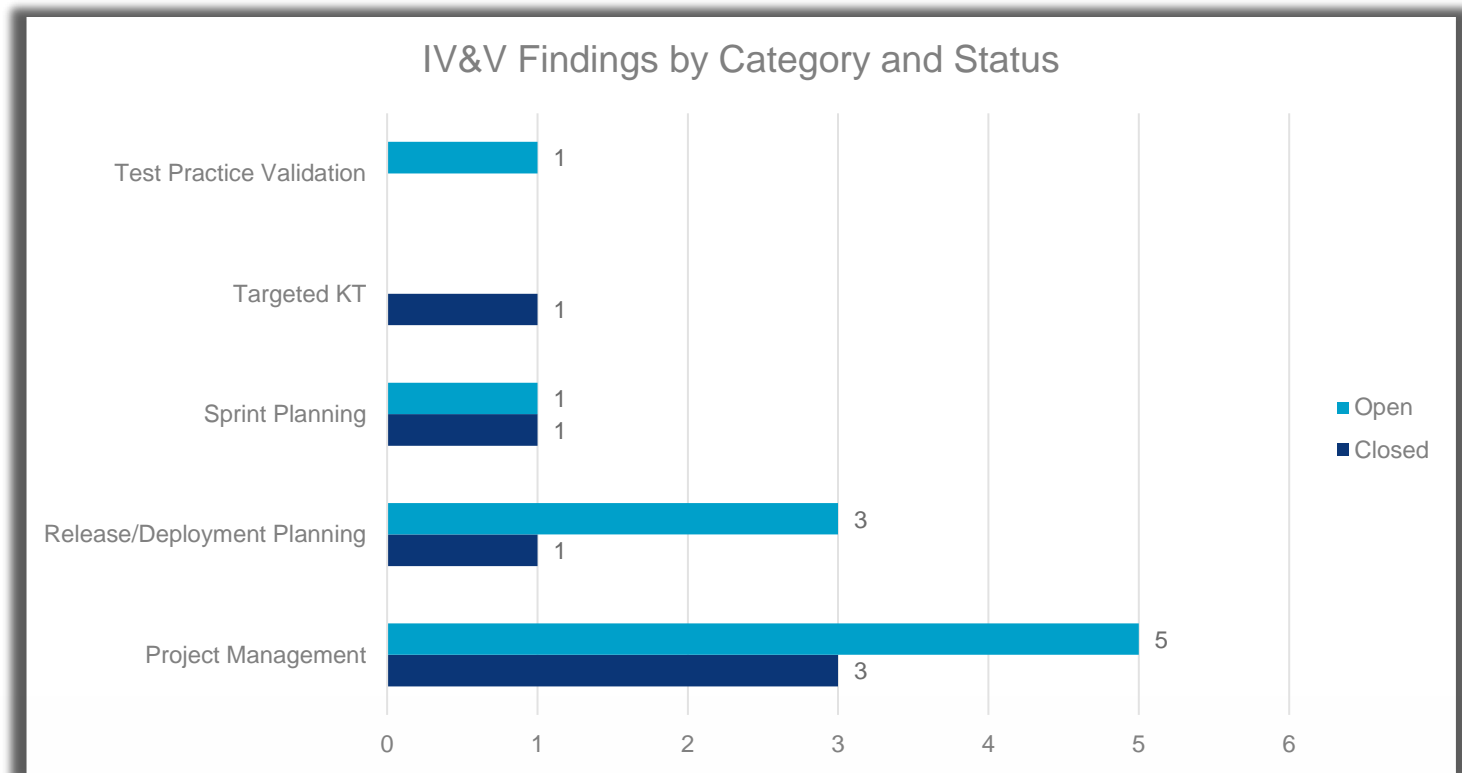
IV&V Findings by Category and Status

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	**Medium Risk - The BHA Technical Team bandwidth may not be adequate to meet the needs of the project, which could compromise project productivity.** Due to lack of administrative approvals, the internal BHA efforts to post and fill technical positions have slowed. CAMHD is hopeful that the open IT Technical position will be posted in March. IV&V will continue to monitor.	M

Recommendations	Status
• The Project should investigate mechanisms of increasing the bandwidth of the BHA Technical Team, either by adding resources through new hires, or vendor contracts.	In progress
• The Project should assess, where possible, if there are responsibilities of the BHA Technical Team that can be reassigned to other project staff.	In progress
• The Project should evaluate where process inefficiencies can be addressed and streamlined to possibly free up the BHA Technical Team's availability.	In progress
• 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.	In progress
• The Project should consider procurement of an online training toolset to support OCM and technical efforts to offset the need for in-person training.	Completed

IV&V Findings & Recommendations
Test Practice Validation

#	Key Findings	Criticality Rating
2	**High Issue** – **As a result of regression testing not being consistently performed, production releases are breaking and/or deprecating existing functionality in the production environment**. R3.12 was promoted to production on 2/14/2021. Approximately thirteen new defects resulted from the release; one was a critical CAMHD defect involving the workflow for progress notes which required a fix to production on 2/25/2021. BHA initiated an RCA for the R3.12 defects to help with quality improvement and to ensure these same issues do not recur in future releases. Completion of the RCA is expected in early March. IV&V notes that DOH is working with Microsoft to schedule time in March/April to commence the efforts for regression testing automation. This functionality is expected to provide repeatable, automated regression test efforts for CAMHD and DDD in downstream releases. DOH is working to identify both internal DOH and external Microsoft resource participants for this effort.	H

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
• 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
• Modifying regression test scripts to start AFTER case creation, limiting the time it takes to execute. (This recommendation was for a point in time and is no longer valid.)	Completed
• Modifying the deployment scripts based on information gained from previous release deployments.	Completed
• 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
• 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.	Completed
• Implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed.	Completed
• IV&V recommends performing an RCA in collaboration with RSM for the continued concerns with regression testing efforts.	*New*
• Determine if current regression testing timeframes are adequate and if not, add more time to the pre-production regression test efforts for all release deployments.	*New*

IV&V Findings & Recommendations
Release / Deployment Planning

#	Key Findings	Criticality Rating
19	**High Issue - 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.** R3.12 was promoted to production on 2/14/2021. Approximately thirteen new defects resulted from the release. One of these defects was a critical CAMHD defect involving the workflow for progress notes which required a fix to production on 2/25/2021. BHA initiated an RCA for the R3.12 defects to help with quality improvement and to ensure these same issues do not recur in future releases. Completion of the RCA is expected in early March.	H

Recommendations	Status
• 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.	Open
• Work in collaboration with RSM to establish a transition 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.	Open
• As appropriate, consult with RSM on best practices that BHA could employ to support deployment.	In Progress

IV&V Findings & Recommendations
Release / Deployment Planning (cont'd)

Recommendations	Status
• 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 environments.	In Progress
• 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.	In Progress
• 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.	Completed
• The Project Team should consider evaluating potential changes to improve/enhance existing processes and communications to address current release/deployment shortfalls.	In Progress
• IV&V recommends performing an RCA in collaboration with RSM for the continued concerns surrounding environment differences.	In Progress
• IV&V recommends updating the Project's Configuration Management Plan to address the current needs of the Project. This should include specific checklists geared at ensuring repeatable promotional processes by DOH.	Open
• Due to an error prone process of 'cherry picking' what is and what is not ready for deployment, IV&V recommends that DOH and RSM collaborate to determine an improved manner for managing DOH environments.	*New*

IV&V Findings & Recommendations
Release / Deployment Planning (cont'd)

#	Key Findings	Criticality Rating
18	**High Issue - Due to consistent technical issues requiring escalation to Microsoft, some project efforts are being delayed.** BHA continues to work with Microsoft on technical issues as they arise in the Government Community Cloud (GCC) instance. IV&V will continue to monitor this finding.	H

Recommendations	Status
• 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.	In Progress

IV&V Findings & Recommendations
Project Management

#	Key Findings	Criticality Rating
10	**Medium Risk -The COVID-19 pandemic and related "stay at home" order could hinder project activities and negatively impact the project schedule and budget.** As reported in January, there were no substantive changes observed for this finding in February. The Project continued to maintain its ability to operate with staff working remotely. IV&V continues to note that there may be potential future budget actions by the Governor due to projected State budget shortfalls, including furloughs that are planned to be re-evaluated in July. If realized, these actions could have negative effects on project funding.	Ⓜ

Recommendations	Status
• 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

IV&V Findings & Recommendations
Project Management (cont'd)

#	Key Findings	Criticality Rating
15	**High Issue - Due to multiple quality concerns, the project may continue to face impactful system defects.** R3.12 was promoted to production on 2/14/2021. Approximately thirteen new defects resulted from the release. One of these defects was a critical CAMHD defect involving the workflow for progress notes which required a fix to production on 2/25/2021. BHA initiated an RCA for the R3.12 defects to help with quality improvement and to ensure these same issues do not recur in future releases. Completion of the RCA is expected in early March. IV&V notes that DOH is working with Microsoft to schedule time in March/April to commence the efforts for regression testing automation. This functionality is expected to provide repeatable, automated regression test efforts for CAMHD and DDD in downstream releases. DOH is working to identify both internal DOH and external Microsoft resource participants for this effort.	**H**

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

IV&V Findings & Recommendations
Project Management (cont'd)

Recommendations	Status
• 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
• Evaluate existing project staff skills and experience level to ensure they meet BHA support requirements.	Open
• IV&V recommends performing an RCA in collaboration with RSM after all future release deployments for continual quality improvement.	*New*

IV&V Findings & Recommendations
Project Management (cont'd)

#	Key Findings	Criticality Rating
13	**Low Risk – PII/PHI data in non-production environments.** There were no substantive changes for this finding in February. BHA is establishing a plan for managing its PHI/PII data in non-production environments. Based on continued delays, it is unclear when this important security activity will be completed.	L

Recommendations	Status
• 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.	In Progress
• IV&V recommends that DOH mitigates this finding by minimizing and/or masking PHI/PII data in designated non-production environments.	In Progress
• IV&V recommends DOH consider limiting the volume of environments and access necessary to support development work, which should help minimize this risk.	Open

IV&V Findings & Recommendations
Project Management (cont'd)

#	Key Findings	Criticality Rating
12	**Low Risk – DDD Project resource shortages may have a continued negative effect on user adoption, training, and overall OCM activities**. Training videos using the new toolset were nearing completion by the end of February. DOH is currently reviewing the drafts of the second set of videos and work is progressing well. IV&V will continue to monitor this finding until DDD has had sufficient time to determine the overall quality of the training work products and whether the new toolset is addressing user adoption and staffing shortages for these task efforts.	L

Recommendations	Status
• 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.	In Progress
• 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.	In Progress

IV&V Findings & Recommendations
Project Management (cont'd)

#	Key Findings	Criticality Rating
14	**Low Risk – Project unable to access activity logs.** BHA continued this effort in February despite a workaround being necessary from Microsoft due to a layering issue. Based on continued delays, it is unclear when this important security activity will be completed. IV&V will continue to monitor this finding.	L

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

IV&V Findings & Recommendations
Project Management (cont'd)

#	Key Findings	Criticality Rating
17	**Low Risk - The bandwidth of CAMHD Leadership is being hampered by planning tasks and activities for assessing project expansion to other divisions.** CAMHD Leadership continued to spend upwards of 1/3 of available time in the planning effort for Phase 4 of the Project, which is intended to expand the D365 solution to the remaining DOH divisions. The level of dedication to this effort is certain to continue to increase in the coming months. IV&V will continue to monitor this finding.	L

Recommendations	Status
• IV&V recommends CAMHD look for opportunities to augment the management staffing for planning Phase 4 and M&O work.	In Progress

IV&V Findings & Recommendations
Project Management (cont'd)

#	Key Findings	Criticality Rating
20	*New Preliminary Concern* **– The pending RSM contract expiration will require BHA to perform transition of the D365 solution to the State prior to contract end.** The RSM contract for Phase 3 is currently planned to complete in September 2021. BHA will need to ensure that it has all knowledge transfer and is fully capable of managing all aspects of supporting and maintaining the D365 solution without vendor support until at least the Phase 4 expansion effort is procured and initiated. The Phase 4 effort is currently expected to commence late in the 4th quarter of 2021, or early in the first quarter of 2022. The Phase 4 procurement scope is planned to include additional DD&I activities, as well as M&O support activities.	N/A

IV&V Findings & Recommendations
Project Performance Metrics

Metric	Description	IV&V Observations	IV&V Updates
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	**February –** Available velocity was estimated at 300 user story points for R3.12. A total of 251.27 USPs (83%) were completed (17.77 in an MSD on 1/15/2021, and 233.5 in R3.12 on 2/14/2021). IV&V notes that RSM includes USP counts from Mid Sprint Deployments prior to a planned release as component of the planned release. Overall, the cumulative Phase 3 targeted USPs through R3.12 was planned for 1,038. The cumulative completed USPs total is currently 1349.3.	N/A

IV&V Findings & Recommendations
Project Performance Metrics (cont'd.)

Metric	Description	IV&V Observations	IV&V Updates
Defect Metrics	Understand and track the following: • Defects by category (bug fixes) • US Points assigned to defects in a release vs US Points assigned to planned US in a release	**February** – R3.12 was comprised of 233.5 USPs that were released to production. • 83% of the total USPs were associated with planned user stories and requests. • 17% of the total USPs were associated with defects from the backlog.	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 currently planning for the next OMA in March 2021.	

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
H	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.
M	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.
L	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 February 2021 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

Eclipse IV&V® Base Standards and Checklists

Artifacts reviewed during the February 2021 reporting period:

1. Daily Scrum Notes (selected)
2. Twice Weekly Issues Meeting Notes (selected)
3. Root Cause Analysis Worksheet

Document

Appendix C: Project Trends

Appendix C
Project Trends

Trend: Overall Project Health										
Process Area	2020-2021									
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
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	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨	🟨
Total Open Findings	**6**	**6**	**6**	**7**	**7**	**10**	**11**	**11**	**10**	**11**
Issue - high	0	0	0	0	0	0	0	0	4	4
Issue - medium	0	0	0	1	2	2	4	4	0	0
Issue - low	1	1	1	0	0	0	0	0	0	0
Risk - high	1	0	1	0	0	0	0	0	0	0
Risk - medium	0	2	2	3	3	3	2	2	2	2
Risk - low	3	2	1	0	0	0	3	3	4	4
Preliminary Concern	1	1	1	3	3	5	2	2	0	1

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 outs, 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	02/28/2021 - R3.12 was promoted to production on 2/14/2021. Approximately thirteen new defects resulted from the release; one was a critical CAMHD defect involving the workflow for progress notes which required a fix to production on 2/25/2021. BHA initiated an RCA for the R3.12 defects to help with quality improvement and to ensure these same issues do not recur in future releases. Completion of the RCA is expected in early March. IV&V notes that DOH is working with Microsoft to schedule time in March/April to commence the efforts for regression testing automation. This functionality is expected to provide repeatable, automated regression test efforts for CAMHD and DDD in downstream releases. DOH is working to identify both internal DOH and external Microsoft resource participants for this effort. 01/31/2021 - A Mid-Sprint Deployment to production was released on 1/15/21 to address high priority defects. Consistent with previous releases, issues in the production environment were observed and existing functionality was deprecated (e.g., SIS assessment scores). Although root cause analysis is ongoing, these	Test Practice Validation	Issue	High	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 | 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 | Release/Deployment Planning | Issue | Medium | Closed | Key finding has been addressed and proposed IV&V recommendations 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	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 - COMPLETED. | 02/28/2021 - Due to lack of administrative approvals, the internal BHA efforts to post and fill technical positions have slowed. CAMHD is hopeful that the open IT Technical position will be posted in March. IV&V will continue to monitor. 01/31/2021 - Due to internal DOH processes, the recruiting announcement for CAMHD's open IT Technician position was delayed until February. IV&V will continue to monitor this finding. IV&V notes that the RSM Team continued to provide essential support during January, alleviating some of the bandwidth concerns expressed by DOH to meet crucial project needs. Due to RSM resource levels being significantly reduced in March, the balance of agile releases will also be reduced in scope. 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 | 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 remotely until this crisis passes. | - 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 | 02/28/2021 - As reported in January, there were no substantive changes observed for this finding in February. The Project continued to maintain its ability to operate with staff working remotely. IV&V continues to note that there may be potential future budget actions by the Governor due to projected State budget shortfalls, including furloughs that are planned to be re-evaluated in July. If realized, these actions could have negative effects on project funding.
01/31/2021 - No substantive changes were observed in January. The project continued to maintain its ability to operate with staff working remotely. As previously reported, key project staff continue to have responsibility for participating in non-project activities to support the COVID-19 crisis. 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 potential future budget actions by the Governor due to projected State budget shortfalls, including furloughs that are planned to be re-evaluated in July. If realized, these actions could have negative effects on project | 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 resource shortages may have a continued negative effect on user adoption, training, and 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. | 02/28/2021 - Training videos using the new toolset were nearing completion by the end of February. DOH is currently reviewing the drafts of the second set of videos and work is progressing well. IV&V will continue to monitor this finding until DDD has had sufficient time to determine the overall quality of the training work products and whether the new toolset is addressing user adoption and staffing shortages for these task efforts. 01/31/2021 - Training design activities using the interactive training toolset commenced in January and has attained good progress. The use of this tool is expected to provide some bandwidth relief for DDD staff members responsible for onboarding new staff members and providers, and to provide refresher training to existing staff members. IV&V will continue to monitor this finding 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. | 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. NEW - IV&V recommends DOH consider limiting the volume of environments and access necessary to support development work, which should help minimize this risk. | 02/28/2021 - There were no substantive changes for this finding in February. BHA is establishing a plan for managing its PHI/PII data in non-production environments. Based on continued delays, it is unclear when this important security activity will be completed. 01/31/2021 - No substantive changes were observed in January. BHA is still in the process of establishing a plan for managing PHI/PII data. This effort remains anticipated to commence in February, after Release 3.12 is completed. IV&V will continue to monitor this finding. 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. | 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. | 02/28/2021 - BHA continued this effort in February despite a workaround being necessary from Microsoft due to a layering issue. Based on continued delays, it is unclear when this important security activity will be completed. IV&V will continue to monitor this finding. 01/31/2021 - The implementation effort for this activity moved forward in January. Some of the entities will have activity logging completed in the planned early February Release 3.12, while others will be delayed until Release 3.13. IVV will continue to monitor. 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 | 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 | 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. - In Progress 6) Evaluate existing project staff skills and experience level to ensure they meet BHA support requirements - Open 7) IV&V recommends performing an RCA in collaboration with RSM after all future release deployments for continual quality improvement. NEW | 02/28/2021 - R3.12 was promoted to production on 2/14/2021. Approximately thirteen new defects resulted from the release. One of these defects was a critical CAMHD defect involving the workflow for progress notes which required a fix to production on 2/25/2021. BHA initiated an RCA for the R3.12 defects to help with quality improvement and to ensure these same issues do not recur in future releases. Completion of the RCA is expected in early March. IV&V notes that DOH is working with Microsoft to schedule time in March/April to commence the efforts for regression testing automation. This functionality is expected to provide repeatable, automated regression test efforts for CAMHD and DDD in downstream releases. DOH is working to identify both internal DOH and external Microsoft resource participants for this effort. 01/31/2021 - Quality issues persisted in January as regression testing and deployments (non-production and production) issues have impacted the planned DDI activities. Root cause analysis (people, process, tools) and immediate remediation is highly recommended, as these | Project Management | Issue | High | 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. | | | 01/31/2021 - The project has made great strides addressing this concern. A Semantics Layer KT session was conducted on 1/29/21 and multiple IDM and Semantic Layer sessions has been scheduled in February. IV&V is closing this finding as we no longer view this item as a 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 | Targeted KT | Concern | | Closed | | The project has made good progress establishing and initial execution of the IDM and Semantics Layer KT plan. | 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. | IV&V recommends CAMHD look for opportunities to augment the management staffing for planning Phase 4 and M&O work. | 02/28/2021 - CAMHD Leadership continued to spend upwards of 1/3 of available time in the planning effort for Phase 4 of the Project, which is intended to expand the D365 solution to the remaining DOH divisions. The level of dedication to this effort is certain to continue to increase in the coming months. IV&V will continue to monitor this finding.
01/31/2021 - The CAMHD Leadership is now spending upwards of 1/3 of available time in the planning effort for Phase 4 of the Project, which is intended to expand the D365 solution to the remaining DOH divisions. The level of dedication to this effort is certain to continue to increase in the coming months.
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 | Project Management | Risk | Low | Open | | | D Macdonald |

| 18.000 | 11/30/2020 | Due to consistent technical issues requiring escalation to Microsoft, some 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. | 02/28/2021 - BHA continues to work with Microsoft on technical issues as they arise in the Government Community Cloud (GCC) instance. IV&V will continue to monitor this finding.
01/31/2020 - While most of the Microsoft issues were fixed, the 'first 10 rows', the 'multi-select options', and 'unmanaged layer on the Case entity' issues are partially outstanding impacting project timelines. As temporary measures, the project has developed workarounds. Per BHA, the Product Roadmap for the GCC product continues to lag behind commercial instances which causes uncertainties for the BHA-ITS Project. BHA plans to meet with senior Microsoft management to discuss during February. IV&V will continue to monitor.
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 | Release/Deployment Planning | Issue | High | 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 | 02/28/2021 - R3.12 was promoted to production on 2/14/2021. Approximately thirteen new defects resulted from the release. One of these defects was a critical CAMHD defect involving the workflow for progress notes which required a fix to production on 2/25/2021.
BHA initiated an RCA for the R3.12 defects to help with quality improvement and to ensure these same issues do not recur in future releases. Completion of the RCA is expected in early March.
01/31/2021 - A planned Mid-Sprint Deployment (MSD) to production was released on 1/15/2021 to address high priority defects. Post MSD production issues resulted, and existing functionality was deprecated (e.g., SIS assessment scores). Although root cause analysis is on-going, it is suspected these issues stem from insufficient deployment and regression testing. DOH has confirmed that at least one needed software component was inadvertently missed from the deployment to production. The inconsistencies within the non-production and production environments continue to contribute to non-production environment testing issues as well as | Release/Deployment Planning | Issue | High | Open | | | D Macdonald |

20.000	3/28/2021	The pending RSM contract expiration will require BHA to perform transition of the D365 solution to the State prior to contract end.	The RSM contract for Phase 3 is currently planned to complete in September 2021. BHA will need to ensure that it has all knowledge transfer and is fully capable of managing all aspects of supporting and maintaining the D365 solution without vendor support until at least the Phase 4 expansion effort is procured and initiated. The Phase 4 effort is currently expected to commence late in the 4th quarter of 2021, or early in the first quarter of 2022. The Phase 4 procurement scope is planned to include additional DD&I activities, as well as M&O support activities.	DOH needs to be in a position to completely stand on its own without the assistance of vendor support by fall of 2021. If DOH is not in a position to solely take on the development of user stories, testing, regression testing, deployment, and the support and maintenance of the entire system, there is a risk that environment stability may be challenged.			Project Management	Concern		Open		