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OFFICE OF ENTERPRISE TECHNOLOGY SERVICES | *KE'ENA HO'OLANA 'ENEHANA*

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

August 29, 2025

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

The Honorable Nadine K. Nakamura
Speaker and Members of the
House of Representatives
Thirty-Third State Legislature
State Capitol, Room 431
Honolulu, Hawaiʻi 96813

Aloha Senate President Kouchi, Speaker Nakamura, 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 Hawaiʻi, Department of Health, 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,

Christine M. Sakuda
Chief Information Officer
State of Hawaiʻi

Attachments (2)

Hawaii BHA Integrated Case Management System Project – *Phase 4*

IV&V Report for the period of

July 1 – July 31, 2025

Final Submitted: August 12, 2025

PUBLIC CONSULTING GROUP

Solutions that Matter

Agenda

Executive Summary

IV&V Findings & Recommendations

Appendices

- A – Rating Scales
- B – Inputs
- C – Project Trends
- D – Acronyms and Definitions
- E – List of Production Defects

Executive Summary

The project continues to make steady progress in the build-out of the INSPIRE case management system and recently went live with a new system release on 7/30/2025.

The project has made progress with resolving challenges they've had with defect logging activities, which should improve bug tracking and coordination. The project team has stated its intention to prioritize investigating the root cause of post-production defects (defects inadvertently released into the production system). Reducing recurring and post-production defects could increase the productivity of the development effort, improve system quality, and reduce the overhead of managing defects.

The project continues to face challenges with improving their system testing processes. Automated regression testing has been paused due to expired Tosca licenses, requiring the team to revert to manual testing and potentially slowing their productivity. Improving testing processes could help minimize post-deployment defects, improve system stability, and lessen the workload on BHA testers.

BHA continues to address resource constraints and is actively recruiting a supervisory role for the project team to reduce the workload for key project members and improve their productivity on project tasks. They are exploring ways to enhance some of their operational duties (e.g., audit and compliance tasks) to free up capacity to focus more on critical project activities.

Executive Summary

May	Jun	Jul	Category	IV&V Observations
L	L	L	**Sprint Planning**	BHA identified a backlog bottleneck due to one person managing review, estimation, and assignment. Some items have carried over, highlighting the need for added support. The team is streamlining processes by aligning related items and refining task distribution to improve efficiency.
L	L	L	**User Story (US) Validation**	There are no active findings in the User Story (US) Validation category, which remains Green (low criticality) for this reporting period. IV&V will continue to monitor the US development and validation process in upcoming reporting periods.
M	M	M	**Test Practice Validation**	The project continues to face challenges with improving their system testing processes. Automated regression testing has been paused due to expired Tosca licenses, requiring the team to revert to manual testing and potentially slowing their productivity. Improving testing processes could help minimize post-deployment defects, improve system stability, and lessen the workload on BHA testers.

Executive Summary

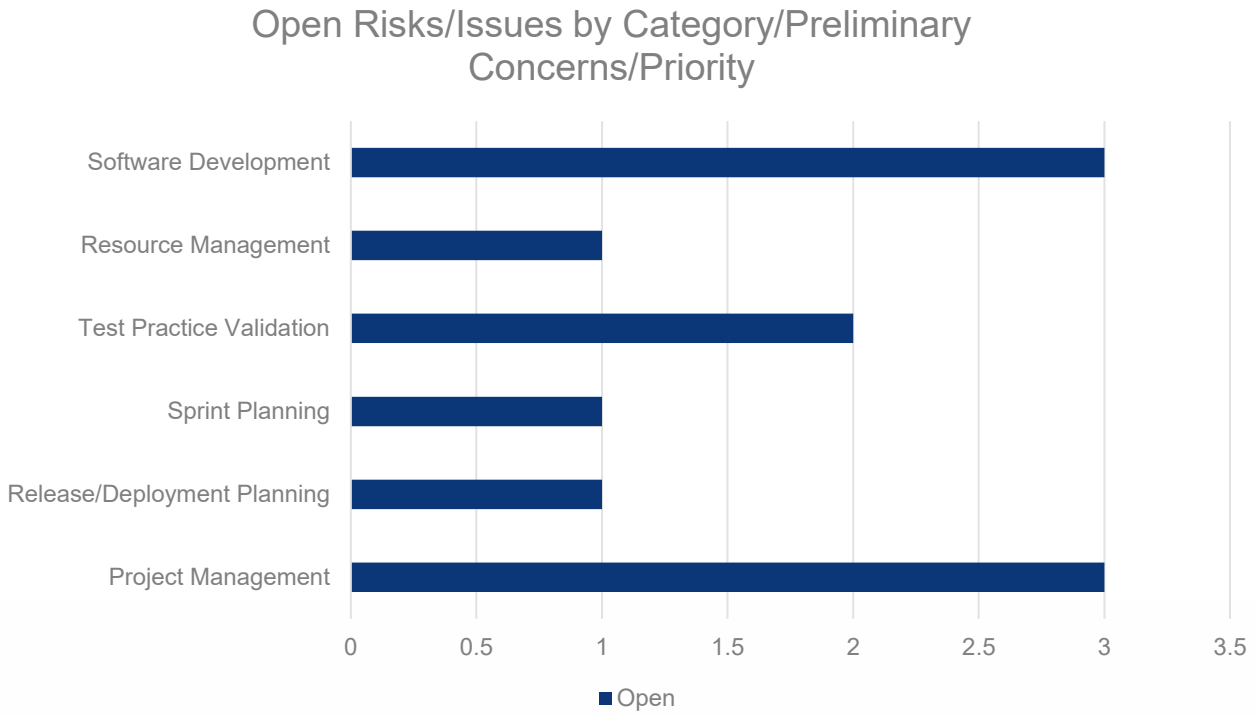
May	Jun	Jul	Category	IV&V Observations
M	M	M	**Release / Deployment Planning**	R4.13 went live on 7/30/25 with one high-severity defect unresolved. The lack of a formal RCA framework remains a gap, despite targeted efforts on calculator defects. Multiple high-severity issues highlight the need for proactive RCA to prevent recurrence and reduce risk.
L	L	L	**On-The-Job-Training (OJT) and Knowledge Transfer (KT) Sessions**	This category remains Green (low criticality) for the July reporting period with no active findings.
L	L	L	**Targeted KT**	This category remains Green (low criticality) for the July reporting period. IV&V will continue to monitor.
L	L	L	**Project Performance Metrics**	There are no project performance metrics to report for the July reporting period. IV&V will keep this category's criticality rating Green (low criticality) and will continue to monitor.
L	L	L	**Organizational Maturity Assessment (OMA)**	This category remains Green (low criticality) for the July reporting period. There are no outstanding findings in this category, and IV&V will continue to monitor.

Executive Summary

May	Jun	Jul	Category	IV&V Observations
L	L	L	**Project Management**	The project continues to make steady progress in the build-out of the INSPIRE case management system and recently went live with a new system release on 7/30/2025. IV&V is currently reviewing the updated Production System Restart Communication Protocol document, and formulating feedback based on industry best practices.
M	M	M	**Resource Management**	BHA continues to address resource constraints and is actively recruiting a supervisory role for the project team to reduce the workload for key project members and improve their productivity on project tasks. They are exploring ways to enhance some of their operational duties (e.g., audit and compliance tasks) to free up capacity to focus more on critical project activities. .

Executive Summary

As of the July 2025 reporting period, Eleven(11) open findings. Five (5) Medium Issues, One (1) Medium Risk, Two (2) Low Risks, Two (2) Low Issues, and One (1) Preliminary Concern, spread across the Release/Deployment Planning, Test Practice Validation, Sprint Planning, Project Management, Resource Management, assessment areas are currently open.



IV&V Findings & Recommendations

IV&V Findings & Recommendations

Assessment Categories

Throughout this project, IV&V verifies and validates 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 Transition (KT) Sessions
- Targeted Knowledge Transition (KT)
- Project Performance Metrics
- Organizational Maturity Assessment
- Project Management
- Resource Management

IV&V Findings & Recommendations

Sprint Planning (cont'd)

#	Key Findings	Criticality Rating
41	**Low Risk:** The absence of separate dedicated product backlog review meetings can lead to unclear priorities, misalignment with stakeholders, inadequate refinement, and an increased risk of scope creep. **Update:** BHA has identified a bottleneck in backlog processing, primarily due to a single team member managing the review, estimation, and assignment of tasks. While backlog items are prioritized, some from the current release cycle have been carried over, indicating a need for additional support in this area. The BHA team is actively working to streamline the process by identifying synergies across backlog items and refining the distribution of responsibilities to enhance efficiency and throughput.	L

Recommendations	Status
BHA continues to conduct these meetings regularly and mature the practice over time, as they provide tangible value in sustaining project velocity and reducing rework.	Open
CAMHD and DDD implement a structured feedback management process with a prioritization framework to ensure that all new requests are thoroughly evaluated and aligned with project goals before being added to the backlog.	Open
Separate dedicated product backlog review meetings (during Sprints) would allow clarifying any ambiguities or uncertainties, re-prioritization, estimation and refinement of backlog items. This would allow the project team to avoid situations where decisions about including items mid-Sprint would have to be taken.	Open
IV&V recommends scheduling separate dedicated product backlog review meetings (during Sprints) where all relevant stakeholders are invited to review the product backlog and scheduled at the appropriate time(s) such that there is sufficient time to plan the design, development, and implementation (DDI) of the next release(s).	Open

IV&V Findings & Recommendations

Test Practice Validation

#	Key Findings	Criticality Rating
2	**Medium Issue:** The lack of comprehensive automated regression testing has likely led to post-production defects, causing user frustration. **Finding Update:** Release 4.13 Regression testing for is on track for 7/21/2025 – 7/29/2025, powered by manual test cases while the Tosca license is renewed. Release 4.13 Regression testing was successfully completed on 7/29/2025. The current reliance on manual processes may limit testing efficiency and increase the likelihood of gaps in test coverage, which could lead to some defects being introduced into production. The Tosca Automation Regression Testing SME is ready to resume automated test scenario development as soon as licensing is restored. At IV&V's request, the SI has also begun detailed end-to-end flow recordings to validate DDD key processes, with completion by month-end.	M

Recommendations	Status
To ensure effective Tosca testing, it is crucial for both divisions to align on a unified resource allocation strategy. Given the limited availability of resources, open communication and consensus-building are essential for optimizing tester utilization. By collaborating to prioritize testing efforts, share critical test cases, and identify overlapping areas, the divisions can achieve comprehensive regression testing without overburdening a single resource. This collaborative approach will balance workloads, streamline processes, and enhance test coverage, minimizing delays and bottlenecks. Ultimately, it will enable both divisions to efficiently meet their testing objectives.	Open
A balanced approach that combines manual and automated regression testing to ensure broad test coverage and flexibility.	In-Progress

IV&V Findings & Recommendations

Test Practice Validation (cont'd)

Recommendations	Status
Having board(s) in Azure DevOps or a document on SharePoint that provides information about the status of regression testing automation, to facilitate visibility and transparency to BHA project personnel and stakeholders.	In Progress
Schedule priorities should be reevaluated by distributing the work according to the resource bandwidth. This will ensure that the schedule is not impacted and that the work is done efficiently between regression testing and Golden Record (GR) tasks.	In Progress
Pursue and complete additional formal training in Azure DevOps and Tricentis for test automation as soon as possible and complete efforts to automate the two primary regression test scripts.	In Progress
IV&V recommends DDD and CAMHD to develop a common and consistent approach across divisions for performing regression testing.	In Progress
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.	In Progress

IV&V Findings & Recommendations

Test Practice Validation (cont'd)

#	Key Findings	Criticality Rating
40	**Medium Issue:** Limited testing processes can lead to poor-quality software, project delays, and extended user acceptance testing. **Finding Update:** While regression testing for Release 4.13 was executed successfully as scheduled (7/21/2025 – 7/29/2025), the continued reliance on manual testing, especially during Tosca license renewal, underscores broader limitations in test coverage and execution efficiency. Current practices may not fully exercise high-risk workflows or capture edge-case conditions, increasing the potential for undetected defects to reach production. IV&V encourages BHA to enhance its overall testing strategy to improve both the breadth and depth of test coverage, with a focus on critical business scenarios and high-impact functional paths.	M

Recommendations	Status
IV&V recommends enhancing testing scripts to better align with high-risk and business-critical workflows. This may include incorporating a broader range of testing techniques such as negative testing (e.g., invalid inputs or edge cases), boundary testing, role-based scenario testing, and end-to-end workflow validation. Expanding the scope of testing in this way will help uncover hidden defects, improve system robustness, and reduce the likelihood of post-deployment issues. As part of this effort, it may be helpful to review recent production defects to identify areas where test coverage could be improved. Expanding smoke test scenarios to include key functional paths with a history of defects, along with exploring opportunities for automation, can contribute to more efficient and consistent post-deployment validation. These enhancements are intended to support stronger release readiness and help minimize the risk of post-deployment issues.	Open

IV&V Findings & Recommendations

Test Practice Validation (cont'd)

Recommendations	Status
Make efforts to implement a streamlined Root Cause Analysis (RCA) process to identify the causes of defects and prevent recurrence. Due to project resource constraints, propose timeboxing RCA efforts for each defect introduced into production. Timeboxing involves allocating a fixed period (e.g., 1-2 hours per defect or a set number of hours per week) for focused Root Cause Analysis (RCA) activities. These activities may include quickly gathering defect context, analyzing potential causes, and proposing corrective actions, all within the specified timeframe. Project PM(s) can oversee the tracking of corrective actions to ensure completion.	In Progress
IV&V recommends that, after fixing a defect, the SI incorporate relevant test cases to validate these fixes in subsequent releases.	In Progress
IV&V has requested an overview of the testing process, with a focus on process such as tracking test coverage and requirements traceability.	In Progress
A Stakeholder Register helps identify and understand all project stakeholders, ensuring needs are met and risks are managed through effective communication. A RACI matrix clarifies roles and responsibilities, improving collaboration, decision-making, and resource management, which are all critical for the success of IT projects.	In Progress
Identify stakeholders (output is Stakeholder Register) and develop a RACI matrix for testing.	In Progress
Review the overall testing process and implement any needed improvements identified.	Open

IV&V Findings & Recommendations

Release / Deployment Planning (cont'd)

#	Key Findings	Criticality Rating
39	**Low Issue:** Due to on-going deployment processes and technical execution issues, the Project may continue to encounter defects and challenges, e.g., when releases are in production or in meeting projected timelines for production and non-production deployments. **Finding Update:** The R4.13 went live on 7/30/25. As of this reporting period, one (1) high-severity production defect remains unresolved. Although this finding is focused on deployments, the continued absence of defined root cause analysis (RCA) protocols including criteria such as defect severity, recurrence, and business impact reflects a broader and ongoing gap across the project. The project team has acknowledged this deficiency and is prioritizing RCA processes for certain calculator defects. The presence of multiple high-severity defects highlights the importance of proactively implementing a formal RCA framework to prevent recurrence, ensure consistent remediation, and reduce long-term risk exposure. IV&V will continue to monitor deployment quality across releases and Mid-Sprint Deployments (MSDs), with particular attention to emerging defect trends and the project's responsiveness to systemic issues.	L

Recommendations	Status
The project team is recommended to develop and document a formal Root Cause Analysis (RCA) protocol that includes defined triggers for initiating an RCA such as severity 1 or 2 production defects, recurring issues, or stakeholder-reported impacts. The protocol should also establish clear roles and responsibilities for conducting RCAs and reviewing outcomes, along with setting timeframes for completing RCAs following defect identification or release. Additionally, incorporating standardized templates or tools for documenting RCA findings and associated corrective actions, as well as implementing a tracking mechanism to ensure those actions are carried out and monitored for effectiveness, will strengthen the process. Formalizing these elements will help ensure RCA practices are applied consistently, improve visibility into root causes, and support long-term defect reduction across future releases, including those related to FHIR, MSDs, and AER.	Open

IV&V Findings & Recommendations

Release / Deployment Planning (cont'd)

Recommendations	Status
Implement a streamlined Root Cause Analysis (RCA) process to identify deployment causes and prevent recurrence. To manage resource constraints, consider timeboxing RCA efforts—e.g., 1–2 hours per defect or a set number of hours weekly. Within this timeframe, focus on gathering context, analyzing causes, and proposing corrective actions. Project PMs can track these actions to ensure follow-through.	On-going
The project should consider automating deployments for resource savings, increased efficiency, consistency, faster time to market, improved collaboration and reliability, scalability, version control integration, and rollback capability.	Open
Ensure there are adequate and qualified resources to support the current deployment processes. This may require support from SI resources to provide assistance and knowledge transfer for some more complex deployment components.	Open
As appropriate, consult with the SI on best practices that BHA could employ to support deployment.	On-going
Request the assistance of the SI's Solution Architect in reviewing and correcting issues associated with the consistency of 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.	On-going
Request assistance from the SI's Solution Architect in reviewing deployment scripts to double-check for accuracy and completeness before commencing deployment activities.	On-going

IV&V Findings & Recommendations

Release / Deployment Planning (cont'd)

Recommendations	Status
The Project Team should consider evaluating potential changes to improve/enhance existing processes and communications to address current release/deployment shortfalls.	On-going
IV&V recommends performing a Root Cause Analysis (RCA) in collaboration with SI for the continued concerns surrounding environment differences.	On-going
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.	On-going
Look at implementing 'hard' code freeze dates as well as test environment deployment dates to ensure that testing and deployment activities are not rushed.	On-going
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.	On-going
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.	On-going

IV&V Findings & Recommendations

Project Management (cont'd)

#	Key Findings	Criticality Rating
46	**Low Issue:** Lack of oversight of the established defect management process could lead to lost/forgotten defects and user frustration and could slow the resolution of similar defects in the future. **Finding Update:** IV&V will continue to assess the project's adherence to Help Desk and defect management processes. IV&V encourages the project team to proactively capture and address feedback from the field such as issues reported with the Provider portals to support continuous improvement and end-user satisfaction.	L

Recommendations	Status
The project records the history of a defect's severity in the corresponding ticket's description/notes section in ADO. For example, when a hotfix is deployed to mitigate a defect initially classified as "Critical," the description/notes section should document that the defect originally had a "Critical" severity rating.	Open
Based on Best Practices, updating the defect management documentation and having regular refresher training on the defect management process.	Open
Send communications to the project stakeholders to clarify the defect management process and the importance of logging all defects.	Open
Take steps to assure current and new users understand how to report and/or log defects.	Open
Consider designating a defect management lead or champion to oversee adherence to the process and assure all defects are logged.	Open
Keep stakeholders informed about defect status, priority, impacts, and resolution timelines. This could increase awareness of the importance of logging defects.	Open

IV&V Findings & Recommendations

Project Management (cont'd)

Recommendations	Status
Discuss ways to improve the defect logging and management process with the SI and come up with a plan to improve.	Open

IV&V Findings & Recommendations

Project Management (cont'd)

#	Key Findings	Criticality Rating
47	**Medium Issue:** The lack of a governance process for restarting production systems can impact service availability and frustrate end-users and hinder accountability. **Finding Update:** IV&V is currently reviewing the updated Production System Restart Communication Protocol document, and formulating feedback based on industry best practices.	M

Recommendations	Status
Develop standard procedures for system restarts, including pre-checks, step-by-step instructions, and post-restart verifications.	In Progress
Require formal approvals before initiating a restart, especially for INSPIRE, and document all actions in a centralized system.	In Progress
Define clear escalation paths for when restarts do not go as planned, including identifying contacts for technical support and management approval for additional interventions.	Open
Automate Restart Procedures where possible.	Open
The governance process is established, it should be effectively communicated to the project team.	Open
Provide stakeholders with a clear explanation of the reason for the restart and the lessons learned, while documenting the restart details in the defect record.	Open

IV&V Findings & Recommendations

Resource Management

#	Key Findings	Criticality Rating
34	**Medium Issue:** A shortage of BHA project resources could lead to reduced productivity and project delays. **Finding Update:** BHA continues to address its resource constraints by actively recruiting a supervisory role for the project team. Additionally, they are pursuing a Business Analyst position. They are exploring areas around security which could help with monitoring user activity along with PMP and third-party risk assessments. These developments mark progress in building internal capacity, and the team remains focused on enhancing both support and accountability within the project.	M

Recommendations	Status
Consider identifying key security-related activities such as policy development, monitoring, or access oversight that could benefit from additional support. This could help provide clarity for discussions regarding the potential adjustment of existing roles or exploration of alternative solutions. A high-level overview of these activities may assist leadership in evaluating and addressing any potential gaps over time.	Open
BHA implement a structured knowledge transfer process when key personnel retire, including cross-training and documenting critical knowledge in the Dynamics Help Desk system. Regular updates to the knowledge base will maintain its accuracy, preserve essential information, and support smooth operational continuity.	Open
Utilizing peer-to-peer knowledge sharing, allowing experienced team members to informally share their expertise during team meetings. Additionally, creating internal documentation that outlines best practices and processes for developing security policies would serve as a self-service resource for the team.	In Progress

IV&V Findings & Recommendations

Resource Management (cont'd)

Recommendations	Status
DDD and CAMHD have further discussions to optimize resource utilization between the two divisions.	Open
BHA should explore options for offloading project team members' daily responsibilities to other staff.	In Progress
BHA should work quickly to create new positions and receive State approval.	In Progress
BHA should identify tasks and duties that they can ask the SI to assume, as permitted by the contract, which are presently being handled by BHA members.	In Progress
BHA should explore the use of contractors to fulfill the functions for open project positions.	In Progress

IV&V Findings & Recommendations

Software Development

#	Key Findings	Criticality Rating
14	**Medium Issue:** Due to multiple quality concerns, the project may continue to face impactful system defects. **Finding Update:** At the close of this reporting period, one (1) high-severity production defect remains open and is actively being remediated by the project team. Fixes for two high-severity defects were deployed in R4.13. While remediation efforts for existing production defects continue (see Appendix E), resolution of lower-priority issues has been delayed as BHA focuses on higher-priority tasks. The R4.13 went live on 7/30/25. IV&V will continue to monitor key areas, including R4.12 defect resolution, future releases and any Mid-Sprint Deployments (MSDs).	M

Recommendations	Status
Closer collaboration between divisions to review reported defects, ensuring a shared understanding and alignment, particularly regarding the severity and priority of production defects.	Open
Consider exploring tools and practices that support continuous code quality improvements that could help to establish quality standards and assure high-quality code that is secure and can be easily maintained.	In Progress
The project increases comprehensive testing prior to joint testing to reduce the burden on BHA testers and reduce post-production defects.	Open
The SI vendor add a "Found In" column to the daily scrum file to indicate the environment where each defect was identified.	In Progress
The SI vendor provides the total number of defects in production and reports these numbers regularly to BHA.	In Progress
Evaluate existing project staff skills and experience levels to ensure they meet BHA support requirements.	In Progress

IV&V Findings & Recommendations

Project Management (cont'd)

Recommendations	Status
Perform CAMHD revenue neutrality fiscal balance testing on a quarterly basis to ensure revenues are as expected.	In Progress
The project monitor implemented improvements for effectiveness.	In Progress
Performing an RCA in collaboration with the SI after all future release deployments for continual quality improvements.	In Progress
BHA and the SI collaborate on the necessary revisions to the submitted design deliverables to increase level of detail and quality.	In Progress

IV&V Findings & Recommendations

Software Development

#	Key Findings	Criticality Rating
52	**Preliminary Concern:** BHA does not currently have a streamlined report to identify active AER analytics users in production. **Finding Update:** The project team is reviewing the User Request. The plan is to prioritize the User Request during the backlog review meetings. IV&V will monitor the progress of the User Request to completion.	

IV&V Findings & Recommendations

Software Development

#	Key Findings	Criticality Rating
53	**Low Risk:** User activity tracking for viewing records is limited across systems, which may affect transparency and raise potential compliance concerns. **Finding Update:** Current audit logs in to Microsoft Dynamics show who has created or modified records but lack automated capabilities for threshold flagging. As a result, log reviews must be performed manually, making the process inefficient and limiting the ability to distinguish between legitimate and suspicious access. Additionally, there is currently no mechanism for conducting accurate random audits, which are necessary for compliance with both internal and external standards. The proposed solution involves using Microsoft Purview with Copilot to automate anomaly detection and notify administrators of abnormal access behaviors. Copilot is not included in the current enterprise agreement. Next steps include engaging Microsoft for licensing discussions, consulting with experts on Purview implementation, evaluating funding options, and exploring interim compliance approaches through manual or random checks.	L

Recommendations	Status
Evaluate and prioritize Microsoft Purview through a cost-benefit and feasibility analysis, and initiate discussions with Microsoft to confirm Copilot licensing, integration feasibility, and an implementation roadmap to enhance efficiency and compliance.	Open
Develop and formalize policies and procedures for both automated and manual audit processes, including random audits, to enhance oversight and reduce risks.	Open

IV&V Findings & Recommendations

Project Management

#	Key Findings	Criticality Rating
54	**Medium Risk:** The expiration of the Tosca automation license resulted in a temporary pause in automated regression testing for the BHA team, affecting testing efficiency and coverage. **Findings Update:** The Tosca automation license used by the BHA team had expired, which temporarily paused automated regression testing activities. This created some challenges for the team in maintaining their usual testing cadence and coverage. As a result, the team had to transition to fully manual testing efforts, which, while helpful, may not fully match the efficiency or depth of automated testing.	M

Recommendations	Status
Ensure the Tosca automation license is renewed in advance to avoid disruptions to automated regression testing.	Open
Implement a tracking and notification system for license expiration dates to support timely renewals.	Open
Develop a documented backup plan to manage regression testing coverage through prioritized manual or alternative automated methods during any future tool outages.	Open

IV&V Findings & Recommendations

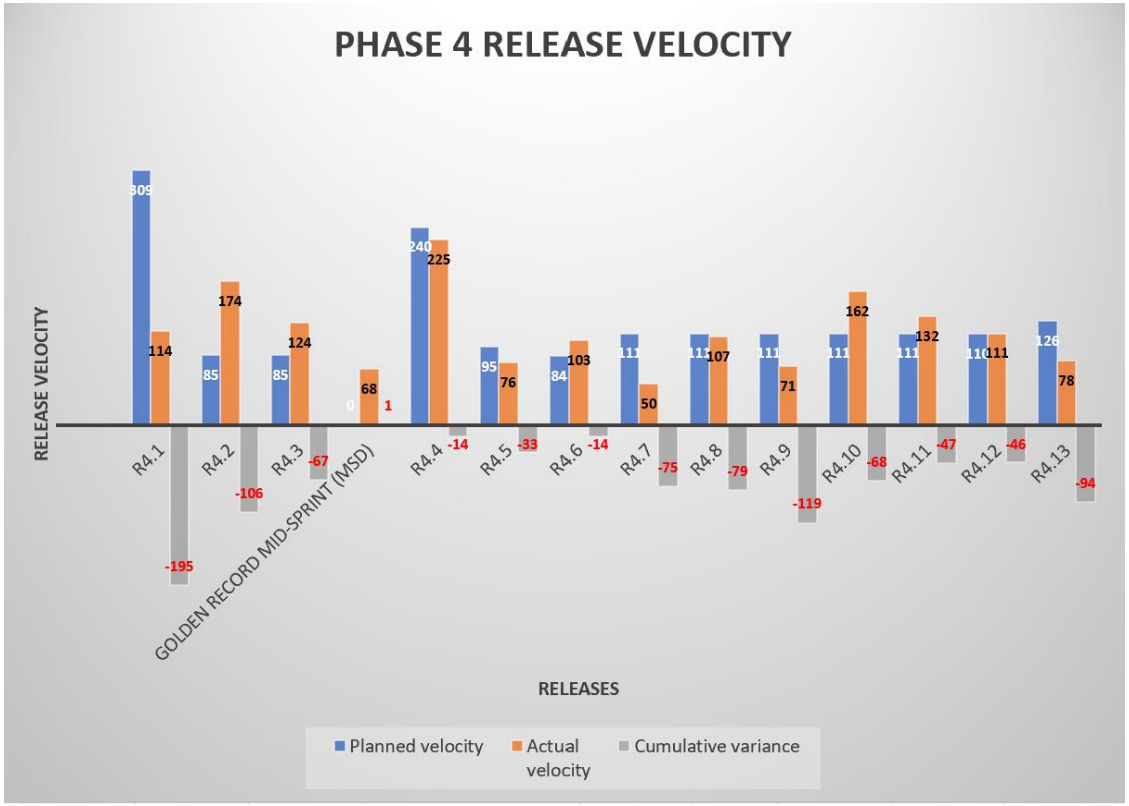
Project Performance Metrics

<table>
<tr><th>Metric</th><th>Description</th><th>IV&V Observations</th><th>IV&V Updates</th></tr>
<tr>
<td>Velocity</td>
<td>• 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</td>
<td>July: R4.13 was deployed to production on 7/30/2025. R4.14 is planned for production deployment on 10/1/2025.</td>
<td>Velocity Metric Trends:
<table>
<tr><th>Release</th><th>Planned velocity</th><th>Actual velocity</th><th>Percentage attained</th></tr>
<tr><td>R4.13</td><td>126</td><td>78</td><td>62%</td></tr>
</table>
</td>
</tr>
</table>

IV&V Findings & Recommendations
Project Performance Metrics

Phase 4 Releases Cumulative Variance

Release	Planned velocity	Actual velocity	Cumulative variance
R4.1	309	114	-195
R4.2	85	174	-106
R4.3	85	124	-67
Golden Record Mid-Sprint (MSD)	0	68	1
R4.4	240	225	-14
R4.5	95	76	-33
R4.6	84	103	-14
R4.7	111	50	-75
R4.8	111	107	-79
R4.9	111	71	-119
R4.10	111	162	-68
R4.11	111	132	-47
R4.12	110	111	-46
R4.13	126	78	-94



Note: The SI has been working on areas not currently reflected in the velocity numbers shown in the table above. Once the SI provides those velocity figures, IV&V can incorporate them into the table.

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) • USPs assigned to defects in a release vs. USPs assigned to planned US in a release	**July** – Velocity was estimated at 126 USPs for R4.13, 78 USPs were promoted to production on 7/30/25. 11 of the 78 USPs were for defect fixing. •86% of the USPs were associated with user stories and requests. •14% of the total USPs were associated with defects encountered during the release effort or pulled from the defect backlog.	The defect percentage for July was 14%* which is under the target range of 20% or less of all USPs promoted to production

Note*: This defect percentage does not include defects under warranty that are assigned zero (0) User Story Points.

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 July 2025 reporting period:

1. Daily Scrum Meetings
2. Daily Design Meetings
3. Twice-Weekly Project Issues Meetings
4. Weekly BHA-ITS Program Status Meeting
5. Bi-Weekly Check-in: CAMHD
6. Bi-Weekly Check-in: DDD
7. BHA (CAMHD & DDD) IV&V Joint Meeting
8. IV&V Draft IV&V Status Review Meeting with DOH
9. DOH BHA IT Solution Project – Steering Committee

Artifacts reviewed during the July 2025 reporting period:

1. Daily Scrum Notes
2. Twice Weekly Issues Meeting Notes
3. Weekly BHA-ITS Program Status Report
4. Release 4.7 Release Notes

Eclipse IV&V® Base Standards and Checklists

Appendix C: Project Trends

Appendix C
Project Trends

	October	November	December	January	February	March	April	May	June	July
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										
Resource Management										
Total Open Findings	14	14	14	14	11	10	9	10	10	10
Issue - high	0	0	0	0	0	0	0	0	0	0
Issue - medium	10	10	10	10	7	9	7	7	7	7
Issue - low	1	1	1	1	3	0	0	0	0	0
Risk - high	0	0	0	0	0	0	0	0	0	0
Risk - medium	2	2	2	2	1	1	1	0	0	0
Risk - low	0	0	0	0	0	0	1	1	1	1
Preliminary Concern	2	2	2	2	0	0	0	1	2	2

Appendix D
Acronyms and Definitions

Acronyms	Definition
DOH	Department of Health
BHA	Behavioral Health Services Administration
CAMHD	Child & Adolescent Mental Health Division
FHIR	Fast Healthcare Interoperability Resources
DDI	Design Development Implementation
DDD	Developmental Disabilities Division
SI	System Integrator
USP	User Story Points
SME	Subject Matter Expert
SIT	System Integration Testing
MS	Microsoft
MSD	Mid Sprint Deployment
ADO	Azure DevOps
SLA	Service Level Agreement
RCA	Root Cause Analysis
UAT	User acceptance testing
OJT	On-the-Job Training
KT	Knowledge Transition
SFTP	Secure File Transfer Protocol
IV&V	Independent Verification and Validation
MQD	Med-QUEST Division
CMS	Centers for Medicare & Medicaid Services
AER	Adverse Events Report

Appendix E
List of Production Defects

	ID	Work Iter	Divisi	Title	State	Prior	Severity	Found	Created Date	RCA Categories	RCA Description
2	33841	Bug	DDD	Bug - Calculator 3.0 - Users able to schedule service past ISP end date again	Pending Approval	3	3 - Medium	PROD	5/17/2023 8:22		
3	34110	Bug	DDD	Bug - Individual Budget unlinking from Service Authorizations	New	2	3 - Medium	PROD	7/27/2023 15:40		
4	34238	Bug	CAMHD	BUG - Assessment Entity Initial Save Time - IMHE	Evaluated_On Hold	2	3 - Medium	Prod	8/17/2023 2:33		
5	34242	Bug	DDD	Bug - Case Merge - Contact Notes not merging; Permissions error	New	3	3 - Medium	PROD	8/17/2023 8:44		
6	30634	Bug	CAMHD	CAMHD Bug - Credentialing documents not copied into PROD during Data Migration	Completed in QA_Test	3	3 - Medium	PROD	2/16/2021 15:45		
7	30726	Bug	DDD	Portal signature fields do not accept touchscreen input	Evaluated_On Hold	2	3 - Medium	PROD	9/17/2021 9:07		
8	35317	Bug	DDD	DDD - Plan Services with no Provider Plan	Active	2	3 - Medium	PROD	6/24/2024 9:06		
9	33550	Bug	CAMHD	Bug: "Progress Notes Associated to Invoices" page not loading	New	3	3 - Medium	PROD	3/31/2023 17:11		
10	35450	Bug	DDD	DDD - Calculator not printing correctly	Pending Approval	2	3 - Medium	PROD	7/26/2024 8:36		
11	36383	Bug	DDD	DDD - Calculator problem with paid base and add on	New	2	3 - Medium	PROD	9/26/2024 9:19		
12	37694	Bug	DDD	DDD - TCM batch file date is different in PROD from other environments	Pending Approval	2	3 - Medium	PROD	1/29/2025 8:25		
13	37733	Bug	DDD	DDD - Incorrect Columns displaying on Provider Plan subgrid (Action Plan tab of ISP)	Evaluated_On Hold	1	3 - Medium	PROD	2/5/2025 5:37		
14	37791	Bug	DDD	DDD - CIT Referral: Create Document Location Flow Failures	Ready for Code Review	2	3 - Medium	PROD	2/10/2025 9:30	Design Errors	Flow was assuming the subfolder 'CIT Referral and Recommendations' for the Customer existed. If for whatever reason it didn't exist, it was not set up to account for that.
15	37793	Bug	DDD	DDD - ISP Report Generation Issues	New	2	3 - Medium	PROD	2/10/2025 10:06		
16	39797	Bug	DDD	DDD - AER entry error when Provider tried to submit the AER	New	2	3 - Medium	PROD	4/16/2025 5:29		
17	39977	Bug	DDD	DDD - ABAS Scores not populating correctly on Case Summary when record is deactivated	Completed in QA_Test	1	3 - Medium	PROD	5/6/2025 8:31		
18	40233	Bug	DDD	AER - OCB supervisor not receiving AER notification emails	Pending Approval	2	3 - Medium	PROD	6/9/2025 10:50		
19	40499	Bug	CAMHD	CAMHD - Provider Portal Diagnosis downloads does not work	Approved	1	2 - High	PROD	7/8/2025 10:10	Coding Errors	Current process times out after 3.8 minutes causing errors seen above (the POST error). For Providers who work with large number of Customers, the amount of diagnosis records that are returned by the query can take a long time to process. We've seen anywhere from 2.5 - 3k Diagnosis records be near the upper limit to push us over 3.8 minutes. When investigating it was noticed that the code is making numerous API calls per record to get things such as optionset values and what not. These can be made once and stored to make the code more efficient and pose less of a timeout risk.

Solutions that Matter

ID	Short Description	Finding Statement	Analysis and Significance	Recommendation	Finding Update	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date	Owner	
2	Regression testing	The lack of comprehensive automated regression testing has likely led to post-production defects, causing user frustration.	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 are necessary to prevent defects 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.	1. To ensure effective Tosca testing, it is crucial for both divisions to align on a unified resource allocation strategy. Given the limited availability of resources, open communication and consensus-building are essential for optimizing tester utilization. By collaborating to prioritize testing efforts, share critical test cases, and identify overlapping areas, the divisions can achieve comprehensive regression testing without overburdening a single resource. This collaborative approach will balance workloads, streamline processes, and enhance test coverage, minimizing delays and bottlenecks. Ultimately, it will enable both divisions to efficiently meet their testing objectives. 2. A balanced approach that combines manual and automated regression testing to ensure broad test coverage and flexibility. 3. Having board(s) in Azure DevOps or a document on SharePoint that provides information about the status of regression testing automation, to facilitate visibility and transparency to BHA project personnel and stakeholders. 4. IV&V recommends reevaluating the schedule priorities by distributing the work according to the resource bandwidth. This will ensure that the schedule is not impacted and that the work is done efficiently between regression testing and Golden Record (GR). 5. Pursue and complete additional formal training in Azure DevOps and Tricentis for test automation as soon and complete efforts to automate the two primary regression test scripts. 6. IV&V recommends DDD and CAMHD to develop a common and consistent approach across divisions for performing regression testing. 7. Determine if current regression testing timeframes are adequate and if not, add more time to the pre-production regression test efforts	7/31/25 - Release 4.13 Regression testing for is on track for 7/21/2025 – 7/29/2025, powered by manual test cases while the Tosca license is renewed. Release 4.13 Regression testing was successfully completed on 7/29/2025. The current reliance on manual processes may limit testing efficiency and increase the likelihood of gaps in test coverage, which could lead to some defects being introduced into production. The Tosca Automation Regression Testing SME is ready to resume automated test scenario development as soon as licensing is restored. At IV&V's request, the SI has also begun detailed end-to-end flow recordings to validate DDD key processes, with completion by month-end. 6/30/25 - Regression testing for Release 4.13 is on track for 7/21/2025 to 7/29/2025 and is expected to incorporate manual and automated testing. The Tosca Automated Regression Testing SME is progressing with the automation of DDD test scenarios per the timeline. This effort is intended to reduce manual testing effort, enhance test reliability, and establish a more unified and scalable test framework. To support the accuracy and effectiveness of the automation effort, end-to-end flow recordings of each DDD module have been requested to help with business logic implementation, with particular emphasis on complex, role-based workflows. 5/31/25 - Regression testing was successfully executed from 5/19/2025 to 5/28/2025. PCG's Phase 1 analysis of DDD's test infrastructure has facilitated its selection of a hybrid approach centered on creating automated regression tests. The Tosca Automated Regression Testing SME is streamlining the DDD tests to integrate with CAMHD tests, an effort expected to reduce manual testing time, improve test reliability, and provide a unified framework. 4/30/25 - R4.11 Regression testing was successfully executed from 3/25/2025 to 4/2/2025. CAMHD executed both manual and automated tests, while DDD carried out manual regression testing. In April 2025, the project onboarded a Tosca Automated Regression Testing SME. The overall approach for automated regression testing will be finalized by the end of April 2025, with execution continuing through May 2025. The INSPIRE project will have an updated suite of automated test scripts, along with knowledge transfer and training for the identified DDD staff. 3/31/25 -The SI has updated the AER regression test scripts. Regression testing for R4.11 began on 3/25/25 and is scheduled for completion by 4/2/25. For this release, CAMHD will perform both manual and automated testing, while DDD will primarily focus on manual regression testing. To ensure continued support for future Phase 4 releases—R4.12 and beyond—the project will be onboarding a Tosca Automated Regression Testing Subject Matter Expert (SME) in early April 2025, with work scheduled to begin subsequently. This effort is expected to take place in April and May 2025. Upon completion, the INSPIRE project will have a fully updated and comprehensive set of automated test scripts. Additionally, documentation, knowledge transfer, and training will be provided to the DDD staff to ensure they can effectively maintain and update the scripts going forward.	Test Practice Validation	Issue	Medium	Open			12/31/2019	Gautam Gulvady	
14	Code quality	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 forward. Finally, IV&V reviewed and provided feedback on the Help Desk and Semantic Layer design documents per request and found that both documents lacked design details. The identified quality issues have negatively affected DOH billing processes and DOH has stated these are the most impactful defects discovered to date.	IV&V recommends: 1. Closer collaboration between divisions to review reported defects, ensuring a shared understanding and alignment, particularly regarding the severity and priority of production defects. 2. Consider exploring tools and practices that support continuous code quality improvements that could help to establish quality standards and assure high-quality code that is secure and can be easily maintained. 3. The project increases comprehensive testing prior to joint testing to reduce the burden on BHA testers and reduce post-production defects. 4. The SI vendor add a "Found In" column to the daily scrum file to indicate the environment where each defect was identified. 5. The SI vendor provides the total number of defects in production and reports these numbers regularly to BHA. 6. The project evaluate existing project staff skills and experience level to ensure they meet BHA support requirements. 7. The project perform CAMHD revenue neutrality fiscal balance testing on a quarterly basis to ensure revenues are as expected. 8. The project assign dedicated resources to provide oversight of CAMHD Fiscal Processes. 9. The project monitor implemented improvements for effectiveness. 10. Performing an RCA in collaboration with the SI after all future release deployments for continual quality improvement.	7/31/25 - At the close of this reporting period, one (1) high-severity production defect remains open and is actively being remediated by the project team. Fixes for two high-severity defects were deployed in R4.13. While remediation efforts for existing production defects continue (see Appendix E), resolution of lower-priority issues has been delayed as BHA focuses on higher-priority tasks. The R4.13 went live on 7/30/25. IV&V will continue to monitor key areas, including R4.12 defect resolution, future releases and any Mid-Sprint Deployments (MSDs). 6/30/25 - Since the R4.12 deployment to production on 5/29/2025, users have reported five (5) production defects (two (2) high severity and three (3) medium severity) which the project team is actively remediating. While remediation of existing production defects (see Appendix E) is ongoing, resolution of lower-priority issues has been delayed due to the project's focus on higher-priority tasks. IV&V will continue to monitor key areas, including R4.12 defect resolution, FHIR implementation, any Mid-Sprint Deployments (MSDs), and progress on the AER solution. /31/25 - R4.12 was deployed to production on 5/29/25, followed by successful smoke testing on 5/30/2025. Users have reported three (3) production defects which the project team is analyzing. During May 2025, one new medium-severity production defect was reported. The project team continues remediation of existing production defects (see Appendix E), though resolution of lower-priority issues has been delayed as BHA focuses on higher-priority tasks. Additional production defects may emerge as users continue to engage with the R4.12 functionality post-go-live. 4/30/25 - R4.11 was successfully deployed on 4/3/2025, with Smoke Testing successfully completed on 4/4/25. A Mid-Sprint Deployment (MSD) was also performed on 4/18/25, which included four (4) User Stories. One of the two previously reported high-severity defects was resolved and deployed with R4.11. The second issue appeared to be related to a Microsoft service error and was resolved on 4/18/25, when Microsoft performed a rollback. Additional unresolved production defects have been identified following the R4.11 deployment, and the project team is currently working to confirm the number of new defects. The project team continues to address other outstanding production defects (see Appendix E for details). BHA is currently prioritizing higher-severity tasks, which have delayed the the resolution of lower-priority issues; however, remediation efforts remain ongoing. IV&V will closely monitor R4.11, FHIR implementation, any Mid-Sprint Deployments (MSDs), and the AER solution. 3/31/25 - The AER solution is in production. The project team closely monitored the solution to ensure stability, quickly resolve issues, and help users adjust to the new system (also known as Hypercare); Hypercare ended on 3/21/25 and the project is prioritizing the product backlog. The AER team worked diligently to close all defects reported during Hypercare. The AER solution's progress is being discussed in regular meetings between key stakeholders. Since the deployment of R4.10 on 2/6/25, the project has identified additional unresolved production defects, including 1 high-severity defect, in Azure DevOps (ADO) (see Appendix E for details). BHA is prioritizing higher-priority tasks, which has delayed the resolution of these lower-priority issues, although remediation efforts are underway.	Software Development	Issue	Medium	Open			9/30/2020	Gautam Gulvady	
34	Limited BHA resources	Shortage of Behavioral Health Administration (BHA) project resources could lead to reduced productivity and project delays.	Key BHA project resources have reported constraints on how much time they can devote to the project. The departure of the Child and Adolescent Mental Health Division (CAMHD) System Management Office Manager and CAMHD Inspire Project Lead could further impact the project if DOH cannot acquire suitable resources. The lack of capacity of the DOH test script developer has slowed DOH's automated test script development. If BHA is unable to fully staff the project and their existing resources continue to be constrained, the project could experience a reduction in productivity and project delays.	IV&V recommends: 1.Consider identifying key security-related activities such as policy development, monitoring, or access oversight that could benefit from additional support. This could help provide clarity for discussions regarding the potential adjustment of existing roles or exploration of alternative solutions. A high-level overview of these activities may assist leadership in evaluating and addressing any potential gaps over time. 2. BHA implement a structured knowledge transfer process when key personnel retire, including cross-training and documenting critical knowledge in the Dynamics Help Desk system. Regular updates to the knowledge base will maintain its accuracy, preserve essential information, and support smooth operational continuity. 3. Utilizing peer-to-peer knowledge sharing, allowing experienced team members to informally share their expertise during team meetings. Additionally, creating internal documentation that outlines best practices and processes for developing security policies would serve as a self-service resource for the team. 4. DDD and CAMHD have further discussions to optimize resource utilization between the two divisions. 5. BHA should explore options for offloading project team members' daily responsibilities to other staff. 6. BHA should work quickly to create new positions and receive State approval. 7. BHA should identify tasks and duties that they can ask the SI to assume, as permitted by the contract, which are presently being handled by BHA members.	7/31/25 - BHA continues to address its resource constraints by actively recruiting a supervisory role for the project team. Additionally, they are pursuing a Business Analyst position. They are exploring areas around security which could help with monitoring user activity along with PMP and third-party risk assessments. These developments mark progress in building internal capacity, and the team remains focused on enhancing both support and accountability within the project. 6/30/25 - BHA continues to face ongoing resource constraints. The project has identified cybersecurity work that would benefit from support by individuals with a relevant background. The project has proactively identified tasks such as drafting security policies, reviewing procedures, and implementing protocols and security monitoring as functions that are currently handled alongside regular workloads. These tasks could be strengthened by the involvement of resources with a cybersecurity background. While external teams, such as Enterprise Technology Services (ETS) and the Health Information Systems Office (HISO), provide valuable support, there is currently no centralized ownership or accountability for cybersecurity within the project team. BHA is implementing cross-training to better balance workloads and increase team flexibility, while also exploring additional resources to address capacity constraints and maintain focus on critical project activities. 5/31/25 - BHA is currently facing resource challenges in security monitoring, including limited staff for managing security tasks, no dedicated person to review audit logs, and a lack of tools for efficient log analysis. To address these issues, the team is exploring several options, such as engaging a cybersecurity consultant and requesting additional funding for security support. In the short term, they are also exploring the incorporation of cybersecurity tasks into existing administrative roles. 4/30/25 -To address a few of the resource challenges the project has faced, in early April 2025, DDD onboarded a Tosca Automated Regression Testing Subject Matter Expert (SME). To support a successful onboarding, DDD provided system demos, training materials, and facilitated collaboration with the CAMHD and SI team. Internal DDD resources have been identified for knowledge transfer related to regression testing. This will enable an effective transition for maintaining the automated testing suite. Additionally, CAMHD and DDD are actively working to identify and secure resources to support the Business Analyst roles. 3/31/25 - BHA is actively documenting knowledge to manage staff transitions and reduce resource strain. The team is creating knowledge transfer articles to capture key information, but some gaps remain. A key challenge is converting issues into clear, documented articles, as informal communication (emails, calls, or ad hoc discussions) can bypass the help desk system. To improve consistency and visibility, BHA is working to ensure all relevant issues are properly logged as help desk cases when appropriate. To further address the resourcing challenge, DDD will be onboarding a Tosca Automated Regression Testing Subject Matter Expert (SME) in early April 2025 to improve cross-training and support. The kickoff meeting took place on 3/17/25. As part of this project, PCG will work with DDD to identify the resources and processes for the ongoing maintenance of regression testing scripts. Additionally, training will be scheduled in May 2025.	Resource Management	Issue	Medium	Open			8/18/2023	Michael Fors	

ID	Short Description	Finding Statement	Analysis and Significance	Recommendation	Finding Update	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date	Owner	
39	Deployment process.	Due to on-going deployment processes and technical execution issues, the Project may continue to encounter defects and challenges, e.g., when releases are in production or in meeting projected timelines for production and non-production deployments.	Several post-production bugs have been encountered in the Phase 4 release, R4.4. Regarding the bug, "Human Services Research Institute (HSRI) flow is failing in production" (bug# 34886 https://dev.azure.com/DOHBHA/DOH%20BHA%20INSPIRE/_workitems/edit/34886), what is in development and deployed is vastly different from what was deployed to production. The root cause for these errors is currently being investigated. Repeatable documented release and deployment and resources experienced with deployments will help ensure that mistakes are minimized and that functionality is not mistakenly deprecated when deployments take place.	1. The project team is recommended to develop and document a formal Root Cause Analysis (RCA) protocol that includes defined triggers for initiating an RCA such as severity 1 or 2 production defects, recurring issues, or stakeholder-reported impacts. The protocol should also establish clear roles and responsibilities for conducting RCAs and reviewing outcomes, along with setting timeframes for completing RCAs following defect identification or release. Additionally, incorporating standardized templates or tools for documenting RCA findings and associated corrective actions, as well as implementing a tracking mechanism to ensure those actions are carried out and monitored for effectiveness, will strengthen the process. Formalizing these elements will help ensure RCA practices are applied consistently, improve visibility into root causes, and support long-term defect reduction across future releases, including those related to FHIR, MSDs, and AER. 2. Implement a streamlined Root Cause Analysis (RCA) process to identify deployment causes and prevent recurrence. To manage resource constraints, consider timeboxing RCA efforts—e.g., 1–2 hours per defect or a set number of hours weekly. Within this timeframe, focus on gathering context, analyzing causes, and proposing corrective actions. Project PMs can track these actions to ensure follow-through. 3. The Project should consider automating deployments for resource savings, increased efficiency, consistency, faster time to market, improved collaboration and reliability, scalability, version control integration, and rollback capability. 4. Ensure there are adequate and qualified resources to support the c3urrent deployment processes. This may require the support from RSM resources to provide assistance and knowledge transfer for some of the more complex deployment components.	7/31/25 - The R4.13 went live on 7/30/25. As of this reporting period, one (1) high-severity production defect remains unresolved. Although this finding is focused on deployments, the continued absence of defined root cause analysis (RCA) protocols including criteria such as defect severity, recurrence, and business impact reflects a broader and ongoing gap across the project. The project team has acknowledged this deficiency and is prioritizing RCA processes for certain calculator defects. The presence of multiple high-severity defects highlights the importance of proactively implementing a formal RCA framework to prevent recurrence, ensure consistent remediation, and reduce long-term risk exposure. IV&V will continue to monitor deployment quality across releases and Mid-Sprint Deployments (MSDs), with particular attention to emerging defect trends and the project's responsiveness to systemic issues. 6/30/25 - A Mid-sprint deployment (MSD) with two (2) defect fixes was successfully deployed on 6/28/2025. IV&V has not yet received documentation of a formalized Root Cause Analysis (RCA) process, including for deployment-related issues. The project team has acknowledged the importance of RCA. While this finding highlights deployments, the absence of defined RCA protocols and criteria such as severity, recurrence, or business impact of defects extends across the broader project. The project team has acknowledged these gaps, they have indicated that efforts to address them are still evolving, and they may consider prioritizing RCA efforts at a later date once higher priority functionality has been implemented. Establishing this framework could help ensure consistent application, support effective remediation of recurring issues, and reduce long-term risk. IV&V will continue to monitor deployment quality across R4.12, FHIR, Mid-Sprint Deployments (MSDs), and the AER solution for any emerging defect trends. 5/31/25 - R4.12 was successfully deployed to production on 5/29/2025. However, there was a misunderstanding about whether one of the items on the deploy list was actually deployed. IV&V is having discussions with the deployment team on how the process can be improved to avoid such misunderstandings from recurring. While the project team reports that a Root Cause Analysis (RCA) process exists, IV&V has not received documentation of a formalized process. Additionally, formal protocols and defined criteria for initiating RCAs have not yet been established. Specifically, there is no documented guidance outlining the triggers, thresholds, or conditions under which an RCA is required (e.g., severity, recurrence, or business impact of defects). This gap limits the consistent and effective application of RCA practices, reducing their utility in addressing and preventing recurring production issues. IV&V encourages timely adoption of these practices to support long-term quality improvement and will continue monitoring deployment quality across R4.12, FHIR, MSDs, and the AER solution for any related defect trends. 4/30/25 - R4.11 was successfully deployed on 4/3/2025, with Smoke Testing successfully completed on 4/4/25. A Mid-Sprint Deployment (MSD) was also conducted on 4/18/25, which included four (4) User Stories. One earlier high-severity defect was traced to a Microsoft service error and was resolved on 4/18/25. A second high-severity issue was later identified as deployment-related. While an RCA was documented and shared via email, the issue was not logged in Azure DevOps (ADO) as per standard procedures and was instead tracked informally. Additional unresolved production defects have been identified following the R4.11 deployment, and the project team is currently working to confirm the number of new defects. Root Cause Analyses (RCAs) are not currently being consistently documented for	Release/Deployment Planning	Issue	Low	Open			1/25/2024 - The R4	Gautam Gulvady	
40	Limited testing	Limited testing processes can lead to poor-quality software, project delays and extended user acceptance testing.	There is a limited understanding of the testing processes and the roles and responsibilities of those involved in the process. There is no formal process for the development, review, and approval of test scenarios, test cases, and test results to ensure adequate participation and approval from state staff. When testing user stories 34564 and 34756 on 1/31/24, the test tasks did not reflect the real use cases to give stakeholders adequate confidence that the user story could be tested. As a result, time was expended by testing resources, testing was inadequate, and a user story may have been deemed to meet functionality when it did not.	1. IV&V recommends enhancing the testing scripts across testing overall to better align with high-risk and business-critical workflows. As part of this effort, it may be helpful to review recent production defects to identify areas where test coverage could be improved. This may include incorporating a broader range of testing techniques such as negative testing (e.g., invalid inputs or edge cases), boundary testing, role-based scenario testing, and end-to-end workflow validation. Expanding the scope of testing in this way will help uncover hidden defects, improve system robustness, and reduce the likelihood of post-deployment issues. As part of this effort, it may be helpful to review recent production defects to identify areas where test coverage could be improved. Expanding smoke test scenarios to include key functional paths with a history of defects, along with exploring opportunities for automation, can contribute to more efficient and consistent post-deployment validation. These enhancements are intended to support stronger release readiness and help minimize the risk of post-deployment issues. 2. Make efforts to implement a streamlined Root Cause Analysis (RCA) process to identify the causes of defects and prevent recurrence. Due to project resource constraints, propose timeboxing RCA efforts for each defect introduced into production. Timeboxing involves allocating a fixed period (e.g., 1-2 hours per defect or a set number of hours per week) for focused Root Cause Analysis (RCA) activities. These activities may include quickly gathering defect context, analyzing potential causes, and proposing corrective actions, all within the specified timeframe. Project PM(s) can oversee the tracking of corrective actions to ensure completion. 3. IV&V recommends that, after fixing a defect, the SI incorporate relevant test cases to validate these fixes in subsequent releases.	7/31/25 - While regression testing for Release 4.13 was executed successfully as scheduled (7/21/2025 – 7/29/2025), the continued reliance on manual testing, especially during Tosca license renewal, underscores broader limitations in test coverage and execution efficiency. Current practices may not fully exercise high-risk workflows or capture edge-case conditions, increasing the potential for undetected defects to reach production. IV&V encourages BHA to enhance its overall testing strategy to improve both the breadth and depth of test coverage, with a focus on critical business scenarios and high-impact functional paths. 6/30/25 - Since the R4.12 deployment to production on 5/29/2025, users have reported five (5) production defects (two (2) high severity and three (3) medium severity) which the project team is actively remediating. This underscores the risk associated with insufficient test coverage across business-critical workflows. Regression testing for R4.13 is scheduled for 7/21/2025 to 7/29/2025 and is expected to include both manual and automated testing. The Tosca Automated Regression Testing SME continues to automate DDD test scenarios an important step toward improving test reliability and reducing manual effort. However, overall test coverage remains limited. Without broader and more comprehensive testing, the risk of post-deployment issues remains elevated. Expanding the scope and depth of testing particularly across high-risk and business-critical workflows, is essential to ensure system stability and reduce defect recurrence in future releases. 5/31/25 - R4.12 was deployed to production on 5/29/2025, followed by successful smoke testing on 5/30/2025. However, users subsequently reported three production defects that were expected to have been identified during smoke testing. R4.12 regression testing was conducted from 5/19/2025 to 5/28/2025 and completed successfully. CAMHD and DDD focused on manual regression testing. Additionally, the Tosca automation expert is reviewing current functionality to identify optimization opportunities and is developing recommendations and effort estimates to enhance the automated regression testing framework. The project team continues to work on resolving outstanding production defects (see Appendix E). IV&V will continue to monitor key areas, including R4.12, FHIR implementation, any Mid-Sprint Deployments (MSDs), and the AER solution for quality issues. 4/30/25 - R4.11 was successfully deployed on 4/3/2025, with Smoke Testing successfully completed on 4/4/25. A Mid-Sprint Deployment (MSD) was also performed on 4/18/25, which included four (4) User Stories. Additional unresolved production defects have been identified following the R4.11 deployment, and the project team is currently working to confirm the number of new defects. The project team continues to address other outstanding production defects (see Appendix E for details). The project team has enhanced smoke test scripts to provide more comprehensive coverage, including functionality such as the Provider Portal. To further strengthen quality assurance, the project onboarded a Tosca automated regression testing expert in early April 2025, with work scheduled to begin shortly thereafter. This regression testing effort is expected to span April and May 2025. The expert will focus on repairing existing Tosca scripts and reinitiating automated testing efforts. 3/31/25 - The AER solution is in production. The project team closely monitored the solution to ensure stability, quickly resolve issues, and help users adjust to the new system (also known as Hypercare); Hypercare ended on 3/21/25 and the project is prioritizing the	Test Practice Validation	Issue	Medium	Open			1/31/2024	Gautam Gulvady	
41	Backlog meetings	The absence of separate dedicated product backlog review meetings can lead to unclear priorities, misalignment with stakeholders, inadequate refinement, and increased risk of scope creep.	Currently, product backlog reviews are done during design meetings and/or weekly issues meetings. This can lead to, e.g., scattered focus, limited stakeholder engagement, difficulty in managing complexity, and delayed decision making. A product backlog review is an essential part of agile project management, particularly in Scrum. It's a collaborative meeting where the Scrum team, including the Product Owner, Scrum Master, and development team members, inspect and adapt the product backlog. The product backlog review is an important Scrum ceremony that helps keep the backlog relevant, up-to-date, and aligned with the project's goals and priorities. Here's a summary of what typically happens during a product backlog review: 1. Inspecting Backlog Items: The team reviews the items on the product backlog. This involves discussing each item, understanding its priority, value, and acceptance criteria. 2. Ensuring Clarity: The team ensures that each backlog item is clear and well-understood. Any ambiguities or uncertainties are clarified at this stage. 3. Estimation: Estimation of backlog items may occur during the review. The team may use techniques like story points or relative sizing to estimate the effort required for each item. 4. Re-prioritization: Based on new insights, changes in requirements, or stakeholder feedback, the team may need to re-prioritize items in the backlog. 5. Removing or Adding Items: Items that are no longer relevant or necessary may be removed from the backlog. New items that emerge or are identified as important may be added. 6. Refinement: Backlog refinement may also occur during the review. This involves breaking down large items into smaller, more manageable ones, or adding more detail to items as needed. 7. Collaboration: The review is a collaborative effort involving the entire Scrum team. It's an opportunity for open discussion and sharing of ideas to ensure everyone is aligned on the goals and priorities. 8. Updating Documentation: Any updates or changes made during the review should be documented to ensure transparency and visibility for all stakeholders. 9. Feedback Loop: The review often generates feedback that can be used to improve the backlog management process or refine future backlog items. 10. Sprint Planning Preparation: The outcomes of the product backlog review help inform the upcoming sprint planning meeting, where the team selects items from the backlog to work on	1. BHA continue to conduct these meetings regularly and mature the practice over time, as they provide tangible value in sustaining project velocity and reducing rework. 2. CAMHD and DDD implement a structured feedback management process with a prioritization framework to ensure that all new requests are thoroughly evaluated and aligned with project goals before being added to the backlog. 3. Separate dedicated product backlog review meetings (during sprints) would allow clarifying any ambiguities or uncertainties, re-prioritization, estimation, and refinement of backlog items. This would allow the project team to avoid situations where decisions about including items mid-sprint would have to be taken. 4. IV&V recommends scheduling separate dedicated product backlog review meetings (during Sprints) where all relevant stakeholders are invited to review the product backlog and scheduled at the appropriate time(s) such that there is sufficient time to plan the design, development, and implementation (DDI) of the next release(s).	7/31/25 - BHA has identified a bottleneck in backlog processing, primarily due to a single team member managing the review, estimation, and assignment of tasks. While backlog items are prioritized, some from the current release cycle have been carried over, indicating a need for additional support in this area. The BHA team is actively working to streamline the process by identifying synergies across backlog items and refining the distribution of responsibilities to enhance efficiency and throughput. 6/30/25 - BHA is actively committed to managing its backlog effectively, focusing on aligning development efforts closely with business priorities. The product owner of DDD works closely with team members to understand business needs and prioritize user stories. Requests come from business leads and are then translated into development tasks. There are challenges with visibility into available user story points and the assignment of work across internal and external resources, which may make it difficult to accurately assess the capacity of the team and effectively assign work. Prioritization is based on business needs rather than just story points, with an effort to group related tasks for improved efficiency. CAMHD's backlog meetings are held monthly. Overall, there is room for improvement in planning and coordination to optimize the use of available capacity. 5/31/25 - BHA continues to hold backlog review meetings, with the most recent session conducted in April 2025. These efforts represent a positive step toward aligning priorities, managing technical dependencies, and clearly defining backlog items to support development and testing. While no sessions have yet been scheduled for May, IV&V understands that the team is still acclimating to roles and processes. IV&V plans to attend future backlog prioritization meetings to support this effort. 4/30/25 - IV&V was invited to attend the DDD Backlog Prioritization Meeting. Several key items were discussed, including: - Apple Health - Calculator - Provider and Customer Portal Documents While the meeting addressed these items, many of the backlog items still require estimation. DDD is currently working to complete these estimations. IV&V is reducing the risk rating from medium to low due to the progress made in backlog prioritization and ongoing efforts to complete estimations. 3/31/25- Product Backlog meetings are being scheduled, and the IV&V team has been invited to attend. These meetings are essential for aligning priorities, managing technical dependencies, and ensuring that backlog items are well-defined for development and testing, helping to maintain project velocity and minimize rework. 2/28/25 - BHA plans to schedule other backlog review meetings and will notify IV&V accordingly. While some meetings have already occurred, a consistent backlog review schedule is still being established. Efforts are also underway to improve the backlog review process. Regular meetings and process enhancements will help ensure alignment, facilitate timely issue resolution, and keep the project moving	Sprint Planning	Risk	Low	Open			1/26/2024	Gautam Gulvady	

ID	Short Description	Finding Statement	Analysis and Significance	Recommendation	Finding Update	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date	Owner	
46	Defect management.	Neglecting the established defect management process could lead to lost/forgotten defects, user frustration, and could slow resolution of similar defects in the future.	Failure to follow the established defect management process can result in defects being overlooked, inconsistently tracked, or unresolved—leading to increased user frustration and reduced trust in the system. This breakdown also impairs the project team's ability to analyze trends, implement root cause fixes, and prioritize effectively. Over time, neglecting structured defect handling may slow resolution cycles, introduce rework, and degrade overall software quality and service reliability.	IV&V recommends: 1. The project records the history of a defect's severity in the corresponding ticket's description/notes section in ADO. For example, when a hotfix is deployed to mitigate a defect initially classified as "Critical," the description/notes section should document that the defect originally had a "Critical" severity rating. 2. Based on Best Practices, updating the defect management documentation and having regular refresher training on the defect management process. 3. Send communications to the project stakeholders to clarify the defect management process and the importance of logging all defects. 3. Take steps to assure current and new users understand how to report and/or log defects. 4. Consider designating a defect management lead or champion to oversee adherence to the process and assure all defects are logged. 5. Keep stakeholders informed about defect status, priority, impacts, and resolution timelines. This could increase awareness of the importance of logging defects. 6. Discuss ways to improve the defect logging and management process with the SI and come up with a plan to improve.	7/31/25 - IV&V will continue to assess the project's adherence to Help Desk and defect management processes. IV&V encourages the project team to proactively capture and address feedback from the field such as issues reported with the Provider portals to support continuous improvement and end-user satisfaction. 6/30/25 - IV&V will continue to monitor the adherence to the Help Desk and defect management processes. 5/31/25 - IV&V continues to observe project focus on the Help Desk and defect management processes. BHA is actively reviewing the submitted Help Desk documentation to assess the adoption and enforcement of the documented defect management procedures. IV&V will provide feedback and recommendations to support alignment with industry best practices. 4/30/25 - IV&V has reviewed the documentation outlining the Help Desk process. IV&V continues to observe increased project focus on both the Help Desk and defect management processes, and will monitor adherence to these processes while providing feedback and recommendations based on best practices. . Meanwhile, BHA is reviewing the previously provided Help Desk documentation and considering adopting and enforcing the outlined defect management procedures. 3/31/25 - In March 2025, the SI provided documentation that was originally created in 2019, outlining the Help Desk process. IV&V is continuing its review of the process and will provide feedback and recommendations based on best practices in April 2025. Notably, the project has placed increased attention on this area, which is a positive development. As a result of this heightened focus, IV&V has observed a corresponding rise in the number of defects being logged in Azure DevOps (ADO), indicating stronger adherence to reporting protocols and greater transparency in issue tracking. Productive discussions are underway to address critical defects. By reviewing the Help Desk process and addressing any gaps, IV&V anticipates improvements in the overall defect management approach. BHA usually receives issues by email or helpdesk calls, with most reports submitted by email. Depending on the severity of the defect, BHA personnel may consult with other team members and flag high-severity defects, reporting them to the SI. While the current process is generally effective, there is room to speed up how critical defects are handled, particularly by enhancing how these issues are initially logged. 2/28/25 - A high-priority defect occurred on 2/6/2025, bringing to light an opportunity to strengthen the project's defect management process. BHA encountered some challenges that resulted in a delay in addressing the defect. In February, there were productive discussions on addressing critical defects. The SI has provided a document outlining the Help Desk process, which IV&V will review in March 2025 to further determine the risk. 1/31/25 - During this reporting period, there continues to be a delay in creating tickets in Azure DevOps (ADO) for defects. IV&V remains concerned about the project's deviation from the Defect Management process. IV&V, BHA and the SI will continue discussions to identify process gaps and determine next steps.	Project Management	Issue	Low	Open			9/30/2024	Gautam Gulvady	
47	Production restarts.	The lack of a governance process for restarting production systems can impact service availability and frustrate end-users and hinder accountability.	Without a defined governance process for restarting production systems, there is increased risk of uncoordinated actions that may lead to unexpected downtime, delayed service restoration, or data integrity issues. This lack of structure can frustrate end-users, reduce confidence in system reliability, and hinder accountability when incidents occur, ultimately affecting BHA's ability to deliver timely and consistent services.	IV&V recommends: 1. Develop standard procedures for system restarts, including a checklist to determine when a restart is necessary, pre-checks, step-by-step instructions, and post-restart verifications. 2. Require formal approvals before initiating a restart, especially for INSPIRE, and document all actions in a centralized system. 3. Define clear escalation paths for when restarts do not go as planned, including identifying contacts for technical support and management approval for additional interventions. 4. Automate Restart Procedures where possible. 5. The governance process is established, it should be effectively communicated to the project team. 6. Provide stakeholders with a clear explanation of the reason for the restart and the lessons learned, while documenting the restart details in the defect record.	07/31/25 - IV&V is currently reviewing the updated Production System Restart Communication Protocol document, and formulating feedback based on industry best practices. 6/30/25 - BHA has provided IV&V with the updated document describing the Production System Restart Communication Protocol. IV&V will review the document and provide feedback based on industry best practices. 5/31/25 - BHA has engaged in productive discussions around enhancing the communication protocol, including potential adjustments to advance notice periods, provider notifications, and language preferences, to improve its clarity and effectiveness. However, the updated document has not yet been shared with IV&V for review. 4/30/25 - BHA is continuing with the development of a document describing a communication protocol. BHA has provided some key changes, including adjustments to the advance notice period, provider notifications, and specific language preferences, which would further strengthen the protocol and enhance its effectiveness. BHA shared the draft document with DDD and IV&V for initial review. 3/31/25 - Based on discussions with key members of the deployment team, IV&V continues to recommend documenting processes, procedures, and communication protocols to eliminate ambiguity and promote a shared understanding among stakeholders. The deployment team is currently finalizing a communication protocol. 2/28/25 - There has been no progress for this reporting period. 1/31/25 - When an issue requiring a production Portal restart occurred only once, certain project stakeholders convened to discuss and implement the necessary steps. IV&V recommends documenting the actions taken during that meeting as part of the process for production system restarts. Documenting processes and procedures removes ambiguity and ensures a common understanding among stakeholders. 12/31/24 - BHA suggested that the deployment team or the Help Desk team may be best suited to document the process. IV&V remains concerned that no further progress has been made and will continue to make recommendations on how BHA could resolve this issue and be prepared for a production restart. 11/30/24 - No progress has been made for this reporting period. 10/31/24 - BHA is considering developing a documented governance process for restarting production systems.	Project Management	Issue	Medium	Open			9/30/2024	Gautam Gulvady	
52	AER	BHA lacks a streamlined report to identify active AER users, which could make it hard to track adoption, plan features, and support users.	While BHA can determine the number of active AER analytics solution users in production based on user email addresses, the process is manual and lacks a standardized report. Although the need for a reporting feature has been discussed, no formal request has been made to implement it. This limits efficient user monitoring and may impact future efforts to track adoption or support planning. BHA plans to submit a new request.		07/31/25 - The project team is reviewing the User Request. The plan is to prioritize the User Request during the backlog review meetings. IV&V will monitor the progress of the User Request to completion. 6/30/25 - BHA submitted a formal request to develop a reporting feature to identify active AER analytics users in production. The project has created a User Request in Azure DevOPs (ADO).	Software Development	Preliminary Concern		Open			5/27/2025	Gautam Gulvady	
53	Audit compliance	Manual auditing of records that users view could hinder the availability of BHA project team members for their tasks and slow project productivity.	According to current HIPAA regulations, access to customer data should be limited to individuals with a legitimate need to view customer data. BHA staff, including project team members, currently assist in manually auditing and tracking unauthorized access to customer records. This manual auditing process could potentially disrupt project tasks and hinder productivity.	IV&V recommends 1. Evaluate and prioritize Microsoft Purview through a cost-benefit and feasibility analysis, and initiate discussions with Microsoft to confirm Copilot licensing, integration feasibility, and an implementation roadmap to enhance efficiency and compliance. 2. Develop and formalize policies and procedures for both automated and manual audit processes, including random audits, to enhance oversight and reduce risks.	07/31/25 - Current audit logs in to Microsoft Dynamics show who has created or modified records but lack automated capabilities for threshold flagging. As a result, log reviews must be performed manually, making the process inefficient and limiting the ability to distinguish between legitimate and suspicious access. Additionally, there is currently no mechanism for conducting accurate random audits, which are necessary for compliance with both internal and external standards. The proposed solution involves using Microsoft Purview with Copilot to automate anomaly detection and notify administrators of abnormal access behaviors. Copilot is not included in the current enterprise agreement. Next steps include engaging Microsoft for licensing discussions, consulting with experts on Purview implementation, evaluating funding options, and exploring interim compliance approaches through manual or random checks. 6/30/25 - Currently, gaps exist in monitoring record viewing activity, with only creation and editing being tracked. Previous efforts to log viewing were stalled, likely due to storage concerns. The system uses a business unit hierarchy in Dynamics to control access but does not distinguish between accessing and actively reading records. While random audits are performed monthly by CAMHD/DDD, this process is manual and lacks formal policy backing. This approach may present challenges for ensuring HIPAA compliance and identifying unauthorized access to sensitive data. Without a detailed audit trail for viewing activity, suspicious behavior, particularly from users with higher-level permissions, may go unnoticed. BHA intends to confirm the minimum required data for HIPAA compliance with legal/compliance (e.g., user ID and timestamp) and evaluate the effectiveness of current audits.	Software Development	Risk	Low	Open			5/16/2025	Susmitha Rajan	

ID	Short Description	Finding Statement	Analysis and Significance	Recommendation	Finding Update	Category	Type	Priority	Status	Closure Reason	Closed Date	Identified Date	Owner	
54	Automation Testing Downtime	The expiration of the Tosca automation license resulted in a temporary pause in automated regression testing for the BHA team, affecting testing efficiency and coverage.	The Tosca automation license used by the BHA team had expired, which temporarily paused automated regression testing activities. This created some challenges for the team in maintaining their usual testing cadence and coverage. As a result, the team had to transition to fully manual testing efforts, which, while helpful, may not fully match the efficiency or depth of automated testing.	1. Ensure the Tosca automation license is renewed in advance to avoid disruptions to automated regression testing. 2. Implement a tracking and notification system for license expiration dates to support timely renewals. 3. Develop a documented backup plan to manage regression testing coverage through prioritized manual or alternative automated methods during any future tool outages.		Project Management	Risk	Medium	Open			7/7/2025		