

LEGISLATIVE AUDIT DIVISION

Angus Maciver, Legislative Auditor
Deborah F. Butler, Legal Counsel



Deputy Legislative Auditors:
Cindy Jorgenson
William Soller

MEMORANDUM

TO: Legislative Audit Committee Members

FROM: Hunter McClure, Senior Information Systems Auditor

CC: Charlie Brereton, Director, Department of Public Health and Human Services
Carrie Albro, Chief Information Officer, Department of Public Health and Human Services
Erica Johnston, Executive Director, Department of Public Health and Human Services

DATE: September 2022

RE: Information Systems Audit Follow-Up 22SP-12: *Child Care Under the Big Sky (CCUBS) System Modernization and Security* (orig. 19DP-04)

ATTACHMENTS: Original Information Systems Audit Summary

Introduction

The *Child Care Under the Big Sky (CCUBS) System Modernization and Security* (orig. 19DP-04) report was issued to the Legislative Audit Committee in January 2021. The audit included two recommendations to Department of Public Health and Human Services (DPHHS). In July 2022, we conducted follow-up work to assess implementation of the report recommendations. This memorandum summarizes the results of our follow-up work.

Overview

Our audit of CCUBS focused on identifying best practices for conducting a Return on Investment (ROI), conducting an ROI for CCUBS, researching continuous modernization best practices, reviewing state policy for security governance and system security requirements best practices, and ensuring risk identification and remediation occurs for CCUBS. The audit work included recommendations for developing a CCUBS modernization strategy that plans around obsolete technologies and developing and implementing authorization to operate procedures. Over the past two years, the department has made good progress in addressing the recommendations of the audit. The department concurred with all recommendations. In addition to concurrence, DPHHS has submitted a CCUBS replacements request for consideration in House Bill (HB) 10 for the 2023 Legislative Session. Our follow-up work found that both recommendations were implemented.

Background

The Child Care Under the Big Sky (CCUBS) IT system went live in 2002. The system is maintained by the Early Childhood and Family Support Division (ECFSD) of DPHHS. Part of the mission of ECFSD is to improve the quality, affordability, and accessibility of early care and education in Montana. CCUBS supports this mission by facilitating the process that provides subsidized child care to qualified families in Montana and the process for licensing child care facilities. In fiscal year 2019, there were over \$25 million in child care scholarships awarded to 5,700 Montana families. The \$25 million is a combination of the

federal Child Care and Development Fund, State Special Revenue, and state required matching funds. Due to the age of the system, there is an increased risk for security weaknesses, high maintenance costs, and a continual need to upgrade the system to meet evolving security requirements and federal program changes. Based on these risks, the scope of our audit centered around managing obsolescence and security governance.

Our audit work identified that technologies used by CCUBS are becoming obsolete. Compounding this issue is the lack of an annual review of consistent metrics to identify when large-scale IT system replacements are needed. In addition to this, a risk remediation plan was not formalized and did not contain timelines and milestones for addressing high-risk issues with CCUBS.

Audit Follow-Up Results

Since the time of the audit, DPHHS has implemented a change control board that meets on a quarterly basis to review and document system change priorities; conduct a business value assessment; monitor obsolescence; and measure and review progress information on CCUBS metrics and updates. A change control board refers to a group who are responsible for making the decision as to when and if any changes are to be made to a system. Additionally, DPHHS developed Authorization to Operate (ATO) policies and procedures and in September 2022 implemented quarterly risk mediation review meetings to discuss high risk findings. As part of the 2023 Legislative Session HB10 request, DPHHS is requesting funding for a CCUBS system replacement. The department indicated they plan on incorporating information from the business value assessment and metrics into the request. The following sections summarize the progress toward implementation of the report recommendations.

RECOMMENDATION #1

We recommend the Department of Public Health and Human Services develop a modernization strategy to address obsolete technologies and diminishing return on investment of Child Care Under the Big Sky that includes:

- A. Proactive planning to address obsolete technologies,**
- B. Develop metrics, like return on investment or scoring, for continual measurement, and**
- C. Tracking these metrics and reviewing obsolescence on a yearly basis according to state policy.**

Implementation Status – Implemented

The purpose of this recommendation is to ensure that DPHHS can appropriately determine when a system replacement is necessary via a modernization strategy. At the time of the audit, we found that DPHHS did not have a modernization strategy in place for CCUBS and DPHHS had not developed metrics for a CCUBS business value assessment.

In DPHHS's response, they noted the establishment of a change control board. The board meets on a quarterly basis and is comprised of stakeholders including relevant department staff and contractors. Each meeting provides a progress update on prioritized enhancement and maintenance CCUBS tickets and a list of service tickets being proposed to the board for prioritization, evaluation, and approval. Data is collected on all tickets. Many factors are considered to propose work to the board including priority, due date, impact to users, data integrity, relation to other tickets, complexity, and duration of task. The outcome of this process is used to create an agenda for the board to proactively plan and address obsolete technologies. As part of our work, we reviewed change control board agendas and CCUBS service tickets.

The output of the prioritization process is documented and organized into regularly scheduled releases. This provides transparency across the organization into the work that is planned, in process, and complete.

When enhancements are made to the system, a collection of questions is asked and answered by subject matter experts to calculate the business value assessment (BVA) of each enhancement. A few examples of questions asked, and metrics gathered include the following:

- Is the change mandated?
- Does the change impact the accuracy of critical system data?
- Is there a negative fiscal impact for not implementing the change?
- Is there a negative public perception associated with not implementing the change?

The BVA calculation is used as an input to the priority review during change control board meetings and provides metrics for DPHHS to continually measure the ROI for CCUBS. In addition to these metrics, the table below shows the team meetings that have been implemented to collect progress information.

Team Meeting	Associated Employees	Frequency
CCUBS Project Managers	CCUBS and Peraton project managers	Weekly
DPHHS CCUBS Team	Business Systems/Operations manager, CCUBS data owner, Licensing Technical Program Support analyst, CCUBS project manager	Weekly
CCUBS Managers	Business Systems/Operations manager, CCUBS project manager	Weekly
CCUBS Status	Early Childhood Services bureau chief, Child Care Licensing Program manager, Business Systems/Operations manager, CCUBS data owner(s) and analysts, Licensing Technical Program Support analyst, CCUBS project manager, Peraton project manager, and staff as needed	Bi-Weekly

The progress information on all tasks, sprints, and releases are gathered from these teams and real time dashboards and provided to the change control board. Additionally, starting in September 2022, the change control board added quarterly risk reviews to their agenda to discuss high-risk findings. More information on these quarterly risk reviews is found at the end of this memo.

Through the change control board, business value assessment, and quarterly risk reviews, DPHHS can proactively plan to address obsolete technologies and develop and track metrics for continual measurement of CCUBS.

RECOMMENDATION #2

We recommend the Department of Public Health and Human Services improve risk mitigation policy by:

- A. Developing and implementing Authorization to Operate procedures that include documented risk acceptance or procedures and timelines for remedying or reducing high risks, and**
- B. Establish a quarterly review of timelines and processes for addressing risks to ensure actions are completed.**

Implementation Status – *Implemented*

The purpose of this recommendation is to ensure that DPHHS appropriately identifies and accepts CCUBS risks and develops timelines and processes for addressing high risks to ensure they are remedied. At the

time of the audit, we found that DPHHS did not have specific procedures for identifying risks and implementing remediation plans.

As part of our work, we reviewed DPHHS's ATO policy and procedures that had been developed. The policy outlines the requirements for information systems to operate within DPHHS. An ATO must be completed every three years or when a significant change impacting the security of the application occurs. Part of the ATO process is identifying security risks within the system.

The primary sources for risk identification will be the ATO procedure, which is tracked via a Plan of Action and Milestones document, and the regularly scheduled risk management process (part of the change control board meeting noted above). Any information system that has high-risk findings will be given a temporary ATO of 30 days. During that 30-day period, a plan to mitigate those high-risk findings must be drafted. The plan must include:

1. Mitigation or full remediation of all high-risk findings within 90 days after the creation of the plan.
 - Mitigation could include resolving or reducing the high risk to medium or low risk.
2. Assign staff to each mitigation.
 - The plan must be approved by the DPHHS chief information officer (CIO) or their designee.

In September 2022, DPHHS implemented quarterly risk reviews. These review meetings include the discussion of new "high findings" where they assign ownership to the group responsible for managing the fix. Additionally, they follow up on the status of the mitigation plan for previously identified high risk findings to ensure ATO timelines are met.