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State of Colorado

CBMS Post-Implementation Review

Detailed Assessment Findings and Recommendations

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Background

The Colorado Benefits Management System (CBMS) is a joint state and local government initiative that encompasses a single automated system to support program administration, eligibility determination, benefits issuance, and reporting for 36 medical, food, and public assistance programs. The system is State supervised and administered by counties, Medical Assistance (MA) sites, and State users. Approximately 2,700 state and county employees use the CBMS system to manage more than 380,000 cases to distribute over $2 billion in benefits annually, in the county administered operation of CBMS. **The CBMS initiative focused on consolidating and eliminating existing antiquated systems in an effort to streamline and standardize determination of eligibility in counties and in State MA sites.**

The system went live, state-wide, on September 1, 2004. Since the go-live, counties and the State have encountered a number of issues related to CBMS, resulting in stakeholder frustration, scrutiny, and comment. In March of 2005, the State hired Deloitte Consulting to perform a third party assessment of CBMS in an expedited manner to identify and assess these issues.

The purpose of the CBMS Assessment is to provide the State with the following:

- **Identification of factors contributing to the *current* level of CBMS performance,** focusing on factors that deter effective adoption of CBMS. This will include assessment of potential risk exposures due to current CBMS performance and functionality.
- **Actionable recommendations** that will mitigate or resolve these factors and improve the adoption of CBMS.
- A **foundation to help the State maximize the value of CBMS** capabilities and end-user adoption.

Understanding the Issues

While understanding "root causes" for known symptoms is an important component of the Assessment Team's effort, this Assessment is not intended to necessarily identify persons, parties or organizations that were responsible for past and current issues facing the successful operation of CBMS. Having said this, CBMS has been influenced by many parties who have played a part in the evolution of CBMS including:

- The Executive Branch of the State and the Office of Innovation and Technology who have CBMS oversight responsibilities
- The legislators of the State who have policy input and budgetary approval for CBMS development and ongoing operations
- State workers from the Colorado Department of Human Services (CDHS), who provide cash transfers to clients, and from Colorado Department of Health Care Policy and Finance (CDCDHCPF), who pay benefits to providers on behalf of clients. They are responsible for a variety of aspects related to development and ongoing operations
- County Human Service employees, responsible for administering CDHS Program benefits
- Electronic Data Systems (EDS), the CBMS architect and integrator
- The judicial branch of local government
- Various organizations and attorneys who have initiated actions against the State and its workers
- The Media
- The clients who receive benefits

Based on the number of involved parties, assessing culpability for the current state of CBMS would not be productive nor will it impact the future ability of CBMS to facilitate accurate delivery of benefits to the State's benefit recipients. As such, the **purpose of this Assessment is to understand the current problems and most importantly, to provide a roadmap for resolution**.

It is important to note that **many of the CBMS issues identified have also been experienced by other large scale, multi-dimensional system integration projects, during initial phases of implementation**. For example, with the implementation of CBMS, a generalist model, in terms of business processes, application support and delivery was introduced to streamline application and eligibility processing and support. Adapting to this operations model remains a challenge. The Assessment Team has experience in other States overcoming similar challenges.

While issues and problems continue to persist in CBMS, there have been some notable successes. CBMS *is* stabilizing, and can become the tool envisioned when the project was first conceived. When reviewing the Assessment, it is important to understand that CBMS is not just about computer hardware and software. **The successful operation of CBMS is contingent upon complex interactions of people, policies and processes that are critical to the operations of**

the hardware and software. The Assessment has been structured to evaluate all of these "moving parts."

The Assessment Team understands that the State is in the process of addressing some of the issues identified in the review. For example, CDHS has created a new Business Model to restructure its Department. While the Assessment Team is aware of this and other on-going efforts in various areas, the current status of progress and comprehensiveness of these efforts is unknown. The Team suggests that the Team's recommendations be analyzed in conjunction with current, on-going efforts.

While there are a number of recommendations that require little or no incremental investment of capital, the Assessment Team also recognizes that limited funding may be a constraint to implementing some of the recommendations within reasonable timeframes. While this Assessment does not detail necessary funding or other resource needs, the Assessment Team encourages the State to conduct a thorough analysis of existing resource capacities and their abilities to implement the recommendations contained in this report.

The Assessment Team would like to recognize the employees of the State, counties, EDS and others who were interviewed and have provided input during this evaluation. Their candid and passionate comments have been instrumental in completing this Assessment.

Post-Implementation Review Approach

Approach Overview

Given the breadth of the CBMS system implementation, the review focused on three distinct threads intended to provide a holistic view of the health of the CBMS system and the business processes it supports. The three threads include:

1. Project Management
2. Business Process
3. Information Technology

To approach these threads efficiently, the review targeted core activities that would provide tactical information on which to base our assessment:

- Interview project stakeholders (e.g. state, counties, and CBMS hardware/software vendors)
- Perform a high-level review of relevant business processes, project management, design, and architecture documentation and decisions
- Understand linkages and cause/effect between business drivers and technology
- Identify high-level project risks and opportunities for improvement
- Review service level requirements and CBMS capabilities to evaluate alternatives
- Document go-forward recommendations to better adopt and integrate the capabilities of CBMS

The process taken to accommodate the above activities was to distribute detailed questionnaires to a large population of resources who use and/or are involved with CBMS in some capacity. Additionally, the Assessment Team conducted a series of face-to-face interviews with State, County and EDS (the CBMS integrator) resources to gain greater insight into issues, develop a better understanding of causes/effects, and witness illustrative issues and procedures.

Post-Implementation Review Timeline Summary

Week#	Date Span	Primary Objectives
1	4/7 – 4/13	Project Preparation Distribute Questionnaires to State Program-level and County recipients
2	4/14 – 4/20	Conduct Project Management/Business Process and Technical Interviews
3	4/21 – 4/27	Conduct Project Management/Business Process and Technical Interviews Close Questionnaires
4	4/28 – 5/4	Analyze Questionnaire and interview responses

Week#	Date Span	Primary Objectives
		Assess impact of findings Develop initial recommendations
5	5/5 – 5/11	Analyze Questionnaire and interview responses Assess impact of findings Confirm and refine recommendations
6	5/12 – 5/18	Finalize Assessment Document Deliver final assessment document

Information Gathering Process

The Detailed Questionnaire Process

Two separate questionnaires were completed by county, State, and EDS stakeholders to gather detailed facts and opinions related to Project Management/Business Process (PM/BP) and Information Technology (IT). The format for the questionnaires was primarily an online internet survey or a Word version if internet access was not available. *See*

Appendix B – PM/BP and Technical Questionnaires *for copies of the questionnaires.*

The PM/BP questionnaires were distributed to all State, County, and relevant Electronic Data Systems (EDS) contacts provided during weeks 1-2 of the review process. For the IT thread, detailed IT questionnaires were distributed to relevant stakeholders who currently have input to architecture, infrastructure, capacity planning, or development. Respondents were instructed to respond to the online survey by April 20, 2005. This date was extended to April 28, 2005 in order to accommodate several counties.

Results:

Total PM/BP Questionnaires Distributed/Received: 565/1235 (46%)

Total Technology Questionnaires Distributed/Received: 11/18 (61%)

The Interview Process

Project Management/Business Process:

- For the Project Management/Business Process (PM/BP) thread, a series of face-to-face interviews with Colorado Department of Human Services (CDHS)/Colorado Department of Health Care Policy and Finance (CDCDHCPF), State employees, and County employees was conducted. *For a complete list of interviewees, see* Appendix A – Interviews Conducted and Participants.

- County Interviews:

  - The Assessment Team conducted face-to-face interviews with 7 counties. The final list of counties that participated in the interview process was provided by CDHS and CDCDHCPF. These counties were selected based on various factors, such as size, location, and level of perceived adoption. The final list included the following:
    - Denver
    - Adams
    - Larimer
    - Moffat (by telephone interview)
    - Fremont
    - Logan
    - Kit Carson

  - Within each county many of the individuals in the following roles were interviewed:
    - Directors
    - Managers
    - Supervisors
    - Change Managers
    - Eligibility technicians
    - Trainers
    - CBMS County Users Group (CBMS CUG) Participants

- Bookkeepers and Front Desk Staff

- State / Program-level Interviews:

  - A number of individual interviews with program-level individuals were conducted to gain a better understanding of the State's views on the current state of the CBMS system environment.

Information Technology:

For the IT stream, findings have been based primarily on two sources of input:

- Interviews – Individual one-on-one sessions conducted with IT leads to understand top system and technology issues. Key IT leads interviewed using this approach were the CIO's of both agencies, State and EDS Application Managers, State/Dynamics Research Corporation (DRC) and EDS Application Architects and State and EDS Implementation Managers. Group interview sessions were also conducted focusing on specific topics relating to CBMS application architecture and technical platform, change impact assessment, testing, configuration management and build release planning and communication.

- Surveys – Technical surveys were used to collect IT stakeholder perspectives relating to application maintenance methodologies, production and technical operations efficiencies and application development methodologies.

Pre-Assessment Information Requests

- In addition to the questionnaires and interviews, a formal request to receive/view/access key documents to provide the Assessment Team with background and current process information was submitted prior to the commencement of interviews. *For a complete listing of documents requested, see* Appendix C – Pre-Assessment Information Requests.

Assessment Findings and Recommendations

The following sections present the results of the information gathering, termed "findings", along with the assessment of the impact of these findings from a Project Management, Business Process, and Technology perspective. Please see section "Post-Implementation Review Approach" for a complete description of the information gathering process to understand the information basis of this assessment.

At the end of each Key Focus Area is a summary of high impact issues and their impact along with recommendation alternatives that describe actionable activities to resolve or mitigate the impact of findings.

Findings and recommendations are presented in six main Focus Areas, broken down into components that contribute to the overall assessment of the Focus Area:

Focus Area 1 Application Functionality	**Focus Area 2** Application Maintenance Process	**Focus Area 3** Program Management and Governance	**Focus Area 4** End-User Productivity	**Focus Area 5** Production Operation	**Focus Area 6** Tech Architecture / Infrastructure Management
• Eligibility Determination Rules • Client Correspondence • Alerts • Caseload Management • Batch Eligibility Determination • Benefits Issuance Recovery • Interfaces • Reporting	• Application and Decision Table Code Maintenance • Configuration Management • Change Control Process • Testing	• Current CBMS Program Management Team Structure • Managing Accountability • State & County Organizations Impacting Governance of CBMS • Program Management Practices	• Change & Organizational Transformation Readiness • User Involvement in Decision-Making Process • CBMS Post-Implementation Knowledge Management • On-going End-user Training and Re-tooling • Application Assistance and Help Desk	• Technical Operations and Production Monitoring	• Infrastructure Definition and Sizing • Service Level Agreement (SLA) Management • Capacity Planning and Optimization

In order to effectively provide quantitative and qualitative assessment results, the Assessment Team analyzed survey percentages, identified top issues and analyzed impacts discussed throughout the interview process. This analysis resulted in several core organizational and technical maintenance Impact Areas that drive the acceptance of the CBMS system. These Impact Areas include:

1. **User Effectiveness**. How well end users perform their job today, using the CBMS application.
2. **Confidence in CBMS**. User perception and trust in the processing and accuracy of CBMS.
3. **Client Service**. How effective users are in delivering services to the clients in the counties.
4. **Ease of Maintenance & Efficiency**. How easily and efficiently the CBMS application is maintained.
5. **Program Compliance & Accuracy**. How accurately the program policy is implemented and reflected in the CBMS application.

Focus Area 1: Application Functionality

Summary of High Impact Issues and Recommendations

Incorrect eligibility results are returned from the CBMS eligibility module, impacting both County end-user productivity as well as effective client service

1.1. Free up appropriate resources to respond to and resolve outstanding Decision Table defects that have been reported by CBMS end users and Testing teams. Decision Table resources should be dedicated to this activity.

1.2. Institute more comprehensive regression testing practices to test Decision Table modifications to assess if undesirable impacts are observed with related programs.

Volume of Client Correspondence sent to clients is excessive, format is confusing to clients and end-users and content is often contradictory or perceived to be inaccurate

1.3. Modify CBMS Correspondence logic to reduce the number of separate notices and ensure accuracy of correspondence content and clarity.

1.4. Modify CBMS Correspondence logic to consolidate separate Notices of Action triggers into a consolidated view at the end of a processing day.

Unconditionally authorizing benefits in batch eligibility processing may cause incorrect benefits to be issued to clients and have unintended effects on other Program results in the case

1.5. Discontinue the practice of unconditionally disposing batch eligibility results. Controls should be added to the system to prevent disposition of results to prevent authorizing error prone automated actions.

1.6. If a case is not successfully disposed in batch, the appropriate worker should be notified of the exception and the reason Mass Change was run on the case.

Duplicate/Over/Under issuance of Cash and Food Stamp payments for the same benefit period appears to be a major problem in CBMS that has not been completely addressed to date

1.7. Detect and eliminate causes for duplicate issuance. In the short-term, add checks and balances to they system to reduce or prevent duplicate issuances.

1.8. Until the complete scope is understood, quality assurance processes should be put in place to prevent duplicate/over issuances and validate each exception for potential defects. Identified issues should be raised to CBMS Program Management immediately.

1.9. Prevent automated eligibility determination for pre-conversion months where benefits were issued by legacy systems. If business program rules require this practice, any issuance triggers for already active programs in those months should be suppressed by CBMS.

1.10. Implement functionality to clean up logic holes around the issuance of benefits for months were claims have been created, but no active recoupment is in place.

CBMS reporting capabilities do not provide the same information to County managers that legacy systems provided, limiting the effectiveness of County management.

1.11. Establish a taskforce, with involvement from County end-users of CBMS reports, to provide feedback on Financial/Issuance reports and Management reports. Determine what enhancements would make reports more usable. The CBMS Team should prioritize taskforce recommendations with county involvement and implement application changes based on overall project priorities.

1.12. Evaluate CBMS compliance with Federal Reporting requirements.

1.13. Enhance reporting capabilities to promote effective reconciliation of payment data with Colorado Financial Management System (CFMS).

Detailed Analysis

Based on the activities performed during this assessment and discussions with CBMS end users, the Assessment Team observed significant support in the counties for CBMS and the goals of automated integrated eligibility determination. For the most part, counties understand the need to apply policy directives uniformly across all counties and treat all applicants the same across the state. Most counties interviewed have bought into the CBMS application conceptually. With that said, there are legitimate problems with the application that are significantly impacting counties' ability to provide effective client service.

The findings detailed in this section are based primarily on three sources of input and the Assessment Team's experience with similar integrated eligibility systems in other states. These sources are as follows:

1. Feedback and examples provided by counties (via end user surveys and face-to-face interviews with selected county staff)
2. Interviews with State Program Group staff (though limited)
3. Discussions with EDS and CBMS program staff throughout the assessment
4. A thorough CMBS demonstration provided to the Assessment Team during week 3 of the assessment by the CBMS Testing team

Face to face interviews with end users were particularly effective in demonstrating many of the issues faced by county staff resulting from existing CBMS functionality. During these interviews, the Assessment Team received the viewpoint of CBMS end users at all levels, including: County Directors, Program Administrators, Eligibility Technicians (both general and specialist), Financial Managers (bookkeepers), and users serving clerical functions in various counties. Guided by the surveys received prior to face to face interviews, functionality related questions were targeted to appropriate staff focusing in the following areas:

- Functionality relating to job function
- Manual vs. automated functionality
- Operational support in performing day-to-day responsibilities
- Ease of use/Level of comfort with CBMS
- Checks and balances inherent in CBMS (Client service, issuance, etc.)

End user perspective in these areas allowed the Assessment Team to gain a big-picture view of the current state of county operations and challenges posed to counties by CBMS.

County feedback highlighted a number of CBMS functional aspects impairing the successful adoption of the application. In most cases, the ultimate result was increased time required to work around limitation of CBMS which reduces client facing time and the ability to provide sound customer service. This section details the Assessment Team's findings as they relate to key functional aspects of the CBMS application. Based on county and State feedback and the Assessment Team's understanding of the eligibility process in the State of Colorado, the critical functional components that must be addressed are the following:

- Eligibility Determination Rules
- Client Correspondence
- Alerts and Ticklers
- Caseload Management and Case Assignment
- Batch Eligibility Determination
- Benefit Issuance/Recovery
- System Interfaces
- Reporting
- Application Usability

1.1. Eligibility Determination Rules

Based on interviews discussion with County Eligibility Technicians, Supervisors and State Program staff, there is a general lack of trust in the eligibility results returned from the EDBC module of the CBMS application. Each county respondent interviewed raised accuracy of eligibility results among the top 3 issues with the system as it exists today. Further, claims of inconsistent and/or inaccurate eligibility results were made in counties ranging in levels of effective adoption of CBMS. While some reported Decision Table problems are perception based or a result of incorrect policy interpretation, there remain a number of identified issues that lead the Assessment Team to believe that there are fundamental problems in this area.

The following issues with eligibility rules were highlighted throughout the assessment:

- County concerns related to Decision Tables were focused on Family Medicaid (FMA) and Long Term Care (LTC) programs. Colorado Works and Food Stamp Decision Tables appear to be relatively stable in isolation. Counties do stipulate that problem areas have gotten better since initial implementation, but remain a very significant issue. General problems reported around Medicaid eligibility logic (Decision Tables) include:

    - Rules are not applied correctly in all cases for 1931, Needy Newborn, and Expanded Child cases
    - In some cases, Children are determined eligible for 1931 when they should be Ribicoff
    - Program groups are not denied consistently when they are over MA income and/or resource limits and should be only CHP+ eligible
    - The number of eligible members in FMA/LTC groups is often inaccurate.

    Help Desk ticket trend analysis provided by the CBMS team verifies that real problems do exist in the Medicaid Decision Tables. At the time of this assessment, more than 1750 Help Desk tickets are currently outstanding against Medicaid related eligibility logic (Family Med,

Adult Med, CHP+, and LTC). The project team reported that, on average, one Decision Table change resolves approximately 10 Help Desk tickets. Following this logic, there are estimated to be 175 outstanding distinct defects in Medicaid HLPG Decision Tables alone.

Because Medicaid represents the largest number of cases in the State, these outstanding defects likely impact a significant portion of new Medicaid applications and established Medicaid cases. This is consistent with the number of issues reported by CBMS end users regarding Medicaid eligibility logic.

The impact of inaccurate eligibility results is significant from a client, provider, and county perspective. From the client perspective, delay in benefits approval results in delayed medical attention. In the worst case scenario, life-threatening situations may occur in terms of acquiring necessary medication or delayed medical procedures. Such situations were reportedly observed in the early months of CBMS. From a provider perspective, services are either denied incorrectly or being rendered without assurance of payment. From the county perspective, Eligibility Technicians spend considerable time investigating why expected results are not appropriately determined in CBMS.

- County staff also struggle to understand how the Rules Engine processes effective dates in Initiate Interview. This lack of understanding crosses all HLPGs and contributes to a number of functional issues highlighted in this document. Problems were specifically focused on effective date changes in companion cases. Eligibility Technicians may not be aware of the impact an update to individual data may have on companion cases. The impact is often only known upon disposition of results in batch eligibility. An example cited several times is the discontinuance of Food Stamps benefits because a worker changed the effective begin date of the Individual Attributes window intending to impact a companion case. During the CBMS demonstration, valid effective dates were entered into the system, but the case could not be disposed because of a series of 1228 (effective date) errors. Users do not have a firm understanding of effective dates. At the same time, rules engine logic seems too tied to specific dates entered rather than what information is truly effective in the month being evaluated.

- Users report that new problems are created when Decision Table changes are implemented. The consistency with which the Assessment Team received this complaint across county offices suggests this issue is credible. This claim points to a lack of thorough regression testing practices within and across HLPGs to validate that a change does not have unanticipated impacts in other areas of the rules engine.

- Improper handling of advance notice requirements when certain programs are denied. By rule, HLPGs can not be closed for a future period without adequate time for the client to dispute the denial reason. If the advance notice period expires in the next benefit month, the client is eligible to receive benefits in that month. Improper handling of advance noticing unnecessarily opens the state to administrative hearings. Further, workers are unnecessarily burdened by the need to reopen cases that have been denied prematurely.

Some of the issues perceived by counties to be caused by inaccurate Decision Tables can be attributed to other factors. There are situations where misinterpretations of State program policy, such that when the unexpected results are returned by the EDBC module, the perception is that the Decision Tables are wrong. At the same time, reports of problems with Decision Table logic should not be ruled out as problems of perception alone. It is difficult to believe that the volume of complaints in this area correlate to 'perceived' eligibility inaccuracies.

Defects outstanding against Medicaid Decision Tables do point to significant problems that should be resolved in the short-term along with structural problems around how effective date information is used in rules engine processing. As a result, county staff spends an excessive amount of time researching problems as they lack timely help desk support, policy clarifications, and application of non-standard workarounds.

1.2. Client Correspondence

Current Client Correspondence functionality, even with recent enhancements, remains a problem. The design of Client Correspondence functionality has created a significant additional workload for county staff. Each county interviewed stated that the volume of calls related to Client Correspondence has risen dramatically since the implementation of CBMS. This requires Eligibility Technicians to spend a significant portion of their work day explaining system generated notices received by the client. This unanticipated, added responsibility is a very real issue for the counties.

Though enhancements have been made to Client Correspondence since initial implementation of CBMS in September 2004, Correspondence is not consistent across HLPGs and remains very confusing to clients. Clients receive multiple Notices of Action that often present duplicative or conflicting eligibility results. This is due primarily to multiple dispositions in a day and the month-by-month nature of the current Correspondence logic.

States interpret Federal noticing guidelines differently. Some states interpret that a notice is required for each disposition, while other States interpret those guidelines to require Notices be generated based on the end result of case circumstances at the end of a processing day (except in exception situations such as when a case is opened then denied on the same day). Integrated eligibility systems, such as CBMS where eligibility routines can be run dynamically lend themselves to the later noticing approach. This minimizes the potential for client and Technician confusion and provides the client with an accurate picture of the change to their benefits.

The following issues were identified with CBMS current Correspondence functionality during the Assessment:

- In addition to fielding numerous phone calls from recipients, many counties have instituted a standard process of suppressing duplicative and/or incorrect notices generated by the system. This is a time consuming process that could be alleviated by enhanced noticing functionality. To avoid duplicative correspondence, Eligibility Technicians must access the appropriate screen to review pending notice triggers and suppress the generation of notices manually. Counties report this adds, at a minimum, several minutes to each eligibility transaction authorized. Eligibility Technicians who follow this procedure expressed frustration with correspondence generated during batch eligibility and their inability to suppress batch-generated notices.

- It appears that noticing logic is not the same across all HLPGs. During our abbreviated review, the Assessment Team could not identify specific details of this issue. However, in discussions with State Program staff, CBMS technical and testing staff, and county Eligibility Technicians, it is apparent that different Correspondence Decision Tables have been constructed and function differently across HLPGs. Further, Correspondence logic has been enhanced for some programs, but not for others. Inconsistencies in noticing logic across HLPGs adds to client confusion resulting in additional time demands for the county staff.

- County and State Program team staff alike agree that most notices, when reviewed in isolation, accurately reflect the monthly benefit authorization at a specific point in time. In most cases, it is the format (month by month) and volume of notices generated that is most problematic to end users and clients.

- In some cases, notices are generated with inaccurate or missing information. An example of this was provided for a Medicaid case denied for not submitting a redetermination packet. The notice informs the client they are denied, but variable text regarding the effective date of the denial is missing and left blank on the notice sent to the client. The notice itself was valid, but missing information from the correspondence did not adequately inform the client of their benefit status. The example notice was generated on 4/12/2004 for the May 2005 benefit month, indicating problems exist even since the most recent Correspondence modifications were released.

- Correspondence related to recoveries ("Notice of OverPayment" and "Demand Letters") was also expressed as a key issue by many county and State Program Team staff. Staff received many calls regarding demand letters and notices of overpayment which has lead to a significant amount of time required to analyse the system action and communicate their findings to clients. However, recent enhancements to recovery logic have reduced the problems with the Noticing aspect of these recoveries. Based on the information available to the Assessment Team, recovery notices are no longer sent out until county staff have reviewed and initiated a claim. However, the review of claims validity is, itself, burdensome for the counties.

Additional issues with Correspondence should be treated as a priority by the CBMS program team. The impact of current noticing logic is substantial concern to county staff and clients. The added analysis, notice suppression, and handling of client calls related to CBMS Correspondence create a significant burden on county staff and limits their time and ability to manage other aspects of their caseloads.

1.3. Alerts and Ticklers

Alerts and Ticklers provide a powerful mechanism allowing eligibility staff, supervisors, and clerical staff to effectively and proactively manage their assigned caseload. The Alerts module in CBMS provides a summary screen where a case worker can see a snapshot of outstanding actions ("alerts") pending for cases and/or individuals assigned to them. By selecting an "alert", end-users are driven to a details page. This details page provides the capability to display additional detail about what specific action must be taken by the end-user.

While the *design* of the Alerts and Ticklers in CBMS is sound, the implementation has not had the desired result in terms of proactive caseload management. End-users complain of receiving too many alerts, not knowing what to do with alerts received, and the tedious process required to clear alerts that have been processed. While many end-user complaints in this area are unsubstantiated, and likely based on differing opinions than designers of the system, there were recommendations made by county staff that would improve alert adoption and warrant more in depth review.

In general, it appears too many alerts are being generated preventing end users from effectively using CBMS Alerts capability. In fact, many workers report ignoring alerts altogether because of the volume and added time required to effectively manage the alerts they receive.

The following issues were identified with current Alerts functionality adversely impacting effective use of this CBMS capability:

- For alerts to be effective, end-users must be clear why an alert has been received and what is the required action to be taken. In CBMS, this is often difficult to ascertain because the alert text is confusing to many end-users and/or sufficient details are not provided within the alert details page informing end-users what to do about the alert. Many users review the alerts page for specific alerts they know to be important and ignore most others. This was articulated by a number of workers, though the alerts identified as "important" where not consistent across counties.

- End-users consistently reported that informational alerts they receive are of insignificant value. These informational alerts reduce end-users' ability/desire to process alerts that are critical for effective management of their caseloads. This aspect of alerts was often cited as a reason for abandoning the use of alerts.

- When a follow-up action is taken on an alert, end-users must mark each alert as "processed" for the alert to be removed from their pending alerts page. This process requires 4 to 5 mouse clicks per processed alert. The design of this process has created a significant workload issue in the counties. Some Eligibility Technicians and Supervisors report spending anywhere between 1-3 hours addressing alerts on a daily basis. Because of this, a significant number of workers have stopped using alerts altogether.

These issues with CBMS Alert functionality ultimately result in degraded level of customer service in that workers are not proactively managing case actions. Alerts are meant to inform Eligibility Technicians of necessary case actions required to be taken. Because county staff too often do not use this capability, necessary actions may not be performed which may impact program compliance and accuracy of benefits. The CBMS team should identify opportunities to enhance this capability to achiever the anticipated result of this critical functionality.

1.4. Caseload Management and Case Assignment

Case assignment and case transfer logic in CBMS is not consistent with caseload management procedures of certain county offices. This issue was not raised by all counties, but large offices reported significant problems in assigning cases based on county specific policies. Case transfer logic was also reported as problematic in terms of receiving counties inheriting untimely reviews and change actions.

Several large offices assign cases to workers based on local policies to promote continuity of customer service. For example, these policies ensure the same Eligibility Technician manages new applications for cases that have been recently denied. This is beneficial to the client in that a consistent contact is provided with the agency and beneficial to the Agency in that the Eligibility Technician is aware of the history of the case and case circumstances. CBMS does not currently support adherence to these local policies. The following issues impair counties' ability to effectively implement local policies:

- Case assignment does not provide a historical view of case ownership allowing clerical staff to assign a new case to the appropriate Eligibility Technician.

- Where cases are not assigned to the appropriate Eligibility Technician, the incorrect assignment is identified only when the assigned Eligibility Technician reviews the paper file.

- End-users feel that client service time is wasted while the case and case file is again transferred to the appropriate worker.

Case Transfer logic poses significant problems to counties receiving cases:

- Based on feedback from county users and the CBMS program team, CBMS adheres to a "push" model for transferring cases from one county to another. The transferring county has the responsibility to reassign the case to the receiving county. This is not always completed in a timely manner resulting in case actions elapsing specified processing timeframes.

- There are no edits in the process to ensure that outstanding change actions, pending alerts, or redeterminations are completed prior to initiating the transfer process. This results in receiving offices building a backlog of cases at the transfer desk and untimely processing of case actions, as they are not familiar with the transferred cases.

These issues with CBMS caseload management processes ultimately result in untimely processing of case actions and a degraded level of customer service. Also, supervisory and clerical staff in impacted counties spent a significant portion of their day trying to correctly assign cases. Appropriate edits in CBMS could greatly alleviate these problems for effected counties.

1.5. Batch Eligibility Determination

Batch eligibility was identified as a top issue by every county interviewed and was raised consistently in responses to the end-user online survey. County staff, including Eligibility Technicians, Supervisors and managerial staff, expressed considerable concern regarding confusion created by batch eligibility. Further, they stress that a significant amount of time is required evaluating, and in some cases fixing, results authorized during batch processing.

In most cases, counties see and agree with the potential benefit and efficiencies offered by the batch eligibility process. However, many issues have arisen due as a result of current batch eligibility impacted county and client confidence in this area:

- All counties interviewed have experienced an increased workload in CBMS due to batch eligibility determination and authorization. Counties expressed concern that caseloads that had been stable in the legacy world require significantly more time to maintain in CBMS due primarily to frequent authorizations during nightly batch processing.

- Increased time is required of Eligibility Technicians because alerts generated in batch processing are not sufficiently detailed allowing Eligibility Technicians to easily determine why a case was identified for batch processing. Based on the Assessment Team's understanding, eligibility technicians receive an alert stating that batch authorization was either successful or unsuccessful when batch eligibility is performed on a case. There is little insight from the alert alone what information was changed in the case requiring eligibility to be re-evaluated. As a result, Eligibility Technicians spend significant time evaluating these cases to assess what data has changed, if the change is accurate, and adjusting the case as appropriate. The process to identify the case change is tedious and time consuming and requires each screen to be evaluated against the case file and historical data to determine the changed case circumstances. This is a workload counties did not support in the legacy.

- Many Eligibility Technicians feel compelled to evaluate these cases as frequently as possible to validate and prevent the inappropriate denial of benefits due to multiple workers and batch processing updating the same individual data.

- Many Eligibility Technicians and Supervisors claim inappropriate benefits are issued and/or invalid claims are generated during batch processing as the Eligibility Technicians themselves can not evaluate EDBC results prior to authorization.

- Counties have expressed concern over losing "ownership" of their caseloads due to system functionality including batch eligibility. The batch eligibility process is singled out in this area because workers have tremendous difficulty identifying what change has been made and the reason for this change. Based on the information received by the Assessment Team, this is primarily due to multiple workers updating the same individual information in the context of HLPGs requiring different levels of data collection. For any Initiate Interview change, batch eligibility is triggered for that case and its companion/associated cases. This is a greater issue in offices that have not moved to a "generalist" worker model, but was also a consistent "pain point" for those offices that have always functioned using generalist workers or that moved to a generalist approach leading up to the CBMS implementation.

Additional research must be performed to determine the root cause of these issues, especially in the generalist counties. One explanation is that this can result from CHP+ and/or MA Site workers updating individual information shared across cases. Many complaints were lodged by counties who are effective CBMS users that CHP+ and/or MA Site workers remove verification information entered by county Eligibility Technicians which is needed for TANF/FS programs. Automatically running eligibility in this scenario will have an undesirable impact on established programs for a given case. Further, this practice results in relaxed caseload security in that CHP+/MA site workers are, in effect, authorizing Food Stamp benefits through batch eligibility determination processing automation. In counties following a specialist model, this problem is further exacerbated as more and more eligibility workers impact the same client data. Further unanticipated denials or benefit reductions cause client confusion and unnecessary benefit disruption while benefit increases may generate incorrect issuances and client confusion around recoveries.

Automatically running eligibility in batch is a sound concept and has the potential to greatly improve worker productivity. Many states approach the level of automation in this area differently. States mandating a generalist approach often select to automate eligibility determination to a greater extent because caseloads and case data remain quite stable. In the case of CBMS, with the current state of application stability and the reality that multiple workers will update common individual data for disparate purposes, the level to which CBMS triggers batch automatically should be re-evaluated. In the short-term, limiting the cases subject to batch authorization would improve worker efficiency until CBMS can stabilize, supporting more liberal implementation of this functionality.

1.6. Benefit Issuance/Recovery

Application functionality, related to Benefit Issuance and automated recoveries, was consistently raised as an issue by Eligibility Technicians, Supervisors, and county Finance staff. Based on the volume of complaints regarding duplicate and/or inappropriate issuances, and specific examples provided to the Assessment Team by county staff, problems with CBMS benefit issuance processes appear substantial. Based on discussions with CBMS program staff, there does not seem to be sufficient checks and balances within the issuance modules to prevent obvious situations of over-issuances. As a result, the CBMS program team must treat over-issuance as a critical issue.

The impact of over-issuances is potentially significant in terms of real dollars that can not be recovered based on recent decisions by the State court. The Assessment Team understands that, based on the State court's decision in December 2004, incorrect cash and Food Stamp issuances (over-issuances) can not be recovered if they are the result of system and/or user error. As is known, this significant decision has the potential to drastically inflate CDHS benefit payment costs. However, county staff continues to report that benefits are routinely over-issued both online and during batch eligibility processing.

Some over-issuance scenarios are the result of supplemental issuances generated due to incorrect dates or other data entered, either by end-user or client error, in the Initiate Interview module. Similarly, many claims can be explained as caused by user or client error. In case of user error, there is little that automation can do to prevent over-issuance of supplemental benefits and/or the initiation of erroneous/incorrect recovery claims. This fact points to a training issue that must be resolved.

However, examples were cited of duplicate "Regular" issuances being made to Food Stamp and Cash recipients. This scenario of *duplicate issuance* can and should be identified and prevented by the CBMS system where the issuance trigger is generated (typically in the Authorization module) and/or through reconciliation processing with the EBT/EFT vendor. The Assessment Team was provided with an example of duplicate issuance resulting from incorrect sequencing of CBMS batch processes (at the time of drafting this document, the CBMS team was in the process of correcting this issue). Additional examples of potential over-issuances were provided to the Assessment Team based on excessive balances in client EBT accounts. Some EBT balances observed range from approximately $1,200 to upwards of $2,900. These examples were provided to the CBMS Program team for further analysis which is currently ongoing.

Potential problems in CBMS that result in the duplicate issuance of Food Stamp and Cash benefits may have the following impacts at the State and county levels:

- Beyond the Federal and State dollars potentially spent due to over issuing benefits, county funds may be significantly impacted due to the county share for over paid cash benefits. Counties currently have no choice but to trust the invoices received from the Colorado Financial Management System (CFMS) to pay the county share for appropriate cash programs. Counties find it very challenging to audit payments in order to validate the invoices received from CFMS (these challenges are detailed in the *Reporting* section of this document). When questioned regarding the county share of overpayments, county financial staff could not articulate whether they were being over billed or not.

- County staff is currently burdened by the processes required to determine validity of claim requests. Counties have instituted new business processes to validate whether overpayments are the result of system, user, or client error in order to assess whether a claim can be initiated or must be written off. Counties must go through this process to receive the incentive payments provided by the State for recovering over issued benefits. Counties fear that revenue streams will be adversely impacted by CBMS due to their inability to collect these incentive payments. Moreover, counties claim that, in CBMS, the transfer of cases where open recoupments exist, the claim is transferred to the receiving county. Counties fear this may impact their revenues in that incentive dollars may go to the receiving county rather than the county that initiated the claim.

In summary, the potential adverse financial impact of over-issuance is significant. Due to the short duration of this project, the Assessment Team has been unable to determine the true scope and impact of this issue. The Assessment Team requested database analysis around over-issuances to better understand this potential problem. However, the CBMS team was not able to provide the necessary data for the Assessment Team to perform due diligence. Though additional analysis is required in this area, it is the Assessment Team's understanding that duplicate issuance is a pervasive CBMS problem that should be corrected in the short term. Further, it does not appear that CBMS management (state and vendor) have placed a sufficient enough priority on this issue. The Assessment Team's focus here is in response to consistent county claims of overpayment. The State and the CBMS team should focus in this area to assess if and where problems exist in CBMS and form an action plan to resolve any issues identified.

1.7. System Interfaces

A number of issues were reported around interfaces and data exchanges during county interviews. The issues related to interfaces can be summarized as; incorrect benefits being issued or recouped due to inaccurate interface updates, and incorrect updates being made to CBMS data resulting in additional work required at the county level to correct the eligibility results.

Specific problematic interfaces identified by the counties were:

- SDX – SSA State Data Exchange
- ACSES – Automated Child Support Enforcement System
- MMIS – Medicaid Management Information System

SDX Interface

The SDX Interface has known issues that the CBMS team is currently working to resolve. The Assessment Team understands that the initial SDX design was determined to cause too many data problems during the January COLA run resulting in inaccurate budgeted income and incorrect grant calculations. As a result of observed issues, the state has decided to stop running the daily SDX interface. It will remain outside of the batch schedule until required modifications are made.

Though this has reduced the level of erroneous eligibility results calculated by the system, the business process of collecting this information has been carried out by the counties. As long as the automated interface remains inactive, county staff is reliant on a paper process between the state and the SSA, or inquiry into multiple systems to ensure clients are opened for the appropriate Medicaid coverage. This makes timely processing of these cases very challenging.

Discussions with State Application Leads assigned to the resolution of the SDX problems revealed that there are three major issue categories relating to the SDX interface.

- The primary issue relating to the incorrect posting of SDX data is assigning the correct effective begin dates and end dates for unearned income records received from the Social Security Administration (SSA). According to the CBMS Program Team, code modifications have been made to correct this issue though these changes are not in the production environment.

- Another category of issues relate to concerns regarding system edits to update case data such as individual demographics based on SSI Eligibility effective dates, and whether the

system should automatically update Individual Demographics based on information received through the SDX interface.

- The third category of concern is that the SDX interface is not populating all required data fields required by the User Interface screens and verification data and sources for these verifications that are required for Eligibility rules processing.

A "tiger-team" consisting of State Interface Leads, Application Managers, Program User Groups and Testing team members meet on a weekly basis to brainstorm outstanding SDX issues to develop optimal solutions to resolve these outstanding issues. The "tiger-team", in reaching out to program and county user groups has compiled a comprehensive list of SDX issues that need to be resolved. Interviews with State Interface Leads have demonstrated a sense of urgency to resolve all outstanding issues and a high priority has been assigned to resolving all issues related to this interface. The "Tiger Team" is making good progress on resolution of issues and the implementation of the revised interface is planned for June 2005.

ACSES Interface

Issues have been reported around incorrect handling of Child Support payments by the IV-D agency due to problems in the existing IV-A/IV-D interface. In some cases when a Colorado Works group is discontinued, ACSES does not receive the TANF end date and Child support payments are inappropriately withheld from the Custodial parent. In other cases, ACSES receives and/or interprets incoming data from CBMS that TANF benefits have been discontinued while the TANF program remains open in CBMS. In this scenario, Child Support payments are released to the custodial parent when they are receiving TANF benefits.

Data coming in from ACSES system to CBMS system is often misinterpreted or misused by CBMS. Child support income has been inflated in CBMS because end dates are missing from the ACSES monthly records resulting in EDBC accumulating support payments and using it as a monthly income amount rather than budgeting the payment as income, in the appropriate CBMS benefit month. To resolve this, users must access each Child Support payment to enter the appropriate end date and other payment attributes to ensure proper budgeting of the income. Because the interface separates out child support payments equally across all children in the case based on payment frequency, workers are required to modify many individual records when child support payments are received. This is a time consuming process for county staff.

The technical team completed two rounds of interviews with EDS and State Application Managers. Interviews with EDS Managers revealed very little knowledge of issues relating to the ACSES interface. In addition, the sense of urgency relating the resolution of issues relating to the ACSES interface was not as high as for SDX.

As part of the technical team's interview with the State Application Manager, attention to issues relating to the ACSES interface began as early as February 2005. Discussions also revealed that there are three change orders relating to the modification of system functionality relating to the ACSES interface that are currently in development. However, the planned implementation date of these modifications is unknown.

MMIS Interface

Problems with the MMIS interface have impacted the ability of clients to get necessary prescriptions from pharmacies and receive needed medical attention. These problems manifest themselves as missing or incorrect "med spans" on the MMIS system and results in denial of services when providers can not confirm eligibility on the MMIS system.

Interviews with the State Interface lead responsible for resolution of these issues also revealed issues relating to the retroactive denial of medical eligibility. In addition, other issues identified through county user group discussions relating to incorrect income processing rules resulting in incorrect cost sharing and the printing of Medicaid ID cards for SLMB and QI1 clients has been escalated to the State for analysis and review.

Although there is high visibility relating to the SDX, ACSES and MMIS interface issues, the level of urgency relating to the resolution of issues with these Interfaces is not consistent. This is partially due to the fact that the same Interface resources (Application Leads and Program User groups) are tasked with the resolution of issues relating to all the above interfaces. This results in shifting priorities depending on which interface issue takes priority at a given time. In addition, there is very little time sensitivity driven into the issue resolution process. This impacts issue turn-around timeframes and the implementation of resolutions.

1.8. Reporting

County Managerial and Finance staff consistently cited a lack of comprehensive and accurate reporting capabilities in CBMS as the primary issue impacting effective case and financial management. Counties claim reports promised during the requirements phase of the project were not completely implemented, or were not implemented at all. Further, changes were made to reports in CBMS from legacy versions that limit the ability of county staff to properly function and manage county affairs.

Many significant issues were raised and demonstrated related to CBMS financial reports:

- Counties validate issuance made on a daily basis for auditing purposes and validate daily issuance against monthly financial reports and CFMS invoices. Because of inconsistent and inaccurate data in reports, county financial managers are challenged to effectively perform this function.

- Financial managers are concerned when benefits are available to clients for accounting purposes. The CBMS daily report observed by the Assessment Team on the *Daily Issuance Participation Report* lists all cases disposed on a given day. Financial managers must deduct benefits issued today with future availability dates to balance reports on a daily basis. Further, they must manually track benefits incorrectly reported on the disposition date and account for those issuances on the correct day. This requires significant manual processing and coordination for small counties where the issue was discussed in detail. It is not clear to the Assessment Team how successful large offices deal with this problem as the impact would be significantly greater.

- This report shows subtle issuance problems in CBMS not likely observed elsewhere. One such issue was the issuance on 4/26/05 of a supplemental benefit for the 5/05 benefit month where the regular 5/05 benefit was not yet made available to the client.

- Accurately accounting for benefits issued when exceptions occur is also very challenging for county financial managers. Examples of these issues get very complex and are not easily explained in this format, but were observed by the Assessment Team. At a summary level, benefits that appear on the *Daily Issuance Exceptions Report* must be meticulously tracked by county financial managers to ensure they are properly accounted for. Subsequent *Daily Issuance Participation Reports* do not accurately reflect the date the benefits were deposited and are made available to the client. County financial managers must routinely evaluate multiple CBMS reports, CBMS issuance screens, along with the EBT vendor's inquiry system to ensure benefits are accounted for in the proper period. Accurate, consolidated reports would allow this information to be easily validated in a single report or set of reports.

- County administrator's Claim Management reporting capability is lacking in CBMS as well. The Assessment Team was not provided access to requirements data and was, therefore, unable to determine what reports were initially required for implementation in CBMS. However, members of the CBMS County Users Group involved in CBMS requirements gathering, claim that the promised reports have not been delivered (one report cited as an example is the *Monthly Status Reports Sent* report previously generated by COIN.) They also claim that legacy agreements in terms of changing and/or combining legacy reports were not delivered as promised.

  Examples of the above statements were illustrated in active caseload reporting and reporting on pending applications. In terms of Caseload reports, legacy systems provided detailed caseload information by Eligibility Technician and detailed the number of cases, by program, that Eligibility Technicians were assigned. Each legacy system presented the information somewhat differently, but provided the same overall picture of the county caseload. The CBMS version of the same report counts the number of individuals receiving benefits. It is not reported at the case level. Another report does detail caseload counts at the program level, but only accounts for the Food Stamp program. To accurately count the approved caseload for an Eligibility Technician across program, managers must manually count cases from inquiry screens.

- Pending applications is another example of incomplete reporting capabilities in CBMS. Legacy reports detailed pending applications by worker and program and displayed case number and responsible technician. This allowed mangers to effectively manage the office's caseload and address issues with individual workers. The CBMS version of the same report details only the summary information for each HLPG. The only detailed report for pending application covers only Food Stamps. This data is needed for other programs as well.

Accuracy and design of reports is critical issue impairing the ability of county managers to effectively manage their caseloads. The Assessment Team is unclear of the overall scope of reporting issues. Due to the limited time for our review, our focus was on reporting aspects impacting the adoption of CBMS. Other critical reporting functions, including application timeliness, TANF Federal data reporting and other Federal reporting requirements were not addressed during the Assessment. These reports should be evaluated for availability and accuracy as well to ensure the State is in conformance with Federal oversight guidelines.

1.9. Application Usability

Usability of the CBMS application was addressed as an issue with most county end users interviewed. Usability concerns primarily centered in the areas of case and individual inquiry capabilities, use of effective dates, the number of screens users must access to perform debugging

and to respond to client questions, and the volume of data collection required to process cases. In terms of simple navigation, most users are satisfied. As a result of working in the UPA prior to CBMS rollout and managing their caseload in CBMS since September, most users have traversed the learning curve and understand where data is located in the Initiate Interview (II) module.

Usability issues remaining include:

- Significant concern was expressed over inquiry (IQ) capabilities in CBMS. The general sentiment regarding IQ is that too many screens must be accessed to get an overall picture of case circumstances at given point in time and that CBMS does not present consolidated case and individual data for IQ purposes, functionality that legacy systems did offer. It is not clear whether IQ capabilities are the result of poor design, or frustration in researching II for detailed individual attributes. At the same time, IQ was a 'pain point' consistently identified across counties and any modifications made should include end-user input to ensure applicability to business processes observed in the counties.

- End-users are confused by the concept around effective dates. Effective dates are a powerful mechanism allowing users to document changes to individual attributes over time and that allows the eligibility module to use accurate historical data for retroactive eligibility. However, effective dates, as a concept are very difficult for users to understand when not explained consistently and in detail. While many end-users have picked up on this concept, many still struggle and incorrectly process this information.

    - EDBC often returns '1228' errors when effective dates have been incorrectly/inconsistently entered. This error message does not provide the necessary information needed by the user to correct data entry errors. During the demonstration provided the Assessment Team, experienced testers could not reconcile the series of '1228' errors received in order to run eligibility on the demonstration case.

    - Field users complain of inconsistent messaging around effective dates making this concept even harder for end users to grasp. Users must be properly and consistently trained on the effective date concept.

    - The rules engine must consistently respond to effective dates entered in the II module. Application of effective date information does not seem consistent across Intake (where effective dates must be match the filing date or be three months prior to accommodate prior MA requests) and ongoing processing. Effective date entry is assumed to be a problem resulting in most over-issuance scenarios in CBMS. Consistent training in this area is critical.

- Eligibility Technicians cite issues around vague messages in EDBC (denial reason codes and 'other' group status) received in the system and the level of effort required investigating what causes a certain result. Often, benefits are denied based on the reason, "eligibility denied". The system does not tell the user whether they fail due to income/resource limits, inadequate relationship, living arrangement, or other reason. In such scenarios, users must traverse the II queue to ascertain what is causing an unexpected result.

End-users are frustrated with the volume of data required to be collected to process simple cases. The Assessment Team understands the challenges faced in reducing data collection while supporting integrated eligibility determination, though end-users complain that the burden of

collecting data not relevant to a specific program request is significant. At the same time, end users complain of having to access too many screens to complete a typical data entry queue (due both to non-program specific screens, and the embedded data entry screens in the II module).

From a system perspective, these complaints contradict each other and there is no simple resolution. To eliminate collection of data that is not relevant to specific programs, CBMS must either isolate questions on very granular screens or add complex program specific screen-level logic on each screen to make data 'conditionally' mandatory based on the specific program(s) requested. The former would increase the volume of screens further frustrating the end-user community, while the later is a considerable development effort at this point that runs the risk of introducing further bugs into the data collection user interface. This is a complaint lodged against most modern integrated eligibility systems for which time and money makes resolution difficult.

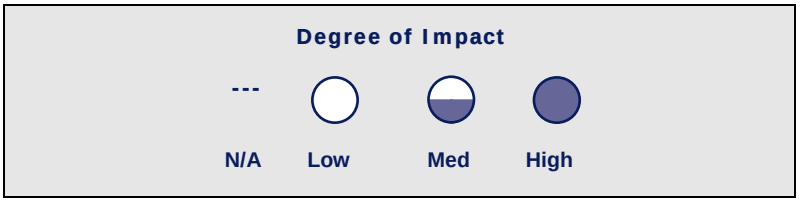
Based on other CBMS issues observed, this does not appear to be an issue with CBMS determined critical by the Assessment Team. Users must understand the long term benefits of upfront comprehensive data collection. Although the initial data entry is onerous, the eligibility decisions can be automated and subsequent case maintenance (changes/re-determinations/reapplications) are easier when all the relevant data exists in the case. To some degree, that understanding is emerging in the counties as the case management life-cycle is being experienced. However, Inquiry and other usability concerns do warrant short-term attention.

To Summarize:

The following table summarizes the issues identified throughout this section and provides the Assessment Team's assessment of the level of impact each issue has on the following:

- **User Productivity**. How well end users perform their job today, using the CBMS application.
- **Confidence in CBMS**. User perceptions and trust in the processing and calculation accuracy of CBMS.
- **Client Service**. How effective users are able to deliver benefits services to their clients in the counties.
- **Ease of Maintenance & Efficiency**. How easy and efficiently the CBMS application is maintained.
- **Program Compliance & Accuracy**. How accurate program policy is implemented and reflected in the CBMS application.

Summary of High Impact Issues



#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
1.1	Incorrect eligibility results are often returned from the CBMS eligibility module	●	●	●	---	●

Summary of High Impact Issues

Degree of Impact

--- N/A | ○ Low | ◒ Med | ● High

#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
1.2	CBMS end-users spend considerable time evaluating results because anticipated results are not returned.	●	●	●	---	◒
1.3	Clients benefits are delayed impacting their ability to obtain food, medical attention and other needed services	●	●	●	---	●
1.4	Volume of Client Correspondence sent to clients is excessive and format is confusing to clients	●	●	●	---	◒
1.5	Correspondence sent to clients often contradicts other pieces received for the same benefit period	●	●	●	---	◒
1.6	Business practices have been instituted in a number of counties to review and suppress unneeded correspondence	●	●	◒	---	◒
1.7	The volume of incoming client calls requesting clarification of correspondence received has risen dramatically since the implementation of CBMS	●	●	●	---	◒
1.8	Too many alerts are generated to workers at various levels of county organizations	●	●	◒	---	◒
1.9	Alert text does not provide adequate explanation to the recipient detailing what has occurred and/or what action needs to be taken on the specific case/individual	●	●	◒	---	◒
1.10	The design of alert functionality does not provide and easy mechanism for changing alert status	●	◒	○	---	◒
1.11	Unconditionally authorizing benefits in batch eligibility processing causes benefits to be issued to clients	◒	●	●	---	●
1.12	Batch eligibility logic has caused destabilization of a previously stable caseload	●	●	◒	---	●
1.13	The implementation of batch eligibility has circumvented caseload security logic	◒	●	●	---	●
1.14	Client benefits are inappropriately disrupted due to unanticipated results authorized during batch eligibility determination	◒	●	●	---	●
1.15	Duplicate issuance of Cash and Food Stamp payments for the same benefit period appears to be a major problem in CBMS	◒	●	○	---	●
1.16	Over-issuance of Cash and Food Stamp payments, due either to user, client, or system error appears to be a major problem in CBMS	◒	●	○	---	●

Summary of High Impact Issues

Degree of Impact

--- N/A | ○ Low | ◒ Med | ● High

#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
1.17	The volume of recoveries determined by CBMS place a substantial evaluation burden county staff	●	●	◒	---	●
1.18	Status of county incentive payments for initiating claims is in question due to case transfer logic in CBMS	◒	●	○	---	●
1.19	county billing of over issued benefits potential impact county revenue streams	●	●	○	---	●
1.20	Federal funding may be impacted if the problem of over-issuance is determined substantial	○	●	●	---	●
1.21	CBMS reports do not provide the same information available to county managers that legacy systems provided	●	●	◒	---	●
1.22	Report format and design, especially for issuance/financial related data, does not easily facilitate reconciliation	●	●	◒	---	◒
1.23	Legacy reports identified for inclusion in CBMS have not been implemented in the production environment	●	●	◒	---	●
1.24	Inquiry capabilities in CBMS do not provide a simple means to quickly respond to client questions	●	◒	◒	---	◒
1.25	The use of effective dates is confusing to end-users and misuse results in unintended case actions	●	●	●	---	●
1.26	Insufficient data edits in the Initiate Interview module reduce productivity as data necessary for EDBC may be missing or incorrectly entered during the data collection process	●	◒	◒	---	◒
1.27	Denial reason codes are too generic and often inaccurate	●	●	●	---	◒

1.10. Recommendation Alternatives and Prioritization

This section details the Assessment Team's recommended actions to respond to the Application Functionality findings.

Eligibility Determination Rules

To address problems with Decision Tables, the Assessment Team recommends the following:

- Expedite the review/resolution of pending Help Desk tickets related to problems reported against eligibility logic. It is unknown how many reported issues are currently under review by the state or just in the backlog of the level 3 Help Desk. Many of the eligibility errors reported to the Assessment Team have been reported to the Help Desk but remain unresolved, or resolution remains uncommunicated.
- Communicate Help Desk ticket/defect resolution on a more comprehensive basis. The CBMS team should perform analysis to determine the number of cases affected by identified problems. Where significant impact is observed, communication of the issue and its resolution to a larger audience, ie CBMS email group, is warranted rather than communicating resolution only to the user reporting the problem or through release notes.
- Based on feedback from the CBMS team, resources responsible for correcting Decision Table defects are being pulled in too many directions. Appropriate resources must be freed up to respond to and resolve outstanding Decision Table defects.
- Institute more comprehensive regression testing practices to test Decision Table modifications. Because eligibility is being determined for multiple programs, it is insufficient to test only the HLPG modified without also testing other HLPGs to assess if any adverse impact is observed with dependant programs. This would reduce county complaints of regression problems where one program is negatively impacted by a DT change to another HLPG.
- Review adverse action logic for all HLPG Decision Tables. A number of problems were reported regarding cases being retroactively denied, which violates program rules.

Client Correspondence

Separate Notices of Action need not be generated by program, by month, and by individual. There are currently modifications being planned for CBMS Correspondence. The Assessment Team recommends planned design changes incorporate the following:

- Modify CBMS Correspondence logic to combine currently separate Notices of Action to present a consolidated view of a client's case. Further, rather than display eligibility month by month, combine eligibility data to detail spans of continuous eligibility. This will allow a single mailing to the client to detail all programs, each program status and each individual's status in the group for each program applied for. This will also drastically decrease the volume of Notices generated from what is currently being experienced.
- Modify CBMS Correspondence logic to consolidate separate Notices of Action triggers into a consolidated view at the end of a processing day. This will reduce the confusing and contradictory Notices of Actions that clients currently receive based on current Correspondence functionality. Consolidation logic must accommodate exception scenarios. For example, where an approval result is authorized, then later in the same day the case is denied, multiple notices may be warranted. However, if multiple denials are authorized in the same day, or multiple approvals for the same benefit amount, duplicate Notices of Action triggers should be suppressed.
- Validate that variable text defined for a correspondence template is being populated and that the data is correct. This validation should occur during the testing process of any Correspondence change. Until issues are resolved, it is recommended the Quality Assurance procedures be put in place to sample Notices generated in production for review completeness and accuracy.
- Evaluate language currently presented on client correspondence for clarity and correctness, such as denial reasons displayed on denial Notices of Action. The evaluation should be

focused on clarifying Notices so clients more easily understand the correspondence content and receive accurate information.

- If not already done, Notice language should be reviewed by Agency legal staff to determine whether or not all legal requirements are satisfied.

Alerts and Ticklers

Re-evaluate the Alerts functionality in CBMS to make this critical caseload management function more effective to CBMS end users. To perform this analysis, the Assessment Team recommends:

- Establish a taskforce, with strong involvement from county end-users, to evaluate alerts generated in CBMS to achieve the following results (based on county feedback, the CBMS CUG is performing a similar exercise now. It would be advantageous to combine this exercise with recommended actions in this report):
    1. Reduce the volume of unnecessary alerts generated by CBMS. County users can provide lessons learned in this area from production use.
    2. Validate that alerts are generated based on the appropriate case circumstance and/or user action.
    3. Evaluate alert text adequately defines the required user action to be taken
    4. Ensure alerts are escalated to the appropriate individual in the county organization structure

  Upon completion of this exercise, the CBMS team should prioritize taskforce recommendations and implement application changes based on overall project priorities. Once enhancements have been made, county and State management must enforce the use of CBMS alerts to promote comprehensive and proactive caseload management.
- Minimize the effort required to process alerts by enhancing the Alerts page to allow the processing of blocks of alerts. This enhancement will benefit end-users substantially.
- Investigate capabilities to automatically "Process" (delete) alerts where the system can determine that the necessary action has been taken. A simple example of this is alerts generated to Eligibility Technicians notifying them to run eligibility on a case. Once eligibility has been run, and benefits disposed, the deletion of related alerts should be automatic by the authorization module calling a common Alerts routine. Careful assessment must be done to validate the system has sufficient intelligence to process alerts.
- Monitor the volume of outstanding alerts on a regular basis to verify appropriate usage by CBMS end-users.

Caseload Management and Case Assignment

Caseload assignment and management was reported as a significant issue on a number of offices visited. To minimize misuse and/or confusion of caseload management functionality, the Assessment Team recommends the following:

- Ensure each county office has a "champion" to respond and maintain caseload management structures. This individual(s) must understand CBMS caseload management capabilities and maintain all county specific case assignment profiles. This role must be trained to:
    1. Institute county assignment structure in CBMS
    2. Monitor/maintain county assignment structure in CBMS
    3. Educate staff on caseload management processes
- Modify CBMS to add edits preventing the transfer of cases with outstanding or pending work actions (reviews, changes, or other activity).

- Integrate case transfer logic and case assignment capabilities in CBMS to minimize the manual effort required to manually assign transferred cases in receiving offices.
- Communicate required business processes around the caseload redistribution process in CBMS. One county reported this is a nightly process performed causing a significant impact on the county clients. The Assessment Team received inconsistent feedback on this issue and believes appropriate communication can resolve this issue.

Batch Eligibility Determination

Based on the reality of multiple workers impacting the same individual data (both in generalist and specialist structures), the circumstances for authorizing eligibility results in batch should be re-valuated. Based on issues observed in the field, the Assessment Team believes this process is implemented too liberally and basic controls should be put in place to minimize unintended impacts. To address observed batch eligibility problems, the Assessment Team recommends:

- Discontinue the practice of unconditionally disposing batch eligibility results for all companion cases based on updates to individual information in Initiate Interview. Controls should be added to the system to prevent disposition of results in a number of circumstances to prevent erroneous actions. Some circumstances where batch eligibility results should not be disposed are:
    - The case is in intake mode
    - If the last ongoing benefit month was "overridden" by a worker
    - Terminations should not be authorized in batch, with possible exceptions for Monthly Status Reporting, failure to recertify Food Stamps, and based on Trusted Interface data
    - If a supplemental benefit is determined (benefit increase)
    - If any online screens were queued but not completed, batch should exception the case (with possible exceptions for Monthly Status Reporting, failure to recertify Food Stamps)
    - If eligibility results pend for one program, do not dispose programs in related cases that have cross program impact (i.e., Food Stamps with TANF pending.)
    - Others reasons determined necessary by the state
- If a case is not successfully disposed in batch, the appropriate worker should be notified of the exception and the reason batch eligibility was run. This will allow the worker to assess the change, determine if the information is correct, and take the appropriate action.

Benefit Issuance/Recovery

Because of the consistent reports of duplicate issuance of Cash and Food Stamp benefits generated by CBMS, the CBMS team must analyze this potential problem and determine the complete scope. Upon completion of this analysis, adequate checks and balances must be implemented in the system to prevent duplicate issuance scenarios. To implement this, the Assessment Team recommends the following:

- Properly define duplicate and over-issuance scenarios. Duplicate issuances can be prevented with proper system controls. Over-issuances result from user/client error or due to fraud. A duplicate issuance should be considered any funds issued to a client that have already been received, whether they be Regular or Supplemental issuances. This is needed to reconcile current misunderstandings within the CBMS team.
- Complete database analysis to detect duplicate benefits issued since CBMS go-live. Assess each example to determine the result of the duplicate issuance and define system checks to

prevent the scenario from occurring in the future. Example checks and balances may include:

- Enhancements to EDBC/Authorization logic to validate issuance triggers against the benefit history of the client (this should already be in place whether previous issuance information is maintained in the eligibility tables or is normalized exclusively in issuance tables) The Assessment Team recommends any existing edits be validated for completeness.
- Implement checks and balances with the EBT vendor to exception issuances that appear duplicative. Many similar systems have implemented this logic on the EBT/EFT side as an additional check to prevent the duplicate issuance of Regular pull-down issuances.

- Until the complete scope is understood, processes should be put in place to monitor duplicate/over-issuances generated by the system and validate each occurrence for potential defects. This can be accomplished by running a nightly database query to identify duplicate/over-issuance scenarios and review query results on an ongoing basis. Identified issues should be immediately escalated to CBMS program management for resolution.
- Prevent eligibility determination for months where benefits were issued by legacy systems. If business rules require this, any issuance triggers for those months must be suppressed by CBMS. The CBMS program team related this as a potential duplicate issuance scenario as legacy issuance data is not known to CBMS. This must be prevented.
- Implement functionality to clean up logical holes around the issuance of benefits for months were claims have been created. The CBMS program team identified this as another potential duplicate issuance scenario. Benefits for prior months should not be issued for these months based only the existence of a claim, but on the existence of an active recovery. This logic must be evaluated and corrected where deficiencies are identified.

System Interfaces

Issues associated with system interfaces are well known and enhancements are currently being evaluated by the CBMS program team. The Assessment Team recommends the following in the system interface area:

- Resources assigned to resolving Interface related issues are also assigned to other activities related to CBMS. Resources must be dedicated to resolving Interface issues in order to implement enhancements in a timely manner.
- Issues have been reported with MMIS and ACSES interfaces as well as SDX. Resources should be dedicated to resolution of other critical Interfaces having a significant impact on county staff and clients.
- Make resolution of all critical interfaces a priority. Adequate, dedicated resources should be made available to assist in issue resolution and aggressive implementation timeframes should be targeted.
- Because there is no periodic monitoring of Interface operations in the production environment, the Assessment Team recommends the establishment of a Data Quality group to monitor Interface control and exception reports and assess data quality on a regular basis. In addition, all exceptions reported by the interfacing agencies must be tracked and promptly resolved to reduce ongoing data issues.
- During the Integration Test and Acceptance Test phases, a critical set of daily and monthly Interfaces should be thoroughly tested and data transmitted to the interfacing agencies to simulate end-to-end test runs. This will facilitate proactive identification of Interface issues and eliminate the need for reactive handling of problem situations.

Reporting

Critical reports in CBMS currently do not provide the necessary business intelligence, or are structured in a way that does not easily support intended business processes. To resolve critical reporting deficiencies, the Assessment Team recommends to following actions be taken:

- Establish a taskforce, with strong involvement from county end-users of CBMS reports, to provide feedback on reports and what enhancements would make them more usable. The taskforce should focus in the following areas:
    - Financial/Issuance reports
        - Document limitations and how reports should be modified to better support auditing capabilities
        - Document reliability and accuracy of reported issuance/recovery data needed by county Financial Managers
    - Management Reports
        - Document limitations of Management reports and how they should be modified to better support county functions
        - Identify reports necessary for effective caseload management that have not been implemented in CBMS

  Upon completion of this exercise, the CBMS team should prioritize taskforce recommendations with county involvement and implement application changes based on overall project priorities.
- Evaluate CBMS compliance with all Federal Reporting requirements.

Application Usability

Usability of any software product is a key attribute that will drive successful adoption and end-user satisfaction. Integrated eligibility systems are extremely complex, implementing thousands of rules across a number of social assistance programs. To promote accurate data entry and correct eligibility results, end users must be clear about what data needs to be entered and the system must guide them to enter all data needed to automatically form groups and determine correct eligibility. Also, the application must be easy to use in performing ongoing case maintenance. To improve the usability of the CBMS system, the Assessment Team recommends the following:

- Enhance CBMS Inquiry capabilities. Users should have a single screen, or small group of screens, where commonly accessed case, program, and individual details and status can be viewed. This will eliminate the need to view screens throughout the Initiate Interview module to field client questions and perform other case management functions.
- Commonly treat effective dates throughout the application and across lifecycle stages. Effective dates appear to be treated differently on the “Individual Attributes” screen than on other Initiate Interview screens. 1228 errors are returned when logically valid effective dates are entered. This makes a difficult concept even harder to grasp by end users. Common treatment of effective dated data will greatly enhance end-users’ ability to understand this concept and correctly enter dates into the system.
- Improve edits in the system. Add edits in Initiate Interview to promote accurate data entry rather than provide confusing 1228 messages and other error messages during EDBC. Evaluate common data entry errors and add logic in Initiate Interview to promote proper data entry up front.
- Enhance accuracy and detail of denial reason codes returned by EDBC. Generic reasons like “Eligibility Denied” do not provide sufficient information to Eligibility Technicians or

clients regarding the reason for denial or termination. These reasons must be enhanced properly detail the reason(s) why eligibility is denied in common sense language.

Focus Area 2: Application Maintenance

Summary of High Impact Issues and Recommendations

The Application Maintenance Organization structure lacks an overall governance and accountability structure to ensure the overall stability of the CBMS application baseline.

2.1. Establish a governance/oversight structure within the current CBMS application team that will facilitate tighter integration of code modification efforts and oversight of both, application code and Decision Table code modifications.

2.2. Conduct joint reviews of application code and Decision Table code modifications for impact assessments, and detail design assessments between the EDS and the State Application Teams to promote consistent understanding of the code modifications and effective identification and communication of impact areas.

The Application Maintenance Organization continues to function as it was structured during development phases and has not reorganized itself as an Application Maintenance Organization.

2.3. Reorganize the current Application Maintenance Organizationstructure to support three primary maintenance dimensions:

2.3.1 Rapid Response Team to "fire-fight" critical and priority issues in the production environment,
2.3.2 Production Operations and Maintenance Team to manage, review and report day-to-day production operations and support code modifications
2.3.3 Continuous Improvement Team to identify and assess areas for improvement, suggest approaches for improvement, and incorporate process and application improvements within the overall CBMS application maintenance work-plan.

Application Maintenance and Build Release Testing is overall deficient. Further, there is a lack of governance and accountability for CBMS testing.

2.4. Reorganize and staff current Test Team structure to establish a CBMS Test Team that is responsible for the overall governance, quality assurance and review of Unit Test, Integration Test, Interfaces Test, Reports Test, Business Cycle Tests, Regression Tests and User Acceptance Test criteria and results.

2.5. Reorganize so that the CBMS Test Manager reports directly to the CBMS Project Manager to provide an independent and unbiased view of the overall stability and quality of the CBMS application

2.6. Establish build entrance and exit criteria for test and production environments.

2.7. Create a comprehensive System Integration Test plan and Build Regression Test plan.

Configuration Management is affected at a package level (application code package, Decision Table code package) instead of being applied at an overall application code baseline.

2.8. Create an overall CBMS application configuration, versioning and release strategy that includes both application code and Decision Table code.

2.9. In addition to application code being versioned in the Harvest configuration repository, production versions of the Decision Table code should also be migrated to and versioned in the Harvest repository

2.10. Review and restructure the current configuration strategy of partitioning Decision Tables at a high level program group, to also support specific table releases within a HLPG or partial releases of Decision Tables within a HLPG that may be required as emergency fixes

The current Change Control Process lacks overall timeframe guidelines for the completion of each activity such as Change Request finalization, assessment, approval, and implementation.

2.11. Institute specific timeframe guidelines for each step within the Change Control Process to establish accountability within the Change Control Board for ensuring that the assessment and implementation of Change Orders are completed in a timely manner

Detailed Analysis

As part of the overall assessment responsibility to review and assess the current CBMS platform, the Assessment Team met with various Information Technology (IT) stakeholder groups and IT leads to review and assess processes and methodologies currently being used to maintain the CBMS production application. To understand the current maintenance functions, processes, tools and reporting mechanisms, areas such as application maintenance methodologies, application and Decision Table modifications processes, change impact assessment, change control processes, testing and configuration management were reviewed.

The findings relating to CBMS Application Maintenance detailed in this section are based primarily on two sources of input:

- Interviews – Individual one-on-one sessions were conducted with IT leads to understand top system and technology issues. Key IT leads interviewed, using this approach, were the CIO's of both agencies (CDHS and CDHCPF), State and EDS Application Managers, State/DRC and EDS Application Architects and State and EDS Implementation Managers.

  Group interview sessions were also conducted focusing on specific topics relating to CBMS application architecture and technical platform, Change Impact Assessment, Testing, Configuration Management, Help Desk Management and Build Release Planning and Communication. Face to face interviews conducted with the IT Stakeholders were particularly effective in understanding application maintenance methodology details, management structures in place to establish efficiency and accountability, and quality assurance procedures currently in place to support CBMS application maintenance.

- Surveys – Technical surveys were used to collect IT stakeholder perspectives relating to application maintenance methodologies, production and technical operations efficiencies and application development methodologies.

The findings and assessment relating to CBMS Application Maintenance processes and methodologies are categorized under the following sub-categories:

- Application and Decision Table Code Maintenance
- Configuration Management
- Change Control Process
- Testing

2.1. Application and Decision Table Code Maintenance

There is currently a distinct separation of production source code maintenance responsibilities between the State and EDS. The CBMS source code is delineated as application code and Decision Table code. EDS is primarily responsible for application code modifications and the State application team consisting of Program Group, business Subject Matter Experts (SMEs) and technical developers, is responsible for the modification of the Decision Table code.

- Although this division of responsibility leverages core competencies between the State(program policy understanding and the subsequent definition and maintenance of rules within Decision Tables), and EDS (competency in managing application code components), this creates downstream negative impacts such as missed dependencies between application code and Decision Table code, and leads to frequent system or functional errors. County users have highlighted instances where data required by Eligibility rules engine is not mandated in the application screens upfront, but required for eligibility processing, thereby resulting in downstream rules processing errors.

- In addition, this separation of responsibility creates a situation where no single application development team or test team, either EDS or the State, is responsible for the overall stability of the application code baseline across application and Decision Table code. The lack of an integrated approach to maintaining application code and Decision Table code results in frequent trial and error code deployments into the production environments, frequent break-down of application functionality that was “previously working”, thereby impacting user confidence in the CBMS application. The absence of effective communication between the State application team and the EDS team pertaining to code modification dependencies further amplifies the issue leading to CBMS application errors.

- The current CBMS application maintenance team continues to retain its development phase organization structure. The current maintenance organization has not reorganized itself as an application maintenance organization. This leads to situations where the same application resources multi-task to “fire-fight” production application issues, research potential “hot-spots”, plan for platform enhancements and build releases, and triage Help Desk tickets and issues. This stresses the productivity levels of these resources and results in inefficiencies in effectively dealing with maintenance functions. This also leads to a very reactive maintenance organization structure thereby not facilitating any thought or action around continuous improvement activities.

- Decision Table code modifications are further broken down by High Level Program Groups (HLPGs), and managed by specific program groups and technical analysts assigned to that program group. This further separation of Decision Table modification responsibilities leads to situations where some common business rules that apply to all HLPGs may not be consistently applied to all HLPG Decision Tables. In addition, program groups reserve the flexibility to interpret the application of common business rules within their HLPGs. This may potentially lead to situations where common business rules are not consistently applied across the HLPGs within a case by the EDBC rules engine, thereby resulting in program non-compliance and inaccurate eligibility processing issues.

2.2. Configuration Management

Discussions relating to configuration management were focused on current approaches, methodologies and strategies pertaining to versioning, build management and migration of application code and Decision Table code.

- An overall CBMS application configuration, versioning and release strategy that includes both application code and Decision Table code is currently not in place. This creates a maintenance issue where version mismatch issues could potentially exist between application code and Decision Table code versions; given that configuration management is effected at a package level (application code package, Decision Table code package) instead of being applied at an overall application code baseline. This could potentially also lead to frequent system or functional errors due to incorrect dependency structures between application code and Decision Table code, and program non-compliance due to inaccurate processing of eligibility.

- Interview discussions suggested that production versions of application code are migrated to the Harvest configuration repository prior to production deployment. However, no such versioning strategies exist for Decision Table code. It is also unclear to the Assessment Team if there are any versioning strategies in place for Decision Tables, other than the periodic production system back-ups. This current strategy or a lack thereof for Decision Table versioning raises concerns in regards to the project team's ability to recover from fatal system crashes in situations where system back-ups have not been completed. In addition, the project team's inability to revert to or recreate a snapshot of current production version of Decision Table code may result in extensive re-allocation of already limited program and SME resources, thereby impeding the implementation of other critical Decision Table fixes.

- The partitioning of Decision Table code by HLPG level also poses challenges in terms of versioning and deploying specific Decision Tables updates within a HLPG. It is unclear to the assessment team as to whether this approach is driven by the Decision Table structural architecture or by process needs. This strategy does not support specific table releases or partial releases of Decision Tables within a HLPG that may be required as emergency fixes. This "all-or-nothing" Decision Table release strategy may increase pressure on the testing team to complete all Decision Table updates within prescribed timeframes and redirect test team focus away from comprehensively testing each Decision Table update, thereby impacting the quality and stability of the application.

2.3. Change Control Process

There is a well documented change request process overseen by the Change Control Board that provides detail insight into the life-cycle of a change request from initiation, approval through to implementation. This process provides a framework for the definition, prioritization and tracking of change requests.

- However, the current Change Control Process lacks timeframe guidelines for the completion of each activity such as change request finalization, assessment and approval within the Change Control Process. It is not clear to the Assessment Team as to how long each activity within the change request process currently takes (understanding that each change request may be unique and warrant a larger allocation of time for specific activities). The lack of timeframe guidelines creates very little accountability within the Change Control organization to ensure that all

individuals/groups involved in the Change Request Process complete their responsibilities in a timely manner, thereby delaying the implementation of critical change orders.

- Agency level voting procedures are currently instituted to resolve conflicts relating to priority and assessment of change orders. There are eight votes allocated equally between CDHS and CDHCPF. Due to short duration of the assessment, it is unclear to the Assessment Team as to how objective the process of voting is, in assigning the highest importance to the overall interests of the CBMS program.

2.4. Testing of the CBMS Application

Understanding that the testing of the CBMS application (both past and current processes) is an area of high visibility and concern, the Assessment Team completed several focus sessions with EDS, State Application Development and Test Managers to understand the different levels, focus and comprehensiveness of the current testing procedures

The State Decision Table team and EDS are individually responsible for Unit Testing Decision Tables and application code respectively. The EDS developers are responsible for Unit Testing code components developed by them. Specifics relating what “Unit-Testing” meant from an EDS stand-point revealed that focus was assigned to application code units such as screens, services and data objects that performed a specific function within the application. For example, Unit Testing of a screen involved testing of screen level validations, presentation of data as part of inquiry transactions and the display of confirmation messages on the successful completion of data update routines.

Unit Testing of Decision Table modifications is performed using a test suite that is available within the Decision Table Manager Toolset. Assessment of the process through a live demonstration demonstrated a well architected and acceptable Decision Table test toolset (from a unit testing stand-point) where Decision Table modifications could be run on sample cases. In addition, the availability of a Unit Test Report on completion of the Unit Test provides the technical analyst with a comprehensive view of all conditions invoked, actions completed and response values as a result of a Decision Table test execution.

- Although the above discussion demonstrates some levels of Unit Testing from an application baseline stand-point, the consistency and depth of Unit Testing performed by the developers is unclear to the Assessment Team. Unit Test Checklists were not available to the Assessment Team to validate the effectiveness of Unit Testing of application code and Decision Tables. The Assessment Team was also not able to validate the rigor enforced by EDS and State Application Managers/Leads relating to the review of Unit Test Checklists to determine application code and Decision Table readiness for subsequent levels of testing.

- In the absence of checklists, the fact that Decision Table modifications are performed by technical analysts within each HLPG and that they are also responsible for Unit Testing these modifications; may result in inconsistent approaches and depth of Decision Table unit tests across all HLPGs. The overall lack of enforcing review and acceptance of unit test checklists as entrance criteria for application code and Decision Table release into higher test environments suggests that application problems that could have been detected earlier are not caught early enough for resolution. This impacts the overall quality and stability of the development code baseline.

- System Integration Testing of application code (that includes Decision Table code) is not comprehensive enough to validate that application components integrate and function together as intended. In addition, System Integration Testing is not driven through a test plan or structured approach to test integration of application components. Although the interviews demonstrated that both the EDS development team and the State Testing team performed integration tests, it does not include rigor to certify the overall quality of the application.

- Integration tests performed by EDS focus on navigational flow across functional modules such as: Application Registration, Data Collection, and Eligibility Determination and Benefit Calculation (EDBC). Integration Testing performed by EDS does not focus on eligibility conditions executed or eligibility results. During development phases, integration tests performed by the State focused on navigational flow, interaction of rules on case data sets and eligibility results. However, current integration testing being performed by State Test team is very limited in scope and is sometimes limited to the execution of modified rules on production case data sets extracted into the system test environments. System Integration Testing also does not extend to downstream system and functional processes such as Interfaces Testing, Correspondence Testing and Case Data Aging to test recurring case activities on a particular case. The current approach lacks direction, governance, rigor, test comprehensiveness and does not sufficiently stress test integration points between the application functional modules thereby resulting in frequent application errors, incorrect or insufficient data being reported on correspondence notices and incorrect data being sent out in interface files that cause downstream impacts in terms of clients not being eligible in the provider systems after CBMS has sent them a notice of eligibility.

- User Acceptance Testing is limited to build release testing of defects and approved change requests (DACR). Additional aspects such as application usability that mirror how end-users use the system and negative testing (consciously trying to stress and break system integration points) that demonstrate system reliability is not attempted as part of User Acceptance Testing. In addition Build Release Testing does not leverage industry-recommended automated testing approaches or regression test approaches. This results in very low application quality assurance levels and frequent break-down of application functionality that was “previously working”, thereby impacting user confidence in the CBMS application.

To Summarize:

The following table summarizes the issues identified throughout this section and provides the Assessment Team’s assessment of the level of impact each issue has on the following:

- **User Productivity**. How well end users perform their job today, using the CBMS application.
- **Confidence in CBMS**. User perceptions and trust in the processing and calculation accuracy of CBMS.
- **Client Service**. How effective users are able to deliver benefits services to their clients in the counties.
- **Ease of Maintenance & Efficiency**. How easy and efficiently the CBMS application is maintained.
- **Program Compliance & Accuracy**. How accurate program policy is implemented and reflected in the CBMS application.

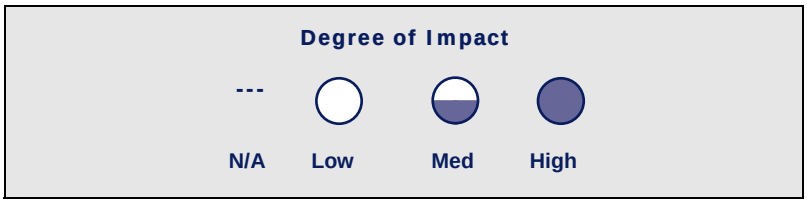
Summary of High Impact Issues

Degree of Impact

--- N/A | ○ Low | ◒ Med | ● High

#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
2.1	The Application Maintenance organization structure lacks an overall governance and accountability structure that is responsible for ensuring the overall stability and quality of the CBMS application baseline.	◒	●	◒	●	◒
2.2	Separation of Decision Table modification responsibilities by HLPGs may lead to situations where common business rules that apply to all HLPGs may not be consistently interpreted and applied to all HLPG Decision Tables.	●	●	●	●	●
2.3	Configuration Management is effected at a package level (application code package, Decision Table code package) instead of being applied at an overall application code baseline.	●	●	○	●	◒
2.4	The partitioning of Decision Table code by HLPG level does not support specific table releases or partial releases of Decision Tables within a HLPG that may be required as emergency fixes.	●	◒	○	●	○
2.5	There are no versioning strategies for Decision Table code and migration of production versions to the Harvest configuration repository.	◒	●	○	●	●
2.6	The current Change Control Process lacks timeframe guidelines for the completion of each activity such as change request finalization, assessment and approval within the Change Control Process.	◒	●	○	●	●
2.7	The overall lack of enforcing review and acceptance of Unit Test Checklists as entrance criteria for application code and Decision Table release into higher test environments impacts the overall quality and stability of the development code baseline.	●	●	◒	◒	◒
2.8	The current Integration Test approach lacks direction, governance, rigor, test comprehensiveness and does not sufficiently stress test integration points between the application functional modules	◒	●	○	●	●
2.9	User Acceptance Testing does not include key aspects such as application usability that mirror how end-users use the system and negative testing (consciously trying to stress and break system integration points) that demonstrate system reliability	●	●	●	●	●
2.10	There is no entrance and exit criteria for build releases from one testing environment to another and finally into the production	●	●	●	●	---

Summary of High Impact Issues



	environment					
2.11	Build Release Testing does not include any automated testing approaches or regression test plans	●	●	●	◒	●
2.12	There are no versioning strategies for Decision Table code and migration of production versions to the Harvest configuration repository	◒	●	●	●	●

2.5. Recommendation Alternatives and Prioritization

This section details the Assessment Team's recommended actions to respond to the Application Maintenance findings.

Application and Decision Table Code Maintenance

To address the issues relating to Application and Decision Table Code Maintenance, the Assessment Team recommends the following:

- Exercise tighter integration of code modification efforts between the EDS application code modification and the State Decision Table code modification teams. Establishing a governance/oversight structure within the current CBMS application team will facilitate oversight of both, application code and Decision Table code modifications. This overall governance structure will monitor all CBMS code modifications and ensure tighter integration between the EDS application team and the State Decision Table code team.

- Conduct joint reviews of application code and Decision Table code modification impact assessments, and detail design assessments between the EDS and the State application teams. This will promote consistent understanding of the code modifications and effective identification and communication of impact areas.

- Reorganize and staff the current Application Maintenance Organization structure to support three primary maintenance dimensions:
    - Rapid Response Team to "fire-fight" critical and priority issues in the production environment.
    - Production Operations and Maintenance team to manage, review and report day-to-day production operations and support code modifications
    - Continuous Improvement team to identify and assess areas for improvement, suggest approaches for improvement, and incorporate process and application improvements within the overall CBMS application maintenance work-plan

  To enable focus and direction for the Rapid Response team (and to make sure that not all production issues become the responsibility of the Rapid Response Team), the Assessment Team recommends that the severity of impact at an enterprise level and criticality of the issue relating

to business continuity, program compliance and service delivery accuracy be used as sample criteria to determine if an issue should be escalated to the Rapid Response team. Level 1 And Level 2 Help Desk Priority Levels, and Software defect severity level 1 and level 2 within the CBMS Service level document could also be used to jump-start further definition of responsibility and production issues ownership criteria for the Rapid Response Team.

- Establish a Decision Table oversight team across all HLPGs to ensure that there is consistent understanding of common business policy and its implementation as rules across all HLPGs Decision Tables. This will promote consistent application of common business rules across all HLPGs by the EDBC rules engine thereby ensuring program compliance and accuracy of eligibility processing.

Configuration Management

To address the issues relating to configuration management, the Assessment Team recommends the following:

- The Assessment Team recommends the creation of an overall CBMS application configuration, versioning and release strategy that includes both application code and Decision Table code. This will establish an efficient configuration management strategy that will baseline and version all code components at an application level rather than at a package level (application code, Decision Table code), thereby eliminating incorrect application and Decision Table dependency structures and any system errors caused due to incorrect version dependencies.

- In addition to application code being versioned in the Harvest configuration repository, production versions of the Decision Table code must be also be migrated to and versioned in the Harvest repository. This will establish quick and consistent means to recover from system crashes when system-backs have not yet been completed, thereby eliminating unnecessary resource leveling issues required to manually recreate Decision Table production snapshots.

- Review and restructure the current configuration strategy of partitioning Decision Table at a high level program group only, to also support specific table releases within a HLPG or partial releases of Decision Tables within a HLPG. This strategy will facilitate more comprehensive and rigorous regression testing of Decision Table modifications that may be required as emergency fixes. In addition, this strategy will also facilitate holding back Decision Table modifications from within a Build Release that has not satisfactorily passed all success criteria.

Change Control Process

To address the issues relating to the current change control process, the Assessment Team recommends the following:

- The Assessment Team recommends the institution of specific timeframe guidelines for each step within the Change Control Process. This will establish accountability within the Change Control organization and support implementation of critical change orders in a timely manner.

Testing

To address the issues relating to the testing of the CBMS application, the Assessment Team recommends the following:

- From a governance and accountability stand-point, the Assessment Team recommends the following:

    - Restructuring of current test team structure to establish an overall CBMS test team that is responsible for the overall governance, quality assurance and testing of all components of the CBMS application code.
    - The CBMS test team will be managed by a CBMS Application Test lead who reports directly to the CBMS Program Manager. This accountability and governance structure will help provide an independent and unbiased view of the quality and stability of the CBMS Application.
    - The CBMS test team in working with the Application Development team will be responsible for the definition of entrance and exit criteria, definition and review of checklists for Unit Test, Integration Test, Build Release and Regression Test and User Acceptance test.
    - In addition, the CBMS test team will be responsible for planning and implementation of focused test efforts relating to critical system functionality such as Interfaces, Reports, Caseload Management, Alerts and Business Cycle Testing/Case Aging Testing.

  This will facilitate consistent test planning and approach, test depth levels, tracking and follow-up of application deficiencies through various level of testing. This will also promote greater awareness of the quality and stability of the CBMS build releases thereby improving end-user confidence with the CBMS application.

- Establish a comprehensive test plan, structure and approach for System Integration Testing. In addition to online application functionality testing, the Assessment Team recommends focus on downstream functionality such as Interfaces testing, Reports testing, Correspondence and Batch Cycle Testing. Thorough completion of these tests will result in uncovering of application deficiencies, demonstrate quality and stability of the application and promote effective decision-making relating to Build releases

- Enhance focus of User Acceptance Testing to include application usability testing (mirroring how end-users use the system), negative testing (consciously trying to stress and break system integration points) and Build Regression Testing (developing a sample set of application specific and business scenarios that will test reliability of the system). This will reduce frequent break-down of application functionality that was “previously working”, improve quality assurance levels of the application and promote higher user confidence with the CBMS application.

Focus Area 3: Project Management and Governance

Summary of High Impact Issues and Recommendations

The current organizational structure results in no single entity accountable for CBMS direction, planning, management, and service delivery.

3.1. Establish a CBMS Steering Committee that is responsible for setting direction, confirming expectations and resolving issues that are escalated by CBMS Program Management. The CBMS Steering Committee should be comprised of joint leadership from CDHS Program/Office Managers and CDHCPF, along with representatives from the Finance Department, Department of Information Technology (DOIT), and County Social Service Director's Association (CSSDA). Others should be included as the Governor's Office sees appropriate. For example, a liaison with the Governor's Office responsible for government relations, or a liaison with community advocacy groups might be desirable.

3.2. Establish a CBMS Program Management "Czar" that reports directly to the CBMS Steering Committee. This individual would represent and be empowered by both CDHS and HCPF and will be responsible for decision making and day-to-day operation of all CBMS project management related activities including system enhancements, testing, training, communications, end-user support, etc. Establishing and formalizing accountability within this function will streamline and improve management's ability to react to sensitive issues in a timely manner.

Ability to react and resolve system issues is negatively impacted because accountability for CBMS operations spans separate agencies with varying interests and priorities. Additionally, many cross-agency decisions are escalated to senior management levels, increasing the time taken to react and deliver results.

3.3. Assign knowledgeable, dedicated resources to coordinate and manage the on-going maintenance of CBMS, as well as manage expectations of CBMS Stakeholders.

3.4. Establish a structure that will enable clear accountability and management practices and formalize key responsibilities across the maintenance and support organization. An organizational chart depicting the structure of this organization can be found in the conclusion of this document.

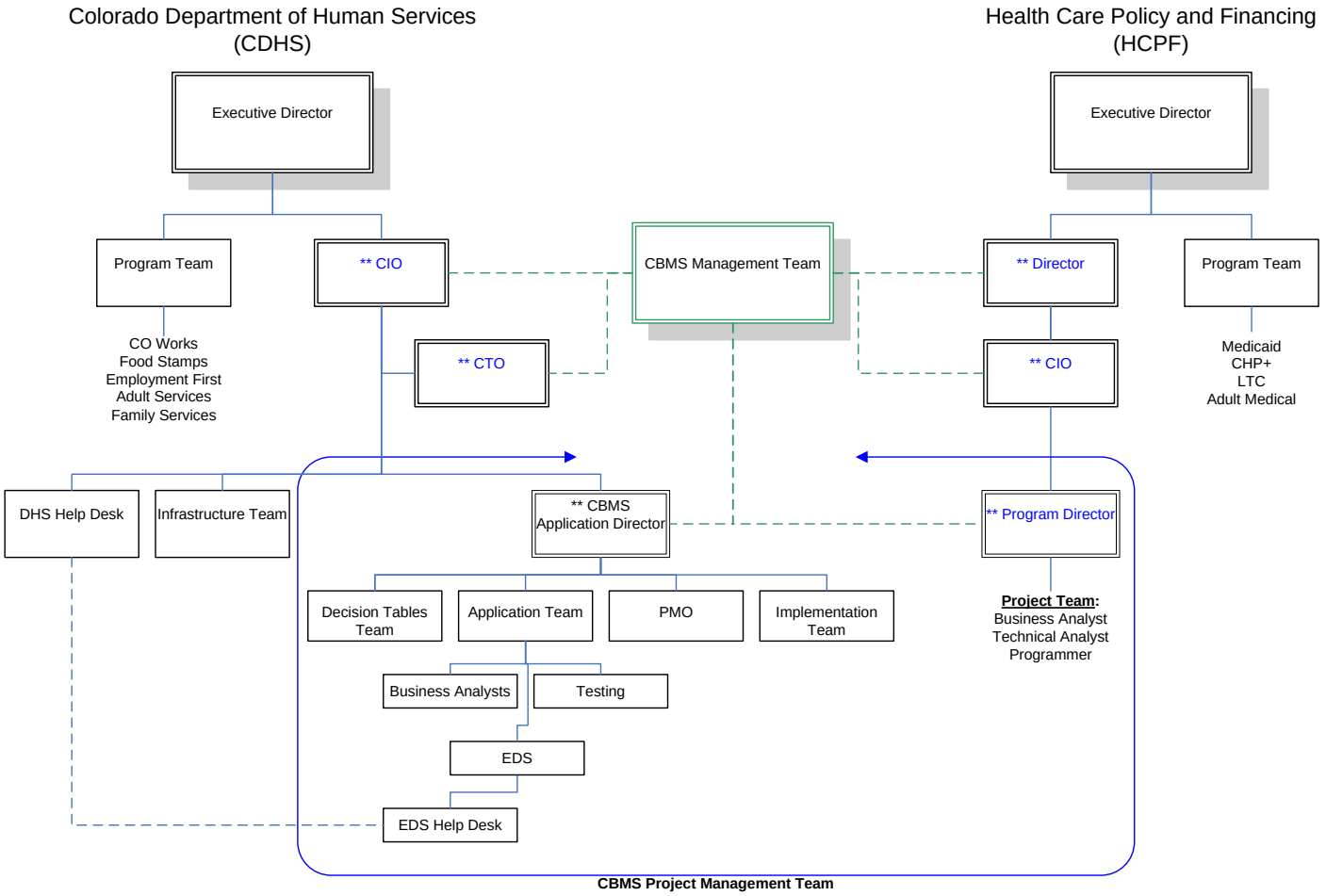
Detailed Analysis

This section describes the Assessment Team's understanding of the current CBMS Program Management Team from an overall management and accountability perspective. It provides the assessment of where and how this structure impacts user acceptance and effective operational support of the CBMS application. Please note that some of the impacts included in this section are estimated potential impacts of this structure as well as existing impacts observed.

This section also describes the Assessment Team's understanding of the management practices and procedures that are followed in support of CBMS today, and provides thoughts on the effectiveness of these practices and where potential improvements can be realized.

3.1. Current CBMS Program Management Team Structure

The following structure represents a high-level understanding of the organizational elements that drive overall accountability for application management, direction, and control of CBMS today:



** indicates members of the CBMS Management Team

Figure 3.1 CBMS Program Management Structure

Managing Accountability

The current CBMS Program Management accountability structure is shared between the CDHS and CDHCPF organizations. CDHS is responsible for the majority of CBMS production operations and for performing the Project Management Office (PMO) functions for CBMS, which has responsibility for

- CBMS application enhancement/defect management and tracking
- CDHS-related Decision Table changes, management, and tracking
- CDHS-related interface management and tracking
- Application testing of CBMS functionality enhancement/changes and CDHS-related interfaces and Decision Tables enhancement/changes
- Issues management and tracking

- Change control management
- CBMS communications

CBMS management responsibilities outside of the above mentioned CDHS application management structure include:

- Identification and interpretation of CDHS and CDHCPF program policy
- Non-CDHS related Decision Table changes, management and tracking
- Non-CDHS related interface management and tracking
- Unit testing of non-CDHS related Decision Tables and interfaces
- Processing agency-specific Help Desk tickets for Decision Tables and Interfaces

The impact of this shared accountability can be seen in the following example:

Based on conversations with the State agencies, the Assessment Team understands the policy maintenance process that is followed to implement a Decision Table change is the following:

- Both the CDHS and CDHCPF organizations have "Program Teams" responsible for interpreting, understanding, and delivering program policy to the respective organizations.
- The Program Teams communicates the "rules" associated with program policy to the appropriate program Subject Matter Expert (SME) on the CBMS Application Team.
- The CBMS Application Team is responsible for submitting the identified Decision Table change through the Change Control Process. Enhancements/changes, such as changes to Decision Tables, reference table values, client correspondence, online help, or training materials that are outside the scope of the currently approved design of CBMS are submitted and processed through the Change Control process, where the Change Control Board (CCB), must ultimately provide approval/disapproval to move forward and integrate into the CBMS program tracking process. (See section Application Maintenance for more information on the Change Control Process.)
- Depending upon the program impact of the Decision Table change, the change is processed by either the CBMS Application Team or the CDHCPF development/support team. Each group is responsible for conducting its own individual unit test of the enhancement.

In addition to the CBMS application accountability structure outlined above, there is a senior management structure called the *CBMS Management Team* (roles are identified in Figure 3.1 above). The members of this team include both CDHS and CDHCPF and both agencies are jointly accountable. The role of this team is to handle issues that cannot be resolved at the Application Management and Support level, such as funding issues, wide-impact technical issues, etc.

From a CBMS Application Management and Support perspective, the model summarized above can promote various inefficiencies and conflicts due to differing views of priorities and drivers between the organizations.

- **Policy Changes**. Policy changes are identified and initiated by the Program Teams within CDHS and/or CDHCPF. The priorities of CDHS and the priorities of CDHCPF may not be aligned, as they are two separate organizations with distinct missions.

- **No single entity accountable for CBMS**. There is not a single entity accountable for the control of CBMS, from a direction, planning, management, or delivery perspective. This element of the existing structure has far-reaching impact on several operational elements of CBMS:

    - Changes to Decision Tables and interfaces are performed and tested within CDHS or CDHCPF. Based on discussions with State and Program Teams, it does not appear that cross-agency integration/regression testing is performed sufficiently to fully identify the impact a change will make on other areas.

    - It is our understanding that Help Desk tickets are routed across three separate agencies for resolution and final communication to the users (CDHS, EDS and CDHCPF, for CDHCPF Decision Table changes). This process requires multiple Help Desk tools are used that are not adequately integrated, result in duplicate or missing data between the tracking tools, and ultimately increases time to resolve issues.

    - Cross-agency decisions must be escalated to senior management levels of each agency (CBMS Management Team), ultimately increasing the time to react and deliver effectively.

    - Ability to react and resolve system issues is negatively impacted because of accountability spanning two agencies – CBMS program management must contact, inform, and coordinate across two agencies to resolve problems.

Other structural elements identified that result in inefficiencies include:

- **Lack of effective CBMS application Communications**. The impact of this has been heard throughout the information gathering process:

    - Although 61% of survey respondents indicated that they *do* receive communications from the CBMS development team when changes are made to the system, 42% of them indicated that the communications they received did not sufficiently inform them of how the change would impact their job. The result of such communications has lead to lack of trust in the communications end users receive and therefore, many of them do not read them or don't rely on them. (*See section* CBMS Program Management Practices *for more information on Communications*.)

- **No on-going training process**. The majority of the issues heard can be attributed to lack of user capabilities and understanding of the CBMS application. Most users responded that they feel as if they have not been adequately trained on the business process flow and usage of CBMS, resulting in various "workarounds", unnecessary errors, and entering false information to get the system to do what they believe is correct. Many of these issues can be avoided, provided adequate training occurs. There is currently no consistent process in place to deliver and enforce on-going training on the CBMS application. (*See* section On-going End User Training and Re-tooling *for more information*).

- **Lack of effective on-going Knowledge Management procedures and materials**. There are several methods of distributing CBMS usage information to end users, such as "CBMS Communications", Knowledge Transfer calls, and the Knowledge Base (which contains resolutions to prior issues), the online help documentation, etc. These are all good methods of Knowledge Management, but because they are not consistently updated and in some cases, contain incomplete or conflicting messaging, users do not feel they are effective and lack confidence in them.

State and County Organizations Impacting the Governance of CBMS

There are various organizations within the State and county structures that have responsibilities or tasks that touch CBMS in some way. The Assessment Team's understands these organizations, their objectives, members, and their impact on CBMS is described below.

- **The Governor's Task Force**. The Governor's Task Force membership is comprised of individuals from CDHS, CDHCPF, CCI, and County Social Services Director's Association (CSSDA). As pertains to CBMS, the objectives of the Task Force is to research, understand, and resolve developing issues, as dictated by the Governor (such as duplicate issuances). Since the rollout of CBMS, the Governor's Task Force no longer focuses on CBMS operational issues; this responsibility has been taken over by the CBMS County Users Group, detailed below.

- **Office of Information Technology Services (OITS)**. The mission of the OITS is to "support the mission and business goals of the Colorado Department of Human Services by facilitating access to information through effective leadership and management of quality information systems and technology for use as effective operational and management tools". As pertains to CBMS, OITS is responsible for the delivery and support of CDHS applications, which include CBMS. The CDHS Help Desk, which provides Tier 1 and Tier 2 support of CBMS resides in OITS. *See section*

End-User Productivity *for more information on the CDHS Help Desk.*

- **Financial Officers Group (FOG)**. FOG is comprised of State Social Service Departments' financial officers, accountants, all county financial officers, accountants, and bookkeepers. Their main purpose is to coordinate State and county accounting operations. In any given month, their monthly meetings, held in downtown Denver with video conferencing capabilities for distant Counties, are attended by 50 of 64 Counties and State accounting staff. Currently, FOG is working with the CBMS County Users Group, detailed below, on financial reporting capability in CBMS. Their main concern is the Reconciliation Report, which allows the State and Counties to reconcile accounts receivable each month. While they do not play a direct role in issue resolution, they do provide the CBMS CUG with valuable details surrounding needed reporting functionality.

- **Colorado Counties Inc. (CCI)**. CCI is a county lobbying organization made up of County Commissioners throughout Colorado. Their main role related to CBMS has been as county advocates. CCI performed a survey of the CBMS system in conjunction with CSSDA (below) on behalf of the Counties from September to October of 2004. The survey collected information on case backlog, number of inaccurate or duplicate client notices, and number of Help Desk tickets submitted. CCI conducted a second survey in October 2004 to collect information on resolution of Help Desk tickets. Although it is understood that the CCI is one of 3 co-chairs for the CBMS Governor's Task Force, it is perceived within the regions that the CCI is not as involved in on-going monitoring of CBMS as it could be. Individual Counties report that their County Commissioners have been essential to the success of CBMS because additional county funding for CBMS related resources, such as temporary staff, is approved by commissioners.

- **Colorado Social Service Director's Association (CSSDA)**. CSSDA and the CSSDA Executive Committee are comprised of all County Social Service Department Directors who pay CSSDA dues and wish to attend meetings. Their mission is to provide a venue for all Directors to come together and evaluate issues affecting Counties. CDHS first announced go-live of CBMS at a monthly CSSDA meeting in August of 2004. Upon notice of go-live, members of CSSDA appealed to the Governor and their County Commissioners to prevent go-live in September. Because of these lobbying efforts, many counties believed CBMS go-live would be postponed; several did not prepare for go-live and consequently experienced adverse affects upon implementation. From September to October of 2004, CSSDA assisted CCI with a CBMS survey of Counties in an attempt to point out key issues in the system. Although the CBMS CUG is a committee of the CCSDA, it is perceived that the CSSDA is not as involved with on-going assessment of CBMS although Directors are involved with daily CBMS issues in their individual Counties.

- **CBMS Users Group (CBMS CUG).** In August of 2004, the Governor's Task Force initiated the CBMS CUG. The CBMS CUG has county representatives from the front-range Counties along with Logan, Phillips, Baca, Delta, Eagle, Gunnison and Teller. Additional contacts from various counties and county Directors are included as needed. The CBMS CUG also attempts to include State representatives from the CBMS program management team. The initial function of this group was to identify and resolve operational issues in CBMS and allow all counties a voice in the Change Control Board. Towards this end, the CBMS CUG works to understand what issues are priorities for the Counties and brings these findings to the Change Control Board for review. The CBMS CUG also deals with issues, such as training and communication. (*See section* User Involvement in Decision-Making Process *for a more detailed assessment of the CBMS CUG.*)

While the governance organizations work well with one another within their given level (e.g. CCI and CSSDA), it is not clear that they have adequate contact with, legitimacy, or authority with respect to those organizations they are attempting to impact or govern.

- Not all counties in Colorado are represented in county governance organizations due to resource constraints, such as time and travel. As a result, not all County issues reach c county governance groups.

- Not all County governance group issues are addressed by the State and CBMS Program Team. An example is the untimely resolution of Help Desk issues reported by the CCI/CSSDA survey conducted in October, 2004. Although survey results clearly showed problems with the Help Desk structure seven months ago, steps have been made to streamline Help Desk processing; to date, these steps have not completely addressed the problems identified with the CBMS Help Desk organization or processes. This disconnect points to a problem with communication between the levels of governance organizations. It may also indicate that State and/or CBMS Program team does not find County issues legitimate or sufficiently significant to address.

- One exception is the communication between the State and Counties in the FOG. This group had established a communication avenue before CBMS was implemented; they continue to use these networks to identify CBMS-related issues. However, it seems redundant that the FOG, a State level group, should turn to the CBMS CUG a County level group, for assistance in resolving their reporting problems. This indicates the general disconnect of the CBMS Program Team with other governance organizations in general.

3.2. CBMS Program Management Practices

As mentioned above, the current CBMS Program Management Team organization is responsible for the PMO activities associated with CBMS. This organization is responsible for CBMS management support activities, such as:

- Change Control documentation, management, and reporting
- Preparing materials for the Change Control Board (CCB)
- Developing and tracking project plans associated with approved change requests through implementation
- Tracking and reporting on Help Desk tickets
- Initiating and tracking correspondences between the State and EDS

Project Tracking and Control

All approved changes to be implemented in CBMS (having gone through the Change Control Process) are tracked and managed in a custom MS Access database called “Project Tracker” (developed jointly by EDS and the State). The majority of CBMS team members who will have input to the Change Request or process have access to Project Tracker. It is understood that the originating steps to track a Change Request in the Project Tracker database is as follows:

- The PMO must submit the Change Request materials and Detailed Design Assessment (DDA) to the CCB for approval before proceeding with implementation.

- Once a Change Request is approved, the PMO will develop the associated Microsoft Project Plan to implement the change.

- The PMO will enter the details of the Change Request into the Project Tracker database. This database maintains all details associated with a given Change Request, such as ID, status, criticality, scope, who should address (State or EDS or joint), what sections of CBMS will be impacted by the change, who originated the request, who owns it, pricing information, justification, workarounds, consequences, benefits, etc. The system also maintains comment history for each Change Request throughout the lifecycle of the change.

- Once a change request is in the database, the State will either request a DDA with a fixed price & timeframe from EDS or if a more general estimate is acceptable, they may request an 'order of magnitude' estimate.

Project Issues and Risk Management

Throughout development, detailed information was maintained and tracked for issues and risks associated with the CBMS deployment. At this time, day-to-day issues and risks are no longer tracked by the CBMS operations team.

Communications Management

In October of 2002, the CBMS Program Team released a Communication Plan for development that detailed all CBMS communication avenues, their frequency, and management plan. However, feedback from interviews and survey responses indicates that few of the original intended methods of communication are still active. This section outlines and briefly assesses the current methods of communication at each level.

County and End-User

Counties are the main recipient of all CBMS communications managed and distributed by the State. These communications include:

- CBMS Communication e-mails
- Knowledge Transfer call
- CBMS website
- CCSDA monthly updates
- Workshop sessions on general topics for County employees who are part of Social Services Technical and Business Staff (SSTABS)
- CBMS Joint Information Sessions held every other month after the Policy Advisory Committee (PAC) meetings which County supervisor and administration are invited to attend

Overall, the counties have mixed reactions to these communication methods. While the CBMS Communication emails contain valuable information, they are received too often and are confusing to end-users. The Knowledge Transfer call assists with learning new topics and a Question & Answer period, but the majority of feedback received states that the State does not resolve any end-users issues on the call. SSTABS workshops are not frequent and are often divided by High Level Program Group (HLPG). Further, not all county end-users can attend. Finally, the Joint Information Sessions are not attended by all counties and often focus on a specific HLPG.

Counties also manage their own, informal communication networks with other counties, the County User Group, and County Directors to collect and disseminate information around CBMS. These include:

- CBMS County User Group "Think Tank" sessions
- Sharing information with each other informally through co-worker networks
- Calling or emailing employee counterparts in a different County to share information learned

While these communications are useful, Counties run the risk of disseminating erroneous or outdated CBMS processes, training materials, and information. Further, these communications are specific to single counties or groups of counties, so not all counties have access to or receive information from these avenues. *For a more detailed assessment of these communications, please see* End-User Communications Management.

State

The State CBMS Program Management team manages all formal communications regarding CBMS. State Program areas can contribute to this formal communication thread and may informally communicate with County end-users upon request of the County.

CBMS Communication Emails

The main communication avenue for information related to CBMS is CBMS Communication emails distributed by the State. The main reason for filtering information through one email source is to prevent duplicate or erroneous information from being distributed to all end-users. These emails communicate:

- Technical release notes
- System outages
- Program area specific "How To" information
- New procedures
- Any additional CBMS information from the State, such as individual's announcements or Program area information

It takes approximately one to three days for an email to be sent via the CBMS Communication email depending on the length and complexity of the original document. In the case of emergency email requests, such as system outages, an email is sent within hours of initial receipt. Distribution of CBMS Communication emails follow a consistent procedure outlined in the document "Standard User Notification Procedure."

The goal of the CBMS Communication emails is to simultaneously provide all stakeholder groups with new or urgent CBMS information. From the State's perspective, the CBMS Communication emails are a valuable tool for disseminating information to all stakeholders at once. However, they realize these emails have flaws. In an attempt to restructure the email procedure, the State held Communication Design Workshops that were attended by CDHS management, the Help Desk, State Program areas, and County representatives. Through these workshops, they have modified both communication process and content to address some end-user concerns:

- CDHCPF and related MA sites do not have direct access to CBMS Communication emails: When emails are sent from CDHS to the CDHCPF system using a listserv, they are bounced back. EDS has been reportedly working to resolve this issue for the past two months. In the meantime, CBMS Communications are sent directly to individuals within CDHCPF who forward the emails to end-users.

- Standardization of emails: Starting with procedure-related emails, the Communications editor began placing a front-page on all email attachments that outlined the topic and gave key pointers. Many CBMS Communication emails have this front-page outline, followed by details such as screen shots.

- Linking screen shots to instructional text: Rather than sending out screen shots and accompanying text, currently email attachments include both on the same page, with numbered instructions matching numbered boxes on screen shots. This serves to reduce confusion over which fields pertain to which instructions.

- Addition of contact information to emails: Each email communication lists contact information for the person who can best answer questions related to the email. End-users are encouraged to use this contact information when needed.

- Reducing duplicate emails: By encouraging Program areas to send email requests to the CBMS Communication editor, the editor hopes to reduce the number of emails sent on the same topic. Furthermore, if all emails are sent from one source, there is reduced chance that information will be contradictory.

In the coming weeks and months, the CBMS Communication emails are planned to include additional features that can ease end-user concerns. The CBMS Communication editor is focused on resolving additional end-user issues by completing the following proposed changes:

- Identifying a universal categorization for all emails: each CBMS Communication email will have a clear categorization, such as "Food Stamps, Procedure for Food Stamps Verification, Screen #." With this noted on the top of emails, end-users can select the emails they wish to read and store rather than sort through all the emails sent.

- Creating new, more updated listserv: The listservs currently used were created prior to go-live. Counties and State programs are asked to submit new lists of people who

should receive CBMS Communication emails. This may serve to better filter information.

- "Translation" of release notes: End-users state that release notes, received every Monday after a build or a system fix, and are written in technical language that is too difficult to comprehend. To counter this, reports will be "translated" into user language to enhance readability. Additionally, expanded release notes will be sent out that detail the build or fix history so that end-users can better comprehend the purpose and impact of the release.

- Creating a Knowledge Management website where all end-users, including CDHCPF and MA staff, who cannot access the CDHS portal, can access archived communications: By uploading information onto an internet site, more end-users can access the information when needed. *See* CBMS Post-Implementation Knowledge Management *for more information on these topics*

The items detailed above will likely assist in reducing the volume of emails end-users currently receive and with organization of communications. However, implementing these changes may require more resources than are currently available. Currently, only one individual, the editor, runs the CBMS Communication email process. Each of the above items, in particular those scheduled for the coming weeks and months, are time consuming and will add to the already time-intensive procedure for distributing emails.

Knowledge Transfer Call

The Knowledge Transfer call consists of a brief period for responding to previous weeks' questions, a presentation on procedure or Program policy, and a Q/A session if time permits. The calls have evolved over time, from unstructured Q/A sessions to structured presentations, to better accommodate end-user needs for information. While responses to questions were once only sent to the end-user who asked the question, the CBMS Program Management team now sends responses via the CBMS Communication email. *For more information on these calls, please see* End-User Communications Management.

Responding to end-user questions in a timely fashion requires sufficient knowledgeable resources working to create responses. Currently, with the volume of work required of everyone at the State level, there is little time to address these questions.

CBMS Website

Finally, the State hosts the CBMS website as a communication tool for end-users and the public. The CBMS Communication editor also serves as the webmaster for the CBMS website. The website is currently outdated except for new Application Release Notes, which are still posted when new builds are released. The website's outdated condition is attributed to insufficient technical resources. Future plans include creating a Knowledge Management link on the CBMS website and archiving outdated information. *See section* CBMS Post-Implementation Knowledge Management *for more information on the CBMS website.*

External

The 2002 Communication Plan lists a large number of external stakeholders ranging from CDHS and CDHCPF employees outside of the CBMS Program Team to stakeholder groups not

related to either Department, such as the CSSDA, IMC, the Joint Budget Committee (JBC), State Legislature, and the Governor's Office. The majority of these external stakeholders are informed about the status of CBMS on a monthly basis by the CBMS Management Team. Each stakeholder group is invited to attend a meeting where a PowerPoint presentation outlines CBMS' progress to date.

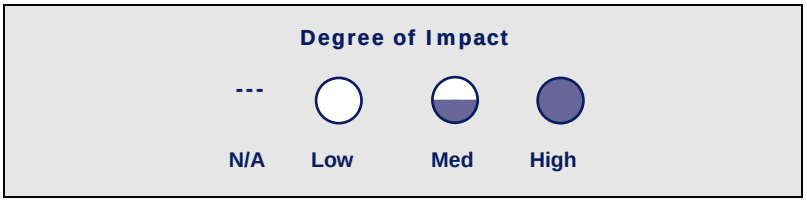
In addition to government stakeholders, the CBMS program also responds to other external stakeholder groups, such as public interest groups, the media, and clients.

To Summarize:

The following table summarizes the issues identified throughout this section and provides the Assessment Team's assessment of the level of impact each issue has on the following:

- **User Productivity**. How well end users perform their job today, using the CBMS application.
- **Confidence in CBMS**. User perceptions and trust in the processing and calculation accuracy of CBMS.
- **Client Service**. How effective users are able to deliver benefits services to their clients in the counties.
- **Ease of Maintenance & Efficiency**. How easy and efficiently the CBMS application is maintained.
- **Program Compliance & Accuracy**. How accurate program policy is implemented and reflected in the CBMS application.

Summary of High Impact Issues



#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
3.1	Lack of effective on-going Knowledge Management procedures and materials	●	●	●	○	◒
3.2	Not all Counties in Colorado are represented in County governance organization	◒	○	◒	○	◒
3.3	Not all County governance group issues reach the State and CBMS Program Team	◒	●	●	○	◒
3.4	Issues and Risks are no longer tracked	○	◒	◒	●	●

3.3. Recommendation Alternatives and Prioritization

There are several accountability components that a project must have in place throughout ongoing maintenance, to confirm that all activities related to the application continue to run as effectively to

all channels as possible. This section provides details around the suggested project components and how they should work together as a function.

The highest impact observation from a project accountability perspective is that CBMS does not have a single source of ownership. As listed in the section above, this factor alone, contributes to several inefficiencies and problems in the way CBMS is managed, maintained, and adopted by end users today. To mitigate the issues identified above and to establish a structure that will enable clear accountability and management practices, the following is recommended:

- Establish a "single voice" that is ultimately responsible for decision making and direction, which will streamline and improve management's ability to react to time sensitive issues.
- Institute adequate levels of integration and regression testing prior to moving changes into production, to address the number of system inaccuracies and ultimately lack of confidence and trust in the system by end users
- Develop and manage a single responsible source, focused communications and messaging to end users, to resolve misunderstandings of how CBMS is suppose to operate and ultimately minimizing erroneous data entry and system usage
- Establish a clear channel for Help Desk ticket routing and problem solving, to address and respond to end user issues in a timely manner, building user confidence in the support structure available to them, which ultimately minimizes the number of user "workarounds" used to solve their own problems
- Assign and dedicate sufficient number of knowledgeable resources to effectively coordinate and manage the on-going maintenance of CBMS, as well as set and manage expectations.

The recommended CBMS Operations and Support structure focuses on this high impact observation as a starting point then builds various competencies within the support organization to address all facets of the maintenance functions. It is important that the State move from an Application Development team structure to an Application Maintenance organization to better support the maintenance functions required of the CBMS production environment.

Based on our experience, along with leading industry practices, the following diagram depicts the distinction of critical sub-teams and how they integrate into the overall CBMS Operations and Support structure:

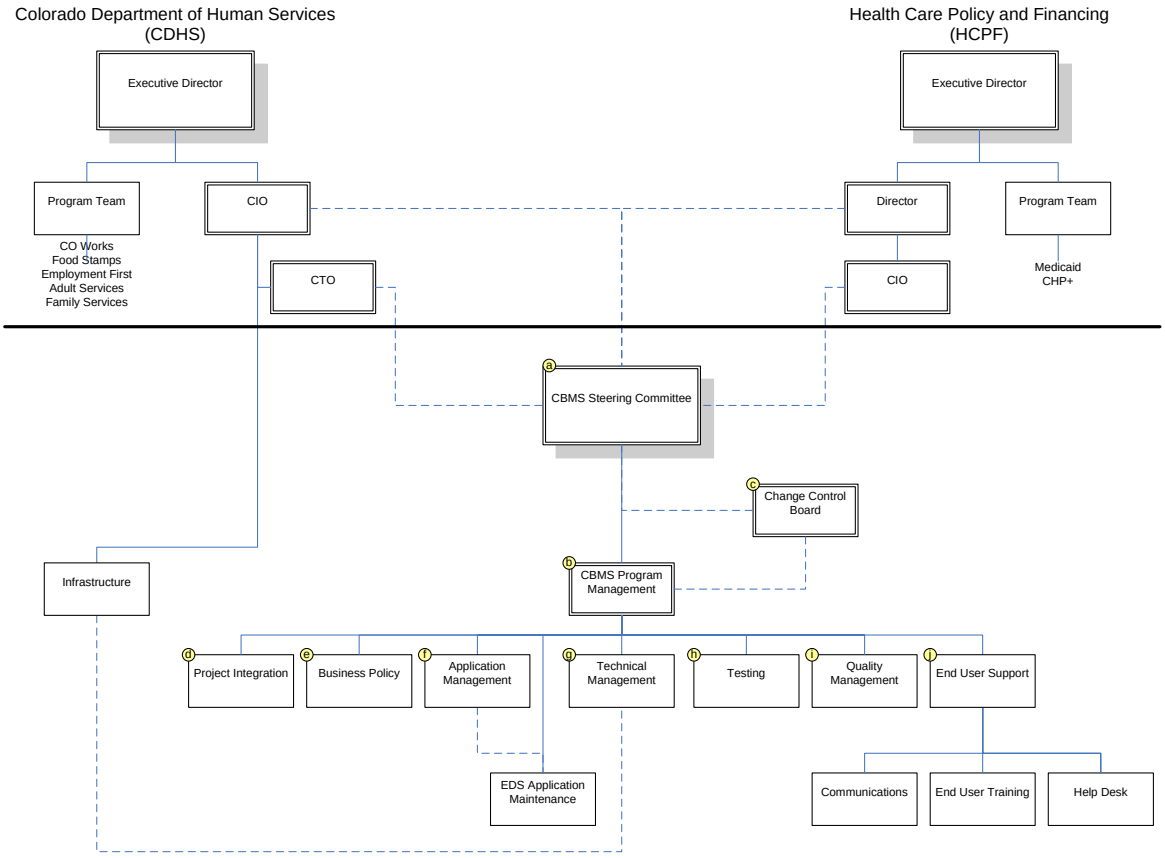


Figure 3.2 Recommended CBMS Operations and Support Structure

The primary changes and key responsibilities associated with this structure and its sub-components compared to the "current state" outlined in the previous section are the following:

a. The **CBMS Steering Committee** is responsible for setting direction, confirming expectations and resolving issues that are escalated by CBMS Program Management. The CBMS Steering Committee is comprised of joint leadership from CDHS Program/Office Managers and CDHCPF, along with representatives from the Finance Department, Department of Information Technology (DOIT), and County Social Service Director's Association (CSSDA). Others should be included as the Governor's Office sees appropriate. For example, a liaison with the Governor's Office responsible for government relations, or a liaison with community advocacy groups.

b. The **CBMS Program Management** entity reports directly to the CBMS Steering Committee. This entity should represent and be empowered by both CDHS and CDHCPF. This single entity will be responsible for decision making and day-to-day operation of all CBMS project management related activities such as, system enhancements, testing, training, communications, end-user support, etc. Establishing and formalizing accountability within this function will streamline and improve management's ability to react to sensitive issues in a timely manner.

The CBMS Program Management function is responsible for meeting or exceeding stakeholder needs and expectations by balancing competing demands across:

- Scope, time, quality and costs
- Stakeholders with differing expectations and business drivers
- Identified and unidentified requirements (needs versus expectations)

c. The **Change Control Board** is a recognized as an integrated area of accountability, responsible for understanding the impact, assessing and approving all Change Requests (similar to how this function exists today).

d. The **Project Integration** team is responsible for all Project Management Office (PMO) activities across each of the team functions of the CBMS Program Management structure. A critical element this function is to confirm an integrated approach and understanding of impact is known across all project functions. This integrated view is necessary to ensure standards are followed, timing is appropriately synchronized, impacts are known and accommodated across teams, and issues are highlighted, communicated to all teams. Core responsibilities of this team include:

- Project planning and tracking, including project plan development and updates, targeted timelines, deliverable tracking and lessons learned
- Management and tracking of Change Requests
- Risk management, including identification, quantification, providing proper response, and control. Currently, issues and risks are not tracked or monitored. It is recommended that effort be placed on identifying risks and monitoring their impacts and probability, to facilitate a more proactive problem identification/solving environment.

e. The **Business Policy** team is comprised of all program Subject Matter Experts (SMEs), supporting all programs from CDHS and CDHCPF. A key responsibility of this team is to ensure a consistent approach and understanding of policies changes and impacts across other programs as appropriate.

a. The **Application Management** team should focus supporting and maintaining the CBMS system, by aligning team resources into three primary maintenance dimensions:

- Rapid Response Team - responsible for “fire fighting” critical day-to-day issues
- Production Operations & Maintenance Team – responsible for performing the day-to-day operations necessary to keep the CBMS system running and functionality performing
- Continuous Improvement Team – responsible for conducting operations and trends monitoring to proactively recommend improvements before issues occur

Within these maintenance dimensions, it is important to focus on performing **tighter integration of code modifications**, and oversight of application code and Decision Table code modifications, which spans maintenance activities, such as:

- Identifying and communicating impact assessment of system enhancements and changes
- Application development (code modifications)
- Unit testing and documentation
- Ongoing maintenance of application documentation
- Build released planning (application related)

See section Application Maintenance *for detailed recommendations*.

b. The **Technical Management** team should provide ownership of issues and coordinate their resolution with CBMS Program Management for all infrastructure management activities, such as:

- System definition, sizing, and capacity planning
- Component profiling
- Volume and stress analysis
- Production system performance monitoring
- Build release planning (infrastructure and network related)
- Managing and monitoring Service Level Agreements (SLAs)

See section Application Maintenance *for detailed recommendations*.

c. The **Testing Team** is responsible for the overall governance, quality assurance, review, and confirming successful completion of the following testing activities prior to release into production:

- Unit testing
- Integration testing
- Interface testing
- Report testing
- Business cycle testing
- Regression testing
- User acceptance testing

- Usability testing

See section Application Maintenance *for detailed recommendations*.

f. In a production environment, the **Quality Management** team is responsible for quality assurance and control of established standards, related to process, calculations, and data quality results. Responsibilities include:

- Identifying quality improvements by maintaining the quality management plan and auditing/measuring the quality controls in place.

- Monitoring specific project results to determine if they meet quality standards and identifying ways to eliminate causes of deficient results. Some of the items this team will focus on are:

  a. Prevention – keeping errors out of the process

  b. Inspection – keeping errors out of the hands of users

  c. Results sampling – is the result correct and does it comply with quality standards or not?

  d. Special and random case monitoring

  e. Tolerance and control limits monitoring

g. **End User Support** includes the functions that are necessary to ensure that users have the tools, knowledge, and support necessary to maintain productivity. These functions are tightly integrated and it is important to provide consistent direction, messaging, approaches to the aspects impacting end users in order to make understanding and adoption effective. The functions included in End User Support are:

- Communications: *see section* End-User Communications Management *for detailed recommendations*.

- End user training: *see section* On-going End User Training and Re-tooling *for detailed recommendations.*

- Help Desk: *see section* Application Assistance and Help Desk *for detailed recommendations*.

Focus Area 4: End-User Productivity

Summary of High Impact Issues and Recommendations

Lack of State sponsored, on-going, training in known problem areas and new procedures. No training on how CBMS implements High-Level Program Group policy at the most basic level.

4.1. Staff and support the creation of an on-going State Training Team. This team would work with the CBMS County Users Group (CBMS CUG), which has created a training prospectus for all end-users, to determine what information end-users require, the priority for compiling that information and assist the CBMS CUG in timely dissemination of this information.

4.2. Implement in the near term, two main training artifacts:

a. Clear, simple, up-to-date "How To" documents on known problem areas identified by the Help Desk, CBMS CUG, or State Program Groups. These should be disseminated through the CBMS Communication e-mail and archived in the Knowledge Base.

b. "Just enough" training on how CBMS implements High-Level Program Group (HLPG) policy and rules. Staff from each Program Group, such as CO Works, should provide supporting documentation on how CBMS utilizes program and policy rules. The documentation should include examples of expected Eligibility Determination and Benefits Calculation (EDBC) results for a range of cases.

Insufficient State Program Group resources available to address end-user questions raised during Knowledge Transfer calls. Insufficient Knowledge Management for end-users to become self-sufficient "owners" of the system.

4.3. Continuously monitor and update the Knowledge Base, in cooperation with the Help Desk and the CBMS Communications team, and State Program Group staff to make it a more user-friendly, organized, and up-to-date knowledge repository for end-users.

4.4. Assign specific program group staff that will be responsible for addressing questions posed during Knowledge Transfer calls in a timely manner (e.g. no more than two weeks after the call).

Inadequate communication and coordination between county end-users, their representatives (CBMS CUG), State Program areas, and the CBMS Project Management Team.

4.5. Ensure that the CBMS CUG and the State identify the level of involvement and communication needed for each stakeholder group and implement proper communication tools to include all the groups. Further, the State and CBMS Program Management Team should increase its responsiveness to CBMS CUG's efforts.

4.6. Require that the State and CBMS Program Management Team actively participate in end-user issue analysis and resolution to improve communications. Additionally, the CBMS Communication editor should have additional resources to organize and categorize CBMS emails, "translate" release notes and add release note history, update the CBMS website and CBMS listservs, etc. to streamline communications.

Inadequately trained Level 1 Help Desk agents and untimely feedback on submitted Help Desk tickets, end-users attempt to resolve issues themselves using unreliable methods that may adversely affect case data.

4.7. Restructure the Help Desk to create a consolidated, centrally-managed Help Desk that is adequately staffed with trained, knowledgeable agents at all Levels that can quickly troubleshoot simple cases.

4.8. Require the Help Desk informs end-users of identified Help Desk ticket trends, proposed resolution timeframes, etc. instead of only contacting at the end of the Help Desk ticket process. The Help Desk should create a way for end-users to view the status of their ticket to provide "ownership" to end-users. The State is currently involved in creation of this function.

Detailed Analysis

The following sections detail findings and provide an assessment of key end-user productivity issues. These issues were the most frequently mentioned in surveys and interviews and those that the Assessment Team found to have the greatest impact on the current state of CBMS. Findings are compiled from survey data and interviews with a variety of County end-users at all levels, from Directors and supervisors to eligibility technicians and administrative staff. Key issues and their specific impacts are outlined at the end of each section.

4.1. Change and Organizational Transformation Readiness

This section addresses counties' preparation for CBMS implementation and the impact of Change Management processes on current adoption of CBMS. Overall, Change Management provided by the State prior to implementation, during implementation, and post go-live has mixed results.

The Assessment Team has found that Change Management practices prior to CBMS go-live adversely affect the state of counties today. Survey results support this finding. First, Change Management staff in several counties were not knowledgeable: while 40% of county end-user respondents agree that change and implementation support staff was knowledgeable on CBMS functionality, 41% disagree. Second, while they were available on-site prior to go-live, they did not perform Change Management activities: 60% of end-users agree that Change Management staff was available onsite to assist with CBMS implementation, but 44% disagree that business procedures were modified appropriately to prepare them to use CBMS effectively.

The State began organizing a Change Management team in September of 2000 by hiring approximately 10 Change Managers from various backgrounds to serve as county change leads in each region. However, several issues made the initial change effort inadequate:

- During the preparation phase, the State CBMS Change Manager position experienced high rates of turnover; from 2000 to 2002, the Change Management team had five different managers.
- Because of this instability, the county Change Managers did not have a clear picture of their goals and roles within the counties. While they had an overall change dashboard and calendar with change milestones, the paired teams worked individually to create change plans for their specific regions. There was no State governance structure to establish consist Change Management plans. Further, the State did not hold Change Managers accountable for their individual plans. As a result, some counties received better Change Management support than others. However, the Assessment Team conclude that Change Management support overall was inadequate.
- County Change Managers were often multitasked with State functions diverting attention away from county Change Management activities and limiting the effectiveness of Change Management.
- County Change Management plans, such as new business process flows or contingency plans, were not implemented. All seven counties interviewed reported that although they

had created extensive new business process flow and contingency plans in preparation for go-live, they have not to date implemented these plans. They report this is because county Change Management plans were not in line with the CBMS functionality ultimately implemented at the time of go-live. Furthermore, at go-live counties were so consumed with addressing functionality issues and providing client service that there was little available time to focus on Change Management.

Change Management is still drastically needed and currently not provided by the State. From information gathered during interviews and the Assessment Team's observations, the State currently does not offer counties sustained follow-up Change Management support. This is due to the small State Change Management team that remains. At the State level there are only four Change Managers. These individuals are simultaneously working on other projects. Additionally, given that some of these resources are new to the CBMS program, they lack the background knowledge needed to be effective Change Managers at the county level. The State does not currently have sufficient resources to provide adequate Change Management support to counties on an ongoing basis.

Because they do not have on-going Change Management support, counties are still experiencing a number of issues related to lack of Change Management:

- The majority of counties have not, to date, implemented new business process flows that reflect a generalist model of client service. One resulting issue is that multiple workers update the same individual data for different High-level Program Groups (HLPGs). Most technicians interviewed cited that this practice, caused by a specialist model of business used in legacy systems, creates unanticipated eligibility results in related/companion cases, generates multiple, and in many cases, confusing notices, and incorrect benefit issuances. This may also lead to case backlog as workers struggle to repair incorrect data in their cases.

- Counties that did not prepare for case conversion currently experience case backlogs and trouble entering case information. Eligibility technicians are overburdened with work and cannot catch up on cases needing post-conversion clean-up. Currently, they rely on legacy systems to find information related to their current cases. However, in the future this will not be an option.

- Counties do not have resources available to prepare and/or conduct on-going training for end-users, a function typically performed by Change Managers as counties transition beyond go-live. As a result, end-users struggle with processes basic to CBMS, such as what information to enter to gain correct Eligibility Determination and Benefits Calculation (EDBC) results. They are also unfamiliar with the policy rules implemented by CBMS, resulting in confusion over what they perceive are incorrect EDBC results. End-users turn to the Help Desk to resolve issues that could be answered by Change Managers directly or by on-going training sessions prepared by Change Managers. As addressed later, the Help Desk does not provide adequate support. *Additional assessment of training can be found in* On-going End User Training and Re-tooling.

- End-users do not have adequate support around troubleshooting at the county level. Typically in post- implementation phase, Change Managers who have been involved since before system go-live remain until the system is stable, using their knowledge to troubleshoot and resolve issues at the county level. Again, Counties rely on the Help Desk, which does not assist with basic troubleshooting and is generally considered unresponsive

because of high Help Desk ticket volume. *For more information on the Help Desk, please see* Application Assistance and Help Desk.

- CBMS Communications are voluminous and often confusing. Change Management staff might assist in creation of a process for organizing and disseminating communication so that it is targeted, focused, and beneficial to end-users. Without this resource, counties are left to decipher and disseminate communications on their own. As noted in End-User Communications Management, end-users criticize the fact that despite their supervisor's best efforts, they receive too many CBMS communications and cannot read, organize, and use them successfully. This impacts their ability to properly use CBMS.

- In several counties, supervisors perform their day job and also try to remain active in change and communication management. However, they are not trained to perform Change Management activities. Further, when time is constrained, their day jobs take priority and Change Management activities are not performed effectively, if at all. They also lack the tools and experience to effectively perform these activities; for example, leveraging such as a comprehensive Knowledge Management system. *For more information on Knowledge Management, please see* CBMS Post-Implementation Knowledge Management.

Counties that have proactively addressed Change Management have been somewhat successful in continuing Change Management procedures because they identified the need for on-going Change Management when State support ended. Two counties interviewed hired their State Change Manager using county funds. In addition to conducting on-going Change Management, these individuals assist with training, communication management, and CBMS troubleshooting. Because these Change Managers were with the CBMS Program Team from the beginning of CBMS, they have the necessary background, both technical and rules/policy, to support county staff. Further, because they do not have their own caseloads or workers to manage as supervisors do, they are available to effectively support the counties as needed. However, this is a costly resource that not all counties can afford to implement. Even if money were available for this position, there is a significant lack of resources to fill the position and no current Knowledge Management tools to bring a new Change Manager up to speed.

In general, these and other counties also stay active in formal communication networks, such as the CBMS CUG, or informal communication networks, such as the County "Think Tank". These counties benefit by sharing the most up-to-date information on CBMS available and passing the information on to their line staff. The information that is shared provides a back-up framework to on-going training and assists with troubleshooting. However, the information may not be consistent across counties and is not validated by the State for accuracy.

Not all counties, especially small counties, have the resources to maintain an adequate level of Change Management. They cannot hire Change Management resources. Most do not attend formal or informal communication networks due to travel and time constraints. As a result, they often do not receive the necessary information to troubleshoot problems, manage communication, and prepare or conduct on-going training for their staff.

Moreover, without a formal Change Management team at the State level, many counties are struggling to keep up with proper use of CBMS. In order to adequately support counties, the State must provide sufficient knowledgeable Change Management staff and resources. After visiting counties of all sizes, the Assessment Team found that "adequate support" may mean having one to two Change Managers available for larger counties and shared resources for smaller counties. For counties to successfully use CBMS, it is essential that the State support an on-going, Change

Management staff and structure (e.g. one full-time position for some counties) within counties that focuses on managing change, training, and communication.

4.2. User Involvement in Decision-Making Process

This section focuses on the CBMS County Users Group (CBMS CUG) and County representation in the CBMS program decision-making process.

In addition to addressing key Change Request issues for the Change Control Board, the CBMS CUG is focused on providing feedback to the State on other operational issues Counties' experience with CBMS, such as Benefit Recovery, Alerts, and Reports. They are also addressing the need for on-going training by preparing a comprehensive training protocol for the State. The CBMS CUG has formed several sub-committees to identify and resolve these issues.

While the CBMS CUG has been somewhat successful in identifying county needs and bringing them to the State level, the Assessment Team has found several areas where the CBMS CUG can improve end-user involvement in the decision-making process:

- Not all counties in Colorado are represented in the CBMS CUG. Specifically, small counties and West-range counties are unable to participate due to resource constraints, such as time and travel. As a result, their unique issues are not discussed or prioritized by the CBMS CUG. The CBMS CUG may miss issues that affect small counties because they do not actively seek participation of counties that do not send representation to meetings. Consequently, smaller counties or counties on the Western slope feel disenfranchised from the decision-making process and are often frustrated with CBMS issues that the CBMS CUG is working to resolve, such as reporting functionality.

- The CBMS CUG does not formally communicate with counties that do not directly participate in CBMS CUG meetings. Counties that cannot participate due to resource constraints do not always have access to information provided by the CBMS CUG. This adversely impacts end-users who do not have the most up-to-date information provided by the CBMS CUG. When end-users are not aware of new processes or CBMS functionality, they may rely on ineffective workarounds or faulty data input to determine cases. Further, they are not aware that the CBMS CUG is working to resolve issues because they are not given updates on the CBMS CUG's work.

- In general, end-users do not view the CBMS CUG as a method of participation in the decision-making process. Survey results indicate that a majority of county end-users do not feel the CBMS CUG represents them. While half of county end-users surveyed are aware that the CBMS CUG exists, only a quarter believe they are being represented during the resolution of CBMS problems and only 33% think they have access to the CBMS CUG to provide feedback and input. This indicates that the counties perceive they do not have a voice in the decision-making process. This may be because they believe the CBMS CUG does not adequately address their issues due to their inability to participate, as noted above. However, it may indicate the CBMS CUG is not as visible and available as necessary to gather information and gain credibility from all 64 counties. Because they do not perceive the CBMS CUG as a credible means to voice their issues around CBMS, end-users are frustrated with the State decision-makers. They feel disenfranchised from the process. As a result, they are consistently losing confidence in the system and the State.

Of equal importance is the CBMS CUG's involvement with the State CBMS Program Management Team and the State's perception of the CBMS CUG. As discussed in the section *State and County Organizations Impacting the Governance of CBMS*

, the Assessment Team questions if all county governance group issues reach the State and CBMS Program Team.

- In interviews with CBMS Program Management Team members, many of the issues raised by county end-users are dismissed by CBMS Program Management Team members as counties resisting and complaining about CBMS. For example, when asked about errors in Decision Tables, some State respondents said there were not actual errors, but rather end-users misunderstanding EDBC results and resisting CBMS. However, the Assessment Team finds that Decision Tables are a key issue with CBMS (*see* Application and Decision Table Code Maintenance *for more information*).

- Although it is understood that issues are indeed raised to the Program Managers for resolution, it is perceived that the State does not prioritize items brought up by the CBMS CUG or provide adequate feedback. For example, the CBMS CUG submitted a Training Prospectus to the State through the Governor's Task Force in December, 2004. They re-submitted the prospectus in early 2005, hoping for a response from the State. To date, they have not received a response despite escalating the issue to several members of the CBMS Program Management Team.

One purpose of the CBMS CUG is to bring legitimacy to these issues, and, as such, the CBMS CUG should work to increase legitimacy of county issues in the State decision-making process. This may be a result of governance structures: the CBMS CUG is required to go through the Governor's Task Force to bring issues, such as the Training Prospectus, to the State. Removing this step and having direct communication with the State may alleviate the problem. However, bringing more county voices to the table and evidence of county problems will serve to legitimize county issues.

4.3. CBMS Post-Implementation Knowledge Management

This section addresses current Knowledge Management used by the CBMS Program Team. The CBMS Program Team manages knowledge using two main systems: the weekly Knowledge Transfer call and the online Help Desk Knowledge Base. These two sources are available to all end-users. However, the CBMS program lacks formal Knowledge Management tools that will serve as useful information repositories in the long-term.

Knowledge Transfer Call:

Background and structure of the Knowledge Transfer call are detailed in *"Communications Management: State."* End-users interviewed have mixed reactions to these weekly, one-hour calls sponsored by the State CBMS Management Team. While the calls serve as a source of new information on general CBMS issues, such as fixes or Program-specific "How-To's," the calls do not provide consistent on-going Program support or timely responses to end-user questions. End-users report that the Q&A sessions have shortened significantly or do not occur on many calls. If a Q&A session does occur, State representatives ask for specific information, such as Help Desk ticket numbers, that end-users may not have readily available. If they cannot provide specific information, their question is rarely answered. End-users report that they do not receive timely responses to questions raised during Knowledge Transfer calls. If responses are

sent out via the CBMS Communication email, they are voluminous and difficult to comprehend; in one example provided by a County, the Knowledge Transfer call response to questions was over 60 pages long.

Further, end-users are often frustrated by new information provided during the call that contradicts information previously provided. However, end-users agree that having the new information now is useful and valid.

Help Desk Knowledge Base:

The Help Desk Knowledge Base is currently hosted in the CDHS portal. It contains all Help Desk ticket resolutions to date. County end-users and Help Desk employees alike report that the Knowledge Base is inadequate. While it contains a large volume of information, the information is not organized. End-users can only search by key word, not by topic. Because the Knowledge Base contains all Help Desk ticket resolutions provided since go-live, if an end-user finds a solution, the information is often outdated. As a result, end-users cannot find the information they need.

Both methods of knowledge transfer cannot be sustained in the long-term without restructuring.

- The Knowledge Transfer call, while a good source of communication on important Program specific information, does not provide timely, adequate problem resolution for end-users. This results in end-users relying on temporary fixes, or workarounds that may not work for cases in the long run while they wait for a response from State Program people.

- The Knowledge Base is outdated and may provide erroneous information to end-users as the system has evolved over time. Further, the volume of information will increase over time as new Help Desk ticket resolutions are added to the database. This will make it more difficult for end users to utilize this tool successfully. Again, end-users may rely on other, less ideal means of problem resolution.

- End users often submit Help Desk tickets on issues that may have already been resolved or that have a simple solution, such as selecting a different value in a field to properly calculate EDBC. This increases the number of Help Desk tickets escalated to an already overburdened Help Desk. Further, counties do not have the needed tools to become self-sufficient in troubleshooting CBMS problems.

- Help Desk staff themselves do not have adequate access to information to provide quick problem resolution to end users. They end up escalating issues to Tier Two and Three Help Desks, where Help Desk tickets may sit without resolution for an indefinite amount of time, impacting the counties' ability to provide adequate customer service.

- As turnover continues at both the state and county levels, there will be an increased need for more effective Knowledge Management tools to gather "Best Practices" and "Lessons Learned" from employees leaving their positions. Currently, when an employee at any level leaves his/her position, there is no set methodology to collect information this individual has collected during his/her tenure. With comprehensive Knowledge Management tools, the transition of new employees may be easier as the knowledge repository will contain lessons learned over the course of one's involvement with CBMS.

4.4. On-going End User Training and Re-tooling

This section details findings related to pre-implementation and current training. It addresses the need to re-structure county specialist client service models to reflect a generalist business model and presents an assessment of current training avenues. Based on information gathered during interviews with county eligibility technicians and their supervisors, there is currently no formal on-going training on CBMS, either program or system specific. Several counties have created their own informal training materials or information sharing networks. Others are using CBMS without support or additional training.

Training Prior to Go-Live:

Currently, all counties are experiencing difficulties in entering case data, achieving anticipated eligibility results, and appropriately interpreting program policy. A root cause analysis of closed CBMS Help Desk tickets from September 2004 to March 2005 shows that anywhere from 46% to 68% of all Help Desk tickets can be attributed to "customer action," or user error. This root cause analysis points to the fact that users were not adequately trained to use the system.

Training provided in preparation for go-live can be grouped into four main categories that created a number of problems still experienced today:

- Although end-users were required to complete CBT training specifically for basic CBMS navigation, along with classroom training focused on CBMS navigation, they were not prepared for day-to-day use of the system, such as how to fill in required fields, what to expect as EDBC results, how to interpret EDBC results, or how to troubleshoot cases where unexpected results are returned. They have taught themselves by trial-and-error.

- Tools given upon completion of training, such as the User Desktop Guide, and other "troubleshooting" guides, such as the Knowledge Base, are helpful for some navigation issues, but lack process-specific information needed to complete cases.

- Although some counties viewed the User Practice Area (UPA) as beneficial overall, practice in the UPA was insufficient. Users relied on self-training once the system was live. The UPA was often one to two versions behind the live system. It only included Food Stamp cases, making it difficult for other program areas to experiment with their HLPGs and confirm understanding of the data entered. Most importantly, many counties lacked adequate over-the-shoulder support while end-users practiced in the UPA, resulting in frustration when cases did not "work."

- County Resident Experts (REs), or "super users," who were to act as trainers at the county level for end-users were not sufficiently trained. Of the seven counties interviewed, only one responded that they felt their REs were properly trained to act as "super users" of the CBMS system. Again, county trainers trained themselves through trial and error.

Current Training:

While counties and the County User Group are attempting to train end-users to the best of their ability, current training is inadequate for end-users to properly use CBMS.

Current training efforts include:

- On-going program training from the State Food Stamp HLPG when time permits. Additionally, they host monthly Food Stamp supervisor meetings to disseminate policy information related to CBMS. Supervisors report that the Food Stamp program staff is knowledgeable on program policy issues and available for on-site training and to answer phone calls or emailed questions. Supervisors in other program areas report that they do not receive a similar response from their State level program staff, but that this type of on-going support would be very helpful.

- Informal information sharing within their county or region. In two counties interviewed, supervisors hold daily impromptu "stand-up" meetings when a specific issue arises, weekly meetings where eligibility technicians discuss problems and workarounds, and quarterly meetings to present information gathered from State calls and provide on-going program training. A third county reports they hold "just-in-time" training when a large issue arises.

- Creation of county training materials and/or end-user support. For example, one county interviewed has created a "Big Blue Book" of information on CBMS that contains processes, rules, and other communication received since September go-live. Another county has dedicated one full-time employee to training staff on CBMS by providing over-the-shoulder support and new hire orientation sessions.

- Training prospectus created by CBMS County Users Group. Because formal on-going training has not been adequate, the CBMS County Users Group (CBMS CUG), detailed above, has started a Training sub-committee. Their goal is to collect all training packets, handouts, White Papers, and other documents from the State and from counties and work together to develop a state-wide training module. A training prospectus outlining this goal was provided to the State through the Governor's Task Force in December of 2004 and escalated/re-submitted in 2005. The CBMS CUG has decided to move forward with its training plan despite not having sign-off from the State.

A number of problems may result from the current training methods used by counties as a result of inadequate training from the State:

- While Program-specific training and communication is helpful, it often perpetuates the specialist model of client service. Despite requiring county end-users become Program generalists, State trainings such as those previously mentioned suggest that Program specialization is still a valid business model at the State level. This sends a confusing message to counties as they attempt to become generalist users of CBMS.

- Informal county "training sessions" help to resolve minor problems. However, they may also serve to disseminate incorrect or outdated information as the information shared does not come from one reliable source.

- Counties creating their own training materials may assist in the short-term. However, counties run the risk of providing outdated or incorrect information to their end-users. Further, counties that do not have the resources to create training materials are left to figure out CBMS on their own through trial and error, which leads

to additional Help Desk tickets, increased benefits issuance errors, and/or incorrect data collection.

- The CBMS CUG creating a training prospectus may provide equal training to all counties. However, without buy-in and QA from the State, it may be difficult to know whether the training materials are adequate and up-to-date or detail the correct use of the CBMS functionality. Without QA from the State on how the system is designed to work and the results expected from EDBC, training materials may present inaccurate information. For example, materials may present workarounds that adversely impact case data in the future or are inefficient in light of system changes.

Despite current training efforts, eligibility technicians are still having difficulty using CBMS. But end-users are beyond simple navigation training; they have worked in the live system enough to learn basic screen navigation. At this point, end-users need to be able to understand the data gathered in CBMS and how it relates to various HLPGs. Of main concern is that eligibility technicians are entering or changing information in CBMS that adversely affect other program area's EDBC results. This causes erroneous closing of cases, a large number of notices being sent to clients, incorrect EDBC results, and increased alerts to workers, among other problems. This is not only a problem between county end-users and MA sites. The issue arises between Program Group staff within counties as well. Further, end-users report that EDBC calculations are "wrong" in CBMS because they have not been properly trained on the policy and rules used in the system. Even training on the most common rules and policy would be helpful in these situations and achievable for the State.

Conversely, the State training lead reports that county end-users experience problems not because of lack of training, but because they are not using the system as it was designed. Rather than enter information as-is and allow CBMS to calculate the appropriate benefits, the training lead believes end-users second-guess the system and question EDBC results. They use workarounds or enter false data to gain EDBC results they think clients should receive based on their Program policy knowledge. Formal, on-going Program or policy training is not necessary with CBMS, the respondent notes, because CBMS "does the thinking for [eligibility technicians]." In other words, it is not necessary to have any Program or policy background to use CBMS effectively.

This side of the training argument has value, but disregards the fact that current end-users already have multiple years of Program and policy experience. The State may respond that CBMS was created so that counties can no longer interpret policy their own way. However, without basic knowledge of program or policy, end-users would not have been able to point out many real defects with the system (*see Application Functionality for several examples*). Further, informing end-users on how CBMS implements policy is valuable to gain buy-in from end users who do not trust the system due to real system errors. It is unlikely that many end-users will ignore their Program expertise and rely on a system that, since go-live, has failed them numerous times. End-users report that because they do not trust CBMS as a reliable system, they question EDBC results and rely on their knowledge to find and remedy issues. Proper communication or training that explains the Program policy being used by CBMS Decision Tables may alleviate the confusion over what counties perceive are incorrect EDBC results. Communication that focuses on a generalist model of client service may help all end-users understand how different Programs impact each other and EDBC results in CBMS.

In no way does this indicate that week-long, comprehensive training sessions are needed for end-users to successfully use CBMS. End-users do not have time for this, nor does the State

have sufficient resources for such an undertaking. Modern eligibility systems are created to take the guess work out of EDBC. However, this does not mean that the State can ignore training all together. End-users do need refreshers on CBMS functionality and updates. Quick memos or White Papers communicating how CBMS uses policy and rules can help all end-users learn about EDBC results, regardless of their former HLPG specialization. The State should capitalize on the work of the CBMS CUG and assist with validation of training guides so that individual counties have the needed tools to train new staff and to disseminate correct information to current staff. Further, the State should provide sufficient resources to monitor training needs and respond in a timely fashion when new issue trends are identified and resolved. In this way, end-users can be quickly "trained" as needed.

4.5. End-User Communications Management

This section expands upon end-user communications described above in *Communications Management*

. It details the effectiveness of end-user communications and their impact on end-user productivity. As described above, end-users at the county level receive communications from many sources. End-users interviewed report that successfully managing, organizing, and using this information is a difficult task given the sheer volume of information provided. Rather than increase their productivity, communications frequently diminish productivity as end-users struggle to organize and comprehend information disseminated.

Counties are the main recipient of all CBMS communications managed by the State. These communications include:

- CBMS Communication emails

  The majority of communications received by end-users come from the CBMS Communication email. According to county end-users surveyed, CBMS Communication emails effectively inform them of system outages or new fixes. 45% agree that they were informed ahead of time of system outages or future modifications. However, while 62% of end-users agree that they received all pertinent CBMS Communication emails in the last two weeks of April, 45% disagreed that they understood how to use CBMS modified functionality or how changes related to their day to day job.

  County Directors/supervisors receive this information first and are responsible for disseminating it to the appropriate individuals within their county. In several counties interviewed, supervisors filter information, forwarding only what pertains to the end-user's specific program area and to CBMS in general. One county supervisor goes so far as to "translate" CBMS Communication emails into language the eligibility technicians can clearly understand, citing that release notes or fixes are often sent out in highly technical language. This is likely due to how release notes are created since they are written by application managers.

  This method of disseminating CBMS Communication emails can be viewed in two ways. On one hand, filtering information and providing eligibility technicians only Program-specific information in their area reduces the volume of emails they receive, perhaps making it less time consuming to organize, read, and use the information. This may serve to eventually increase productivity and/or reduce the number of problems they experience with CBMS. On the other hand, filtering information perpetuates a specialist model of service; without

receiving information on all Programs, eligibility technicians reduce the chance of learning Program areas outside their own. They also are not aware of releases or fixes to other Program areas that may adversely impact their Program area. However, the more communication emails they receive, the less likely they are to organize, read, and use the information. In the long-run, however, moving towards a generalist model of client service will provide the best results for end-users. As such, dissemination of communication emails should focus on providing all county end-users with all HLPG information so they can slowly become generalists.

It is likely that regardless of the method of dissemination, end-users still will have a difficult time using CBMS Communication emails effectively. As detailed above, survey findings show that although eligibility technicians receive pertinent CBMS Communication emails, a majority do not understand how to use CBMS modified functionality or how changes communicated relate to their day to day job. In other words, while the CBMS Communication emails do contain pertinent information, some county end-users do not understand them or do not use them to increase their daily productivity. When interview respondents were probed on this result, they indicated that the CBMS Communication emails are too voluminous, regardless of the dissemination method used in their county. End-users, especially eligibility technicians, do not have time to sift through the large number of emails received daily. Furthermore, they report emails are difficult to organize by topic and often contain outdated information by the time they read them. This leaves many end-users lacking information, such as new releases, new procedures, or helpful "How-To" information that can assist them in proper data input and case processing. Consequently, end-users feel that formal communication on CBMS issues is inadequate and are frustrated that the State does not provide additional support.

- Knowledge Transfer Call

  For additional information from the State, county end-users at all levels can attend the weekly, one-hour Knowledge Transfer call sponsored by the State CBMS Team and specific Program areas. The purpose of this call is to update end-users on new CBMS functionality or fixes and provide Program-specific "How-To" instructions or responses to Program-specific questions.

  End-users interviewed have mixed reactions to these calls. While the calls serve as a source of new information on general CBMS issues, such as fixes or Program-specific "How-To's," the calls do not provide consistent on-going Program support or timely responses to end-user questions. In order for the calls to be most effective, timely responses to pertinent questions should be provided within an appropriate timeframe, such as one to two weeks after the call. Information should be logically organized before it is distributed, and it should be distributed using the CBMS Communication email so that all relevant parties receive the information.

- CBMS Website

  County end-users can access communication information through the State managed CBMS website. As detailed above, while the website is currently outdated, it may be a good tool for storing CBMS Communication emails online if it is updated frequently and kept well-organized.

- Workshop sessions on general topics for county employees who are part of Social Services Technical and Business Staff (SSTABS)

  These meetings are open to any county end-users who pay SSTABS dues. They are hosted by different counties throughout the State. During the SSTABS meetings recently, State Program areas present Program-specific seminars on CBMS-related issues and end-users are generally given handouts regarding rules clarification, CBMS "How To's," and other pertinent data.

  Interview respondents stated that while SSTABS meetings are often a beneficial source of CBMS information, few county end-users attend the meetings due to financial, travel, or time constraints. Consequently, many counties miss out on the information provided by Program areas. A review of documents handed out during a SSTABS meeting proved confusing as the documents related to topics discussed and resolved during workshop sessions; simply sending out this documentation may confuse more than it will help. County end-users also noted that some information provided is repeated from Knowledge Transfer calls or CBMS Communication emails.

- CBMS Joint Information Sessions every other month after the Policy Advisory Committee (PAC) meetings which county supervisor and administration are invited to attend.

  Like SSTABS, not all counties are represented in these meetings. It is important to note that the CSSDA is in the process of addressing representation concerns at this time. Furthermore, the county end-user interviewed reports that State Program and CBMS Program Team representation at these meetings is inadequate to address all concerns raised.

Counties also manage their own, informal communication networks with other counties, the County User Group, and County Directors to collect and disseminate information around CBMS. These include:

- County User Group (CBMS CUG) "Think Tank" sessions

  County end-users mentioned that prior to go-live, the State hosted informational meetings at the county or region level regularly, such as the Regional Information Exchange. During these meetings, counties could come together to share information and learn from each other. According to interview respondents, these State sponsored meetings currently do not exist. In seeking to regain these avenues of communications, counties join together to host bi-weekly brainstorming sessions, or a County "Think Tank." Participants in this group are usually the same as participants in the County User Group because Think Tank sessions occur the morning of CBMS CUG meetings at the same location. During these meetings, county end-users hold roundtable discussions around common issues they are experiencing in CBMS, conduct troubleshooting, and provide solutions to one another.

  Several issues emerge from this communication exchange. As with the SSTABS meetings, not all counties are represented during these sessions. There is no structured communication to absent counties after these events. There is also concern that information shared during these meetings may be incorrect or outdated because it is not validated by the State; a leader in this effort reported that they have asked State CBMS Team or Program people to attend the meetings to validate information, but, to date, only one State representative attended one meeting.

- Sharing information with each other informally through co-worker networks

  End-users within counties report sharing information with each other informally through co-worker networks. Counties also hold daily impromptu meetings to discuss hot topics. Additionally, counties regularly meet weekly and/or quarterly to discuss issues related to CBMS and to share information received from other sources, such as the CBMS CUG or County "Think Tank". While these meetings and informal communication channels are effective for simple problem resolution, they may serve to disseminate incorrect information within a county. This communication channel also does not ensure that all counties receive similar information as the information shared typically remains within a county.

- Calling or emailing their counterpart in a different county to share information learned

  On occasion, end users interviewed report calling or emailing their counterpart in a different county to share information learned. Again, this is effective only so long as the information shared is correct and consistent with State information. Without proper validation, information shared at the county level may propagate incorrect procedures, rules or policy interpretations, and other erroneous information that will adversely impact use of CBMS.

4.6. Application Assistance and Help Desk

This section addresses issues related to application assistance. From the county end-user perspective, application assistance and the Help Desk process is inadequate for their day-to-day needs. Overall, end-users report that the Help Desk process is non-responsive on open Help Desk tickets and that Help Desk workers are unable to assist them with troubleshooting or issue resolution.

The process for submitting a Help Desk ticket is as follows:

i. County eligibility technicians escalate CBMS problems and issues to their respective county program area supervisors.

ii. If the problem cannot be resolved by the supervisor, the supervisor calls in or emails a Help Desk ticket to the "Tier One" Help Desk, the CDHS Help Desk. The supervisor also determines the Help Desk ticket's priority and classification based on a set prioritization system provided by the State.

iii. Level One employees at the Help Desk give supervisors a Help Desk ticket number. If the problem is related to user long-in or security, they will typically resolve the problem.

iv. The Help Desk ticket is escalated to Level 2 employees, who have more CBMS training. They categorize the Help Desk ticket into a HLPG. If additional information is needed, they will call the end-user. These employees will attempt to resolve by searching the Knowledge Base or calling HLPG staff directly.

v. If a solution is found, a Level 2 employee will close the Help Desk ticket. They will then contact the end-user to inform them of Help Desk ticket resolution. If the resolution does not work, the end-user has 7 days to re-open the Help Desk ticket.

vi. If a solution is not found, the Help Desk ticket is escalated to a Level 3 employee at the Tier Two Help Desk (the CBMS Help Desk) or the Tier Three Help Desk (either EDS in the case of defects, or the appropriate HLPG).

vii. When a resolution is found, the Level 3 employee will contact the end-user up to three times to inform them of resolution. If the end-user cannot be reached, an email with resolution details and instructions for re-running EDBC is sent and the Help Desk ticket is resolved. CDHCPF Level 3 employees do not perform this step.

viii. The CDHS Help Desk performs Quality Assurance on all resolved Help Desk tickets. They call end-users and inform them that their Help Desk ticket will be closed. Again, end-users have 7 days to re-open a Help Desk ticket if the problem is not resolved.

Clearly this process is time consuming and requires that many different players perform their tasks in a timely fashion for Help Desk tickets to be resolved. This follow-up and closure procedure is unclear to all county end-users interviewed, leaving them to believe that their Help Desk tickets are not being resolved. Further, the procedure is not followed by all players, such as CDHCPF, which adds confusion for end-users.

At the time of submitting a Help Desk ticket, supervisors report receiving a Help Desk ticket number but no immediate issue resolution or troubleshooting help. Not receiving an immediate, or timely, response from the Help Desk frustrates end-users at all levels, who are left to wait indefinite amounts of time for a resolution. End-users report they rarely receive any specific communication from any Help Desk regarding any Help Desk ticket they submitted. They report sometimes receiving an email from the CBMS Help Desk asking if the issue is still an open problem or containing a “fix” that has nothing to do with the issue they submitted. Because they do not receive timely support from the Help Desk, supervisors have come up with makeshift alternatives to contacting the Help Desk:

- Continue to troubleshoot within in the county – Supervisors report that they may continue to troubleshoot a case for long periods of time rather than contact the Help Desk because they are aware that the Help Desk will not respond in a timely fashion. This is time consuming for both the eligibility technician and the supervisor and can lead to unnecessary overburdening of the workers and case backlog. In most cases explained during interviews, the supervisor ends up escalating the issue to the Help Desk after hours of troubleshooting because they cannot resolve the problem themselves.

- Relying on workarounds shared by co-workers or other counties -- End-users report that because they do not receive a timely response from the Help Desk, they often resolve their problems using a workaround, such as inputting false data for income or date of birth. While this may work to run a case through EDBC, cases are passing based on false data. If these cases are not cleansed at some point, cases will continue to contain false data, which may lead to benefit issuance problems in the future. Furthermore, while the false data may work for one program area, it may adversely affect EDBC in another program area.

- Re-running EDBC after Decision Table releases -- Some supervisors suggest their eligibility technicians re-run problem cases after a Decision Table release to test if the problem was fixed. For some cases, re-running EDBC is a feasible solution; however,

where simply re-running EDBC does not solve the problem, eligibility technicians must set cases aside for indefinite amounts of time without authorizing or issuing benefits. This can adversely affect clients who do not receive benefits in a timely fashion.

- Calling State Program areas directly – In several counties interviewed, supervisors have resigned to calling State Program people directly to ask about issue resolution or Help Desk ticket status. In the case of CDHS Programs, they are able to make contact with a program person and learn the status of their Help Desk ticket. However, they report that this does not provide additional speed to issue resolution. Supervisors in CDHCPF program areas report that CDHCPF staff is not knowledgeable enough in program policy to answer their questions nor have sufficient resources to spend time on issue resolution.

These alternatives to contacting the Help Desk may help resolve immediate issues, however, they also have an adverse effect: if supervisors are not reporting issues requiring system fixes or Decision Table updates to the Help Desk, the CBMS Program Team is never alerted to potentially significant problems. These issues may later impact counties that have been unable to develop short-term makeshift resolutions to their problem or the makeshift resolution may lead to additional problems in the future.

Untimely Help Desk response has a significant client impact. As eligibility technicians are waiting for a Help Desk resolution, clients who need medical or financial assistance are also left waiting. If end-users rely on an erroneous makeshift resolution, the client's benefits may be incorrect, cut off, or delayed.

In addition to inadequate feedback on Help Desk ticket status and resolution, county users report that Help Desk tickets will be closed without proper resolution. This occurs after a Decision Table release or Change Request (CR) that was meant to resolve the issue. Often, however, the Decision Table release or CR does not fix the original issue or causes another issue within the same case that requires a new Help Desk ticket. Eligibility technicians and supervisors are frustrated that the Help Desk only contacts them to tell them their Help Desk ticket was closed (Step 8 above). They often have to re-open a Help Desk ticket because the initial problem was not resolved. In many cases, the 7-day period for re-opening a Help Desk ticket is over before they can test the resolution. This also contributes to the lack of trust often resulting in working around the Help Desk altogether.

Because of inadequate transparency on Help Desk processes, county end-users have developed a number of perceptions about the Help Desk. They perceived that Help Desk tickets are downgraded in priority based on time open. End-users believe that no one at the State Program level or at EDS checks to make sure problems are resolved before closing Help Desk tickets. When surveyed, 57% of county end-users (n=400) disagree or strongly disagree that they can easily raise issues or problems in CBMS to the appropriate Help Desk. When asked if the Help Desk properly prioritizes their problems with CBMS, 63% of county end-users disagree or strongly disagree. Of county supervisors who deal directly with the CDHS or CBMS Help Desks (n=95), 36% disagree or strongly disagree that the Help Desk is helpful or responsive. This poor perception of the Help Desk indicates that end-users are greatly dissatisfied with the application assistance being provided to them.

In response to end-user perceptions, the CDHS Help Desk acknowledged that much could be improved with the Help Desk system given the proper resources. They see the need for the following improvements:

- Increased training of Level 1 and 2 employees so that these employees can troubleshoot Help Desk tickets more often without escalating to a Level 3 employee. Help Desk employees had the same training as county end-users, making them no more knowledgeable about CBMS than the end-users who call. The creation of a more organized Knowledge Base would also assist with troubleshooting simple Help Desk tickets.

- Allowing counties access to Help Desk ticket status. Currently, counties have no way of knowing their Help Desk tickets' status. As a result, a high percentage of calls are questions around status of Help Desk tickets. Creating a system where counties can check status may reduce these calls, freeing Level 1 employees for other Help Desk calls. The Help Desk team is slowly creating this function through the CDHS website, but it is estimated to take an additional 2 months to complete.

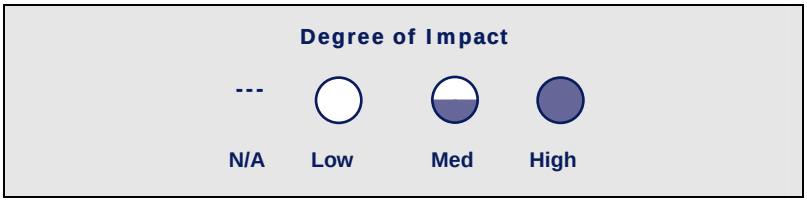
- Additional Level 3 resources to speed resolution of Help Desk tickets. All Help Desk employees interviewed report that the majority of Help Desk tickets are stuck at this level. If end-users do not hear anything about their Help Desk tickets, comment CDHS Help Desk employees, it is because Help Desk tickets are not resolved.

To Summarize:

The following table summarizes the issues identified throughout this section and provides the Assessment Team's assessment of the level of impact each issue has on the following:

- **User Productivity**. How well end users perform their job today, using the CBMS application.
- **Confidence in CBMS**. User perceptions and trust in the processing and calculation accuracy of CBMS.
- **Client Service**. How effective users are able to deliver benefits services to their clients in the counties.
- **Ease of Maintenance & Efficiency**. How easy and efficiently the CBMS application is maintained.
- **Program Compliance & Accuracy**. How accurate program policy is implemented and reflected in the CBMS application.

Summary of High Impact Issues



#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
Change and Organizational Transformation Readiness						
4.1	Most counties have not implemented business process flows created prior to go-live for transition to generalist model of client service	●	◒	●	---	●

Summary of High Impact Issues

Degree of Impact

--- N/A | ○ Low | ◑ Med | ● High

#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
4.2	Case backlog related to poor readiness for case conversion at go-live	●	○	●	---	◑
4.3	Lack of Change Management resources for on-going training, communication management, or troubleshooting at the county level	●	●	●	---	●
4.4	Insufficient knowledgeable, available Change Management resources at the State level that can focus on county Change Management	◑	◑	○	---	◑
End-user Involvement in the Decision-Making Process						
4.5	Poor representation of small counties and/or counties on the Western slope in overall decision-making process	◑	●	○	---	○
4.6	Counties perceive CBMS CUG does not represent them in overall decision-making process	◑	●	◑	---	○
4.7	Inadequate communication channels between CBMS CUG and Counties and CBMS CUG and State	●	◑	◑	---	◑
4.8	Lack of focus on end-user/county issues in State decision-making process	●	●	◑	○	○
Post-Implementation Knowledge Management						
4.9	Insufficient resources in Program staff or CBMS Program Team to adequately respond to end-user questions and issues in a timely manner	●	●	●	---	●
4.10	Lack of an organized, up-to-date, and comprehensive Knowledge Management repository	●	●	◑	---	◑
4.11	Inadequate tools to train new staff on CBMS history (e.g. Lessons Learned) at both county and state level	◑	○	○	---	○
On-Going Training and Re-tooling						
4.12	Absence of State sponsored, on-going, consistent messaging and training in known problem (user/system) areas	●	●	●	---	●
4.13	Absence of tools/guides explaining how CBMS implements HLPG policy	●	●	◑	---	●
4.14	Lack of true Resident Experts, or “super users” of CBMS that can train or troubleshoot at the county level	●	◑	◑	---	●
4.15	Insufficient resources at both county and State level to create and disseminate on-going training materials	●	●	◑	---	●
4.16	No State validation of informal training materials used by counties	◑	●	●	---	●
4.17	Poor representation of all counties during training sessions or workshops (e.g. SSTABS, County	◑	●	◑	---	◑

Summary of High Impact Issues

Degree of Impact

--- N/A | ○ Low | ◑ Med | ● High

#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
	"Think Tank")					
End-User Communication Management						
4.18	Large volume of communications from the State that are difficult to organize and use	●	●	◑	---	●
4.19	Release notes written in highly technical language that end-users cannot decipher	●	◑	◑	○	◑
4.20	Informal communication avenues may disseminate erroneous information; lack validation from the State	●	◑	●	---	●
4.21	Insufficient resources in CBMS Program Team to adequately manage CBMS website and update CBMS Communication listserv and content	●	◑	◑	○	◑
Application Assistance and Help Desk						
4.22	Inadequate training of CDHS Help Desk Level 1 and 2 employees on basic CBMS troubleshooting	●	●	●	---	●
4.23	County reliance on alternatives to contacting the Help Desk (e.g. workarounds) that may adversely affect EDBC or data quality	◑	●	●	---	●
4.24	Poor perception of Help Desk's ability to resolve any CBMS issue and provide adequate feedback	●	●	◑	---	◑
4.25	No Help Desk ticket tracking system for counties to check on status or number of open Help Desk tickets	◑	◑	◑	---	◑
4.26	Insufficient dedicated resources in Program staff to focus on timely Help Desk ticket resolution	●	●	◑	---	◑
4.27	Inadequate communication channels between Tier 1 and 2 Help Desks and from State program staff to end-users	●	●	◑	---	◑

4.7. Recommendation Alternatives and Prioritization

The primary goal behind all of the recommendation alternatives presented in this section is to provide CBMS users, at all levels, the needed tools for better adoption of CBMS. The following diagram depicts stages of resistance and commitment that all users will go through during a typical system implementation. CBMS end-users should currently be in the "Acceptance" or "Engagement" phase and quickly moving towards "Ownership." As detailed in the above assessment sections, much of the groundwork was not completed sufficiently to successfully transition them to this point. The recommendation alternatives presented assist with transitioning end-users through the various phases, resulting in end-user "Ownership" of CBMS in the long-term.

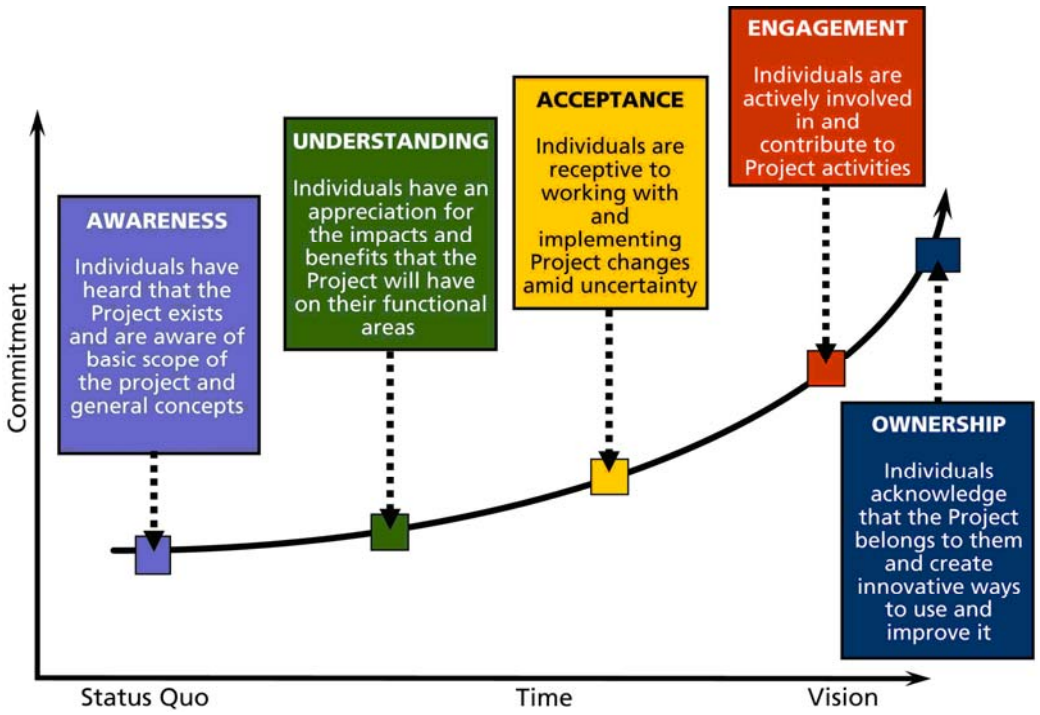


Figure 4.1 Commitment Phases during Implementation

Change and Organizational Transformation Readiness

To address the lack of Change Management resources for on-going training, communication management, or troubleshooting at the state and county level, the Assessment Team recommends the following:

- Evaluate current State Change Management resources. Ask what resources at the State level are responsible for Change Management today. In what other tasks are these individuals engaged? What prevents them from properly conducting Change Management activities? Possible responses are lack of knowledge, inadequate training, insufficient time, and/or perceptions that Change Management is unnecessary because the system is live. Once these reasons are established, how can the State overcome these barriers? Solutions may include increasing the number of Change Management resources available, freeing current Change Managers' time by hiring resources in other areas, more effective time management, and/or increased communications.

- As the State Change Management organization is assessed, focus on where State Change Managers can have the highest impact on county end-users. The Assessment Team recommends that, in the short-term, State Change Managers should focus on bringing qualified, properly trained Change Managers into the most ineffective counties: those that have the highest number of on-going Help Desk tickets, any case conversion backlogs, or other similar situations. It is important to note that due to the perceived performance and follow-through of the Help Desk today, many counties do not feel compelled to submit Help Desk tickets for known problems; this behavior must be addressed to ensure that counties are indeed reporting known problems so they can effectively be resolved. Change Managers should focus on the *most basic change procedures, such as plans to reduce case backlog and specific training based on key trouble spots*. In the long-term, State Change Managers

should bring qualified, properly trained staff to all counties to alleviate change-related issues.

To address lack of new business plan implementation, the Assessment Team recommends the following:

- Counties cannot properly implement new business plans until the CBMS system is more stable and the State provides adequate tools for end-users to become expert-users. *Please review the recommendations in the* On-going End User Training and Re-tooling *and* Application Assistance and Help Desk *sections for additional information.*

User Involvement in Decision-Making Process

To address inadequate communication channels between CBMS CUG and counties, and CBMS CUG and State, the Assessment Team recommends the following:

- The CBMS CUG must identify the level of involvement and communication needed with each stakeholder group, such as County eligibility technicians, CBMS CUG members, and the State Project Team. In order to properly assess the correct level of involvement and communications needed, the CBMS CUG may wish to use the Stakeholder Communications Matrix presented below. This diagram, presented as an end-user involvement Best Practice, bases involvement and communication on two dimensions: the impact of the project on an individual and the individual's impact on the project. By using this model, the CBMS CUG may focus involvement and communication on those key stakeholders that have the highest impact on their projects and who they impact the most.

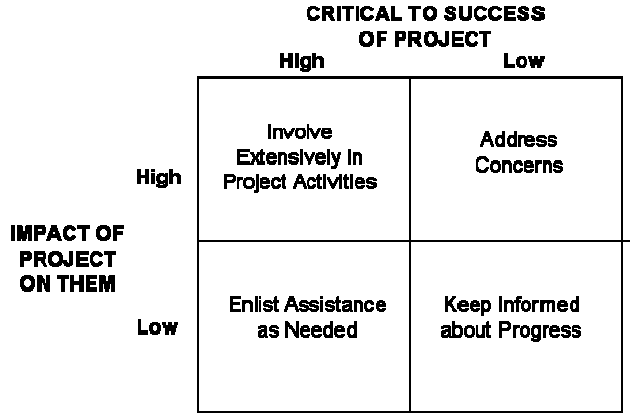


Figure 4.2 Stakeholder Communications Matrix

- Once the CBMS CUG has assessed the level of involvement and communications needed by each stakeholder group, it should implement the proper communication tools. For example, the Stakeholder Matrix suggests that county eligibility workers, who are not critical to many CBMS CUG activities but are greatly impacted by the CBMS CUG, must have their concerns addressed. This may be done in the form of a survey to collect issues. This serves two purposes: it involves eligibility technicians and increases the credibility of the CBMS CUG in their eyes. A second example may be the State CBMS Program Team. This stakeholder

group easily falls in the "High Impact, High Critical" quadrant, meaning that the CBMS CUG should involve this group extensively in all project activities.

To address poor representation of small counties or counties on the Western slope in overall decision-making process:

- The CBMS CUG should implement communication tools to involve distant or small counties in the decision-making process. For example, in addition to their usual meetings in Metro counties, the CBMS CUG might host a meeting in a small county to encourage these end-users to attend meetings. They might offer video conferencing or other distance communication tools to promote involvement despite limited county resources. The State should also provide increased funding for travel, as end-users cite financial constraints often prevent them from attending distant meetings or training sessions.

- Above all, the CBMS CUG should create communications to keep all end-users, regardless of their county, involved and aware of CBMS CUG activities. The CBMS Communication editor should assist with disseminating meeting minutes through the CBMS Communication email. This information should also be linked on the Knowledge Base or on the CBMS website where they can post meeting minutes, upcoming agendas, or other information for all end-users. *For more information on the Knowledge Base, see the following section. For more information on the CBMS website, see* End-User Communications Management.

Knowledge Management

To address insufficient resources in Program Areas or CBMS Program Management Team to adequately respond to end-user questions and issues in a timely manner, the Assessment Team recommends:

- Similar to Change Management, the State should conduct an assessment of the resources available in Program Areas to provide feedback on Knowledge Transfer Calls; it is perceived that insufficient resources exist to effectively perform this activity. They should create a team at the State level that will be responsible for Knowledge Transfer information. Further, the assessment should determine a reasonable timeframe for responding to end-user questions (e.g. formal written responses within two weeks of a call). One key point person from each HLPG should be made responsible for writing feedback on any HLPG-specific topic. These responses should be collected by the CBMS Communication editor, summarized to remove duplicate or contradicting information, and sent to end-users via the CBMS Communication email.

- To determine the on-going effectiveness of the Knowledge Management process, the Knowledge Transfer Team should evaluate their success against the following Knowledge Transfer model, presented as an industry Best Practice:

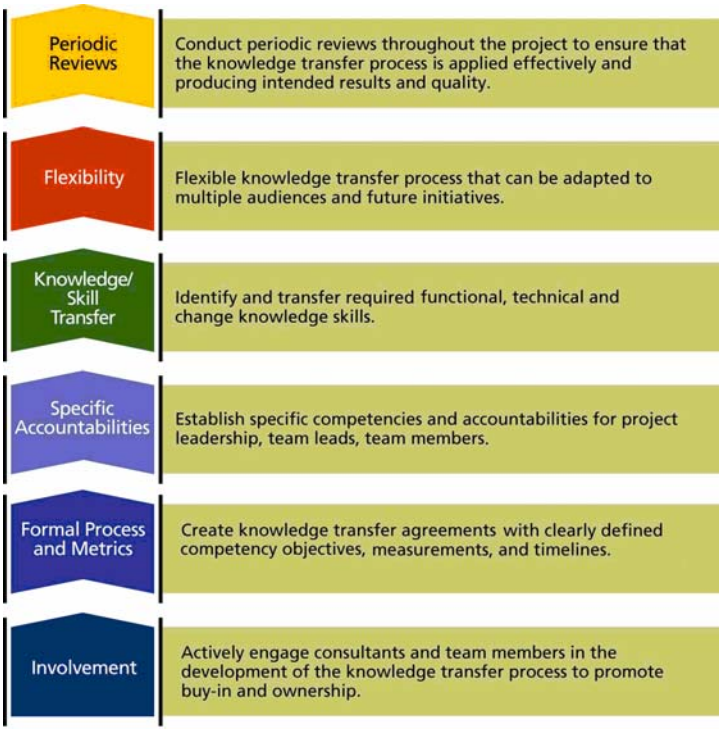


Figure 4.3 Knowledge Transfer Model

To address the lack of an organized, up-to-date, and comprehensive Knowledge Management repository, the Assessment Team recommends:

- The CDHS Help Desk and the CBMS Communication team should work together to update, organize, and complete the current Knowledge Base. The Knowledge Base is currently not user-friendly because it is unorganized and outdated, but it is logical format for a Knowledge Management tool. Further, this tool should be available on a central, online website that all users can access, such as on the CBMS intranet.

- The Help Desk must devise a clear, on-going method for updating the Knowledge Base to prevent it from becoming outdated and unorganized. One individual or group of individuals should be made responsible for updating information and managing the tool.

- Once the tool is running, the responsible resource(s) should also focus on compiling process solution sets and other data that can be posted and highlighted on the Knowledge Base (e.g. a "Hot Topics" section or link). Currently, an individual in the EDS Help Desk compiles this information on an infrequent basis. A full-time resource should take over the task to make certain information is posted in a timely fashion.

- As new knowledge is collected, this individual can use the following Best Practices for Knowledge Management:
    - Organizing - Once knowledge is gathered, it must then be organized into information to create a useful system. Some of the ways organizations can organize what is in their knowledge base are cataloging, indexing, and filtering.
    - Refining - After gathering and organizing the knowledge within organizations, the next step involves methods for refining data. The central goal of refining the knowledge is to make that information useful to those who need it.

  - Sharing - Finally, with all the information ready to be spread among employees, organizations must provide an efficient means in which the information is shared among workers. Technology such as search tools and portals provide employees with what they need to obtain and use.

- It is important that the Help Desk demonstrate how end-users can benefit from using the Knowledge Base. The Help Desk and CBMS Communication team should "roll-out" the new Knowledge Base to end-users with a formal announcement so that all end-users are aware of the tool. The Help Desk should provide "How-To" training documents with the roll-out that teach end-users how to access, search, and use the new Knowledge Base. With the tools to use the Knowledge Base, it becomes a self-service system that allows workers to improve their efficiency and reduce reliance on the Help Desk.

On-Going End-User Training

To address insufficient resources at both county and State level to create and disseminate on-going training materials, the Assessment Team recommends the following:

- In the short-term, create a full-time training manager position at the State level whose only focus is to assess, organize, validate, and disseminate necessary training materials. This individual should be knowledgeable in the current system and training methodologies. The training manager must have access to and frequent contact with HLPG key personnel, the CBMS Program Team, both the CDHS and CBMS Help Desks, the CBMS Communication team, and, most importantly, the CBMS CUG and counties, as needed. The goal in the short-term should be to validate training materials already created by counties, in particular the CBMS CUG Training Prospectus, so that these materials may be disseminated to end-users.

- In the long-term, the State should create a team comprised of the key stakeholders mentioned above who can meet on a weekly basis to decide on hot topics requiring training memos, such as Help Desk tickets trends, specific HLPG policy issues/changes, new releases, etc.

- In the long-term and while maintaining end-user training, the training team should also train all State Program Group staff and related State staff on basic CBMS functionality, issues, and policy, in particular employees who have joined since CBMS go-live. This on-going training at the State level makes certain that *multiple* knowledgeable resources exist to replace State employees who leave their position. Further, these individuals can assist when additional knowledgeable State resources are needed. Training can occur in "classroom" and "Just Enough" training sessions when time and resources permit. State employees should also have access to CBMS Communication emails and/or an archive of communications (e.g. on the CBMS website) so they can remain up-to-date on the project.

To address absence of State sponsored, on-going, consistent messaging and training in known problem (user/system) areas and how CBMS implements HLPG policy, the Assessment Team recommends the following:

- The State training manager/trainers should work with the CBMS CUG and State Program Group staff to determine what information end-users require and the priority of disseminating this information. Once needed information is identified, the State training manager/team must

create this information in a timely fashion. Much of this background work is currently being completed by the CBMS CUG and it is understood that the State is actively becoming more involved in this activity as part of the New Business Model (involvement and effort should effectively be assessed and refined as the New Business Model is implemented).

- The Assessment Team recommends that following training items be identified and created:

    1. Clear, simple, up-to-date "How To" documents on known problem areas. In the short-term, these documents should be disseminated through the CBMS Communication email and archived in the Knowledge Base. In the long-term, the State training team should create an updated User Guide, similar to the "Big Blue Book" created and used by several counties. This reference manual should be reviewed periodically to validate that information remains current. Updates should be made and the guide re-released to all county end-users.

    2. "Just Enough" training on how CBMS implements HLPG policy and rules. Staff from each Program Group should provide supporting documentation on how CBMS utilizes program and policy rules. The supporting documentation should include examples of expected EDBC results for a range of cases. These should be disseminated to all end-users, regardless of their prior HLPG specialization. They should be disseminated the same way as item 1 above, with particular focus on updates and new releases.

    3. "How To" documents or White Papers as needed to update end-users on new releases, improved functionality, etc. In the long-term, these items will serve as updates to the User Guide.

    4. Information on Help Desk trends and Help Desk ticket resolution status. *Please see* Application Assistance and Help Desk *for additional information on this recommendation.*

    5. In the long-term, return of a more comprehensive, up to date User Practice or Testing Area where new employees can practice with cases prior to using the live system.

    6. In the long-term, web-based refresher courses on CBMS functionality for new employees or current employees who seek more in-depth knowledge of CBMS.

- Closely work with the CBMS Communication team to properly disseminate needed information using CBMS Communication emails, the Knowledge Base, and the CBMS website.

- In the long-term, the State training team should conduct a skills audit to determine what types of training end-users truly need and want. This audit will also serve to assess resource capacity at the county level and to determine what resources are needed to conduct on-going training. Upon completion of the audit, the team should set goals and a timeline for on-going training.

Communication Management

To address insufficient resources in CBMS Program Team to adequately manage CBMS website and update CBMS Communication email process and content, the Assessment Team recommends:

- Increase resources responsible for CBMS Communications. With only one person, the CBMS Communication editor, responsible for all CBMS Communications, the following recommendations will most likely not be implemented due to time and knowledge constraints. For example, the CBMS Communications editor should have a full-time IT resource to the CBMS website. The editor should have a knowledgeable staff member(s) who can categorize all communications, summarize new procedures into concise steps, "translate" release notes, etc.

To address large volume of communications from State that are difficult to organize and use, the Assessment Team recommends the following:

- Create a Communication Assessment Team to review county communication and information needs. This team may also identify communication issues counties experience, such as information gaps, redundancies, and duplication. This assessment will also help identify what individuals should be included on different CBMS listservs.

- In the long-term, the Communication Assessment Team should re-evaluate communication tools available and their plans for disseminating information. To conduct this assessment, the team may focus on the steps and items in the diagram below, which presents Best Practices for key communication planning activities.

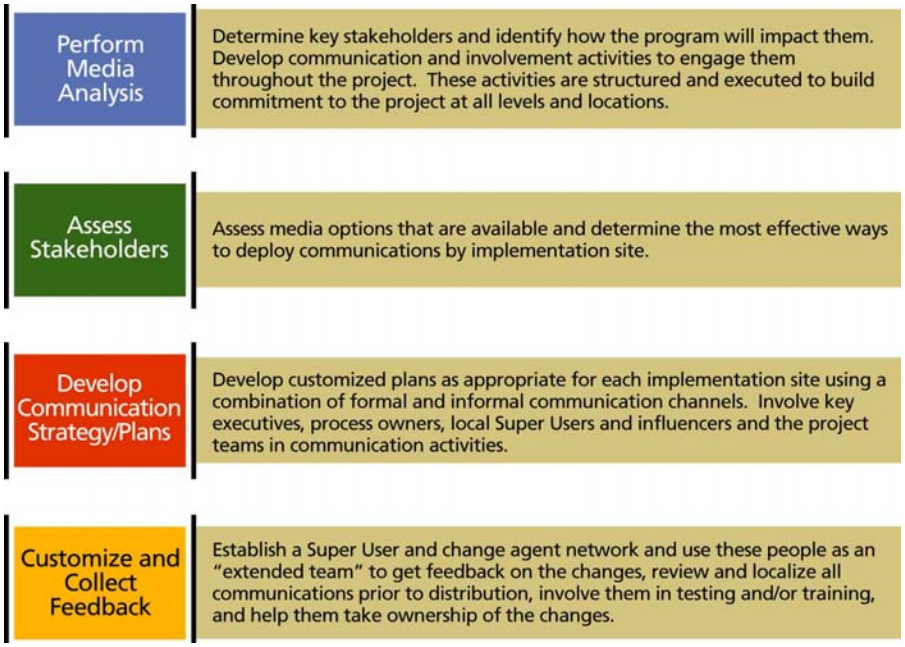


Figure 4.4 Key Communications Planning Activities

- Capitalize on opportunities and methodologies to streamline communications. Many streamlining opportunities are already being pursued by the CBMS Communication editor, such as creating a simple summary sheet describing highlights of the attached communication. Others should become standard in the near future, such as clearly categorizing communications and marking the category in the email subject line (e.g. Procedure: Food Stamps, Procedure for Food Stamps Verification, Screen #). These should become standard

for all CBMS Communications. *See* CBMS Program Management Practices *for additional ideas on information streamlining.*

- Focus on different, potentially more accessible communication tools, in particular those that are available to all end-users. The CBMS Communication editor noted that the CBMS website will be used to archive all CBMS Communications. Efforts should be made to have the CBMS website updated and available in the coming month.

To address informal communication avenues that may disseminate erroneous information and lack validation from the State, the Assessment Team recommends:

- Increased and consistent involvement of the State Program Group staff, the CSSDA ITS group, and CBMS Team members in county informal communication venues, such as the CBMS CUG meetings and County "Think Tank" sessions. If knowledgeable State members attend such meetings, they can present official and up-to-date information and correct erroneous information discussed. Conversely, the State should encourage increased involvement of end-users in State communication planning so that counties feel they can share information with the State. The above Communication Assessment will assist in starting this involvement process. Ultimately, any formal communication that either the State or counties wish to share should come from the CBMS Communication email.

- Knowledge sharing at the county level should not result in "workarounds" or other similar procedures being disseminated through informal communication channels. It is important to note that the term "workaround" is understood as a procedure followed by the county to perform an action in CBMS that will mimic a known action prior to CBMS. The State should make end-users aware that workarounds, procedures, or information that does not officially come from the CBMS Communication email has not been validated by the State and may be incorrect or adversely affect other programs.

Help Desk

To address insufficient dedicated resources in State Program groups to focus on timely Help Desk ticket resolution, the Assessment Team recommends the following:

- Close all Help Desk tickets opened prior to January of 2005. This should not be a blanket closure of Help Desk tickets. Rather, Help Desk tickets generated related to resolved issues and/or created prior to successful authorization of associated cases should be closed in favor of working on Help Desk tickets that are currently preventing successful delivery of services to the clients. This allows the Help Desk and HLPG resources to focus on resolution of most recent Help Desk tickets. While this may seem like a radical step, it is very logical: CBMS has experienced many updates and changes since go-live. Old Help Desk tickets may no longer be valid, or cases changed so that the original problem reported cannot be reproduced. Some issues for which there are open Help Desk tickets may already be resolved, but these Help Desk tickets remain open because of insufficient resources to resolve and close them. As such, State Program Group staff is mired in old Help Desk tickets instead of focusing on resolving current user issues. If a Help Desk ticket open prior to January of 2005 is still an issue for end-users, end-users should be instructed to re-open the Help Desk ticket. In the short-term, this will prove frustrating to end-users. However, it will result in quicker Help Desk ticket resolution in the long-term because all issues will be current. In the long-term, end-users will be more satisfied with the response from the Help Desk.

  - To minimize end-user confusion and frustration, this process must be very transparent to all end-users. Prior to closing Help Desk tickets, the Help Desk and the CBMS Communication team must work to create a clear, widely disseminated communication explaining process and purpose of this action.

- Moving forward, the Help Desk should begin consistently analyzing Help Desk tickets to identify Help Desk ticket trends. When trends are identified, all related Help Desk tickets should be categorized as a group and prioritized appropriately. State Program Group staff should focus on resolving these trends according to priority.

To address poor perception of Help Desk's ability to resolve CBMS issue and provide adequate feedback, the Assessment Team recommends the following:

- In the short-term, the Help Desk must provide more transparency to the Help Desk ticket resolution process. Increasing visibility and transparency can be accomplished through increased use of the CBMS Communication emails and the Knowledge Base. End-users should be informed of identified Help Desk ticket trends, proposed resolution timeframes, etc. instead of only contacted at the end of the Help Desk ticket process.

- In the short-term, the Help Desk should create a way for end-users to view the status of their Help Desk ticket. The ability to view status may provide "ownership" to end-users and allow them to track their Help Desk ticket through-out the process. The CDHS Help Desk informed the Assessment Team that this function is currently being addressed by the operations team. Effort should be made to complete this task in the coming month.

- In the long-term, Level 1 and 2 Help Desk employees should be given more comprehensive training on CBMS. If possible, Help Desk employees should be given access to a testing or UPA-type environment where they can test cases and learn basic troubleshooting. Additionally, other welfare systems are known to provide "case copy" functionality where Help Desk staff can copy production cases into a controlled environment where they can debug the case without affecting production data. They should also be required to read all CBMS Communication emails so they have knowledge of to the most up-to-date information available.

- In the long-term, the Help Desk should conduct an internal audit of processes to pinpoint specific areas for improvement. Publicize the audit, the results, and plans to implement change, if needed. The audit should focus on four key areas, based on industry Best Practices:

  - **Organization** — This category covers the actual reporting structure of the Help Desk, including the number of expertise levels, personnel issues with both agents and managers, and relationships with groups external to the Help Desk that act as escalation points for some customer issues. Help Desks with organizational problems may have low agent productivity, slow adoption of new technologies and low customer satisfaction scores.

    - The Assessment Team recommends a close review of the Help Desk organization. Specifically, the State should re-structure the Help Desk to create a consolidated, centrally-managed Help Desk that is adequately staffed with trained, knowledgeable agents at all Levels. This structure will help in

quickly troubleshooting cases or resolving Help Desk tickets in a faster manner.

- **Customer satisfaction** — High customer satisfaction indicates a strong relationship between the Help Desk and end-users. And since the Help Desk is the voice and the face of IT in the long-term, high end-user satisfaction generally translates to higher views of IT as a whole. Much of end-user satisfaction involves service levels: defining them correctly, measuring and reporting on adherence and making every reasonable effort to improve service level, within resource restraints for systems and personnel.

- **Technology** — Evaluate the effectiveness of the current Help Desk application and ancillary systems is important, as ineffective Help Desk implementations increase cost of ownership and delay or eliminate ROI for the software. Part of the evaluation in this area is determining if appropriate system maintenance is being performed.

- **Reporting / metrics** — A strong metrics program is key to identifying quantifiable areas for improvement (such as cost of support and agent productivity) and documenting costs savings for projects. Identifying what reports are being routinely run, who is reading them, and what is being done with the data will tell a lot about the strength of the Help Desk management and their level of investment in the project.

Focus Area 5: Production Operations

Summary of High Impact Issues and Recommendations

Current CBMS technical operations team structure is "stove-piped" leading to a lack of ownership of technical operations issues and accountability for the timely end-to-end resolution of technical issues.

5.1. Establish an overall CBMS technical operations team to provide common oversight and coordination with the CBMS Program Management.

Lack of production operations quality assurance checks and production data quality assessments that focus on proactive identification, assessment and resolution of potential production "hot-spots"

5.2. Ensure that the production operations maintenance team reviews daily operation reports, specifically relating to batch processing reports, interface file processing and electronic data exchange control and exception reports, system performance and system resource utilization reports to detect potential issues and attempt resolution of these issues prior to them turning into production "hot-spots".

Detailed Analysis

In discussing the current CBMS post-implementation set-up relating to Production Operations, the assessment reviewed and assessed the current production operations organization structure, and readiness and efficiencies to support technical and production monitoring operations. In addition to discussing infrastructure and system related production operations aspects, the Assessment Team also focused on Help Desk structures, Help Desk tools and Help Desk ticket resolution procedures. Help Desk operations are detailed in Section 4.6 Application Assistance and Help Desk. The following details the Assessment Team's finding and recommendations relating to Technical operations and production monitoring:

5.1. Technical Operations & Production Monitoring

The CBMS production operations function is divided into distinct responsibilities between the State DRC infrastructure team, EDS and Department of Information Technology (DoIT). Each agency is responsible for specific, contractually obligated technical and production operation functions. State DRC is responsible for the portal, Citrix farm infrastructure and the deployment of the CBMS application, EDS is responsible for the Tuxedo cluster and the database server platform, and DoIT is responsible for the maintenance of the infrastructure (hardware, network, etc) platform.

- Each of the above organizations is structured independently and functions as a distinct entity within the production operations organization. Although the technical organizations have service level agreements relating to their technical/production operations responsibility, a CBMS production/technical operation issue is often dealt with independently by the involved agencies. There are no enterprise level service level agreements (SLA) for the resolution CBMS production problems. Low visibility to each other's technical operations and status relating to a particular production issue further accentuates this issue. This leads to a lack of ownership to production

problems and the use of an integrated approach at the enterprise level to deal with production problems.

The above assessment is further validated by responses to the technical survey. The technical survey results provided *interesting perspectives* on the current approach, processes and methodologies relating to technical operations:

- About 83% of the technical survey respondents stated that automated tools were extensively used for production operations and system monitoring to facilitate timely reporting of system issues, alerts and escalation.
- More than 90% of the technical survey respondents stated that critical production IT issues are prioritized, tracked, managed in a timely manner and are effectively communicated to CBMS end-users.
- About 87% of the technical survey respondents stated that system downtime is *not* a common occurrence. Notable causes for system downtime were network faults, external vendor software and tools.

Although the technical survey results demonstrated high levels of satisfaction and confidence in the current production operations structure, the interviews validated that integration and adopting a standard enterprise-level approach to dealing with technical problems across all technical organizations is one of the major concerns for the current IT leads. This demonstrates that although each technical operations group is independently satisfied and confident about processes and procedures within their responsibility areas; at an enterprise level, the current structure is "stove-piped", lacks a common vision and governance to drive consistent resolution to CBMS production issues. This results in delayed or inconsistent responses to end-user community. In addition, end-user productivity in using CBMS is comprised until all agencies triage and resolve technical operations issues relating to their responsibility area. This impacts the current organization's ability to resolve production issues comprehensively and timely, and reduces user confidence in the technical organization's ability to deal with priority issues in a coordinated manner.

- There is very little standardization of CBMS production and technical operation approaches to identify, track and proactively detect CBMS technical issues. Common production operation procedures such as review of daily operation reports, specifically relating to batch processing, data exchange reports, interface file processing control and exception reports, and system performance and system resource utilization reports are currently not performed. There are no periodic CBMS data quality assessments that would demonstrate the overall quality and stability of the CBMS application. The lack of a quality assurance plan and a proactive strategy to identify potential "hot-spots" stresses the already limited resources structure to continuously "fire-fight" production issues, thereby impacting user confidence and stakeholder confidence with the CBMS platform.

To Summarize:

The following table summarizes the issues identified throughout this section and provides the Assessment Team's assessment of the level of impact each issue has on the following:

- **User Productivity**. How well end users perform their job today, using the CBMS application.
- **Confidence in CBMS**. User perceptions and trust in the processing and calculation accuracy of CBMS.

- **Client Service**. How effective users are able to deliver benefits services to their clients in the counties.
- **Ease of Maintenance & Efficiency**. How easy and efficiently the CBMS application is maintained.
- **Program Compliance & Accuracy**. How accurate program policy is implemented and reflected in the CBMS application.

Summary of High Impact Issues

Degree of Impact

--- N/A | ○ Low | ◒ Med | ● High

#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
5.1	The current CBMS technical operations team structure is "stove-piped" leading to a lack of ownership of technical operations issues and accountability for the timely end-to-end resolution of the problems.	●	◒	◒	●	◒
5.2	There are no enterprise level service level agreements (SLAs) for the resolution of CBMS production problems.	●	◒	●	◒	○
5.3	There is very little standardization of CBMS production and technical operation monitoring approaches	◒	●	◒	●	○
5.4	Absence of an enterprise wide quality assurance plan does not provide guidelines/framework for quality oversight and periodic quality assessment timeframes.	◒	●	◒	●	○
5.5	Absence of day-to-day production operations quality assurance checks and production data quality assessments inhibits proactive identification, assessment and resolution of potential production "hot-spots".	◒	◒	○	●	○
5.6	There is no enterprise level strategy/approach to managing end-user expectations relating to technical operations problems.	◒	●	○	○	○

5.2. Recommendation Alternatives and Prioritization

This section details the Assessment Team's recommended actions to respond to the Production Operations findings.

Production Operations

- Establish an overall CBMS technical operations team reporting to the CBMS CTO. This team will view CBMS technical operations issues in its entirety at an enterprise-level, take ownership of issue resolution and impacted areas, be responsible for end-user impact communication, and will be held accountable for comprehensive and timely resolution of technical issues. This approach will facilitate better integration and co-ordination between all technical organizations, leverage organizational and technical efficiencies, facilitate governance and accountability structures, and establish user confidence in the technical organization's ability to deal with problems in a comprehensive manner.

- The Assessment Team recommends that the production operations maintenance team review daily operation reports, specifically relating to batch processing reports, electronic data exchange reports, interface file processing control and exception reports, system performance and system resource utilization reports to detect potential issues and attempt resolution of the issues prior to them turning into production "hot-spots". In addition, periodic assessment reports relating to the above areas needs to be compiled for project management review to assess the overall quality, stability and reliability of the CBMS application

- Develop a production operations quality assurance plan that establishes basic criteria for quality assurance such as establishing daily, weekly and other periodic QA assessment plans, detailing areas (such as application usability, system performance, data quality, etc) within the CBMS platform that will be assessed on a periodic basis. In addition, this quality assurance plan should detail the adoption of an enterprise level standardized approach for the use of automated/deep diagnostic tools to determine the overall quality of the CBMS platform. This will help establish a mind-shift from the current "fire-fighting" mode to a more proactive quality assessment and improvement mode, thereby improving user and stakeholder confidence levels relating to the CBMS platform.

Focus Area 6: Technical Architecture and Infrastructure Management

Summary of High Impact Issues and Recommendations

Current approach towards Technical Infrastructure Component Sizing and Technical Capacity Planning is reactive. Furthermore there is limited focus on application performance optimization and on improving application performance beyond current basic requirements.

6.1. Ensure the CBMS Technical Operations Team reviews system component deep diagnostics reports, system performance profiling reports at an enterprise level, take ownership of enterprise-wide sizing requirements for the CBMS platform, and undertake application performance optimization assessments.

Current technical performance and Service Level Agreement (SLA) reports do not directly correlate to application business function level SLAs leading to a lack of understanding of the combined overall implications of the reported performance metrics on the end-user.

6.2. Establish business level SLAs to set and manage end-user expectations relating to common business functions performed within the system such as case inquiry, simple and complex data collection screens, running EDBC, case authorizations, etc.

6.3. Establish a correlation between the current technical SLA reports to business level SLAs, to understand overall implications of the reported performance metrics on the end-user.

Detailed Analysis

Technical Architecture and Infrastructure Management interviews were primarily focused on reviewing and assessing the scalability and reliability of the application architecture topology, the CBMS network, and hardware topology. Discussions relating to Infrastructure Definition and Sizing, Service Level Agreements Management focused on the effectiveness of application architecture choices, current database architecture and design, batch architecture and design, Decision Table and rules processing design, effectiveness of current infrastructure capacity planning efforts, effectiveness of CBMS volume and stress analysis and current performance, SLAs reporting mechanism and future plans for infrastructure augmentation/improvement.

Findings relating to the Technical Implementation and Infrastructure Management categories have been classified under the following:

6.1. Infrastructure Defining and Sizing

- Given the multiple deployment strategies (Option 1, Option 2 and Option 3 approaches) available for CBMS and understanding the complexities inherent within a multi-deployment architecture, a number of proven architectures and product sets (Citrix servers, Tuxedo servers, Tivoli deployment architecture, EMC BCV's (and an eventual plan for SRDF's), single Oracle DB platform for the OLTP database, separate Reporting DB structure using Business Objects, EMC storage, etc) have been chosen for the CBMS application. Although a multi-deployment strategy provides the necessary flexibility for the counties to choose and implement a deployment architecture of their choice, the complexities associated with

maintaining variations around Portal / Thin Client / Citrix environments versus non-Portal / Fat Client / non-Citrix environments outweighs the flexibility. The flexible deployment architectures mandate the set-up of multiple technical support levels, either at the State level or at the County level, depending on the chosen deployment architecture option, thereby duplicating efficiencies in terms of technical support. In addition, the flexibility also poses integration, co-ordination and communication challenges when triaging production infrastructure issues, thereby making user experience with the CBMS platform inconsistent across the State.

- The multi-deployment architecture strategy also results in multiple Technical Support Groups continuing to be responsible for sizing their respective components of the CBMS technical infrastructure. Also, the initial implementation of the CBMS system appears to have depended on a reactive mode of infrastructure component sizing. Insights into the CBMS application characteristics, assumptions and performance assessments gained from the initial load testing efforts may have been inaccurate. As a result, resources that were initially undersized or constrained were upgraded until application performance was acceptable. This is evidenced by the several upgrades to the Citrix server farm and HP RP7410 HPUX servers since the initial go-live. And since the basic go-forward assumption is that there will be no significant growth in application demands, the approach to sizing and scaling computing resources continues to be reactive and there are no specific plans to develop new planning scenarios for resource capacity planning or recalibrate existing capacity plans. Although the addition of additional server capacity has temporarily addressed performance issues, the lack of a consistent and proactive approach to enterprise level infrastructure sizing and capacity planning results in the characteristics of the application still not being understood well enough to pursue code optimization and additional performance improvements, thereby potentially causing excess capacity procurement and utilization.

- From a production database sizing stand-point, the interview responses demonstrated that the database growth seen over the first six months of production operations has far exceeded initial estimates of database growth per month. Although there is high visibility to the rapid growth of the database, there is very little effort underway to assess reasons for high data volume growth and affect resizing plans. The continued rapid growth of the database platform, lack of maintenance assessments to identify reasons for high database growth and the unavailability of archival and purge requirements for CBMS makes the current CBMS database platform a high risk system area.

6.2. Service Level Agreement Management

- The current “stove-piped” technical operations structure does not support or account for an enterprise-wide service level agreement (SLA) view to production operations issue resolutions. As detailed in the technical operations section, each technical group (DRC, EDS, DoIT, etc) is responsible for and manages service level agreements (SLAs) pertaining to it own area of responsibility. In addition, the responsibility for tracking infrastructural performance statistics, reporting on these metrics and its adherence to SLAs is retained by each individual technical support group. It is unclear to the Assessment Team as to who is responsible for consolidating all technical support team SLAs, reviewing them for tracking and reporting consistency and assessing adherence to SLAs from an enterprise level. This may result in individual technical support team bias as it relates to interpreting and reporting on infrastructure metrics.

- Interviews demonstrated that in most cases, the approach to compiling SLA metrics was left to each individual technical group and there were no standardized approaches to collecting enterprise-wide metrics. Also, reporting on infrastructural metrics is ad-hoc in nature and is on an as-needed basis. The lack of an enterprise-wide view to service level agreements and the use non-standardized approaches to interpreting and reporting on infrastructural metrics may result in incorrect assessments or assumptions relating to SLAs adherence.

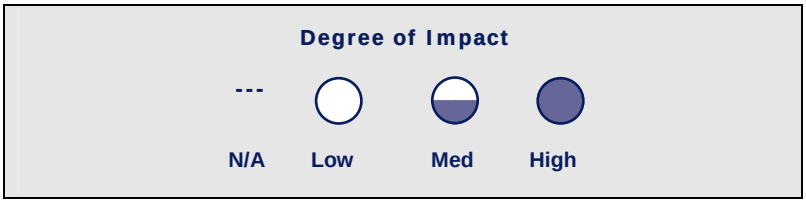
- The current technical performance and service level agreement (SLA) reports do not directly correlate to application business function level SLAs. The lack of an oversight responsibility to review technical performance metrics and poor correlation to business level SLAs leads to a lack of understanding of the combined overall implications of the reported technical performance metrics on the end user.

To Summarize:

The following table summarizes the issues identified throughout this section and provides the Assessment Team's assessment of the level of impact each issue has on the following:

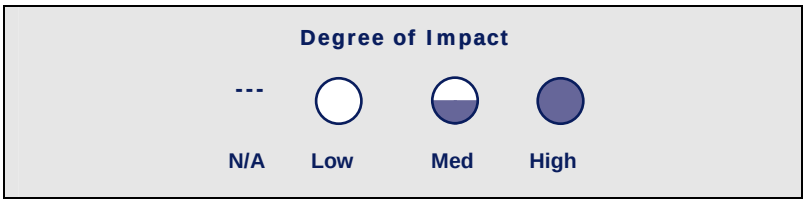
- **User Productivity**. How well end users perform their job today, using the CBMS application.
- **Confidence in CBMS**. User perceptions and trust in the processing and calculation accuracy of CBMS.
- **Client Service**. How effective users are able to deliver benefits services to their clients in the counties.
- **Ease of Maintenance & Efficiency**. How easy and efficiently the CBMS application is maintained.
- **Program Compliance & Accuracy**. How accurate program policy is implemented and reflected in the CBMS application.

Summary of High Impact Issues



#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
6.1	The approach to sizing and scaling computing resources continues to be reactive and there are no specific plans to develop new planning scenarios for resource capacity planning.	◒	●	◒	●	●
6.2	The characteristics of the application are still not understood well enough to pursue code optimization and additional performance improvements, thereby potentially causing excess capacity procurement and utilization.	---	---	◒	●	●
6.3	The current technical performance and service level agreement (SLA) reports do not directly correlate to application business function level SLAs, thereby	---	●	◒	◒	◒

Summary of High Impact Issues



#	Identified Issue	User Productivity	Confidence in CBMS	Client Service	Ease of Maint & Efficiency	Program Compliance & Accuracy
	leading to a lack of understanding of the combined overall implications of the reported performance metrics on the end user.					

6.3. Recommendation Alternatives and Prioritization

This section details the Assessment Team's recommended actions to respond to the Production Operations findings.

Infrastructure Defining and Sizing

- The Assessment Team recommends that the CBMS technical operations team take ownership for enterprise-wide sizing assessment and for the recalibration of current sizing based on production metrics. In addition to reviewing CBMS system component deep diagnostics and performance profiling reports, the technical operations team should conduct periodic volume and stress testing to revalidate application characteristics and response levels to stress. This ensures proactive assessment of CBMS system component performance and reliability levels, and the supports the undertaking of corrective actions, where needed.

- The Assessment Team recommends the review of production data structures and data storage strategies to assess reasons for the rapid growth of the database. The Assessment Team also encourages assigning a high priority to the drafting of archival and purges requirements for implementation within the system. This will ensure a more proactive approach to ensuring a sustained growth strategy for the database platform.

- The technical Assessment Team recommends that the CTO establishes accountability within the technical operations team to undertake periodic revalidation of capacity assessments plans. This periodic quality assurance will help establish limits relating to load additions and provide a consistent picture in regards to capacity utilization of the current CBMS infrastructure platform

Service Level Agreement Management

- Establish an SLA oversight team within CBMS technical operations team (i.e.) reporting to the CTO. This team will be responsible for setting consistent and standardized approaches to tracking and reporting on enterprise level SLAs. The Assessment Team recommends that the CTO establishes accountability within the SLA oversight team to review system component deep diagnostics and performance profiling reports at an enterprise level for the CBMS platform. This will ensure a consistent view of enterprise level SLA adherence.

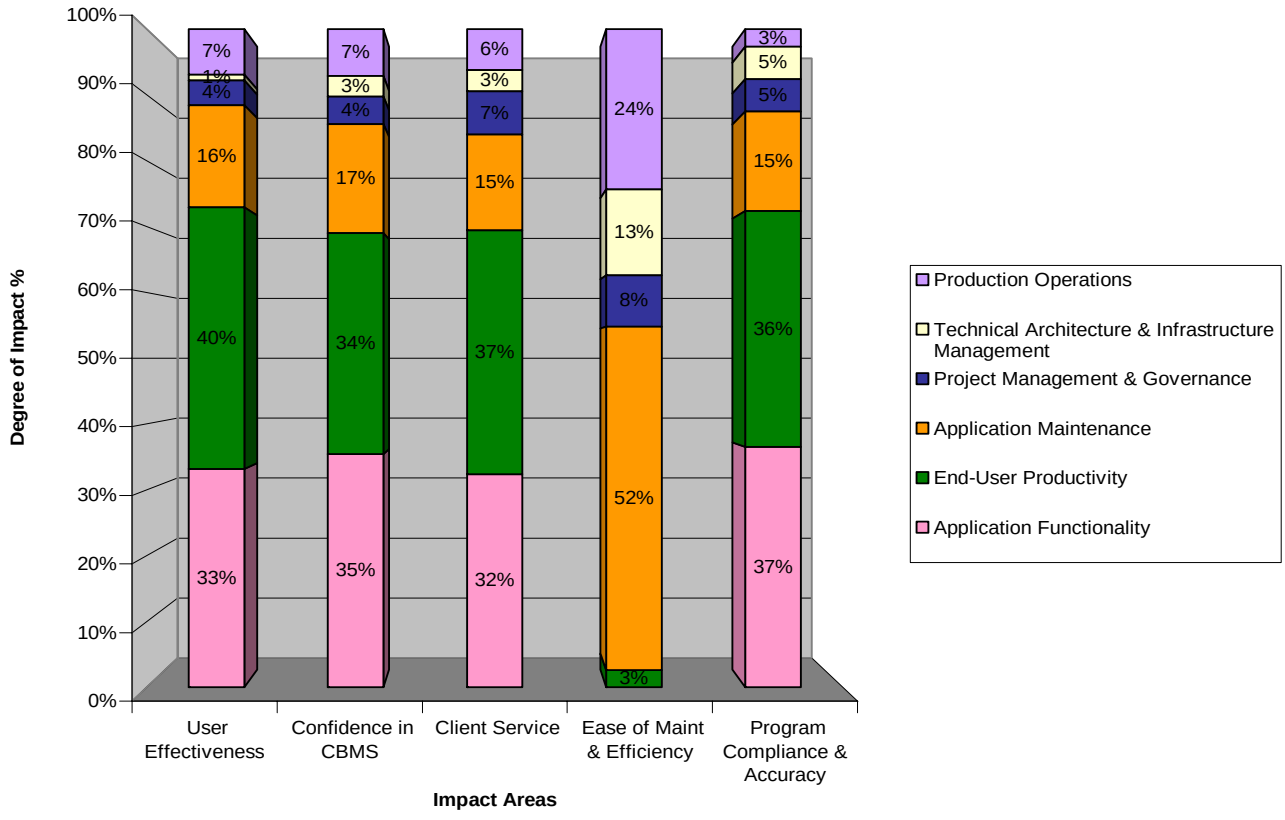
- Establish business level SLAs to set and manage end-user expectations relating to common business functions performed within the system such as case inquiry, simple and complex data collection screens, running EDBC, case authorizations, etc. Establish a correlation between current technical SLA report to business level SLAs.

Assessment Conclusion and Action Plan

Findings Assessment Summary

This section provides an overview of the "high impact" issues in each Focus Area, examines the symptoms associated, and identifies actionable recommendations to help mitigate or resolve each issue.

The Assessment Team rated the degree of impact (High, Medium, Low, or not applicable) individual issues had on the Impact Areas described above and the overall degree of impact for each of the Focus areas was quantified. The graph below depicts the percent degree of impact each Focus Area has on a specific Impact Area. For example, it shows the Focus Area "Application Functionality," depicted in pink, has a 33% impact on the Impact Area "User Productivity."



As depicted in the graph, **End-User Productivity and Application Functionality are the Focus Areas that have the highest impact on end user perception, acceptance, and adoption of CBMS**. Issues that were identified in these Focus Areas have all contributed to the overall lack of user adoption of CBMS.

However, it is important to understand the *root cause* of issues in these top Focus Areas. A root cause analysis of the issues in each Focus Area indicated that there are a number of inefficiencies in **the operations and support organization responsible for ongoing maintenance and delivery of CBMS that prevent the organization from addressing and managing the day-to-day issues and operations of CBMS adequately.** This is the root cause of the majority of issues identified in each Focus Area.

Approach to Implement Recommendations

The Assessment Team developed the following approach to resolving the identified issues based on its understanding of the State's priorities. Of the high impact recommendations presented in the preceding summaries, the Assessment Team has plotted those recommendations that will have the greatest overall impact on the successful adoption of CBMS. The following diagram is intended to provide a high-level roadmap to implement the recommendations.

How to interpret this diagram:

- The vertical axis represents the **perceived impact a recommendation will have on the adoption of CBMS** from an end-user perspective.
- The horizontal axis represents the **relative complexity or investment required to implement the recommendation**. While this can be subjectively interpreted, it is intended to represent a rough order of magnitude in terms of the number of resources, organizations, technology and organizational dependencies, organizational climate, and time required to implement the recommendation.
- The recommendations plotted on this diagram are consistent with the numbers listed in the Summaries of High Impact Issues and Recommendations sections.

It is important to acknowledge and agree upon priorities and drivers impacting implementation of recommended improvements. Once priorities are identified, each quadrant should be approached logically while allowing flexibility to change as other factors occur over time. While it is logical to address Low Cost/High Impact changes first, these should only be implemented in the context of understanding the impact on the State's priorities and all of the recommendations in total.

The recommendations were plotted on the diagram based on the Assessment Team's *estimate* of the impact, complexity, and investment required for implementation. This estimate is a result of knowledge gained over the course of this Assessment and from prior experiences.

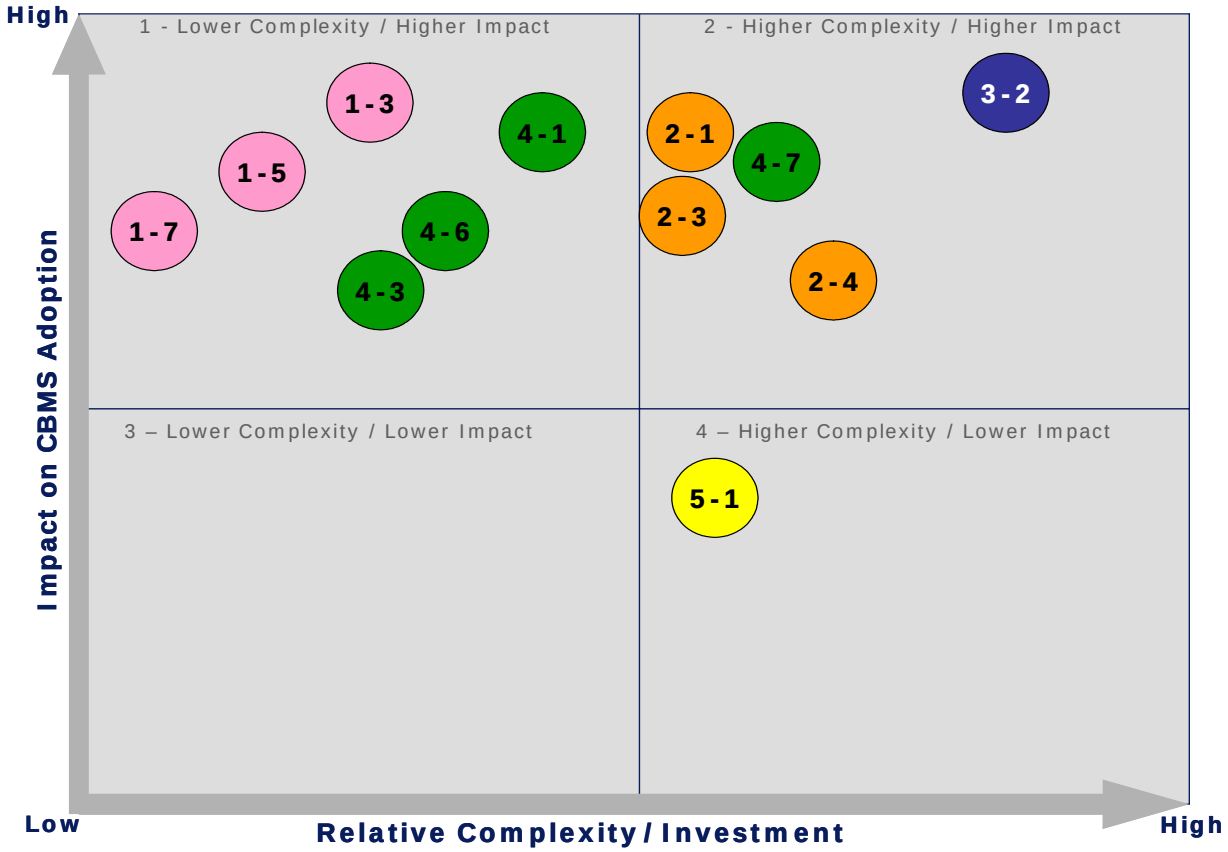


Figure 7.1: Top High-Impact Recommendations

1-3	Modify CBMS Correspondence logic to reduce the number of separate notices and ensure accuracy of correspondence content and clarity.
1-5	Discontinue the practice of unconditionally disposing batch eligibility results. Controls should be added to the system to prevent disposition of results in a number of circumstances to prevent authorizing error prone automated actions.
1-7	Detect and eliminate causes for duplicate issuance. In the short-term, add checks and balances to they system to reduce or prevent duplicate issuances.
2-1	Establish a governance/oversight structure within the current CBMS application team that will facilitate tighter integration of code modification efforts and oversight of both, application code and Decision Table code modifications.
2-3	Reorganize the current Application Maintenance Organization structure to support three primary maintenance dimensions: • Rapid Response Team to "fire-fight" critical and priority issues in the production environment, • Production Operations and Maintenance team to manage, review and report day-to-day production operations and support code modifications • Continuous Improvement team to identify and assess areas for improvement, suggest approaches for improvement, and incorporate process and application improvements within the overall CBMS application maintenance work-plan.
2-4	Reorganize current test team structure to establish a CBMS test team that is responsible for the overall governance, quality assurance and review of Unit Test, Integration Test, Interfaces Test, Reports Test, Business Cycle Tests, Regression Tests and User Acceptance test criteria and results.
3-2	Establish and formalize a CBMS Operations and Support structure based on a single point of authority, accountable for the overall control of CBMS from a direction, planning, management, and delivery perspective. Create a Steering Committee to Support the CBMS Program Director
4-1	The State should staff and support the creation of an on-going State Training Team. This team will work with the CUG to determine what information end-users require, the priority for compiling that information and assist the CUG in timely dissemination of this information.
4-3	In cooperation with the Help Desk and the CBMS Communications team, State Program Group staff should continuously monitor and update the Knowledge Base to make it a more user-friendly, organized, and up-to-date knowledge repository for end-users.
4-6	To improve communications, the State and CBMS Program Management Team should actively participate in end-user issue analysis and resolution. Additionally, the CBMS Communication editor should have additional resources to organize and categorize CBMS emails, "translate" release notes and add release note history, update the CBMS website and CBMS listservs, etc. to streamline communications.
4-7	Re-structure the Help Desk to create a consolidated, State-managed Help Desk that is adequately staffed with trained, knowledgeable agents at all Levels that can quickly troubleshoot simple cases.
5-1	Establish an overall CBMS technical operations team to provide common oversight and coordination with the CBMS Program Management.

There are inter-dependencies between the incremental recommendations in the "Low Cost/High Impact" quadrant, such as streamlined communications, and the core CBMS governance structure recommendation, depicted as 3.2 in the diagram above. **Incremental improvements should not be implemented without consideration and implementation of the overall CBMS governance structure.** Ultimately, the implementation of the core **CBMS governance structure provides the foundation** necessary to allow the independent structural improvements to work cohesively and be sustained.

The organization chart below depicts the recommended governance structure necessary for the long-term success of CBMS. The incremental improvements, highlighted as Focus Areas 2, 4, and 5, are the building blocks for the overall governance structure. This "bottom-up" approach allows the State to implement short-term, incremental solutions while simultaneously working towards a governance structure that will ensure long-term sustainability.

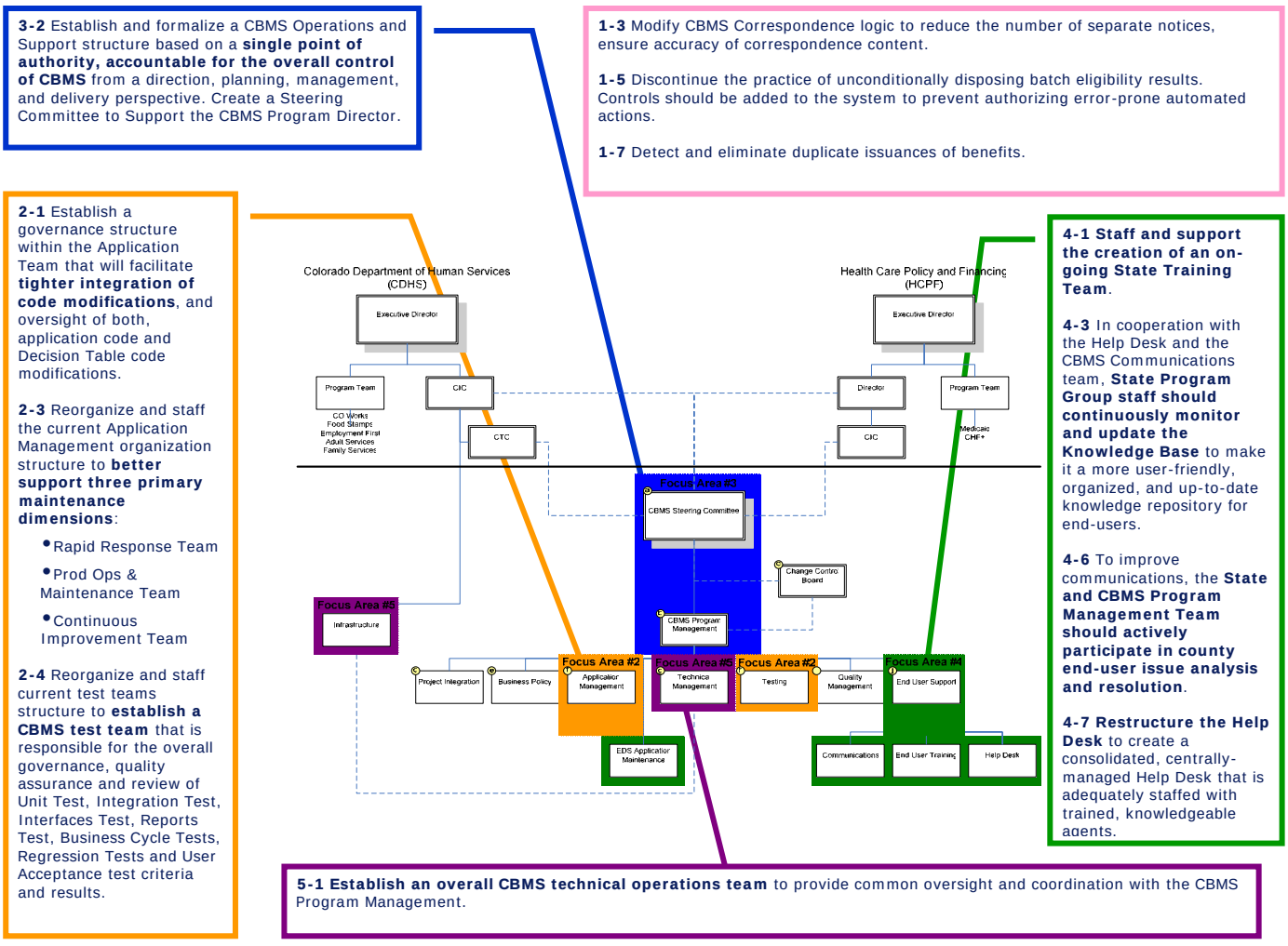


Figure 7.2: "To-Be" Organization Chart

Deloitte.

State of Colorado

CBMS Post-Implementation Review

Final Report - Appendices

Version 1.0

Appendix Table of Contents

Appendix A – Interviews Conducted and Participants

Project Management / Business Process	
Date + Interview Title/Group	**Participants**
County Interviews:	
04/18/2005 Adams County	Mark Tandberg, Division Director Mary Lu Lechuga, Program Manager Sharon Fox, Manager for Colorado Works and Family Medicaid Connie Bley, Food Assistance Supervisor Jo Greeley, Adult Services Supervisor Shondell Olguin, Eligibility Technician for Adult Programs
4/19/2005 Denver County	Valerie Brooks, Director Juanita Sanchez Russ Friesen Chet Casebolt, Supervisor Family Med Pam Thomas, Supervisor Family Med Sharon Andersen, Eligibility Technician Adult Med Lucinda Ogidan, Eligibility Technician Adult Med Paulina Gonzalez, Eligibility Technician Adult Med June Allen, Finance Reporting Connie Maul, Eligibility Technician TANF Cindy Morrisey, Eligibility Technician TANF Geri Bettis, Eligibility Technician TANF Angela Thomas, Eligibility Technician FS Jackie Cebrun, Eligibility Technician FS Dave Hooker, Eligibility Technician LTC Donna Thomatos, Eligibility Technician LTC Cheryl Breiner, Eligibility Technician APS

Project Management / Business Process	
Date + Interview Title/Group	**Participants**
	Cheryl Wentworth, Eligibility Technician APS Juanita Metoyer, HR Shirley Clair, Training Karin Blatter, Training
4/25/2005 Moffat County	Laura Willems, Manager Self Sufficiency Cathrine Blevins, Eligibility Tech Kathy Harbison, Eligibility Tech Marie Peer, Director Mindy Curtis, Book keeper
4/21/2005 Larimer County	Ginny Riley, Director
4/25/2005 Larimer County	Marsha Ellis, Supervisor Keith Bainer, Supervisor Jane Rust, Supervisor Jen Eger, Eligibility Technician Rob Howe, Eligibility Technician Lisa Puckett, Security Nicole Mastin, Security Mark Whitman, Trainer
4/26/2005 Larimer County	Randy Hall, CBMS Users Group Chairman
4/27/2005 Fremont County	Richard Cozzette, Administrator Linda Smith, Supervisor - AI Unit and Finance Karen Lukassen, Supervisor - Adult Unit Kim Victor, CBMS Specialist Gail Bailey, Eligibility Technician, Generalist Diane Eaton, Eligibility Technician, Specialist

Project Management / Business Process	
Date + Interview Title/Group	**Participants**
	Tamara Anderle, Eligibility Technician, Specialist
4/27/2005 Logan County	Fred Crawford, Director Supervisors & CBMS CUG: - Marsha, Donna Marx - Karen Milner - Georgia Christner - Betty Zimmerman Adult Unit & APS: - Ginny - Val - Sarah FM/FS/EF/Front office: - Valerie - Susan - Dorothy TANF/Diversion/Case managers: - Teresa Benefits Recovery: - Sharon, Eligibility Technician - Karen Milner, Supervisor
4/28/2005 Kit Carson County	Rita Rueb - Eligibility Worker - Medicaid & CHP+ Lois Winslow - Eligibility Worker - Generalist Shelli Huddleston - P/T Generalist Eligibility Worker Kim Duane - Receptionist

Project Management / Business Process	
Date + Interview Title/Group	**Participants**
	Shelley Hornung - Child Welfare Worker - CBMS troubleshooter Sherry Weed - Eligibility Worker - WORKS program/Eligibility Generalist
Total County Interviews:	7
Total County Participants:	56
Program Level Interviews:	
4/18/2005	Lisa Esgar Roy Cohen
4/20/2005	John Wagner Steve Holland
4/21/2005	Sonia Sandoval
4/22/2005	John Wagner
5/3/2005	Annie Mabry
5/4/2005	Ron Huston
Total Program Level Interviews:	8

Information Technology	
Date + Interview Title/Group	**Participants**
04/15/2005 – CBMS Application Maintenance Processes	Scott McKimmy, Mary Beckman, Brad Lefebre, James Murphy (all EDS)
04/18/2005 – CBMS Top 5 System and IT Pain Points	Joetta Fischer (State Implementation Manager)
04/18/2005 – CBMS Interfaces Meeting (SDX, BENDEX and ACSES)	Scott McKimmy, Mary Beckman, Brad Lefebre
04/18/2005 – CBMS Top 5 System and IT	Roy Cohen (State Application Manager)

Information Technology	
Date + Interview Title/Group	**Participants**
Pain Points	
04/19/2005 – CBMS Deployment Architecture and Options	Ron Cash (State DRC)
04/20/2005 – CBMS Top 5 System and IT Pain points	Steve Holland (Project Director)
04/20/2005 – CBMS Top 5 System and IT Pain points	John Wagner (CDHCPF CIO)
04/21/2005 – CBMS Online and Batch Architecture, System Performance Assessment	Scott McKimmy, Mary Beckman, James Murphy, Chip Griffith, Gary Kalmes (all EDS), Ron Cash (State DRC)
04/26/2005 – CBMS Help Desk Organization (EDS)	Scott McKimmy, Mary Beckman, Joe Miexner (all EDS), Loren Cary (DRC)
04/26/2005 – CBMS Change Impact Assessment and Application Modification	Scott McKimmy, Mary Beckman, Brad Lefebre
04/29/2005 – End User Issues/County Interview Findings	Roy Cohen (State Application Manager), Scott McKimmy, Mary Beckman, Brad Lefebre (all EDS)
05/02/2005 – Decision Table Update Process	Roy Cohen, Steve Holland, Troy Higgins
05/03/2005 – CBMS Top 5 System and IT Pain Points	Ron Huston (CDHS CIO)
05/04/2005 – CBMS Top 5 System and IT Pain Points	Annie Mabry (CBMS Application Director)
05/05/2005 – CBMS Build Release Testing Process	Al Hawker (State Test Manager)
05/06/2005 – CDHS Help Desk	Paul Rutter (CDHS Help Desk Manager)
05/09/2005 – Family Medical Assistance Issues - County Interview Findings	Steve Holland
Total IT Interviews:	17
Total EDS Participants:	8
Total State of CO Participants:	10

Appendix B – PM/BP and Technical Questionnaires

Technical Questionnaire: Survey Instructions

Please complete the sections appropriate for your particular resource type:

Survey Section	Respondents
Part I: Demographics	ALL Respondents
Part II: Business and IT Organizational Structure	CIO CTO PMO Operations Manager Application Manager Project Director Option 3 County IT Director
Part III:	EDS Application & Implementation Architect (HW and SW) State Infrastructure/DRC
Part IV: System Production and Maintenance	State Application Team State Implementation Team State Infrastructure/DRC EDS Application & Implementation Architect
Part V: Top 5 "Pain Points"	ALL Respondents
Part VI: General Comments	ALL Respondents

Part I: Respondent Demographics						
Organization/Agency: (Select one)	CDHS	CDHCPF	EDS	DRC		
Position: (Select One)	CIO CTO PMO Operations Manager Application Manager Project Director EDS Application & Implementation Architect (HW and SW) State Infrastructure/DRC State Application Team State Implementation Team EDS Application & Implementation Architect Option County 3 IT Director					
Years in Position: (Select One)	**Less than 1**	**1-5**	5-10	10-15	15-20	20+
Years with Old System: (Select One)	**Less than 1**	**1-5**	5-10	10-15	15-20	20+	None
Old System:	**COIN**	**CAFSS**	CACTIS	CHP+	Employment First	Adult Protective Services

CIOs, CTOs, PMO OPERATIONS MANAGERS, APPLICATION MANAGERS and PROGRAM DIRECTORS, PLEASE CONTINUE ON NEXT SECTION.

STATE INFRASTRUCTURE ARCHITECTS, STATE APPLICATION ARCHITECTS, EDS APPLICATION ARCHITECTS, PLEASE SKIP TO PART III ON PAGE 6.

OPTION 3 COUNTY IT DIRECTORS, PLEASE SKIP TO PART II-B

CIOs, CTOs, PMO OPERATIONS MANAGERS, APPLICATION MANAGERS and PROGRAM DIRECTORS, PLEASE COMPLETE PART II BELOW

Part II: Business and IT Organizational Structure

A. Business Driven IT Focus

Your responses to the following questions will help us understand as to whether the current CBMS IT strategy/solution is aligned to key business needs and drivers

Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
Business processes were evaluated and standardized prior to the implementation of CBMS.	☐	☐	☐	☐	☐
The current CBMS system supports the current envisioned CBMS business model	☐	☐	☐	☐	☐
The current CBMS system implements all agreed business requirements as per scenario 6	☐	☐	☐	☐	☐
The CBMS business and IT organizations focus regularly to determine current and future needs of CBMS. These focus sessions are timely and consistent	☐	☐	☐	☐	☐
The CBMS program areas are actively involved in CBMS related technology decision-making.	☐	☐	☐	☐	☐
The CBMS IT organizations are involved in the overall CBMS program.	☐	☐	☐	☐	☐

Please provide additional information, if necessary for the above questions:

Additional Comments:

B. Business Driven IT Focus Continued

Please select all that apply

What is the primary role of your IT organization on the CBMS program? Is it primarily responsible for: (Select all that apply)

1) Independent audit of the CBMS development processes and standards, and technology platform and sizing by the CBMS development vendor
2) Active participation in day-to-day IT issues management and highly accountable for the success of CBMS
3) IT advisory and support role to the CBMS program management
4) Completely responsible for the CBMS infrastructure platform
5) Partially responsible for the CBMS infrastructure platform
6) None of the above
7) Other (Please elaborate):

Part II: Business and IT Organizational Structure

C. IT Organizational Structure

Your response to the following questions will help us understand as to whether your IT organization has the right skill sets and is nimble to meet production system demands and needs.

Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
Your IT organizational structure meets the demands of the CBMS design, development, test and production teams	☐	☐	☐	☐	☐
Your IT organization is accountable for the delivery and success of the CBMS program	☐	☐	☐	☐	☐
Your IT organization is staffed with people who have the right technical skills	☐	☐	☐	☐	☐
There are well-established communication channels between your IT organization, CBMS program management and CBMS functional SME groups	☐	☐	☐	☐	☐
Your IT organization has well-defined project plans to track, implement and support project IT needs	☐	☐	☐	☐	☐
Your IT organization has well-defined staffing resources plans to meet CBMS needs	☐	☐	☐	☐	☐
Your IT organization is flexible and employs effective resource leveling practices (reassignment of resources to critical areas)	☐	☐	☐	☐	☐

Please provide additional information, if necessary for the above questions:

Additional Comments:

CIOs, CTOs, PMO OPERATIONS MANAGERS, APPLICATION MANAGERS, PROGRAM DIRECTORS, and OPTION 3 COUNTY IT DIRECTORS, PLEASE SKIP TO PART V.

STATE INFRASTRUCTURE ARCHITECTS, STATE APPLICATION ARCHITECTS, EDS APPLICATION ARCHITECTS, BEGIN PART III HERE

Part III: CBMS Application Architecture/Infrastructure Specific Questions
Specific Questions Relating to Application Architecture Please identify the application components/tiers of the CBMS architecture and the functions that they support. Basic description would include documentation of the following: (if documentation is already available, please provide those documents as hardcopies to: C/o Lynette Weber Governor's Office of Innovation & Technology 225 East 16th Avenue, Suite 260 Denver, CO 80203 or softcopies (preferable) to Lynette.Weber@state.co.us).
Online application architecture components
Batch architecture components (e.g.) how are batch cycles kicked off? Are batch run control parameters referenced at the beginning of each batch cycle or by each job within a particular cycle? How are batch exceptions managed? Are there restart options for batch ABENDS, etc?
What is the CBMS database architecture used by application? (e.g.) online transaction databases, replicated databases, warm-standby's, reporting databases, etc. Please provide a database topology diagram to detail the various databases referenced by the CBMS application.
Please detail the physical implementation of the above CBMS databases (i.e.) are the databases created on the same data server or multiple data servers and does the application have to reference more than one database or tables across multiple DB partitions for any given transaction?
Extensions to existing application or base CBMS platform – Please provide details on the hardware/network/software extensions (application architecture components) to the original CBMS production baseline that has been completed to support application reliability and scalability? Please also provide details as to whether there are plans/efforts underway to extend hardware/network and software platforms?

Part III: CBMS Application Architecture/Infrastructure Specific Questions
How is the health/status of the CBMS components (for example: memory usage, CPU utilization, database I/O, network traffic, etc) tracked and communicated to management?
How many required interfaces are supported by CBMS (both Batch and Online)? Please list the interfaces and their execution frequency in production.
Are there proprietary software components within CBMS that are not owned by the State?
Specific Questions Relating to Infrastructure Topology (Hardware and Network Infrastructure) *Please provide details/documentation on the following:* Describe the current production environment and development/test/QA environments (Infrastructure Topology). Please provide number of servers, make, model, number of CPUs to server, amount of RAM, amount of RAW disk, operating system, operating system version, database, database version for production and development environments If documentation is already available, please provide those documents as hardcopies to C/o Lynette Weber Governor's Office of Innovation & Technology 225 East 16th Avenue, Suite 260 Denver, CO 80203 or softcopies (preferable) to Lynette.Weber@state.co.us
Information can be provided using the following categories:
Server / Processors
Failover Database Server
Citrix Servers
Memory by server

Part III: CBMS Application Architecture/Infrastructure Specific Questions
Database Instances for primary and replicated databases
NIC's
Hub/Switch (for connection of DB and app servers to CBMS network)
SCSI Storage
System Software & Associated Software Support / Maintenance
Backup Capability
Max Concurrent Users during peak hours
Does CBMS own or lease hardware? When were the CBMS hardware and system software products purchased / acquired?
What is the growth rate of CBMS production database (GB/month)? Please provide actual statistics since Pilot implementation and projections for the next 5 years.'

Part III: CBMS Application Architecture/Infrastructure Specific Questions

Does CBMS currently use any "Bolt-On" ancillary systems? Please describe, if any.

General Questions Relating to System Performance and Capacity Planning

Please provide a YES/NO response to the following questions:

Please provide supporting documentation (if available) as hardcopies to
C/o Lynette Weber
Governor's Office of Innovation & Technology
225 East 16th Avenue, Suite 260
Denver, CO 80203
or softcopies to Lynette.Weber@state.co.us

For performance testing and capacity planning that has been conducted for CBMS prior to production, has the implementation team done the following:

Identified objectives for Performance/Load and Stress Tests:	YES	NO	N/A
Identified scope of Performance/Load and Stress Tests:	YES	NO	N/A
Identified most frequent user and system transactions:	YES	NO	N/A
Identified key highly customized and reworked CBMS transactions:	YES	NO	N/A
Identified all high-risk enhancements:	YES	NO	N/A
Identified transactions with high CPU/load:	YES	NO	N/A
Identified network intensive transactions:	YES	NO	N/A

Please list the load testing tools and methods that were used for the CBMS application:

Please provide production environment details/statistics (if available) on the following:

Statistical reports around End-to-End system response times. For example what are the response timeframes for the following transactions
Search/Inquiry – system response time to display search result sets
Presentation tier data validation edits – simple screen level validation and exception message processing
Business tier rules and data validation edits – completion of business rule edits on recorded data.
Persistence tier transactions (referential integrity validations, temporal integrity validations, saving of data into a single table, saving data into multiple tables, etc)

Part III: CBMS Application Architecture/Infrastructure Specific Questions
Monitoring of Workstation Performance - Host-to-Host response times
Monitoring of Network Performance (i.e.) are there any network bottlenecks that we need to be aware of?
Application Server Performance
Citrix Server Performance
Database Server Performance
Specific Questions Relating to System Performance and Capacity Plan Volumetric *Please provide a short elaboration of your response in terms of details that will be applicable and valuable to the CBMS assessment* Please provide supporting documentation (if available) as hardcopies to C/o Lynette Weber Governor's Office of Innovation & Technology 225 East 16th Avenue, Suite 260 Denver, CO 80203 or softcopies to Lynette.Weber@state.co.us
For the current production implementation of CBMS, please provide the following details:
Please identify the most frequently modified online transactions within the past 30 days
Please identify the most frequently executed online transactions within CBMS within the past 30 days

Part III: CBMS Application Architecture/Infrastructure Specific Questions
Please identify any high-risk software enhancements introduced in the CBMS application since Pilot.
Please identify current top 20 transactions with highest CPU/IO utilization.
Please identify current top 20 network intensive transactions.
How are these operational performance statistics tracked? Tuxedo Summary Reports, etc.?
Specific Questions Relating to Online System Transactions *Please provide a short elaboration of your response in terms of details that will be applicable and valuable to the CBMS assessment* Please provide supporting documentation (if available) as hardcopies to C/o Lynette Weber Governor's Office of Innovation & Technology 225 East 16th Avenue, Suite 260 Denver, CO 80203 or softcopies to Lynette.Weber@state.co.us
For the current production implementation and for key CBMS business function transactions, please provide details on the following:
Please identify a typical transaction mix of high/medium and low volume transactions. Typical transaction categories could be Case Inquiries, Case Updates, Changes, Eligibility Determination, Case Dispositions, etc. Please provide information on the number of times a transaction is executed per person per day.
Please identify the number of on-line users – both concurrent and non-concurrent.

Part III: CBMS Application Architecture/Infrastructure Specific Questions
Please identify expected user response times for key transaction categories. Typical transaction categories could be Case Inquiries, Case Updates, Changes, Eligibility Determination, Case Dispositions, etc.
Please identify issue transactions (non-representative) and obtain architectural information, requirements, design documents, technical specifications and source code:
Please identify most frequently accessed CBMS data. For example, client demographic data, case status, eligibility data, benefit data, etc
Do CBMS application transactions contend for the same database tables at the same time: Is there table or row contention during online and batch processing? Are there any soft-locking data strategies that have been affected within CBMS?
Do the online transactions (Typical transaction categories could be Case Inquiries, Case Updates, Changes, Eligibility Determination, Case Dispositions, etc.) generate significant network traffic: Locally? Wide Area Network?
Please identify the print transactions that are performed during the peak hours of online activity and specify their frequency related to the total transactions in the system.
Questions Relating to Batch System Transactions
Plan of volume test:
Please provide a short elaboration of your response in terms of details that will be applicable and valuable to the CBMS assessment effort. Please provide supporting documentation (if available) to the following questions.

Part III: CBMS Application Architecture/Infrastructure Specific Questions
The estimates of batch transaction volumes (daily and monthly cycles)?
Please specify the expected and actual duration of various batch cycles (especially during the peak period during the month).
For each batch cycle (Daily, Weekly, Monthly etc.) please identify the list of all jobs in the critical path (in terms of any internal and external dependencies): (please provide documentation, if available)
Can batch execute concurrent with on-line? Also, do any batch programs run during the on-line window of the application?
Please provide batch schedules with documented run times: (please provide documentation, if available)
Are there any issue transactions (e.g.) exceptions, memory and CPU intensive transactions, and is there architectural information, requirements, design documents, technical specifications and source code that can be reviewed?
Batch Schedule Dependencies:
Understanding that the CBMS batch schedule is a collection of batch jobs that are scheduled, coordinated and automatically executed to minimize the execution window:
Do the batch jobs begin as soon as their dependencies are satisfied such that idle time is minimized to improve throughput?
Is there manual intervention needed frequently to resolve batch dependencies?

Part III: CBMS Application Architecture/Infrastructure Specific Questions
Please list the daily time window for online use and batch processing: (e.g. peak hours, default - 7AM to 7PM MT, batch processing hours per day, batch processing hours per night, etc.)
Are there any online or offline database or online back-up windows. What is the frequency of these back-ups?
Current and Future Schedule
What are the current work-in-progress plan for system performance, scalability and reliability improvements? Are there any planned timeframes to address performance or scalability issues?

STATE APPLICATION TEAM, STATE IMPLEMENTATION TEAM, STATE INFRASTRUCTURE TEAM, EDS APPLICATION AND IMPLEMENTATION ARCHITECTS, BEGIN PART IV HERE

Part IV: System Production and Maintenance

Production Maintenance Operations

Your response to the following questions will help us understand the methodology and approach that is employed to detect critical production issues and whether these issues are effectively communicated to the appropriate stakeholder groups. Your responses will also help us assess as to whether key assessments were completed prior to critical production milestones.

Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
Automated tools are used extensively for production system monitoring to facilitate timely reporting of system issues, alerts and escalation	☐	☐	☐	☐	☐	☐
Production system operations' procedures are clearly documented and updated on a timely basis	☐	☐	☐	☐	☐	☐
Critical production IT issues are clearly documented and are effectively communicated to business end-users	☐	☐	☐	☐	☐	☐
Critical production IT issues are prioritized, tracked and managed in a timely manner	☐	☐	☐	☐	☐	☐
Effective legacy data quality assessments were completed prior to conversion of legacy data into CBMS	☐	☐	☐	☐	☐	☐

Part IV: System Production and Maintenance						
Data cleansing of legacy data activities was completed as effectively as possible, either manually through user intervention or through an automated process prior the CBMS migration.	☐	☐	☐	☐	☐	☐
The quality of data as a result of legacy data cleansing activities met acceptable data quality standards	☐	☐	☐	☐	☐	☐
There is an ongoing CBMS Data quality assessment activity based on a set of data quality standards	☐	☐	☐	☐	☐	☐
Ongoing data quality assessment activities have helped improve the current quality of CBMS case data.	☐	☐	☐	☐	☐	☐
System downtime is common occurrence. (If you agree or strongly agree with this statement, please respond to questions a-f)	☐	☐	☐	☐	☐	☐
System downtime is due to human issues – vendor processes, tools, software and methodology	☐	☐	☐	☐	☐	☐
System downtime is due to human issues – internal IT processes, tools, software and methodology	☐	☐	☐	☐	☐	☐
System downtime is due to human issues – business processes and end-user errors	☐	☐	☐	☐	☐	☐
System downtime is due to system issues – lack of fault tolerant application architecture	☐	☐	☐	☐	☐	☐
System downtime is due to system issues – network issues	☐	☐	☐	☐	☐	☐
System downtime is due to system issues – faulty deployment processes causing production builds to be backed out	☐	☐	☐	☐	☐	☐
Please provide additional information, if necessary for the above questions:						
Additional Comments:						
System Performance Monitoring and Assessment *Your responses will help us better understand as to whether there are processes and standards in place to test the system at production loads prior to production drops, and both the business user community, development vendors and IT organization understand system performance criteria*						

Part IV: System Production and Maintenance						
Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
There is a consistent understanding between business subject matter experts (SMEs) and EDS Infrastructure and State Infrastructure teams in relation to production online application performance levels	☐	☐	☐	☐	☐	☐
The online production application performance supports business processing needs	☐	☐	☐	☐	☐	☐
Production Batch Cycles are completed within their stipulated batch timeframes	☐	☐	☐	☐	☐	☐
There is a clear categorization of system transactions for system performance measurements (If you agree or strongly agree with this statement, please respond to question a)	☐	☐	☐	☐	☐	☐
All categories of system transactions have corresponding service level agreements (SLAs)?	☐	☐	☐	☐	☐	☐
Acceptable levels of Load and Stress testing that is completed prior to production deployment	☐	☐	☐	☐	☐	☐
Transaction mix (commonly used system actions) for Load and Stress test is an effective representation of end-user actions on the CBMS application	☐	☐	☐	☐	☐	☐
Load and Stress test criteria is evaluated and recalibrated in the context of each production build	☐	☐	☐	☐	☐	☐
Load and Stress testing of production builds form an integral criteria for production-build sign-off	☐	☐	☐	☐	☐	☐
There is a comprehensive “go/no-go” checklist that outlines objective functional and non-functional test criteria. This check-list is extensively used to determine production readiness	☐	☐	☐	☐	☐	☐
There are sufficient non-functional tests performed to test system reliability and scalability	☐	☐	☐	☐	☐	☐
Load and Stress metrics are clearly understood by business and IT stakeholders and can be/have been scaled to Final Operating Capacity (FOC) volumes	☐	☐	☐	☐	☐	☐
Automated tools are used extensively as part of Load and Stress testing	☐	☐	☐	☐	☐	☐

Part IV: System Production and Maintenance						
Automated tools have been used for deep diagnostic test to profile application components and their performance in relation to service level agreements	☐	☐	☐	☐	☐	☐
Please provide additional information, if necessary for the above questions:						
Additional Comments:						

Technical Infrastructure Definition, Sizing and Capacity Planning *Your responses to the following questions will help us understand the current approach and status of the CBMS capacity plan.*						
Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
Capacity planning is a continuous IT activity that is completed as system performance improvements are implemented	☐	☐	☐	☐	☐	☐
There are capacity plans that detail current infrastructure needs and their optimal performance ratios	☐	☐	☐	☐	☐	☐
There are application limitations due to the current technology platform	☐	☐	☐	☐	☐	☐
The current capacity plans can be scaled to Final Operating Capacity (FOC) operations	☐	☐	☐	☐	☐	☐
Capacity plans are platform independent	☐	☐	☐	☐	☐	☐
Please provide additional information, if necessary for the above questions:						
Other Additional Comments:						

Part IV: System Production and Maintenance

Application Maintenance

Your response to the following questions will help us assess the use of tools, standards and procedures that are in place to support CBMS application maintenance and enhancements.

Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
Impact analysis tools are used extensively to understand the impact of production fixes and enhancements prior to actual development	☐	☐	☐	☐	☐	☐
Decision Table modifications/user-interface modifications/data capture modifications are assessed thoroughly for system impact prior to commencement of development	☐	☐	☐	☐	☐	☐
Software specifications and code baselines are up-to-date to make sure that there are no regression issues	☐	☐	☐	☐	☐	☐
Configuration processes are clearly documented and effectively employed for production deployments and production “quick” fixes	☐	☐	☐	☐	☐	☐
Production builds are extensively regression tested for functional correctness prior to their deployment	☐	☐	☐	☐	☐	☐
Deployment models and implementation architectures are clearly documented and well-understood by IT application maintenance SMEs	☐	☐	☐	☐	☐	☐
Production Build regression tests employ a representative sample of all system functionality and end-user scenarios	☐	☐	☐	☐	☐	☐
Stringent quality assurance standards are applied to production code baselines prior to their deployment	☐	☐	☐	☐	☐	☐
There are effective production disaster recovery processes in place that have been tested in a simulated environment	☐	☐	☐	☐	☐	☐
Please provide additional information, if necessary for the above questions:						

Part IV: System Production and Maintenance
Additional Comments:

Application Development Methodology						
Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
The application architecture is developed using industry standards for distributed n-tier architectures	☐	☐	☐	☐	☐	☐
The application architecture is well documented and clearly understood by developers and system architects	☐	☐	☐	☐	☐	☐
The application development framework and application design patterns are well documented and clearly understood by the development team	☐	☐	☐	☐	☐	☐
There are well defined modeling techniques and user experience attributes in the development approach	☐	☐	☐	☐	☐	☐
There are well defined user interface standards and guidelines that are adhered to during development	☐	☐	☐	☐	☐	☐
Coding standards and guidelines are well documented, clearly understood by the development team and enforced during the development process	☐	☐	☐	☐	☐	☐
Development process standards and guidelines are well documented, clearly understood by the development team and enforced during the development process	☐	☐	☐	☐	☐	☐
Quality standards and guidelines are well documented, clearly understood by the development team and enforced during the development process	☐	☐	☐	☐	☐	☐
Development productivity tools are consistently used where possible to standardize component development	☐	☐	☐	☐	☐	☐
Automated levels of testing are employed for unit testing, system integration testing, component testing and non-functional testing	☐	☐	☐	☐	☐	☐

Part IV: System Production and Maintenance						
System Testing and User Acceptance Testing involves regression testing comprising of a representative sample of usability, business logic, and data integrity validation scenarios	☐	☐	☐	☐	☐	☐
Please provide additional information, if necessary for the above questions:						
Additional Comments:						

ALL RESPONDENTS, CONTINUE PART V HERE.

Part V: Top 5 "Pain Points"
Please list according to priority the top 5 issues that you think are currently impacting the CBMS that may be attributed to system/technology factors 1) 2) 3) 4) 5)

ALL POSITION TITLES MAY USE THIS SPACE FOR GENERAL COMMENTS

Part VI: General Comments
Please provide comments. Your opinion is important to help ensure CBMS works for you.

END OF SURVEY. THANK YOU FOR YOUR TIME!

PM/BP Questionnaire: Survey Instructions

Please complete the sections appropriate for your particular resource type:

Survey Section	Respondents
Part I: Respondent Demographics	ALL Respondents
Part II: Business Process Specific Questions	All County Staff State Implementation Team
Part III: Key CBMS issues impacting your work	All County Staff Program/Policy State Application Team State Implementation Team
Part IV: Project Management Specific Questions	State Implementation Team EDS Development Team Program/Policy State Application Team
Part V: General Comments	ALL Respondents

Part I: Respondent Demographics							
Organization/Agency: (Select one)	**CDHS** **CDHCPF** **County** **MA Site** **EDS**						
County: (Select One)	ADAMS ALAMOSA ARAPAHOE ARCHULETA BACA BENT BOULDER BROOMFIELD CHAFFEE CHEYENNE CLEAR CREEK CONEJOS COSTILLA CROWLEY CUSTER DELTA	DENVER DOLORES DOUGLAS EAGLE ELBERT EL PASO FREMONT GARFIELD GILPIN GRAND GUNNISON HINSDALE HUERFANO JACKSON JEFFERSON KIOWA	KIT CARSON LAKE LA PLATA LARIMER LAS ANIMAS LINCOLN LOGAN MESA MINERAL MOFFAT MONTEZUMA MONTROSE MORGAN OTERO OURAY PARK	PHILLIPS PITKIN PROWERS PUEBLO RIO BLANCO RIO GRANDE ROUTT SAGUACHE SAN JUAN SAN MIGUEL SEDGWICK SUMMIT TELLER WASHINGTON WELD YUMA			
MA Site: (Select One)	Denver Health ACS						
Position: (Select One)	**County**: County—Eligibility Technician – Generalist County—Eligibility Technician – Specialists County—Supervisor/Administrator County—Director **State**: State Program/Policy State Application Team- Supervisor State Application Team- Manager State Application Team-Director State Implementation Team –Data Entry Staff State Implementation Team –Data Entry SME EDS Development Team						
Focus Area:	IT				Business		
Years in Position: (Select One)	Less than 1	1-5	5-10	10-15	15-20	20+	
Years with Old Systems: (Select One)	Less than 1	1-5	5-10	10-15	15-20	20+	N/A
Old System:	COIN	CAFSS	CACTIS	CHP+	Employment First	Adult Protective Services	

PROGRAM/POLICY AND STATE APPLICATION TEAM, PLEASE SKIP TO PART III ON PAGE 7.

EDS DEVELOPMENT TEAM, PLEASE SKIP TO PART IV ON PAGE 12.

ALL COUNTY STAFF AND STATE IMPLEMENTATION TEAM, PLEASE CONTINUE TO THE NEXT SECTION.

Part II: Business Process Specific Questions

II-A: Benefits/Impacts to your position

As a current user of the system, how has CBMS impacted your ability to perform your job in the last two weeks in the following areas?

Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
In the past two weeks, CBMS has allowed me to process new applications for all public assistance programs within what my agency deems is a reasonable timeframe for application completion	☐	☐	☐	☐	☐
In the past two weeks, I have been able to efficiently perform the eligibility functions of my current job with few disruptions directly attributed to the CBMS system	☐	☐	☐	☐	☐
In the past two weeks, I have been able to effectively and proactively manage my particular caseload given that I now process eligibility for a number of public assistance programs at once	☐	☐	☐	☐	☐
In the past two weeks, I have found that it is more productive to perform eligibility determinations for all public assistance programs at once using the CBMS system than it was for me to process determination for one only program	☐	☐	☐	☐	☐
As it currently works today, the system adequately meets my needs for my specific job (e.g. my needs as an eligibility worker)	☐	☐	☐	☐	☐
As it works today, using CBMS to determine overall eligibility for numerous public assistance programs or to track my cases has been easier than it was to determine eligibility for one public assistance program at a time using old systems	☐	☐	☐	☐	☐
Once I become more familiar with CBMS and critical issues have been resolved, CBMS will make it easier to serve clients by determining eligibility for all public assistance programs at once	☐	☐	☐	☐	☐
In determining eligibility and providing benefits, CBMS will save time overall and better assist me to help my clients	☐	☐	☐	☐	☐
Other ongoing functions such as data cleansing, backlog processing, and increased case load affect my ability to perform my job	☐	☐	☐	☐	☐
These added functions are the exclusive result of the implementation of CBMS	☐	☐	☐	☐	☐
County mandated management practices have negatively impacted my ability to effectively use CBMS.	☐	☐	☐	☐	☐

Part II: Business Process Specific Questions
If you agree to question 10, please provide additional detail:
Additional comments related to how CBMS has impacted your job in the past two weeks:

II-B: Project Input/Participation *Every user can not be consulted during the system design and/or enhancement process. However, all roles should be represented in the requirements/design, of enhancements to the system.* *Based on these statements, answer the following questions based on your perception of the representation of your role during the design, testing, and approval of CBMS functionality.*					
Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
My use of the CBMS system in the past two weeks shows that the correct functional requirements were captured and implemented, enabling me to best serve the clients in my county	☐	☐	☐	☐	☐
If you disagree with the previous question, please provide details regarding functionality you would like to see improved, added, or removed:					
Looking at and using CBMS today shows that screen design and screen flow was reviewed and approved with a focus on my ability to perform my specific daily job	☐	☐	☐	☐	☐
A representative from my County was involved in the design of CBMS	☐	☐	☐	☐	☐
When I am using the system today, it is clear that testing is thorough and scenarios are executed testing the system against my day to day activities	☐	☐	☐	☐	☐
When CBMS was implemented, the team considered how implementation would affect my	☐	☐	☐	☐	☐

ability to perform my job					
When I encounter issues or defects with the CBMS system today, I am able to easily raise these issues to the proper individuals	☐	☐	☐	☐	☐
When I encounter issues or defects with the CBMS system today my concerns are prioritized properly	☐	☐	☐	☐	☐
I am represented during the resolution of reported problems/issues.	☐	☐	☐	☐	☐
I know there is a County user group that contributes to CBMS design decisions	☐	☐	☐	☐	☐
I have access to the County user group and the ability to provide feedback and input into the design process	☐	☐	☐	☐	☐

If or when my county or organization is able to give input or to participate in CBMS design decisions, what process is followed and what groups are involved?

To the best of your knowledge, what person in your county is responsible for final sign-off on issues with the system? What is this person's position or title within your county (if it is more than one person, please list all titles and/or group name)?

Please think back to the most **recent** problem you have encountered with the CBMS system, preferably a problem you identified in the past month. What was the specific process you followed to identify, record, input, and escalate the problem you encountered?

Did you open the CBMS Help Desk ticket for this problem? If so, how?

Additional comments:

Part III: Key CBMS Issues Impacting Your Work Today

III – A: Top 5 "Pain Points"

Please list according to priority the top 5 issues that you think CURRENTLY impact CBMS implementation and explain the impact. These issues may be associated with system functionality, change/training, and/or interaction with the CBMS team. Please focus on those issues occurring today or in the past two weeks.

1)
2)
3)
4)
5)

III – B: System Objectives

CBMS was designed to meet, in part, the following objectives. Please think back to your use of the CBMS system in the past two weeks. Indicate how well you feel the system, as it works TODAY, meets the stated objectives.

For the following questions, please rate how well the current CBMS system meets each stated objective.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
Improve workflow of the application/recertification process for public assistance programs	☐	☐	☐	☐	☐	☐
Reduce manual effort required to maintain public assistance caseload	☐	☐	☐	☐	☐	☐
Eliminate duplicate and inconsistent data entry	☐	☐	☐	☐	☐	☐
Provide intuitive and user-friendly data entry screens	☐	☐	☐	☐	☐	☐
5. Modularized Eligibility Determination and Benefit Calculation						
5a. Rules Engine consistently applies program policy across all cases	☐	☐	☐	☐	☐	☐
5b. Accurate configuration of Standard Filing Units	☐	☐	☐	☐	☐	☐
5c. Accurate application of program policy to determine eligible members and benefit amounts (as appropriate)	☐	☐	☐	☐	☐	☐
5d. Seamless inter-program/intra-program transfers	☐	☐	☐	☐	☐	☐
5e. Automatic generation of appropriate notices with budgets based on results	☐	☐	☐	☐	☐	☐
Provide integrated and effective case management capabilities	☐	☐	☐	☐	☐	☐

Part III: Key CBMS Issues Impacting Your Work Today

7. Additional comments related to how CBMS issues impact your work **today**:

III – C: System Functionality/Performance

Now that you have been using the CBMS system, how would you rate the following attributes of the current CBMS system as it works today?

For the following questions, please rate how well the current CBMS system as it works today meets each attribute	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
Screen design and screen sequencing	☐	☐	☐	☐	☐	☐
Clarity of terminology	☐	☐	☐	☐	☐	☐
Requires appropriate data to be collected based on the programs being applied for	☐	☐	☐	☐	☐	☐
Ease of use, including:						
4a. System Navigation	☐	☐	☐	☐	☐	☐
4b. Data Entry	☐	☐	☐	☐	☐	☐
4c. Eligibility Determination (required overrides, understanding of results, etc.)	☐	☐	☐	☐	☐	☐
4d. Authorization	☐	☐	☐	☐	☐	☐
Accuracy of Eligibility Results as it works today	☐	☐	☐	☐	☐	☐
Accuracy of Client Notifications as it works today	☐	☐	☐	☐	☐	☐
Inquiry Capability	☐	☐	☐	☐	☐	☐
Reporting Capability	☐	☐	☐	☐	☐	☐
Caseload Management Capability	☐	☐	☐	☐	☐	☐
Help Screens and Help Capability	☐	☐	☐	☐	☐	☐
System performance:						
11a. Logging into the system	☐	☐	☐	☐	☐	☐
11b. Adding new data	☐	☐	☐	☐	☐	☐
11c. Changing existing data	☐	☐	☐	☐	☐	☐
11d. Eligibility Determination	☐	☐	☐	☐	☐	☐
11e. Authorization	☐	☐	☐	☐	☐	☐
12. There is insignificant unscheduled downtime in the system preventing me from performing my job	☐	☐	☐	☐	☐	☐

Part III: Key CBMS Issues Impacting Your Work Today

For Option 3 counties, do you feel you have sufficient lead time for new releases to conduct the application build for your county? Are release notes timely and complete?

Additional comments related to how the CBMS system performs and functions today:

III – D: Preparation and Training

Please think about all the training you have received for using the CBMS system. How would you rate the preparation you received to perform your current job today using CBMS?

Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	N/A
CBMS has had a major impact on how I need to perform my job today	☐	☐	☐	☐	☐	☐

1a. If you agree or strongly agree with the previous statement, what was the impact? Was the impact positive or negative? Please explain

Business procedures were modified appropriately to prepare me to work effectively with CBMS	☐	☐	☐	☐	☐	☐
My county implemented new business processes outlined and defined by the CBMS Change Management team	☐	☐	☐	☐	☐	☐

Part III: Key CBMS Issues Impacting Your Work Today						
3a. How far did your county progress with the business process modification?						
The training I received adequately prepared me for CBMS application navigation	☐	☐	☐	☐	☐	☐
The program area training I received adequately prepared me to use CBMS for the job I currently perform	☐	☐	☐	☐	☐	☐
The course material used during training was comprehensive and properly instructed me on key CBMS concepts (e.g. effective dates, driver flows, etc.)	☐	☐	☐	☐	☐	☐
Now that I use CBMS daily, I am confident that the time I spent using CBMS during training was adequate	☐	☐	☐	☐	☐	☐
The amount of information I received during training was appropriate in terms of depth and detail for using CBMS to perform my current daily job	☐	☐	☐	☐	☐	☐
8a. Please comment on the training you received. Were you trained beyond CBMS navigation?						
During the implementation phase, implementation support staff were available at my specific county location	☐	☐	☐	☐	☐	☐
Implementation support staff were available remotely to assist me during the implementation phase of CBMS	☐	☐	☐	☐	☐	☐
The implementation support staff were knowledgeable on CBMS functionality	☐	☐	☐	☐	☐	☐
In the past two weeks, revised procedures for substitute data (“workarounds”) were reliable and allow me to proceed with my daily work	☐	☐	☐	☐	☐	☐

Part III: Key CBMS Issues Impacting Your Work Today						
12a. What is your definition of a "workaround"? Please provide 1-2 examples of a "workaround" you are familiar with?						
In the last two weeks, I received all of the CBMS communications of procedures that were sent to my county.	☐	☐	☐	☐	☐	☐
In the past two weeks, when system modifications were implemented (fixes and/or enhancements) that affect me, I was informed ahead of time and was aware of when modifications would be deployed to the production application	☐	☐	☐	☐	☐	☐
In the past two weeks, when modifications were made to CBMS that affect me, I understood how to use the modified functionality and how it fits in with my day to day job	☐	☐	☐	☐	☐	☐
In the past two weeks, I have had access to a Help Desk when I have had issues with CBMS	☐	☐	☐	☐	☐	☐
When I have contacted the Help Desk recently, they have been helpful and responsive	☐	☐	☐	☐	☐	☐
Additional comments related to preparation and training you received to use the current CBMS system:						

ALL COUNTY STAFF, PLEASE SKIP TO PART V ON PAGE 14.

ALL OTHER RESPONDENTS AND EDS DEVELOPMENT STAFF, PLEASE CONTINUE PART IV BELOW.

Part IV: Project Management Specific Questions

IV – A: Application Maintenance

What tools and procedures are in place today to support application maintenance and enhancements to CBMS?

Please indicate whether you agree or disagree with the following statements. A score of 1 represents strong disagreement and a 5 represents strong agreement.	(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree
Impact Analysis tools are used extensively to understand the impact of production fixes and enhancements prior to actual development	☐	☐	☐	☐	☐
CBMS documentation (i.e., requirements, design specifications, etc.) are stored centrally where all project staff (vendor and state) have access	☐	☐	☐	☐	☐
Process documentation is written at sufficient detail for my use and understanding	☐	☐	☐	☐	☐
There is an effective process for review and approval of application changes	☐	☐	☐	☐	☐
Requirements/design documentation is consulted when production problems are reported	☐	☐	☐	☐	☐
Requirements/design documentation is updated when application changes are made, code is modified, and/or a defect is resolved.	☐	☐	☐	☐	☐
The state team understands application changes and is involved in requirements specification and design approval	☐	☐	☐	☐	☐
Processes are in place today to gain consensus regarding the classification of reported CBMS defects (enhancement vs. system defect)	☐	☐	☐	☐	☐
The application team (state and vendor) regularly agrees on the classification of the reported issues	☐	☐	☐	☐	☐
There is a process to prioritize system defects/enhancements for resolution	☐	☐	☐	☐	☐
Both vendor and state staff understand and address agreed upon project priorities	☐	☐	☐	☐	☐
There is adequate staff (vendor/state) to respond in a timely manner to defects/enhancements	☐	☐	☐	☐	☐
Stringent quality assurance standards are applied to production code baselines prior to their deployment to the production environment	☐	☐	☐	☐	☐
Production Build regression tests employ a representative sample of all system functionality and end-user scenarios	☐	☐	☐	☐	☐
Additional comments related to the Application Maintenance process as it stands today:					

ALL RESPONDENTS, CONTINUE HERE.

END OF SURVEY. THANK YOU FOR YOUR TIME!

Part V: General Comments about the Current CBMS System

Please provide any additional comments related to the current CBMS system as it works today. Your opinion is important to help ensure CBMS works for you.

Appendix C – Pre-Assessment Information Requests

Business Process and Project Management

	Assigned To	Location / Source	Status
1. Project Scope	Online	http://www.cbms.state.co.us/	
a. Business Processes supported	Online	http://www.cbms.state.co.us/	Complete
b. Functionality requirements gathered/documented	OIT - Arlene	CBMS Design Docs – OIT Server	Open – *Data on OIT server is outdated (2000). Need ReqPro reqs.*
c. User Types and Counts			Open
d. User Locations (counties, MA Sites, etc.)	CDHS/CDHCPF		Open
2. Project Rollout Approach	Online	http://www.cbms.state.co.us/	Complete
3. Organizational Readiness Plan and Approach (rollout and ongoing)	Online	http://www.cbms.state.co.us/	
a. Change Management Plan	Online	http://www.cbms.state.co.us/	Open – *Required information is not on the website.*
b. Communication Plan	Online	http://www.cbms.state.co.us/	Complete
c. Training Plan	Online	http://www.cbms.state.co.us/	Open – *required information is not on the website*
4. Issues and Risks Tracking Procedures	EDS – Scott CDHS – Annie/Steve		Open
5. Project Organization Structure	Online EDS – Scott	http://www.cbms.state.co.us/ http://www.cdhs.state.co.us/ http://www.cCDHCPF.state.co.us/	Open – *Retrieved from "archive" folder on the website. Need current.*
6. Recent Help Desk Reports	CDHS - Steve S.	Weekly Package	Open
7. Change Control Procedures			New Request
8. Recent CBMS Status Reports			New Request

Technology

	Assigned To	Location / Source	Status
1. Post-Implementation Issues Log	CDHS - Steve S.	04082005 Top 16 Combined Categories 04082005 Combined MISC	Complete

		HDT charts 04082005 Top 16 Combined Locations	
a. Business "pain-points"			In Progress – *Continuing to receive this through survey responses and interview sessions*
b. Performance and infrastructure issues		Hardcopy of Daily Tuxedo services, EDBC services and CBP service report received from EDS Not received reports on Hardware CPU utilization, memory utilization, etc	Open (Partial)
c. Production Operation issues		04082005 Top 16 Combined Categories 04082005 Combined MISC HDT charts 04082005 Top 16 Combined Locations	Complete
2. Most Current Production Status Reports			Complete
a. Monthly Status Report	OIT – IMC Status Reports CDHS – Other status reports (i.e. Governor's Task Force)	OIT Server	Complete
b. IV&V Report – Final Report	OIT - Arlene	Final IV&V Report - OIT Server	Complete
3. Production Operations	(Vary based on options)		Open
a. On Site user support procedures	EDS, County, DRC		Open
b. Help Desk Response Times (Ticket Tracking and Aging Analysis)	CDHS – Steve S.		Open
c. Batch Operations Procedures and Escalation	EDS		Open
4. Application Maintenance Operations	EDS		Open
a. Configuration Management Processes and Production "Quick Fix" Processes			Open
b. Current list of change requests (with priorities, estimated time to complete, and estimated completion dates)	CDHS	Prod CR Plan_Tracking.xls	Complete
c. End-user communication	CDHS	Release Notes	Open
5. Application Performance	EDS		Open

Metrics			
a. Categorization of application transactions		Hardcopy of Daily Tuxedo services, EDBC services and CBP service report received from EDS	Complete
b. Adherence of application transactions to service level agreements		Hardcopy of Daily Tuxedo services, EDBC services and CBP service report received from EDS	Complete
c. Load And Stress Test Metrics			Open
6. Application Deployment Architecture	EDS/DRC		Complete
a. Deployment and Implementation architecture diagrams	EDS	Received pdfs from Ron Cash	Complete
7. Technology Platform Sizing	EDS		Open
a. Current Capacity Plan			Open
8. Application Development Methodology	EDS		Open
a. Application Architecture Documents			Open
b. Coding Standards and Guidelines			Open
c. Development Process Standards and Guidelines			Open
d. Development Productivity Tools and related Documentation			Open
e. Quality Assurance Standards and Guidelines			Open
9. Interface Inventory (including source to target system and description of data feed)	CDHS – Annie CDHCPF – John	Found CBMS Interface overview – www.cbms.state.co.us. Need list of current production issues relating to BENDEX and ACSES. (Received SDX issues list)	Open
10. Testing Methodology	EDS, CDHS, HCFP		Open
a. Test Methodology documents			Open
b. Use of Automation			Open
c. Regression Test Scenarios for each release (coverage as a percentage of the overall number of scenarios)			Open
d. User Acceptance Test Criteria			Open
11. Impacting Initiatives	CDHS – Ron CDHCPF – John		Open

a. Current CBMS Enhancement Projects (rationale, current status, expected benefits and timing)		Received Prod CR Plan_Tracking.xls which deals with CBMS application changes Need details on planned infrastructure enhancements and resource allocation strategies.	In Progress
b. Other impacting projects (system or business)			Open
12. Current IT Strategic Plan	OIT	OIT Server	Complete

Request for Additional Information based on County Visits

Category	Interview Findings	Additional Information Needed	Assigned to	Status	Comments
Decision Tables	Case workers form Standard Filing Units or Eligibility Determination Groups manually due to Decision Table logic deficiencies. This is typically a case when they have to split cases to achieve desired eligibility results. Step-parent's income counted when determining eligibility for children that are not their own. The work-around is to split the cases. This not only increases the case count fictitiously, but also makes it difficult to correctly apply subsequent policy changes. Child Support Payment is considered as income for the child	1) Decision Table Defect Trend/Count Reports broken down by the following since go-live: FS TANF FMA 2) Decision Table Defect Trend/Count Reports broken down by the following since go-live: SFU errors EDBC (certification period) errors Benefit Calculation errors	DC: Karthik SoCO: Roy Cohen DC: Karthik SoCO: Roy Cohen DC: Karthik SoCO: Roy Cohen	Closed	was provided to us as part of the Help Desk meeting with EDS This report cannot be generated given that the categorization requested is not available within Service Desk This report cannot be generated given that the categorization requested is not available within Service Desk Meeting was held on 05/02/2005

Category	Interview Findings	Additional Information Needed	Assigned to	Status	Comments
	Medicaid reruns for several months, both retrospectively and prospectively	3) Outstanding Decision Table Defect Trend/Count Reports broken down by the following: SFU errors EDBC (certification period) errors Benefit Calculation errors 4) Need a sit-down session with program representative to understand the following: How Decision Table modifications are are effected? What quality assurance efforts are undertaken to ascertain that Decision Table modifications are correct? What is the level of regression testing and scenario sampling that is undertaken prior to Decision Table deployment in production?	DC: Lynette SoCO: Program people (to confirm meeting/ sit down)		

Category	Interview Findings	Additional Information Needed	Assigned to	Status	Comments
Client Correspondence	Denial reasons and language on the notices is not very clear. At times the language is not even courteous ("re: Verifications – Get them in"). Most of the time, denial notices are very generic or inaccurate Upon case certification, CBMS generates multiple client notices (1 notice per program per month per action). This becomes very confusing when eligibility determination is done for multiple months. While cleansing converted cases this problem exasperates the worker and the clients alike. Several client correspondence print-outs show missing or incorrect effective dates With the exception of redetermination notices, there are no Spanish speaking notices available. **English notices are mailed to Spanish speaking clients**	1) Correspondence Defect Trends/Count Reports Broad categories of correspondence defects reported since go-live Current disposition status for each category (open defects within each category as a percentage of all Correspondence defects) 2) Need documentation or sit-down with application team to how and when correspondence is generated within CBMS	DC: Karthik SoCO: Roy Cohen DC: Jeromy SoCO: Roy Cohen/Brad Lefebre OR Denver County eligibility tech	Closed Closed	This report cannot be generated given that the categorization requested is not available within Service Desk Meeting to discuss Correspondence design was completed on 04/29/2005
Batch Processing	Batch eligibility processing has very few exceptions built	Need face to face meeting to understand the	DC: Karthik SoCO: Roy	Closed	1) Meeting to discuss Batch Eligibility was

Category	Interview Findings	Additional Information Needed	Assigned to	Status	Comments
	in. For example, if EDBC is triggered in batch on a case with incomplete changes, it will include the case changes "as-is" and dispose the case. Workers are alerted to complete certain actions based on batch processing, but are unable to assess what changes were made in batch and why eligibility results were modified. Batch runs 3 times during the day and in the night. General lack of trust that Batch processing helps workers.	following: Do Batch Eligibility processes incorporate case mode validations prior to running on a case? For example, Batch Eligibility should typically execute for cases that are in an Ongoing mode only, not for Pending cases	Cohen/Brad Lefebre		completed on 04/29
Interfaces	Errors in applying data updates to a case, causes additional work for the system users. Specific interfaces identified were SDX (does not automatically apply updates for several clients), ACSES (child income not end-dated in ACSES resulting in excess income), and MMIS (providers are unable to provide services, due to incorrect eligibility	Need defect and issues reports for (Open Defect and Open Issues report) ACSES MMIS What are the procedures in place to address data inconsistencies?	DC: Karthik SoCO: Steve Holland DC: Karthik SoCO: Steve Holland/Brad Lefebre DC: Karthik Steve	Closed	

Category	Interview Findings	Additional Information Needed	Assigned to	Status	Comments
	status).	What are the work-arounds, given issues with these interfaces?	Holland/Brad Lefebre		
Case Inquiry	Case Inquiry screen shows conflicting data – CBMS shows that the case is Eligible, but Medicaid Spend-down group is closed.	Need Defect Trend report for Inquiry Defects (Open Defects as a percentage of all Inquiry Defects)	DC: Jeromy SoCO: Roy Cohen	Closed	This report cannot be generated given that the categorization requested is not available within Service Desk
Caseload Management	Case transfer functionality uses a "push" model. Counties are able to transfer the cases with pending actions or pending re-determination reviews (Medicaid), which is against the procedures. Due to various issues associated with transferred cases, there are over 1000 cases sitting at the transfer desk. These cases have to be manually distributed to various workers based on their program specialty. Case workers and supervisors do not	Need additional clarification on "Automatic caseload rebalancing" every night Ability to transfer cases that are in a pending status – push model. Recommend face to face session with State and EDS application managers	DC: Karthik/Jeromy SoCO: Roy Cohen/Brad Lefebre	Closed	Meeting was completed on 04/29/2005 to discuss Caseload Assignment and Caseload Management issues.

Category	Interview Findings	Additional Information Needed	Assigned to	Status	Comments
	understand Case Assignment rules – Use of special indicators not very clear during this process. Automatic caseload balancing creates a lot of confusion amongst county workers. Clients call/see workers without any prior contact. Office, Section, Unit, Use profiles and their role in the Case Assignment process or alert escalation process is not understood by the county workers. There is only a small number of staff having the knowledge of and capability to make changes. Regional RMA workers have to use one login per county to do their work. The RMA worker for Denver metro has a caseload of 400-500 such cases. Previous transfer history is not accurate.				
Alerts	Too many alerts. Information alerts	Need the following to	DC: Karthik/Jeromy	Closed	This report cannot be generated

Category	Interview Findings	Additional Information Needed	Assigned to	Status	Comments
	are not needed in most situations, especially when the alert is generated to the worker taking the action. Alerts are not automatically cleared when corresponding case follow up is completed. Alerts have to be manually cleared by the workers. Some workers stated that they receive between 50-100 alerts per day.	assess the Alerts Categories of Alerts Current outstanding alerts by categories Current Defect reports relating to Alert issues (Open defects as a percentage of all Alert defects)	SoCO: Roy Cohen (?) and Denver County Eligibility Tech for samples		given that the categorization requested is not available within Service Desk
Duplicate Issuance/Over Issuance	Multiple cases where EDBC has run retrospective and created duplicate issuances Complete grants have been reissued where only a supplement was required.	Last Monthly Issuance Report and over-issuance as part of the last monthly run Face to face meeting with State and EDS application to understand reasons for over-issuance Database query of cases where more than one benefit was issued for a month.	DC: Karthik/Jeromy SoCO: Roy Cohen (?) and Denver County Eligibility Tech for samples Roy Cohen/Brad Lefebre	Open	Report is being worked on by Brad Lefebre