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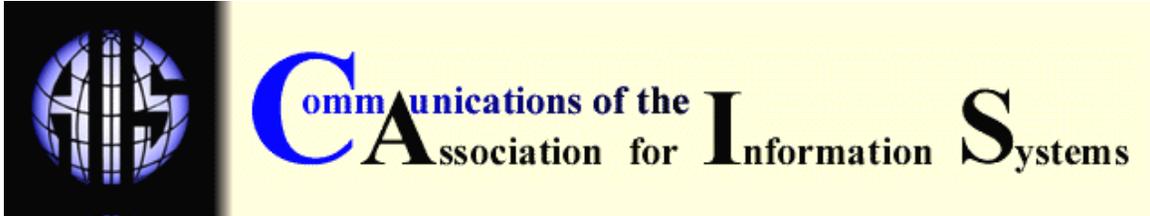*University of Denver*, dmccubbr@du.edu

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ABSTRACT

This case is a follow up to "Colorado Benefits Management System: Decision Time" (McCubbrey and Fukami, 2005). It chronicles the events in the two years that followed the ill-advised conversion of the Colorado Benefits Management System (CBMS). CBMS was converted over the objections of the user community and after the expenditure of approximately $100 million. The results were both predictable and avoidable. The system was fraught with errors, and the fallback plan was never implemented. Clients, principally the poor and elderly, suffered as a result of the system's errors and poor performance. An audit conducted by the State of Colorado found that millions of dollars had been misspent after conversion. As of August 2006, CBMS remains a troubled system and has received a considerable amount of unfavorable publicity in the local and national media. Colorado counties are struggling to use the system and worker morale is suffering. A lawsuit against the State is pending. The case concludes by asking: Who is to blame for this mess? Why is it taking so long to fix? What could have been done differently to avoid the resulting chaos? What should be done to repair CBMS? How can progress be measured?

Keywords: consultants, conversion, implementation, legacy systems, IT project management, runaway projects, user acceptance testing

I. INTRODUCTION

Roxanne Martinez resides in Arapahoe County Colorado with her two children, ages four and one. Ms. Martinez received Medicaid benefits until April 2005, when she was terminated. However, her two children continue to receive Medicaid. Ms. Martinez's Medicaid application was filed in June 2004; however the system only recognizes her eligibility as commencing on July 1, 2004. As a result, Ms. Martinez has been contacted by a collection agency requesting payment for medical assistance she received in June 2004. Even though the state recently reauthorized Medicaid to commence on June 1, 2004 and issued her a notice stating her eligibility commenced on June 1, 2004, Medicaid has refused to pay for medical care she received in that month since she does not appear as eligible in the system. Between February 2, 2005 and November 18, 2005, Ms. Martinez received approximately 71 notices generated by the state concerning her family's Medicaid benefits. These notices were untimely, and/or duplicative, and/or confusing, often containing conflicting information regarding eligibility, often without effective dates.

Russell McKinney lives with his family in Jefferson County Colorado. His household receives Food Stamps and his children receive Medicaid assistance. Mr. McKinney has been a Food

Stamp recipient for approximately four years. He has experienced delays in the recertification process since September 2004. Most recently, in March 2006, Mr. McKinney attempted to do his six month Food Stamp recertification, but the recertification was delayed despite Mr. McKinney's prompt delivery of all requested paperwork in a timely manner. Mr. McKinney also contacted the state emergency processing unit and was advised to continue to work with the county. Mr. McKinney suffered a suspension of benefits in April and May 2006. During this period Mr. McKinney had to utilize his meager income to pay for food rather than pay his other bills which are now overdue and affecting his credit status and continued employment.

Marilyn Shaffer resides in El Paso County Colorado; because of several disabilities, she receives Medicaid, Food Stamps, and Supplemental Security Income. From May 24, 2005 to January 17, 2006, Ms. Shaffer received approximately 143 notices from the State concerning her Food Stamp and Adult Financial Assistance benefits. These notices were confusing, often untimely, often contained conflicting information, and were otherwise legally inadequate. Further, Ms. Shaffer has been verbally advised by agents that she was overpaid Food Stamps and Adult Financial Assistance, despite receiving written notice from the State that she was entitled to receive these payments. Ms. Shaffer was told that her Food Stamp benefits would be intercepted to recover on the alleged overpayment. Ms. Shaffer does not have sufficient funds to support herself should the State undertake this collection to intercept her tax refunds and/or credits [Fourth Amended and Supplemental Class Action Complaint, District Court, City and County of Denver, Colorado, Case No. 04-CV-7059].

The Colorado Benefits Management System (CBMS), a purportedly unified computerized information technology system that collects data, determines eligibility, issues benefits, and provides reports for virtually all public benefit programs in Colorado went live on September 1, 2004. The purpose of CBMS was to replace six aging legacy systems supporting various State-administered welfare programs with a single system using current technologies. The expected benefits from CBMS were better service to clients and assurance that the State's welfare programs were being administered properly.

Despite protests from the user community that CBMS was not yet ready to be put in operation, the systems were converted anyway. The results were both predictable and avoidable. The new system was not capable of processing transactions as efficiently as the systems it replaced. Huge backlogs of unprocessed transactions developed, which resulted in employees working overtime, the hiring of temporary employees, and the installation of additional computer servers to add capacity. Despite these efforts, county welfare offices experienced long lines of applicants, and many applicants had to literally wait for weeks for their applications to be approved by the new system and benefits to be received. By contrast, the old systems approved new applications within hours. Hundreds of people complained that they were denied benefits unfairly, their applications weren't processed, or that they received contradictory letters about their eligibility. In addition, some individuals received benefits to which they were not entitled.

As of August 2006, almost two years after conversion, and after the expenditure of approximately $120 million, the system remains seriously flawed. The failure of CBMS is particularly compelling because of the innocent people who were hurt, the cost involved, and the fact that the system was converted despite written user objections by professionals who should have known better. Who is to blame for this mess? Why is it taking so long to fix? What could have been done differently to avoid the resulting chaos?

II. SYNOPSIS OF THE CBMS PROJECT: 1999-2004

CBMS was undertaken in 1999 to replace six aging legacy systems supporting the various welfare programs in Colorado that were reaching the stage where they needed to be replaced. As discussed in the (A) Case [McCubbrey and Fukami, 2005], the development project was a classic example of a "runaway project." CBMS was troubled from the start. For example:

- A fixed price contract for $220 million was signed with EDS because of budget constraints even though initial bids for the system's development and operation (for ten years) from EDS and IBM came in at well over $300 million. The contract with EDS was signed in July 2000, before the initial CBMS requirements baseline was established.
- The technical understanding of the State's requirements versus the vendor's proposed solution was misaligned. EDS proposed that code from a similar project it had used in the State of Arkansas be modified and used for CBMS. In November 2001, EDS concluded that the Arkansas code would not work for Colorado and used code from CalWin, a similar system they were developing for the State of California.
- One appealing component of the EDS proposal was a "time of touch" conversion, wherein the new system would allow client data to be converted the first time it was accessed by a knowledge worker. Twenty-one months were expended in the effort to use time of touch, the "innovative and proven methodology to convert data into CBMS" before it was abandoned in April 2002.
- Another appealing element of the EDS approach was a phased roll-out of the system, making CBMS available to users in the counties in phases, rather than all at one time, thereby reducing the conversion risk. EDS informed the State in April 2004 that a phased conversion would not work.
- An Independent Verification and Validation firm was engaged to provide additional project monitoring. The firm, Maximus, provided weekly written reports on the project's status from November 2000 until January 2004, when its contract term expired and was not extended for "lack of funds". In its final report the firm stated, "Unfortunately, the CBMS environment was not generally conducive to accepting or responding to the IV&V findings in a timely manner, resulting in greater impact to project progress than should have occurred". In addition, the final report stated that:

  - "Decision Tables (DT), a State responsibility to develop, continue to be difficult for the State to manage with any predictability, continuing to cause delays in the completion of initial development of the complete suite of CBMS DTs, a high volume of defects being encountered once the DTs are transitioned to User Acceptance Testing (UAT) causing delays in correcting defects and completing UAT, and creating significant doubt as to the State's ability to manage DTs during Pilot and production.
  - The State continues to have a number of key tasks that have not been planned in detail or assessed against other key project activities and milestones making it difficult to effectively or accurately track, report, or predict project progress.
  - County readiness for Pilot or rollout is not clear. Although discussions of readiness occur between the CBMS Project Management Office and the counties during meetings, structured and systematic progress reporting by the counties continues to be extremely weak.
  - UAT continues to slip, with increased planning of concurrent events that increases the risk of project failure" [Maximus, 2004].

- An adequate State organizational structure (processes, procedures, resources, organizational structure, interfaces, etc.) to manage the CBMS was never established.

III. CBMS CONVERSION: THE FIRST YEAR

On August 13, 2004, Marva Livingston-Hammons, Executive Director of the Colorado Department of Human Services and Karen Reinertson, Executive Director of the Colorado Department of Health Care Policy and Financing (HCPF), received a letter from the directors of human services in four Colorado counties. Ms. Livingston-Hammons and Ms. Reinertson were the two senior

State officials charged with oversight of CBMS, which was scheduled to be converted on September 1, 2004 after having been postponed several times. The letter expressed concerns with a number of aspects of CBMS and concluded by stating that the county directors believed that "…the implementation of CBMS on September 1, 2004, is unacceptable." [McCubbrey and Fukami, 2005].

On August 17, Karen and Marva responded in writing to the August 13 letter from the counties. They argued that asking the Joint Budget Committee of the Colorado Legislature (JBC) for more money was unacceptable, and that the only options for CBMS were to convert on September 1, or to kill the project. Based on Marva's and Karen's recommendation, Colorado Governor Bill Owens issued an Executive Order directing that the transition to the new system take place on September 1 and that appropriate "backup systems and contingency plans" be employed "to ensure that eligible applicants will not be denied benefits during the transition to CBMS" and "to protect the benefits of clients who maintain eligibility during the transition to CBMS" [Executive Order D01004, State of Colorado, 2005].

Negative publicity began almost at once. Ed Kahn and Michael Cook, private attorneys, both working pro bono and with the help of the Colorado Center on Law and Policy, filed suit in Denver District Court on behalf of CBMS beneficiaries. The suit is based on two issues. First, citizens are being denied benefits to which they are entitled by law. Second, citizens should expect to be served by a system that performs at least as well as the systems that CBMS replaced.

Things went downhill immediately after conversion. For example, on September 30, 2004, the headline in a *Rocky Mountain News* story was "Pressure to go online," with a lead paragraph which stated:

> "The state's troubled benefits-management system went online last month—against several experts' advice—because it was eating through $2 million monthly in development costs and money was running out, records show. In addition, delaying startup would have been hard to explain to the public, a member of the project's oversight committee said Thursday" [Scanlon, 2004].

In December 2004, Denver District Judge John Coughlin ordered the State to establish an emergency call center for benefits applicants and to meet a tight schedule for processing 30,000 applications that missed federal deadlines for completion.

In March, 2005, Deloitte Consulting was hired, for $365,000, to do a post-implementation review of CBMS. Interestingly, they were specifically told not to look backward and "second guess." Instead, they were asked to look forward and focus on how to fix CBMS. This is not the traditional purpose of post-implementation reviews, which are typically designed to identify lessons learned to avoid similar disasters in the future.

In May 2005, nearly eight months after the conversion, Governor Bill Owens appointed John Witwer, a retired physician and former Colorado State Representative, as Director of CBMS. Witwer was tasked with fixing the problems with CBMS, and was allocated $6.5 million, and given two years, to support the efforts [Scanlon, 2005a]. As of July, 2005, the number of help desk tickets (filed by county workers when they can't process an application) remained stubbornly high at about 3,800, compared with a peak of about 5,200 in March, 2005 [Scanlon, 2005b].

On the other hand, some progress has occurred. In June, 2005, the Department of Human Services reported that it had resolved 97 percent of its emergency calls within 5 days, and the Department of Health Care Policy and Financing, which oversees Medicaid, reported that it had resolved 100 percent of its emergency cases within 5 days. As of June 20, it was reported that 92 percent of the cases had completed their conversion to CBMS, up from 67 percent in January. The number of applications not meeting the federal deadlines was reported to have fallen 84 percent to 4,609 [Scanlon, 2005b].

Despite the turmoil surrounding CBMS during the months following its conversion, the Colorado Commission on Information Management (IMC), claimed "successful deployment of CBMS" as one of its 2003-2004 accomplishments in its 2004 Annual Report, issued in March 2005 [Commission on Information Management, 2005].

IV. STATE AUDIT FINDINGS

The Legislative Audit Committee of the State of Colorado placed CBMS on its annual list of projects for 2005. The audit was conducted between January 1 and June 30, 2005. On June 10, 2006, the audit was released, and it gave CBMS a "passing grade, noting the state has made significant strides in correcting the problems that left hundreds of Colorado residents without access to medical treatment or food stamps nearly two years ago." [Rocky Mountain News, 2006b].

Others remained skeptical that the system was working. On July 3, 2006, the *Rocky Mountain News* ran a story on the State auditor's report. The article reported that:

> "Colorado made nearly $90 million in improper welfare payments last year by overpaying some clients, underpaying others and being defrauded by still other stakeholders, according to a state audit. The improper payments amounted to:
> - Medicaid: $48 million.
> - Food stamps: $36 million.
> - Temporary Aid to Needy Families: $6 million.
> The errors point to a systemic lack of oversight on more than $2.4 billion in public assistance payments made each year through the three programs, according to acting state auditor Sally Symanski".

> "There's no question that public dollars are at risk," Symanski said. "It's horrifying. We have a limited number of dollars to serve these people with. It's critical that we get a handle on this".

Later in the article, Lisa Esgar, director of operations and finance for Colorado's Health Care Policy and Finance Administration, which oversees Medicare and Medicaid for the State, said her agency's error rate doesn't reflect its internal monitoring and fraud oversight efforts. "Just because we haven't scientifically measured it, doesn't mean that we're not doing anything," Esgar said. [Smith, 2006]

V. THE COUNTIES' PERSPECTIVE

While the state argues that the reduction in help desk tickets, or recorded "defects" in the system, is a good metric for judging the performance of CBMS, the counties take a different perspective. When a county worker encounters a problem in processing an application, he or she is directed to the Office of CBMS, where the problem is registered. In addition, the worker is supposed to provide a "screen shot" of the difficulty to the help desk. It can take up to two hours to prepare and submit the required documentation.

In addition to the difficulty of submitting a help desk ticket, county workers argue that the resolution of help desk tickets is a flawed metric and is not a valid measure of system effectiveness for a number of reasons. Foremost, the resolution of a help desk ticket measures whether the problem was recorded and whether the help desk responded in a timely fashion. It does not measure the resolution of the problem. For example, there is a list of "known problems" for which tickets aren't allowed to be sent. Workers also report that it is easier to call CBMS than it is to send tickets. Finally, workers may not understand the technology enough to accurately describe their problems to the help desk experts. Imagine how frustrating this is for the workers who had clients sitting at their desks and who couldn't get a response.

Ultimately, workers tired of completing help desk tickets, so they just stopped. One county worker reported:

> "We applaud the elimination of defects in CBMS, but this needs to be balanced with an increase in functionality…CBMS has been like a house of cards. We fix one thing, and then find a new problem. We fix that problem, then it causes a new problem, and on and on. Things have calmed down, and some things have been fixed, but the system is not yet operating as it should".

As of July 2006, there were 5,943 pages of CBMS workarounds, outlining 270 procedures. Online help has been eliminated. Change requests take months, even if identified as priority items. The county users group remains deeply concerned about the performance of CBMS. There are not sufficient resources available to fix the system.

VI. WORKER MORALE

On April 19, 2006, the *Rocky Mountain News* published an editorial on the continuing problems with CBMS, in which it was concluded that the county workers were partially to blame for the problem with CBMS.

> "Isn't the excuse that the county workers need more training beginning to wear a little thin? The same cadre of county workers administered benefits before, when they had to deal with six antique and incompatible kinds of software, and by and large they managed about as well" [Rocky Mountain News, 2006a].

It is hardly surprising that county worker morale has suffered as a result of this fiasco. CBMS is a complex system involving many screens and functions. Committees have been formed with county workers to provide feedback and support for CBMS, but not all counties can afford to participate. The counties are committed to CBMS, but feel like they are "spinning their wheels."

Yet, the current structure requires that CBMS makes decisions, not the counties. And the system is not getting better. Counties must work hard to maintain morale, and buffer workers from finger pointing. Training has been inadequate and largely left up to the counties. The state created about 12 hours of training per worker for CBMS, yet one county estimates that each worker needs 160 hours of training.

VII. ORGANIZATIONAL ISSUES

The various groups that are involved in CBMS create further complications. There are two large state departments involved, the Department of Health Care Policy and Financing (HCPF) and the Department of Human Services. These departments have a history of adversarial relations that extends into CBMS. There is the Office of CBMS, and EDS, the original contractor, is still involved. There are the 64 counties. Finally, there are the agencies of the federal government involved as well. It is often unclear who is ultimately accountable for the system. In addition, it is unclear whether the State employed people who understood how flawed the system was.

This confusion was also reflected in the variety of help desks available to workers. There was a State help desk, a CBMS help desk, EDS system experts, and IT professionals in the two State departments.

Ironically, the counties report that CBMS has driven much improvement at their level. The counties feel much more technologically savvy and adaptable as a direct benefit of CBMS.

County officials report that John Witwer has made an honest effort to improve CBMS, and there has been some progress. He listens to the county users and meets with them twice a month. He has restructured the unit so that the state and CBMS help desks could work together, a system that remained in place for about nine months, but was then abandoned. He is seen as a skilled

manager, but he doesn't have authority over Human Services or HCPF. He is limited in how he can help, and the JBC cut his funding, so he does not have the staffing level he originally requested. He has provided counties with a voice and has brought awareness to the legislators. He supports counties "to the limit" in financial areas.

Nonetheless, one county official felt that Witwer's public response to the audit was "unfortunate." Given Witwer's focus on collaboration, and his avoidance of pointing fingers, the counties would have liked to see more support of workers expressed in public sources.

VIII. CURRENT STATE OF AFFAIRS

Various stakeholders report that the system has improved drastically, yet there is still far to go. One county worker said, "Progress is ongoing but the tunnel is too long to see the light." Starting June 1, 2006, counties can "recover" funds given in error. However, this is likely to lead to a sad state of affairs because many clients will not be able to afford to repay the State. On the other hand, where legitimate support was denied, patients had to spend their own money on care, and should receive restitution. Most counties are experiencing 100% increases in claims and about 70% are wrong because the system didn't function properly, according to one county official.

According to one knowledgeable observer, "the State has always been closed-mouthed about the true facts about CBMS operations, instead putting out meaningless statistics." As one county official says, "The State's first response to any question is that CBMS is fine. The second response is 'see the first response.'"

The outside contractor, EDS, believes that the troubles with CBMS began when the State tried to cut costs by modifying the initial proposal. Nevertheless, EDS executive Dick Callahan says he's impressed with Colorado's response to the project's setbacks so far. "With a project of this size and complexity, problems have to be expected," he says. What matters is "how well you react to them" [Perlman, 2006].

 District Judge Lawrence Manzanares, presiding over the lawsuit filed on behalf of CBMS beneficiaries, has ordered the parties to attempt settlement mediation. Former Boulder District Court Chief Judge Joe Bellipanni is the mediator. One issue of contention between the parties is the appropriate performance-based measures and standards for CBMS. The plaintiffs want CBMS to achieve timely and accurate processing in the "high 90s." It is presently unknown whether the State will agree to such a standard.

The plaintiffs are demanding that a reliable reporting system be implemented to verify that CBMS is operating as it should. They want periodic independent audits of CBMS operations under statistically rigorous methods to objectively determine what still must be corrected. They also want assurance that clients are receiving the benefits to which they are entitled and that the State will be forced to compensate people who were hurt by the failure to deliver such benefits.

The counties have called for a rigorous system analysis. "Spending $160-200 million should at least get us what we had before."

IX. WHAT SHOULD THE NEXT GOVERNOR DO?

The judge's decision in the lawsuit is still pending and may extend until the end of 2006. Even if it settles before then, it will probably take some time for the State to implement any changes. In November 2006, due to term limits, a new Governor will be elected in Colorado. The various stakeholders do not agree on the current state of CBMS effectiveness. Clients and workers are still suffering. Federal monies may have been misspent. Who is to blame for this mess? Why is it taking so long to fix? What could have been done differently to avoid the resulting chaos? What should be done to repair CBMS? How can progress be measured?

A teaching note for faculty listed in the ISWorld directory is available from Donald J. McCubbrey (dmccubbr@du.edu).

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> *Editor's Note:* The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that
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LIST OF ABBREVIATIONS

CBMS   Colorado Benefits Management System

DT   Decision Tables

IMC   Information Management Commission

IV&V   Independent verification and Validation

JBC   Joint Budget Committee

OIT   Office of Innovation and Technology

OSPB   Office of State Planning and Budgeting

QA   Quality Assurance

RFP   Request for Proposal

UAT   User Acceptance Test

ABOUT THE AUTHORS

Cindi Fukami is Professor of Management in the Daniels College of Business at the University of Denver. She earned her Ph. D. in Organizational Behavior from the Kellogg Graduate School of Management at Northwestern University. Her research and teaching are in the areas of Organizational Behavior and Human Resource Management. She sits on the editorial board of *Academy of Management Learning and Education*, is Associate Editor of the *Journal of Management Education*, and is a Fellow of the Carnegie Foundation for the Advancement of Teaching.

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