

Audit Report

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**University System of Maryland  
University of Maryland, Baltimore**

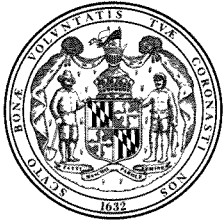
April 2013

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**OFFICE OF LEGISLATIVE AUDITS**  
DEPARTMENT OF LEGISLATIVE SERVICES  
MARYLAND GENERAL ASSEMBLY

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DEPARTMENT OF LEGISLATIVE SERVICES  
OFFICE OF LEGISLATIVE AUDITS  
MARYLAND GENERAL ASSEMBLY

April 8, 2013

Karl S. Aro  
Executive Director

Thomas J. Barnickel III, CPA  
Legislative Auditor

Senator James C. Rosapepe, Co-Chair, Joint Audit Committee  
Delegate Guy J. Guzzone, Co-Chair, Joint Audit Committee  
Members of Joint Audit Committee  
Annapolis, Maryland

Ladies and Gentlemen:

We have audited the University System of Maryland (USM) – University of Maryland, Baltimore (UMB) for the period beginning December 1, 2008 and ending September 6, 2011. UMB is a comprehensive public institution of USM and provides professional and graduate level instruction through its schools of Dentistry, Law, Medicine, Nursing, Pharmacy, and Social Work, and its Graduate School.

Our audit disclosed that UMB did not document the basis for releasing for payment vendor invoices suspended from processing by its electronic payment system and these decisions were not subject to supervisory review. In addition, UMB did not execute certain subsidiary agreements with the University of Maryland Medical System Corporation to facilitate UMB's timely recovery of the costs of certain non-faculty UMB employees providing services to the Corporation.

We also noted internal control and record keeping deficiencies over payroll, corporate purchasing cards, information systems security and control, and UMB's working fund. For example, the employee who reviewed critical payroll adjustments, such as new employee additions and pay rate changes, also had the capability to process such adjustments.

The USM Office's response to this audit, on behalf of UMB, is included as an appendix to this report. We wish to acknowledge the cooperation extended to us during the course of this audit by UMB.

Respectfully submitted,

Thomas J. Barnickel III, CPA  
Legislative Auditor



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# Executive Summary

**Legislative Audit Report on University System of Maryland (USM)  
University of Maryland, Baltimore (UMB)  
April 2013**

- **UMB did not document the basis for paying vendor invoices suspended from processing by its electronic payment processing system. In addition, these decisions to release the invoices for payment were not subject to supervisory review.**

UMB should document the basis for paying invoices suspended by the automated edit process, and should perform an independent supervisory review to verify the propriety of the invoices for payment, at least on a test basis.

- **UMB had not established adequate internal control over timekeeping and payroll adjustments. For example, the employee who reviewed critical payroll transactions, such as to add new employees and change pay rates, also had the capability to make those changes.**

UMB should ensure that critical payroll transactions are subject to independent supervisory review and take other recommended corrective actions to establish adequate controls over payroll processing.

- **UMB did not execute certain subsidiary agreements with the University of Maryland Medical System Corporation to facilitate UMB's timely recovery of the costs of certain non-faculty UMB employees providing services to the Corporation.**

UMB should establish procedures to ensure that subsidiary agreements are executed timely for all employees providing service to the Corporation and that all related costs are recovered from the Corporation.

- **Sufficient monitoring and security controls were not in place over significant computer applications and UMB's network. For example, key administrative segments of the network were not properly protected from internal and external threats.**

UMB should take the recommended corrective actions to improve monitoring and security over computer applications and its network.

- **Control and record keeping deficiencies were noted with respect to UMB's corporate purchasing cards and working fund.**

UMB should take the recommended actions to improve controls in these areas.

## **Background Information**

### **Agency Responsibilities**

The University of Maryland, Baltimore (UMB) provides professional and graduate level instruction through its schools of Dentistry, Law, Medicine, Nursing, Pharmacy, and Social Work, and its Graduate School. UMB students who receive instruction in health care professions obtain clinical experience at various health care facilities. The largest of these facilities is the University of Maryland Medical Center, which is a component of the University of Maryland Medical System Corporation. In addition to their duties at UMB, certain faculty members provide services to the Corporation and maintain private medical practices with professional associations.

For the Fall 2012 semester, UMB's enrollment totaled 6,368 students. UMB's budget is funded by unrestricted revenues, such as tuition and student fees, a State general fund appropriation, and restricted revenues, such as federal grants and contracts. According to the State's records, fiscal year 2012 revenues totaled approximately \$983.3 million, which included a State general fund appropriation of \$175.5 million. These records also indicated that UMB's expenditures for fiscal year 2012 totaled approximately \$983.3 million.

### **Status of Findings From Preceding Audit Report**

We reviewed the status of the 13 findings included in our preceding audit report dated February 5, 2010. We determined that UMB satisfactorily addressed 11 of these findings. The remaining 2 findings are repeated in this report.



# Findings and Recommendations

## Disbursement Transactions

### **Finding 1**

**University of Maryland, Baltimore (UMB) did not document the basis for paying vendor invoices that were suspended by its electronic payment system. In addition, these decisions to release the invoices for payment were not subject to supervisory review.**

### **Analysis**

UMB did not sufficiently ensure the propriety of vendor invoices that were flagged by its electronic payment system for manual review prior to payment. All vendor invoices were subject to a series of automated edits prior to payment, including a comparison of vendor addresses and amounts recorded on the invoices and purchase orders. However, those invoices suspended from processing as a result of the edits were released and approved for payment by accounts payable personnel without documenting the basis for resolving the edits. In addition, these decisions were not subject to independent supervisory review, at least on a test basis. Consequently, there was no assurance that all vendor invoices were appropriately paid.

Based on UMB records, which we tested and found to be reliable, UMB processed payments totaling approximately \$9.8 million during fiscal year 2011 after overriding automated system edits. Total disbursements, excluding payroll, were approximately \$350 million during fiscal year 2011.

### **Recommendation 1**

**We recommend that UMB**

- a. document the basis for paying invoices that were initially suspended by the automated edit process; and**
- b. subject these invoices to an independent supervisory review to verify the propriety of the invoice payments, at least on a test basis, and ensure this review is documented.**

## Payroll

### **Finding 2**

**UMB had not established adequate internal control over timekeeping and payroll adjustments.**

### **Analysis**

UMB had not established adequate internal control over certain critical payroll processes. During fiscal year 2011, UMB salary costs (including fringe benefits) totaled approximately \$635 million. Our audit disclosed the following conditions:

- UMB did not ensure that employees prepared time records as required by UMB policy. Our test of 33 employees' time records from calendar year 2011, including 19 faculty members, disclosed that 13, consisting of 11 faculty members and 2 non-faculty department heads, did not prepare time reports during this period. UMB policy requires all employees, including faculty, to prepare time records documenting days worked. UMB payroll records indicate that, during calendar year 2011, these 13 employees were paid salaries of approximately \$2.3 million.
- The supervisory employee who approved bi-weekly output reports of critical adjustments to UMB's human resource and payroll system, such as to add new employees and change pay rates, also processed such adjustments while acting in a backup capacity. Consequently, this employee could make unauthorized adjustments. UMB records, which we tested and found reliable, disclosed that this supervisory employee made approximately 300 such adjustments during fiscal year 2011 that were not subject to an independent review and approval. Our review of a limited number of these changes noted no improprieties.
- Employee timekeeper access to UMB's automated payroll system did not provide for an adequate separation of duties. Specifically, 76 employees responsible for posting UMB employee time to the system had the capability to modify this time, including their own, after it had been reviewed and approved. Furthermore, the system did not maintain a record of any such modifications. Consequently, these employees could process unauthorized adjustments to employee time, which could directly impact pay and employee leave, without detection.

## **Recommendation 2**

**We recommend that UMB**

- a. ensure all employees prepare time records, subject to supervisory review and approval;**
- b. ensure independent supervisory review and approval of all critical changes made to the payroll records; and**
- c. modify the payroll system to prevent timekeepers from making changes to employee time after approval.**

**We advised UMB how to segregate payroll duties and ensure propriety of critical changes to payroll records using existing employees.**

## **Corporate Purchasing Cards**

### **Finding 3**

**UMB did not comply with certain corporate purchasing card requirements regarding split purchases and sharing of cards in one of its departments.**

### **Analysis**

In one large department, UMB did not comply with certain requirements of the Comptroller of Maryland's *Corporate Purchasing Card Program Policy and Procedures Manual*. During fiscal year 2011, purchases totaling approximately \$7.9 million (mostly for medical and research items) were made on the two cards assigned to this department.

UMB did not establish individual accountability over card purchases made in this department. Specifically, two purchasing cards were shared among four employees, including two employees who were not assigned to the cards. The two shared cards had monthly purchasing limits of \$400,000 and \$500,000.

In addition, purchases made on these two cards were artificially split in order to bypass formal procurement policies, which generally require a competitive procurement process for purchases over \$5,000. Available documentation indicates that, in certain cases, vendors were requested to generate several invoices for one purchase to enable the use of the purchasing card without a competitive procurement. Our review of orders placed with two medical supply vendors between March 2009 and September 2011, which were subsequently paid with the two purchasing cards, identified 15 orders totaling approximately \$122,000, in which the actual purchase amounts exceeded the \$5,000 limit but were paid in two or more transactions, each \$5,000 or less.

The Comptroller of Maryland's *Corporate Purchasing Card Program Policy and Procedures Manual* prohibits the sharing of purchasing cards among unauthorized employees. Furthermore, the *Manual* prohibits State agencies from splitting purchases to circumvent State and agency procurement regulations and policies.

### **Recommendation 3**

**We recommend that UMB**

- a. prohibit the sharing of purchasing cards and establish proper accountability over each purchasing card purchase, and**
- b. establish a process to ensure that purchasing card purchases are not artificially split into smaller purchases in order to circumvent the procurement requirements.**

## **Contract with Medical System Corporation**

### **Finding 4**

**UMB did not execute certain subsidiary agreements with the University of Maryland Medical System Corporation and, accordingly, did not timely recover the costs of certain non-faculty UMB employees providing services to the Corporation.**

### **Analysis**

UMB did not execute certain subsidiary agreements with the University of Maryland Medical System Corporation and, accordingly, did not recover the costs for certain non-faculty UMB employees who provided services to the Corporation. State law requires UMB to execute an annual contract with the Corporation. The contract with the Corporation provided that UMB is to be reimbursed stated amounts for certain administrative, faculty, and physician services provided to the Corporation (and its hospitals). The contract further described certain other non-faculty UMB employees, whose responsibilities benefited both UMB and the Corporation, for which the Corporation may discontinue funding with 60 days written notice. The contract stated that UMB should maintain a list of these employees on a current basis. As a matter of practice, UMB and the Corporation executed annual individual subsidiary agreements for these shared employees.

Our review disclosed that UMB billed the Corporation approximately \$4.4 million during the period from July 2010 through December 2011 for these non-faculty shared employees' services provided to the Corporation; however, the costs were not paid because UMB had not established subsidiary agreements for

these employees for fiscal years 2011 and 2012. In February 2012, after negotiating with the Corporation, UMB received payment of the full \$4.4 million.

During fiscal year 2011, the Corporation paid UMB approximately \$86.6 million, including \$10.4 million for non-faculty members for which subsidiary agreements had been previously provided.

#### **Recommendation 4**

**We recommend that UMB establish procedures to ensure that subsidiary agreements are executed timely for all employees providing services to the Corporation and that all related costs are recovered from the Corporation.**

### **Information Systems Security and Control**

#### **Background**

The Center for Information Technology Services (CITS) provides information technology support to UMB, including its six professional schools, its graduate school, and its administrative and academic units by developing and maintaining University-wide administrative applications, such as the Student Information Management System (SIMS) and the financial system.

CITS also operates UMB's campus-wide network, which is used for both administrative and academic purposes, with connections to numerous buildings on the UMB campus. The internal network has Internet connectivity and network connections to the University System of Maryland (USM) institutions over the Maryland Research and Education Network. In addition, the campus network is connected to the networks of several affiliated entities (for example, the University of Maryland Medical System Corporation).

#### **Finding 5**

**Monitoring of critical database tables and database access controls was not adequate.**

#### **Analysis**

Monitoring of critical database tables and database access controls was not adequate. Specifically, we noted the following conditions:

- Direct changes to the financial system database tables (such as changes to vendor addresses) were not logged for subsequent review. Therefore, UMB

was unable to readily identify the changes made to financial system database tables so that the propriety of those changes could be assessed.

- Although UMB generated and reviewed a report of direct changes made to SIMS database tables (including the student grade table), we were advised that the entries on this report were not compared to detailed supporting documentation to confirm that the changes made were authorized and proper. As a result, improper or unauthorized changes to critical SIMS database tables could occur without detection.
- SIMS database access rules improperly granted 165 users unnecessary read access to critical production data containing student names and social security numbers. This is sensitive personal information that should be properly protected by stringent access rules.

The USM *Guidelines in Response to the State IT Security Policy*, dated August 2011, specify that member institutions must maintain appropriate audit trails of events and actions related to critical data and that these significant actions and events must be reviewed and documented. Additionally, the *Policy* requires that institutions must implement measures to protect nonpublic information from disclosure.

#### **Recommendation 5**

**We recommend that UMB**

- a. capture and report all direct changes to critical database tables, regularly review these reports, review supporting documentation to determine the propriety of these changes, document these reviews, and retain this documentation for subsequent verification; and**
- b. ensure that access to sensitive personal information is restricted to personnel who require such access for their job responsibilities.**

#### **Finding 6**

**UMB's internal computer network, including key administrative systems, was not properly protected.**

#### **Analysis**

Adequate security measures had not been established to properly protect UMB's internal computer network from internal and external threats. Specifically, we noted the following conditions:

- Firewall rules allowed unnecessary connections to administrative segments of the UMB network, thereby placing various critical network devices at risk. For example, untrusted UMB network segments (such as student dormitories, UMB affiliated parties, and student and guest wireless networks) could access computers running critical administrative systems (such as the financial system). The *USM Guidelines in Response to the State IT Security Policy* require member institutions to configure all firewalls to block all services not required, disable unused ports, and to hide and prevent direct accessing of trusted network addresses from untrusted networks. A similar condition was commented upon in our three preceding audit reports.
- Thirty-nine (39) publicly accessible servers were located on internal network segments rather than being placed in a neutral network zone. Publicly accessible servers should be placed in a neutral network zone, separate from the internal network, to enhance protection of sensitive data and systems on the internal network. The National Institute of Standards and Technology's *Guidelines on Firewalls and Firewall Policy* recommend placing publicly accessible servers in a neutral network zone to protect those systems and an entity's internal network. A similar condition was commented upon in our three preceding audit reports.
- From October 20, 2011 through the completion of our test work (April 16, 2012) Intrusion Detection Prevention System (IDPS) coverage for the majority of the UMB network did not exist. We were advised that UMB turned off its primary IDPS appliance due to problems it caused with certain applications after the device was updated. The *USM Guidelines in Response to the State IT Security Policy* requires member institutions to establish automated and manual processes for IDPS.

### **Recommendation 6**

**We recommend that UMB**

- configure its firewalls to achieve a "least privilege" security strategy giving individuals and devices only those privileges needed to perform assigned tasks (repeat),**
- relocate the publicly accessible servers to a neutral network zone (repeat), and**
- implement IDPS coverage for its network.**

## Working Fund

### **Finding 7**

**Adequate internal controls were not established over UMB's primary working fund.**

#### **Analysis**

UMB had not established adequate controls over its primary working fund. Specifically, two employees were responsible for recording disbursements in the automated working fund system and printing and signing checks. A third employee who was responsible for recording voided transactions in the working fund system also had these same capabilities. Furthermore, UMB had a procedure requiring that all working fund disbursements be subject to an independent review for propriety after issuance of the related checks; however, this review was not comprehensive. Although the system could generate output reports of all checks issued, these reports were not used in the post-issuance review. Instead, working fund disbursement request forms were used as the source for the review, which did not provide assurance that all checks issued were subject to review. Finally, we noted that compositions of the working fund, which provide an accounting for all funds advanced to UMB, were not performed from December 2008 until July 2011, at which time UMB began performing them monthly. As a result of the above conditions, unauthorized working fund disbursements could be made without detection. A similar condition regarding inappropriate access to blank checks was commented upon in our four preceding audit reports.

According to the records of the Comptroller of Maryland, as of January 31, 2012, UMB's advance for the primary working fund was \$300,000. The primary working fund is used by UMB to process general expenses, including incentive payments to clinical research participants, travel expenses, and salary advances. According to UMB's records, during fiscal year 2011, disbursements from the primary working fund totaled approximately \$3.2 million.

#### **Recommendation 7**

**We recommend that UMB establish adequate control over its primary working fund account. Specifically, we recommend that UMB ensure that**

- a. employees who record the primary working fund disbursements in the automated system do not have the ability to print and sign checks (repeat),**
- b. output reports of checks issued are reviewed by independent supervisory personnel and verified to supporting documentation, and**
- c. working fund compositions are completed on a monthly basis.**

**We advised UMB on accomplishing the necessary separation of duties using existing personnel.**

## **Audit Scope, Objectives, and Methodology**

We have audited the University System of Maryland (USM) - University of Maryland, Baltimore (UMB) for the period beginning December 1, 2008 and ending September 6, 2011. The audit was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

As prescribed by the State Government Article, Section 2-1221 of the Annotated Code of Maryland, the objectives of this audit were to examine UMB's financial transactions, records and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations. We also determined the status of the findings contained in our preceding audit report.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of materiality and risk. The areas addressed by the audit included cash receipts, procurements and disbursements, information systems, student accounts receivable, payroll, and equipment. Our audit procedures included inquiries of appropriate personnel, inspections of documents and records, and observations of UMB's operations. We also tested transactions and performed other auditing procedures that we considered necessary to achieve our objectives. Data provided in this report for background or informational purposes were deemed reasonable, but were not independently verified.

Our audit included support services provided by UMB to certain other USM institutions (such as processing certain construction vendor payments). Our audit did not include certain support services provided to UMB by the USM Office (such as endowment accounting and bond financing). These support services are included within the scope of our audits of the USM Office. In addition, our audit did not include an evaluation of internal controls for federal financial assistance programs and an assessment of UMB's compliance with federal laws and regulations pertaining to those programs because the State of Maryland engages an independent accounting firm to annually audit such programs administered by State agencies, including the components of the USM.

UMB's management is responsible for establishing and maintaining effective internal control. Internal control is a process designed to provide reasonable assurance that objectives pertaining to the reliability of financial records, effectiveness and efficiency of operations including safeguarding of assets, and compliance with applicable laws, rules, and regulations are achieved.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

Our reports are designed to assist the Maryland General Assembly in exercising its legislative oversight function and to provide constructive recommendations for improving State operations. As a result, our reports generally do not address activities we reviewed that are functioning properly.

This report includes conditions that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect UMB's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes conditions regarding significant instances of noncompliance with applicable laws, rules, or regulations. Other less significant findings were communicated to UMB that did not warrant inclusion in this report.

The response from the USM Office, on behalf of UMB, to our findings and recommendations is included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise the USM Office regarding the results of our review of its response.

**APPENDIX**



OFFICE OF THE CHANCELLOR

April 3, 2013

Mr. Thomas J. Barnickel III, CPA  
Legislative Auditor  
Office of Legislative Audits  
State Office Building, Room 1202  
301 West Preston Street  
Baltimore, MD 21201

1807  
University of Maryland,  
Baltimore

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University of Maryland,  
College Park

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Bowie State University

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Towson University

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University of Maryland  
Eastern Shore

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Frostburg State University

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Coppin State University

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Salisbury University

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University of Baltimore

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University of Maryland  
Center for Environmental  
Science

1947  
University of Maryland  
University College

1966  
University of Maryland,  
Baltimore County

RE: University System of Maryland –  
University of Maryland, Baltimore  
Period of Audit: December 1, 2008  
through September 6, 2011

Dear Mr. Barnickel:

I have enclosed the University System of Maryland's responses to your draft report covering the examination of the accounts and records of the University of Maryland, Baltimore. Our comments refer to the individual items in the report.

Sincerely,

Handwritten signature of William E. Kirwan in black ink.

William E. Kirwan  
Chancellor

WEK:mk  
Enclosures

cc: Dr. Jay A. Perman, President, UMB  
Mr. James L. Shea, Chair, Board of Regents  
Mr. Anwer Hasan, Chairman, MHEC  
Dr. Danette Howard, Secretary of Higher Education, MHEC  
Mr. Robert Page, Associate Vice Chancellor of Finance, USM Office  
Mr. David Mosca, Director of Internal Audits, USM Office

**Response to the Legislative Audit Report  
University System of Maryland  
University of Maryland, Baltimore**

**For the Period December 1, 2008 – September 6, 2011**

**Disbursement Transactions**

**Finding 1**

**University of Maryland, Baltimore (UMB) did not document the basis for paying vendor invoices that were suspended by its electronic payment system. In addition, these decisions to release the invoices for payment were not subject to supervisory review.**

**Recommendation 1**

**We recommend that UMB**

- a. document the basis for paying invoices that were initially suspended by the automated edit process; and**
- b. subject these invoices to an independent supervisory review to verify the propriety of the invoice payments, at least on a test basis, and ensure this review is documented.**

**UMB Response:**

We agree. The electronic payment system was designed to suspend certain payments so that a review of the propriety of the suspended payment could be performed and a manual override of the suspension processed, if deemed proper. Therefore, we will continue to perform such manual overrides. Beginning May 2012, we implemented procedures requiring formal, documented requests for all overrides of suspended payments. An employee independent of the payment transaction must review and approve the override request and supporting documentation prior to processing the override. Employees who process payments cannot also process overrides.

**Payroll**

**Finding 2**

**UMB had not established adequate internal control over timekeeping and payroll adjustments.**

**Recommendation 2**

**We recommend that UMB**

- a. ensure all employees prepare time records, subject to supervisory review and approval;**
- b. ensure independent supervisory review and approval of all critical changes made to the payroll records; and**
- c. modify the payroll system to prevent timekeepers from making changes to employee time after approval.**

**Response to the Legislative Audit Report  
University System of Maryland  
University of Maryland, Baltimore**

**For the Period December 1, 2008 – September 6, 2011**

**We advised UMB how to segregate payroll duties and ensure propriety of critical changes to payroll records using existing employees.**

**UMB Response:**

We agree.

- a. Existing policies pertaining to employee timekeeping and supervisory review and approval will continue to be reinforced with staff and faculty and compliance will be overseen by the Chief Accountability Officer. Additionally, we are exploring the feasibility of deploying an electronic faculty timekeeping module as part of Phase II of the Human Resources Management System upgrade.
- b. Critical changes made to the payroll records by the Human Resource Services (HRS) supervisor will be independently reviewed and approved by the HRS Executive Director, and documentation will be maintained for audit verification.
- c. The automated payroll system was modified in January 2012 to prevent timekeepers from making changes to employee time after approval.

## **Corporate Purchasing Cards**

**Finding 3**

**UMB did not comply with certain corporate purchasing card requirements regarding split purchases and sharing of cards in one of its departments.**

**Recommendation 3**

**We recommend that UMB**

- a. prohibit the sharing of purchasing cards and establish proper accountability over each purchasing card purchase, and**
- b. establish a process to ensure that purchasing card purchases are not artificially split into smaller purchases in order to circumvent the procurement requirements.**

**UMB Response:**

We agree. Cardholders are instructed that they are not to share and must secure their cards and card numbers, and that splitting purchases to avoid the single purchase transaction limit is prohibited. These restrictions have been reinforced with cardholders and reviewers and, where applicable, sanctions will be imposed. The one department identified by the auditor has reorganized their purchasing responsibilities and obtained additional cards for the employees who were previously helping to complete department purchases. The cards that had been shared were canceled.

**Response to the Legislative Audit Report  
University System of Maryland  
University of Maryland, Baltimore**

**For the Period December 1, 2008 – September 6, 2011**

## **Contract with Medical System Corporation**

### **Finding 4**

**UMB did not execute certain subsidiary agreements with the University of Maryland Medical System Corporation and, accordingly, did not timely recover the costs of certain non-faculty UMB employees providing services to the Corporation.**

### **Recommendation 4**

**We recommend that UMB establish procedures to ensure that subsidiary agreements are executed timely for all employees providing services to the Corporation and that all related costs are recovered from the Corporation.**

### **UMB Response:**

We agree with the recommendation and adjusted the contract with UMMC, beginning with FY 13, to alter the manner in which split funded employees' salary payments are billed and paid. UMB and UMMC established a schedule for projected annual costs to UMMC for its agreed share of salary and fringe benefit costs for University employees. UMMC is now routinely billed and a reconciliation and settlement between billings and actual costs is completed semiannually. The schedule for projected annual costs will be reevaluated and adjusted as needed. It should be noted that at the time of the audit, negotiations with UMMC for the payment of such employees' salaries were ongoing and were not the result of the auditors bringing this issue to our attention. As stated in the audit, the \$4.4 million was received by February 2012.

## **Information Systems Security and Control**

### **Finding 5**

**Monitoring of critical database tables and database access controls was not adequate.**

### **Recommendation 5**

**We recommend that UMB**

- a. capture and report all direct changes to critical database tables, regularly review these reports, review supporting documentation to determine the propriety of these changes, document these reviews, and retain this documentation for subsequent verification; and**
- b. ensure that access to sensitive personal information is restricted to personnel who require such access for their job responsibilities.**

**Response to the Legislative Audit Report  
University System of Maryland  
University of Maryland, Baltimore**

**For the Period December 1, 2008 – September 6, 2011**

**UMB Response:**

We agree with this recommendation and the recommendation has been implemented. CITS captures and reports all changes to critical database tables, reviews the reports and supporting documentation, documents the reviews, and retains documentation for audit verification. In addition, access to sensitive personal information is restricted to personnel who require such access for their job responsibilities.

**Finding 6**

**UMB's internal computer network, including key administrative systems, was not properly protected.**

**Recommendation 6**

**We recommend that UMB**

- a. configure its firewalls to achieve a "least privilege" security strategy giving individuals and devices only those privileges needed to perform assigned tasks (repeat),**
- b. relocate the publicly accessible servers to a neutral network zone (repeat), and**
- c. implement IDPS coverage for its network.**

**UMB Response:**

We agree with this recommendation. The firewalls have been configured to achieve a "least privilege" security strategy; IDPS coverage has been implemented for the UMB network; and 30 of the 39 newly cited servers have already been moved to the appropriate network zone. The relocation of the remaining nine servers will be complete by third quarter 2013.

**Working Fund**

**Finding 7**

**Adequate internal controls were not established over UMB's primary working fund.**

**Recommendation 7**

**We recommend that UMB establish adequate control over its primary working fund account. Specifically, we recommend that UMB ensure that**

- a. employees who record the primary working fund disbursements in the automated system do not have the ability to print and sign checks (repeat),**
- b. output reports of checks issued are reviewed by independent supervisory personnel and verified to supporting documentation, and**
- c. working fund compositions are completed on a monthly basis.**

**Response to the Legislative Audit Report  
University System of Maryland  
University of Maryland, Baltimore**

**For the Period December 1, 2008 – September 6, 2011**

**We advised UMB on accomplishing the necessary separation of duties using existing personnel.**

**UMB Response:**

We agree. We were aware of the internal control limitations of our old working fund system which allowed employees the ability to record disbursements and print and sign checks. At the time of the audit, we were in the process of implementing a new working fund system which has now been up and running since June 2012. The new system has adequate controls in place to properly segregate the functions of recording disbursements and printing signed checks. An independent review of checks issued to supporting documentation is also performed and documented. Finally, working fund compositions are completed monthly to ensure that all working funds are reimbursed in a timely manner.

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