

Audit Report

University System of Maryland Office

September 2019



OFFICE OF LEGISLATIVE AUDITS
DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

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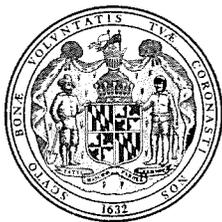
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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF LEGISLATIVE AUDITS
MARYLAND GENERAL ASSEMBLY

Victoria L. Gruber
Executive Director

Gregory A. Hook, CPA
Legislative Auditor

September 30, 2019

Senator Craig J. Zucker, Senate Chair, Joint Audit and Evaluation Committee
Delegate Shelly L. Hettleman, House Chair, Joint Audit and Evaluation Committee
Members of Joint Audit and Evaluation Committee
Annapolis, Maryland

Ladies and Gentlemen:

We have conducted a fiscal compliance audit of the University System of Maryland Office for the period beginning July 1, 2014 and ending August 19, 2018. The Office develops system-wide policies and procedures; monitors academic, financial, and administrative performance; provides system-wide financing through the issuance of bonds; and provides management information for planning and decision-making to the 12 institutions and 2 regional higher education centers of the University System of Maryland (USM). The Office operates a local area network in support of its operations and also serves as the host institution for the Maryland Research and Education Network operating unit.

Our audit disclosed that the Office did not ensure that each USM institution developed and filed policies and procedures for the establishment and monitoring of its Centers and Institutes as required by the USM Board of Regents (BOR), and the Office did not have a comprehensive listing of all such Centers and Institutes within USM institutions. Centers and Institutes, as defined by the BOR, are useful for organizing faculty and staff from different disciplines to focus on teaching, research, and/or service in an area of common interest, and should be justified, in part, by their relationship to institutional programs at the institution. We determined that, as of October 2018, there were more than 270 such entities at 9 of the 12 USM institutions addressing a wide variety of disciplines, such as engineering, environmental research, and entrepreneurship.

We also noted that the Office had not established a policy governing the use of interagency agreements between USM institutions and other State agencies. Without such a policy, there is a lack of assurance that such agreements, which are exempt from State procurement laws, are used only in circumstances deemed

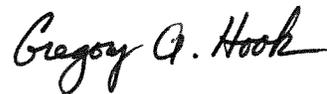
appropriate by the Office. According to the Department of Budget and Management, during fiscal year 2018, there were 301 interagency agreements in place at USM institutions, each with expected expenditures of over \$100,000, and with an aggregate projected value of \$400.5 million.

We also found that malware protection for the Office's computers was not sufficient to provide adequate assurance that the computers were properly protected against malicious software. For example, malware protection software was not installed on several of the Office's servers.

The Office's response to this audit is included as an appendix to this report. We reviewed the response to our findings and related recommendations, and have concluded that the corrective actions identified are sufficient to address all audit issues.

We wish to acknowledge the cooperation extended to us during the audit by the Office and its willingness to address the audit issues and implement appropriate corrective actions.

Respectfully submitted,

A handwritten signature in black ink that reads "Gregory A. Hook". The signature is written in a cursive style with a large, stylized initial 'G'.

Gregory A. Hook, CPA
Legislative Auditor

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* Denotes item repeated in full or part from preceding audit report

Background Information

Agency Responsibilities

The University System of Maryland Office develops system-wide policies and procedures; monitors academic, financial, and administrative performance; provides system-wide financing through the issuance of bonds; and provides management information for planning and decision-making to the 12 institutions and 2 regional higher education centers of the University System of Maryland. The Office oversees the development and management of the University System of Maryland's two regional higher education centers: the Universities at Shady Grove and the University System of Maryland at Hagerstown. The Office also serves as the staff to the Board of Regents.

The Office operates a local area network in support of its operations. In addition, the Office is the host institution for the Maryland Research and Education Network (MDREN) Operating Unit, which maintains and operates the MDREN. MDREN is a telecommunications network with connections to University System of Maryland (USM) institutions and other Maryland public and private colleges, universities, and community colleges. MDREN provides Internet access, connections for research activity, access to USM institutions' online library systems, and connectivity for distance learning.

According to the State's records, the Office's expenditures totaled approximately \$34.4 million during fiscal year 2018.

Financial Statement Audits

An independent accounting firm is engaged by the Office for the purpose of expressing an opinion on the System's financial statements each year. In the related audit reports for the fiscal years ended June 30, 2015, 2016, 2017, and 2018, the firm stated that the basic financial statements presented fairly, in all material respects, the financial position of the System, and the respective changes in financial position and cash flows for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

Status of Findings From Preceding Audit Report

Our audit included a review to determine the status of the three findings contained in our preceding audit report dated May 6, 2015. As disclosed in the following

table, we determined that the Office satisfactorily addressed two of these findings. The remaining finding is repeated in this report.

Status of Preceding Findings		
Preceding Finding	Finding Description	Implementation Status
Finding 1	Network workstations and servers were not sufficiently protected against malware.	Repeated (Current Finding 3)
Finding 2	The Office's network was not adequately secured from untrusted traffic.	Not repeated
Finding 3	The Office did not ensure compliance with certain reporting requirements intended to help monitor affiliated foundations.	Not repeated

Findings and Recommendations

Centers and Institutes

Finding 1

The University System of Maryland Office did not ensure that each University System of Maryland (USM) institution filed policies and procedures, as required, for the establishment and monitoring of its Centers and Institutes, and did not have a comprehensive listing of all such Centers and Institutes.

Analysis

The Office did not ensure that each USM institution developed and filed policies and procedures for the establishment and monitoring of its Centers and Institutes as required by the USM Board of Regents (BOR) *Policy for the Establishment and Monitoring of Centers and Institutes in the University System of Maryland*. In addition, the Office did not have a comprehensive listing of established Centers and Institutes and consequently, could not identify all such Centers and Institutes within USM institutions. After our inquiries, the Office contacted each USM institution and, based on the information provided, we determined that there were 277 Centers and Institutes established by USM institutions as of October 2018, with such entities existing at 9 of USM's 12 institutions.

Generally, Centers and Institutes are organized, non-departmental units that may or may not have external or State funding and a separately identified budget. The 277 USM Centers and Institutes address a wide variety of disciplines, including engineering, health and biomedical research, environmental research, and entrepreneurship. For example, the Hilltop Institute is a research organization at the University of Maryland Baltimore County (UMBC) dedicated to improving the health and wellbeing of people and communities through data analytics and research on behalf of government agencies, foundations, and non-profit organizations. Another entity, the Regional Economic Studies Institute at Towson University, provides economic and policy analysis services and expertise to various entities and organizations.

We found that the Office did not ensure that USM institutions had developed and filed the required policies and procedures and were monitoring these entities as required by the BOR *Policy*. However, we obtained and reviewed the procedures prepared by UMBC for the establishment of its Centers and Institutes. UMBC's procedures provided operational guidance and requirements for the establishment, justification, and approval of these entities, as well as their administrative structure and reporting requirements for monitoring purposes. According to the

listing prepared by UMBC in response to the Office's inquiries, it has 33 such entities. Because of the lack of centralized records at the Office, we did not determine if all USM institutions had developed the required policies and procedures, and if all entities had been justified.

The BOR *Policy* states that such entities are useful for organizing faculty and staff from different disciplines to focus on teaching, research, and/or service in an area of common interest. The *Policy* requires that each institution develop policies and procedures for the establishment and monitoring of these Centers and Institutes, and that these policies and procedures be filed with USM's Office of the Chancellor. The *Policy* further notes that Centers and Institutes should be justified on the basis of their contribution to the specified missions of research and service and by their relationship to instructional programs at the institution. Centers and Institutes are not Affiliated Foundations, for which there is a separate and distinct BOR policy.

Recommendation 1

We recommend that the Office

- a. ensure all USM institutions comply with existing BOR *Policy* regarding the development of policies and procedures by USM institutions for the establishment and monitoring of Centers and Institutes,**
- b. ensure all institutions file these policies with the USM Office,**
- c. determine that each USM institution has adequately documented that each Center and Institute is justified on the basis of its respective contribution and relationship to the instructional programs at the institution, and**
- d. maintain a comprehensive listing of all current Centers and Institutes established by USM institutions in order to better monitor compliance with BOR *Policy*.**

Interagency Agreements

Finding 2 (Policy Issue)

The Office had not established a policy governing the use of interagency agreements by USM institutions. The Department of Budget and Management reported the existence of 301 such agreements during fiscal year 2018 for which expenditures for each were expected to exceed \$100,000.

Analysis

The Office had not established a policy governing the use of interagency agreements between USM institutions and other State agencies. Interagency

agreements are used by State agencies to obtain services, such as technical assistance and training, from institutions of higher education, and audit reports we (Office of Legislative Audits) have issued in recent years have included findings questioning the appropriateness of their use by certain State agencies. State budget law places requirements on State agencies to report certain interagency agreement activity to the State's Department of Budget and Management (DBM) for its review and reporting to the General Assembly's budget committees. According to a report prepared by DBM, during fiscal year 2018, there were 301 such agreements in place with USM institutions that had expected expenditures of more than \$100,000 each, and an aggregate projected value of \$400.5 million.

Interagency agreements are exempt from State procurement laws, including the requirements for competitive procurement, publication of solicitation and awards, and Board of Public Works' approval. Although a governing policy from the Office is not required by State law, we believe that, without one, there is a lack of assurance that the use of interagency agreements is appropriate and not a means to circumvent State procurement and budgetary policies and processes. We believe that USM institutions should enter into such agreements only in circumstances deemed appropriate by the Office and in situations in which the institutions can provide some type of existing institutional knowledge or expertise to the State agency.

Audit reports we have issued on certain USM institutions and State agencies have included findings questioning the use of interagency agreements by those entities. Those findings have highlighted, for example, agreements that appear to have circumvented State procurement and budgetary processes, agreements that were for services outside the mission of the applicable institution, and agreements with administrative or overhead charges paid to the institution that appeared excessive or questionable. For example, the following four findings were included in audit reports issued during the period from June 2016 through November 2018.

- Towson University's Division of Economic and Community Outreach (DECO) entered into three consecutive interagency agreements with the Maryland State Department of Education (MSDE) to fill an upper management position at MSDE in a manner that was not consistent with State law and DECO's mission.¹ State law provides that State employees should perform all State functions in preference to contracting with the private sector. DECO's mission is to leverage the University's highly qualified research and project talent to solve critical issues facing Maryland's workforce and

¹ Effective July 2018, DECO is now referred to as the Division of Strategic Partnerships & Applied Research.

- economy. MSDE had a budgeted position for this upper management position, but used the interagency agreement to procure the required services at an enhanced salary. MSDE paid DECO \$771,000 (including administrative fees ranging from 15 to 28 percent) during a period of approximately three and a half years. (*Towson University report issued November 1, 2016 and MSDE report issued June 22, 2016*)
- The Maryland Department of Health (MDH) had 304 interagency agreements with USM institutions valued at approximately \$329.5 million that were in effect during the period from February 2013 to January 2016. MDH had not determined that obtaining the related services in this manner was more cost-effective than seeking additional budgeted positions or procuring the services through a competitive procurement process. According to the descriptions of the agreements reported to DBM, of the 304 agreements, 102 totaling \$122.7 million were for general staffing purposes, which allowed MDH to augment its staff outside of the budgetary process. Furthermore, the services provided did not always appear to be within the mission of the particular university unit under which the staff were hired. Finally, MDH did not determine the appropriateness of administrative fees paid to the universities, which totaled \$25.6 million, ranging from 0 to 31 percent of the agreement value. (*MDH report issued August 30, 2017*)
 - The University of Maryland, Baltimore (UMB) acquired certain information technology services on behalf of the Maryland Longitudinal Data System Center through an existing interagency agreement, allowing the Center to avoid using a competitive procurement process for these services. The Center requested UMB to contract with two vendors to obtain the services of two specific individuals for information technology services during the period from July 2014 through March 2016 at a cost of approximately \$539,000. The cost included a facilities and administrative fee of 10 to 15 percent even though UMB did not exercise any contractual responsibilities other than procuring the contracts and processing related payments to the companies. (*UMB report issued September 22, 2016 and Maryland Longitudinal Data System Center report issued February 26, 2016*)
 - The Maryland Transit Administration used an interagency agreement with a USM institution to circumvent State procurement regulations, which require a competitive procurement process. MTA directed the institution to enter into an agreement with a private vendor to provide training services that were outside the scope of an existing interagency agreement. MTA directed the USM institution to the specific vendor for these services, which were not

competitively procured. The institution had minimal involvement in the work performed by the vendor. (*MTA report issued November 20, 2018*)

Because of the potential for misuse of interagency agreements, it is incumbent upon the Office to establish a policy regarding the use of such agreements by USM institutions, including guidance establishing appropriate uses of such agreements (such as providing existing institutional expertise to the State agency), and the application of reasonable and consistent administrative fees.

Recommendation 2

We recommend that the Office establish a policy governing the acceptable uses of interagency agreements between USM institutions and other State agencies.

Information Systems Security and Control

Finding 3

Malware protection for the Office's computers was not sufficient to provide adequate assurance that the computers were properly protected against malicious software.

Analysis

Malware protection for the Office's computers was not sufficient to provide adequate assurance that the computers were properly protected against malicious software. Our December 2018 review disclosed the following conditions:

- Malware protection software was not installed on several of the Office's servers. Specifically, per the Office's records, we noted that 33 of 61 servers, running various types of operating systems software did not have malware protection software installed. A similar condition was noted in our prior audit report.
- Fourteen (10 servers and 4 workstations) of the Office's 240 computers reviewed were running outdated operating system software product versions, which were no longer supported by the operating system developer. Developer support for the software versions on 13 of the 14 computers ended between April 2014 and July 2015 and support for the remaining computer ended in July 2010. Since then, updates for these software versions to address newly discovered vulnerabilities no longer exist.

- Local administrative rights were not properly restricted. Our test of 94 computers identified 9 users who were inappropriately assigned local administrative rights to their workstations since these users were not either network or system administrators. If these workstations were infected with malware, the malware would run with administrative rights and expose these workstations, and possibly the Office's broader network, to a greater risk of compromise than if the workstations' user accounts operated with user rights. In addition, the administrative rights would permit these 9 users to disable the malware protection software on their workstations. A similar condition was noted in our prior audit report.

The USM *IT Security Standards* state that various measures be employed to protect workstations and servers from malicious software, including the use of installed malware protection software, maintaining patched software and assigning administrative rights to employees' workstations only when needed.

Recommendation 3

We recommend that the Office ensure that

- a. a documented risk assessment is completed, focused on the need for installing malware protection software on all servers to the extent possible (repeat), with documented management approval recorded for any risk assessment decision to operate servers without installed malware prevention software noting any compensating controls;**
- b. all computers operate with current vendor supported versions of operating system software; and**
- c. administrative rights on workstations are restricted to only system and network administrators, and those users specifically requiring such rights to perform their job functions, with any such assignments to non-IT administrators being justified, approved, documented, and regularly reviewed to determine whether such rights are still needed (repeat).**

Audit Scope, Objectives, and Methodology

We have conducted a fiscal compliance audit of the University System of Maryland Office for the period beginning July 1, 2014 and ending August 19, 2018. 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 the Office's financial transactions, records, and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of significance and risk. The areas addressed by the audit included endowment funds, revenue bonds, disbursements, corporate purchasing cards, cash receipts, payroll, certain University System of Maryland Board of Regents policies, and information technology systems. Our audit included support services (that is, endowment accounting and bond financing) provided by the Office on a centralized basis for other units of the University System of Maryland. We also determined the status of the findings contained in our preceding audit report.

Our audit did not include certain support services provided to the Office by the University of Maryland, College Park (UMCP), such as processing vendor payment transmittals and payroll. These support services are included within the scope of our audits of UMCP. In addition, our audit did not include an evaluation of internal controls over compliance with federal laws and regulations for federal financial assistance programs and an assessment of the Office's compliance with those laws and regulations 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.

To accomplish our audit objectives, our audit procedures included inquiries of appropriate personnel, inspections of documents and records, observations of the Office's operations, and tests of transactions. Generally, transactions were selected for testing based on auditor judgment, which primarily considers risk. Unless otherwise specifically indicated, neither statistical nor non-statistical audit sampling was used to select the transactions tested. Therefore, the results of the

tests cannot be used to project those results to the entire population from which the test items were selected.

We also performed various data extracts of pertinent information from the State's Financial Management Information System (such as revenue and expenditure data) and the State's Central Payroll Bureau (payroll data), as well as from the contractor administering the State's Corporate Purchasing Card Program (credit card activity). The extracts are performed as part of ongoing internal processes established by the Office of Legislative Audits and were subject to various tests to determine data reliability. We determined that the data extracted from these sources were sufficiently reliable for the purposes the data were used during this audit. Finally, we performed other auditing procedures that we considered necessary to achieve our audit objectives. The reliability of data used in this report for background or informational purposes was not assessed.

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

The Offices' response 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 Office regarding the results of our review of its response.

OFFICE OF THE CHANCELLOR

September 24, 2019

Mr. Gregory A. Hook, CPA
Legislative Auditor
Office of Legislative Audits
State Office Building, Room 1202
301 West Preston Street
Baltimore, MD 21201

Re: University System of Maryland – University System of
Maryland Office
Period of Audit: July 1, 2014 through August 19, 2018

Dear Mr. Hook:

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 System of Maryland – University System of Maryland Office. Our comments refer to the individual items in the report.

Sincerely yours,



Robert L. Caret
Chancellor

Enclosures

cc: Ellen Herbst, Vice Chancellor for Administration and Finance, USM Office
Ms. Linda R. Gooden, Chair, University System of Maryland Board of Regents
Mr. Robert L. Page, Associate Vice Chancellor for Financial Affairs, USM Office
Mr. David Mosca, Director of Internal Audit, USM Office

University System of Maryland Office

Agency Response Form

Centers and Institutes

Finding 1
The University System of Maryland Office did not ensure that each University System of Maryland (USM) institution filed policies and procedures, as required, for the establishment and monitoring of its Centers and Institutes, and did not have a comprehensive listing of all such Centers and Institutes.

We recommend that the Office

- a. ensure all USM institutions comply with existing BOR *Policy* regarding the development of policies and procedures by USM institutions for the establishment and monitoring of Centers and Institutes,**
- b. ensure all institutions file these policies with the USM Office,**
- c. determine that each USM institution has adequately documented that each Center and Institute is justified on the basis of its respective contribution and relationship to the instructional programs at the institution, and**
- d. maintain a comprehensive listing of all current Centers and Institutes established by USM institutions in order to better monitor compliance with BOR *Policy*.**

Agency Response			
Analysis			
Please provide additional comments as deemed necessary.			
Recommendation 1a	Agree	Estimated Completion Date:	Fall 2019
Please provide details of corrective action or explain disagreement.	The System Office will revisit the reporting requirements associated with the BOR policy for the institution's development of policies and procedures to be used with the establishment and monitoring of Centers and Institutes.		
Recommendation 1b	Agree	Estimated Completion Date:	Spring 2020
Please provide details of corrective action or explain disagreement.	The System Office will track institution's submission of policies developed by each to be used with Centers and Institutes.		
Recommendation 1c	Agree	Estimated Completion Date:	Spring 2020

University System of Maryland Office

Agency Response Form

Please provide details of corrective action or explain disagreement.	The System Office will ask each institution to provide a listing of existing and ongoing Centers and Institutes, with assurance that each has been reviewed and continues to be justified on the basis of its respective contribution and relationship to the instructional programs at the institution.		
Recommendation 1d	Agree	Estimated Completion Date:	Spring 2020
Please provide details of corrective action or explain disagreement.	The System Office will develop and maintain a list of institution approved Centers and Institutes.		

University System of Maryland Office

Agency Response Form

Interagency Agreements

Finding 2 (Policy Issue)

The Office had not established a policy governing the use of interagency agreements by USM institutions. The Department of Budget and Management reported the existence of 301 such agreements during fiscal year 2018 for which expenditures for each were expected to exceed \$100,000.

We recommend that the Office establish a policy governing the acceptable uses of interagency agreements between USM institutions and other State agencies.

Agency Response			
Analysis			
Please provide additional comments as deemed necessary.			
Recommendation 2	Agree	Estimated Completion Date:	Summer 2020
Please provide details of corrective action or explain disagreement.	The System will develop a policy governing the acceptable uses of interagency agreements between USM institutions and other state agencies as pertains to USM institutions.		

University System of Maryland Office

Agency Response Form

Information Systems Security and Control

Finding 3
Malware protection for the Office's computers was not sufficient to provide adequate assurance that the computers were properly protected against malicious software.

We recommend that the Office ensure that

- a. a documented risk assessment is completed, focused on the need for installing malware protection software on all servers to the extent possible (repeat), with documented management approval recorded for any risk assessment decision to operate servers without installed malware prevention software noting any compensating controls;
- b. all computers operate with current vendor supported versions of operating system software; and
- c. administrative rights on workstations are restricted to only system and network administrators, and those users specifically requiring such rights to perform their job functions, with any such assignments to non-IT administrators being justified, approved, documented, and regularly reviewed to determine whether such rights are still needed (repeat).

Agency Response			
Analysis			
Please provide additional comments as deemed necessary.			
Recommendation 3a	Agree	Estimated Completion Date:	October 2019
Please provide details of corrective action or explain disagreement.	The USMO IT Operations team will ensure all workstations are running malware protection as well as all servers requiring malware protection based on an updated and documented risk assessment. Should USMO IT deem any servers out of scope for malware detection, appropriate justification and management sign-off will be acquired.		
Recommendation 3b	Agree	Estimated Completion Date:	October 2019
Please provide details of corrective action or explain disagreement.	USMO is in the final stages of a comprehensive Operating System update including workstations and servers. This will bring all computers to current vendor supported status.		
Recommendation 3c	Agree	Estimated Completion Date:	November 2019

University System of Maryland Office

Agency Response Form

Please provide details of corrective action or explain disagreement.	USMO IT will identify, document justification, acquire approval and perform regular reviews of workstations for which “non-IT system/network administrators” have been given administrative rights. During this process, an evaluation of current procedures for allowing admin access will be done and updated as deemed appropriate.
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AUDIT TEAM

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