

Audit Report

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**Maryland Higher Education Commission**

June 2021

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

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OFFICE OF LEGISLATIVE AUDITS  
MARYLAND GENERAL ASSEMBLY

Victoria L. Gruber  
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Legislative Auditor

June 24, 2021

Senator Clarence K. Lam, M.D., Senate Chair, Joint Audit and Evaluation Committee  
Delegate Carol L. Krimm, 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 Maryland Higher Education Commission (MHEC) for the period beginning November 5, 2015 and ending March 31, 2020. MHEC provides statewide planning, leadership, coordination, and advocacy for Maryland's postsecondary educational institutions. MHEC also administers several aid programs to these institutions and provides financial assistance to students.

Our audit disclosed that MHEC did not always take the necessary steps, in accordance with its established policies, to ensure that student service obligations were fulfilled as a condition for certain career-based financial aid awards. For example, follow-up notices to unresponsive students meant to verify that required service obligations were being met were often sent weeks or months late, delaying further follow-up action from being taken. In addition, adjustments made to the accounts receivable records of financial aid award recipients were not subject to independent review and approval. Service obligation related awards totaled \$7.9 million during fiscal year 2020.

In addition, MHEC had not established sufficient controls over the transactions recorded on its automated financial aid system, the user accounts and related capabilities activated on the system, and the personally identifiable information (PII) of financial aid applicants. For example, a number of MHEC employees could change information affecting financial aid award decisions and amounts without these changes being reviewed by supervisory personnel. We also identified a significant number of unique sensitive information records with PII stored in a database that were not properly protected.

Furthermore, MHEC had not implemented effective procedures for ensuring that all payments made to community colleges for retirement and pension contributions, which totaled \$60.8 million in fiscal year 2019, as well as payments for certain grant funds totaling \$5.5 million, were proper. Finally, MHEC lacked a mechanism, such as a web application firewall, to provide a comprehensive security control over its financial aid system.

Our audit included a review to determine the status of the eight findings contained in our preceding MHEC audit report. We determined that MHEC satisfactorily addressed three of these findings. The remaining five findings are repeated in the report.

MHEC's response to this audit is included as an appendix to this report. We reviewed the response and noted general agreement to our findings and related recommendations, and while there are other aspects of the response which will require further clarification, we do not anticipate that these will require the Joint Audit and Evaluation Committee's attention to resolve. Finally, we have edited MHEC's response to remove certain detailed information regarding information systems security, as allowed by our policy.

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

Respectfully submitted,



Gregory A. Hook, CPA  
Legislative Auditor

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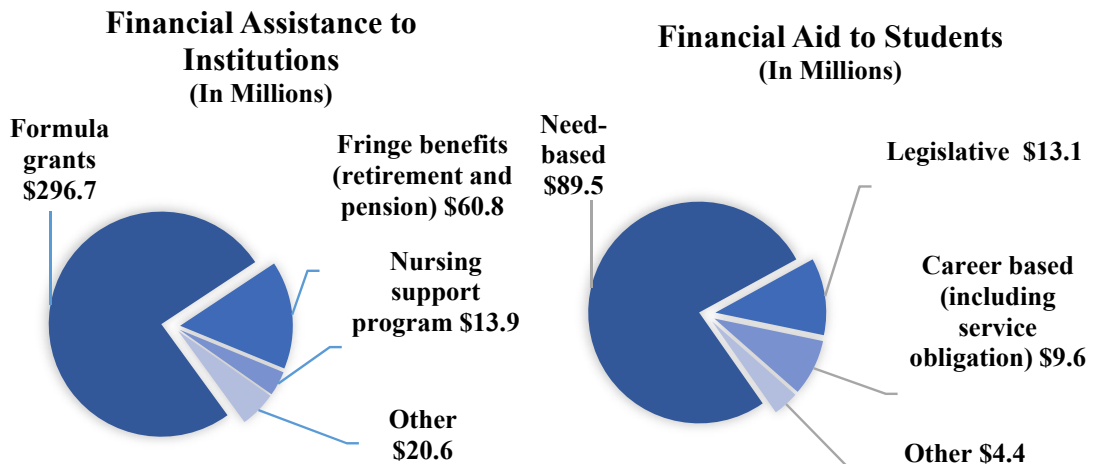
\* Denotes item repeated in full or part from preceding audit report

# Background Information

## Agency Responsibilities

The Maryland Higher Education Commission (MHEC) provides statewide planning, leadership, coordination, and advocacy for Maryland's postsecondary educational institutions. MHEC also administers several aid programs to these institutions and provides financial assistance to students. Student financial aid programs administered by MHEC are primarily State funded. According to the State's records, during fiscal year 2019, MHEC provided approximately \$392.0 million in financial assistance to public and non-public institutions of higher education (including community colleges) and more than 51,990 financial aid awards totaling approximately \$116.6 million to students pursuing postsecondary education (see Figure 1). In addition, MHEC provided approximately \$8.1 million in other educational grants to various State, local, and private institutions during fiscal year 2019.

**Figure 1**  
**Fiscal Year 2019 Financial Assistance to Institutions and Students**



Source: MHEC Records

## Status of Findings From Preceding Audit Report

Our audit included a review to determine the status of the eight findings contained in our preceding audit report dated January 20, 2017. As disclosed in Figure 2 below, we determined that MHEC satisfactorily addressed three of these findings. The remaining five findings are repeated in this report.

**Figure 2**  
**Status of Preceding Findings**

<b>Preceding Finding</b>	<b>Finding Description</b>	<b>Implementation Status</b>
Finding 1	MHEC did not adequately monitor student service obligation fulfillment as a condition for certain financial aid awards and did not always place non-responsive students into repayment status.	<b>Repeated</b> (Current Finding 1)
Finding 2	Delinquent accounts were not properly pursued for collection and referred to the Department of Budget and Management's Central Collection Unit.	Not repeated
Finding 3	Sufficient controls were not established over critical financial aid recorded on the Maryland College Aid Processing System (MDCAPS), as well as over the issuance and monitoring of user access to MDCAPS.	<b>Repeated</b> (Current Finding 3)
Finding 4	Critical adjustments to recipient accounts were processed on the Service Obligation Loan Repayment module without independent verification.	<b>Repeated</b> (Current Finding 4)
Finding 5	MHEC did not ensure the State's retirement and pension contributions for community college employees, which totaled approximately \$54.5 million for fiscal year 2015, were proper.	<b>Repeated</b> (Current Finding 5)
Finding 6	MHEC did not have adequate procedures to ensure the propriety of State funding to reimburse community colleges for certain nonresident fees and for the English for Speakers of Other Languages program. Such payments totaled \$11.5 million in fiscal year 2015.	Not repeated
Finding 7	The MHEC network was not sufficiently secured in that effective intrusion detection prevention system coverage did not exist.	Not repeated
Finding 8	Sensitive personally identifiable information in the MDCAPS database was not properly protected.	<b>Repeated</b> (Current Finding 7)

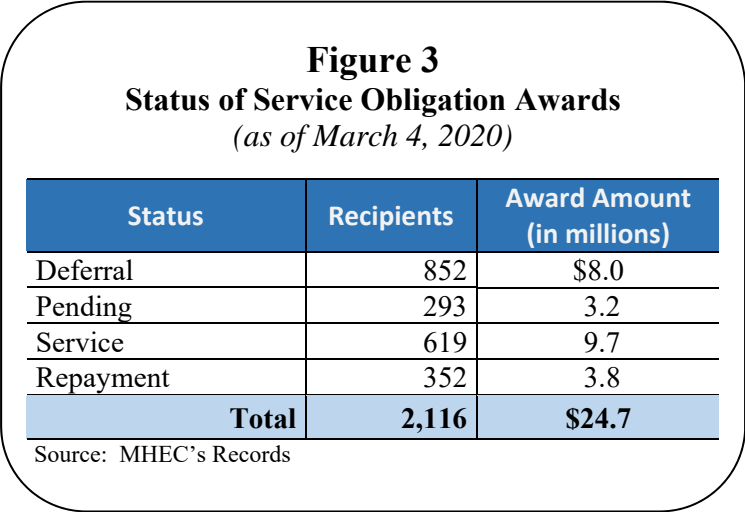
# Findings and Recommendations

## Career-Based Financial Aid

### Background

The Maryland Higher Education Commission (MHEC) awards certain career-based financial aid that requires fulfillment of a service obligation. For example, recipients of graduate nursing faculty scholarships are required to work as a full-time nurse faculty member, hospital educator, or in an approved educational role for one year for each academic year the award was received. Recipients who do not fulfill their service obligations must repay their awards unless the obligation is forgiven as provided for in the agreements between MHEC and the students receiving the aid (for example, as a result of an unforeseen disability). According to MHEC’s records, 1,607 financial aid awards with service obligation requirements totaling approximately \$7.9 million were awarded in fiscal year 2020. As of March 4, 2020, there were 2,116 active recipients of a career-based financial aid with original awards totaling \$24.7 million in one of four obligation statuses (see Figure 3):

- **Deferral** – Recipients are placed in this status while still enrolled as a student during which the service obligation is deferred.
- **Pending** – Recipients are placed in this status when no longer enrolled as a student and must start fulfilling their service obligation.
- **Service** – Recipients are placed in this status when their reported service employment is confirmed by MHEC.
- **Repayment** – Recipients are placed in this status when MHEC is unable to confirm that a recipient in pending status is fulfilling their service obligation.



MHEC’s policy is to request each recipient in pending status to provide information on whether they were fulfilling their service obligation. Eligible service employment reported by the recipient is subsequently confirmed with the employer using an employment verification notice. These requests and confirmations are repeated annually until the service obligation is fulfilled. On a monthly basis, MHEC generates various automated reports to help monitor the

status of recipients and to identify accounts requiring follow-up action, such as generating the aforementioned requests for recipient employment information or employer confirmations, or moving an account from one status to another.

**Finding 1**

**MHEC did not monitor service obligation compliance in a timely and comprehensive manner, and consequently did not ensure that repayments were pursued when required.**

**Analysis**

MHEC did not timely monitor and enforce service obligation fulfillment or pursue required repayments. Specifically, our review of MHEC monitoring during calendar year 2019 disclosed that MHEC did not timely generate and review all the available service obligation monitoring reports. For example, for three months in calendar year 2019, MHEC did not generate for review, six reports (of eight that could be produced) showing award recipients and employers requiring some form of follow-up action (such as the report that identifies recipients who have not submitted their employment information). For five other months, only some of these reports were generated.

MHEC also did not send recipients required service obligation requests timely or follow-up timely when recipients did not respond to the notices. We judgmentally selected 17 recipients who received financial aid awards totaling approximately \$193,000 during our audit period with service obligations.<sup>1</sup> Our review disclosed delays of 10 to 29 days in sending the initial service obligation requests to 4 recipients with awards totaling approximately \$21,000 and delays of 74 to 208 days in sending the subsequent annual notices to 5 recipients with outstanding obligations totaling approximately \$46,000. Based on MHEC's policy, the initial notice should be sent no more than 14 days after a recipient is placed in pending status and subsequent annual notices should be issued one year after receiving the recipient's prior response.

Our review also disclosed that required follow-up notices for 12 of the 17 recipients with awards totaling \$108,000 who did not respond to the initial service obligation requests were issued between 14 to 442 days late. For example, one unresponsive recipient was sent a follow-up request 434 days after the first notice was sent and a second follow-up request was not sent until 176 days later. MHEC's policy specifies that two follow-up requests are to be sent at 45-day intervals when recipients or employers do not respond to initial requests.

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<sup>1</sup> Our selection was made from higher risk recipients. Specifically, the selection was made from recipients that had not submitted employment information for an extended time, but were still in pending or service status rather than repayment status.

The failure to generate the monitoring reports and send timely notices is significant because collection efforts are generally not initiated by MHEC's accounting department until all required requests have been sent and no response has been received. Similar conditions regarding the failure to send required requests timely were commented upon in our three preceding audit reports dating back to 2010.

**Recommendation 1**

**We recommend that MHEC**

- a. generate and review all reports of recipients and employers requiring initial or follow-up action on a timely basis (repeat), and**
- b. ensure that all required requests are sent and follow-up action is taken in a timely manner (repeat).**

**Finding 2**

**Adjustments made to recipient accounts were not subject to independent review and approval, and MHEC did not ensure that repayments due from recipients who did not meet their service obligation were posted to its accounts receivable system.**

**Analysis**

MHEC did not have a process for the independent review and approval of adjustments made to recipient accounts for propriety, and did not ensure that repayments due from recipients who did not meet their service obligation were posted to its accounts receivable system. According to MHEC's records, MHEC processed 1,609 adjustments totaling approximately \$5.1 million in its accounts receivable system during our audit period. Our review of 10 significant adjustments totaling approximately \$233,000 processed between January 2018 and October 2019, selected from a report of all adjustments processed during the period from November 2015 through January 2020, did disclose that those adjustments were proper.

However, MHEC had no documentation that, during the audit period, it had reconciled the total amount due from students on its financial aid system to the corresponding amount in its separate accounts receivable system as required by its policy. The financial aid system is used as the source for the manual postings of amounts owed to the accounts receivable system, which is used for collection activity. Consequently, there was a lack of assurance that all amounts due had been recorded in MHEC's accounts receivable system and pursued for collection.

The Comptroller of Maryland's *Accounting Procedures Manual* requires supervisory review and approval of adjustments to accounts receivable records. In addition, MHEC's policies require an annual reconciliation between its financial aid system and the accounts receivable records.

## **Recommendation 2**

**We recommend that MHEC**

- a. ensure that adjustments posted to the accounts receivable system, along with supporting documentation, are reviewed and approved by independent supervisory personnel and that this review is documented; and**
- b. ensure that all repayments due from recipients were posted to its accounts receivable system by reconciling its financial aid and accounts receivable systems as required by its policies.**

## **Maryland College Aid Processing System (MDCAPS)**

### **Background**

MHEC uses MDCAPS to store personal, academic, and financial information for individuals applying for financial aid to attend Maryland colleges. MDCAPS also includes the Service Obligation Loan Repayment (SOLR) module, which is used to monitor the fulfillment of service obligations by individuals who, as students, received financial aid with service obligation requirements.

### **Finding 3**

**Sufficient controls were not established over the issuance and monitoring of user access to MDCAPS.**

### **Analysis**

Sufficient controls were not established over the issuance and monitoring of user access to MDCAPS. MHEC assigned system access capabilities to MHEC employees as well as to certain users at external entities, such as employees of higher education institutions. As of September 1, 2020, there were 1,350 active user accounts on the system, of which 1,305 were user accounts at external entities.

- MHEC did not have a policy requiring external user requests for the assignment or modification of system access be approved by authorized personnel at the external entities and could not document certain access granted to external users, as well as MHEC employees. Access granted to external users was generally limited to financial aid awards within the user's

institution; nevertheless, this access allowed these users to certify MHEC-funded financial aid awarded for disbursement to students, and accordingly, should be properly approved by the external entity.

Our review of 15 active external user accounts disclosed that user agreements were on file for 11 of the accounts, but were not approved by authorized personnel at the applicable external entities. Furthermore, MHEC could not document access granted to certain users, as there was no user agreement form on file for 4 of these 15 external accounts. In addition, our test of 10 MHEC accounts also disclosed that there was no user agreement form on file for 4 of these accounts. MHEC management advised us that 5 of the 8 accounts with no user agreements were created for system maintenance or help-desk purposes, including 3 that had been created by MHEC's system vendor with full access capability, including for example the ability to adjust student awards.

- MHEC did not use available output reports to review user access granted to MHEC employees. Rather, MHEC used a manually maintained spreadsheet to perform the periodic reviews of user access. We noted 13 of the 39 active MHEC accounts included on the system output reports, were not on the spreadsheet. Therefore, these accounts were not included in MHEC's July 2020 review of employee access, and these 13 accounts included 2 accounts assigned to terminated employees and 2 accounts assigned to individuals who longer needed access to perform their job duties. Furthermore, the reviews of user access were not independent because the employee who conducted them was also the employee responsible for establishing, modifying, and disabling user accounts.

MHEC also did not require external entities to periodically review system access granted to their employees to ensure that such access was still appropriate. Our review disclosed that, as of September 2020, there were 650 active external user accounts that had not logged into MDCAPS for at least six months, calling into question the necessity of those user accounts. One active account had no recorded log on since June 2011.

The State of Maryland *Information Technology Security Manual* requires proper account management practices, such as obtaining authorization from appropriate officials to issue user accounts to intended individuals and disabling user accounts when no longer needed, which is immediately upon user exit from employment or 60 days for inactive accounts. Without adequate monitoring of accounts and transactions, improper awards could be issued to students. Similar conditions were commented upon in our preceding audit report.

### **Recommendation 3**

**We recommend that MHEC**

- a. require independent authorization for the establishment or modification of all user access accounts, and retain the related authorization forms on file (repeat);**
- b. ensure that periodic reviews of employee access are comprehensive and performed by an employee independent of the process of establishing or modifying user accounts (repeat);**
- c. ensure that access reviews of external users are performed by external entities and that documentation of these reviews is received and reviewed (repeat); and**
- d. remove unnecessary or improper user accounts or access capabilities, including those noted above (repeat).**

#### **Finding 4**

**MHEC did not adequately restrict user access to SOLR resulting in employees with unnecessary access to process critical functions and others with the ability to process adjustments without independent review and approval.**

#### **Analysis**

MHEC did not adequately restrict user access to SOLR resulting in employees with unnecessary access to process critical functions and others with the ability to process adjustments without independent review and approval. Specifically, 8 users were assigned system capabilities that allowed them to process adjustments in SOLR although we determined that the users did not need this access to perform their job duties. Furthermore, 7 additional users could process adjustments without independent supervisory review and approval. As a result, these employees unilaterally could forgive or defer a recipient's service obligation, or record a recipient's service obligation as having been fulfilled.

Although the system had the capability to generate automated output reports of adjustments processed in SOLR, MHEC did not use the reports to verify the propriety of these transactions. During fiscal year 2019, MHEC made 627 adjustments in SOLR to designate a recipient's service obligation status as fulfilled, paid-in full, forgiven, or deferred. These 627 recipients had been awarded financial aid totaling approximately \$5.2 million. Our limited testing did not disclose any improper status adjustments.

Similar conditions were commented upon in our preceding audit report. In response to our prior report, MHEC had established a written policy to review

status adjustments annually. However, as of October 2020, MHEC had yet to perform the required annual reviews.

#### **Recommendation 4**

**We recommend that MHEC**

- a. establish procedures, including the use of output reports, to allow for an independent review and approval of critical adjustments to recipient service obligation accounts on SOLR based on supporting documentation (repeat); and**
- b. remove any unnecessary access capabilities, including those noted above.**

### **Aid to Community Colleges**

#### **Finding 5**

**MHEC had not implemented effective procedures for ensuring that all payments made to community colleges for retirement and pension contributions were proper.**

#### **Analysis**

MHEC had not implemented effective procedures for ensuring that all payments made to community colleges for retirement and pension contributions, which totaled \$60.8 million in fiscal year 2019, were proper. The State, through MHEC, directly funds the employers' portions of the retirement and pension costs for community college employees who are members of the Maryland State Teachers Retirement and Pension Systems (MSTRPS). The community colleges are required to reimburse MHEC for any retirement and pension costs paid for employees for whom the college later received federal financial assistance. In addition, the State, through MHEC, funds an optional private retirement plan for certain community college employees as a way to attract and retain qualified professors. According to the State's records, during fiscal year 2019, MHEC paid the community colleges approximately \$44.4 million for employees in MSTRPS (of which \$2.3 million was subsequently reimbursed by the colleges) and approximately \$16.4 million for the optional retirement costs.

Our audit reports dating back to 2001 have identified issues regarding MHEC's process for ensuring the propriety of the retirement and pension costs paid to, and reimbursed by, the community colleges. In response to our 2013 report, MHEC established procedures beginning in fiscal year 2015 requiring the community college's independent auditors to provide assurances that (1) amounts reimbursed by the colleges for federally funded retirement and pension costs were complete and accurate; and that (2) amounts billed by the colleges for employees in the

optional retirement plan were based on actual costs incurred by the colleges and were for eligible employees. MHEC also instituted a reconciliation between the auditor-reported information and its own records to identify and investigate any differences.

Although MHEC received the required audit information, we noted certain differences between the audited data and MHEC's records that were not investigated or reconciled by MHEC. For example, according to the audited data, the amounts received by the colleges from MHEC during fiscal year 2019 for employees in the optional retirement plan totaled \$14,242,547. However, according to MHEC records, fiscal year 2019 payments to the colleges totaled \$16,357,940 (a difference of \$2,115,993). Similar differences were noted with the audited data for MSTRPS retirement plans.

Although there may be legitimate reasons for differences in these amounts, such as timing differences in when transactions are recorded or paid, MHEC was unable to explain the differences as it discontinued its reconciliation of MHEC records to the audit data in January 2018 after the employee responsible for performing this reconciliation resigned. Consequently, MHEC had not investigated those differences or taken any action to verify the amount due to or from the colleges.

#### **Recommendation 5**

**We recommend that MHEC ensure that the amounts paid for the State's share of community college employees' retirement and pension costs are proper. Specifically, we recommend that MHEC enhance its procedures to**

- a. thoroughly review audited retirement and pension contribution data received from community colleges and resolve, on a timely basis, differences between the audited data and corresponding amounts in its own records, including the aforementioned differences (repeat);**
- b. take appropriate actions to pay or collect differences in amounts owed to or due from the colleges (repeat); and**
- c. document the actions taken (repeat).**

**Finding 6****MHEC did not ensure that community colleges returned unspent English for Speakers of Other Languages grant funds as required.****Analysis**

MHEC did not ensure that community colleges returned unspent English for Speakers of Other Languages (ESOL) grant funds as required. According to MHEC's records, ESOL program payments totaling \$5.5 million were made to 13 community colleges in fiscal year 2019. State law provides that MHEC shall pay a community college \$800 for each full-time equivalent student enrolled in the county's ESOL program. State law also requires that any grant funds provided in excess of the actual cost of providing the ESOL programs shall be returned and credited to the State's general fund. State regulations further require the colleges to annually submit to MHEC certain audited program data such as expenditures made under the ESOL program.

Our review disclosed that two community colleges that received ESOL funding totaling \$148,544 in fiscal year 2019 did not submit the required audited program data to MHEC. In addition, MHEC did not use the data submitted by the other 11 colleges to identify and recover excess payments. In this regard, our review of program data reported by the 11 colleges and the corresponding MHEC records disclosed that four colleges appear to have been paid \$403,968 in excess of the related program costs, but only one of the four colleges remitted its excess balance of \$4,992. In addition, we noted certain unexplained differences between program data reported by the colleges and the corresponding amounts on MHEC's records. For example, one college reported the receipt from MHEC of ESOL grant revenue totaling \$18,247 for fiscal year 2019, while MHEC records indicate actual grant funding provided totaling \$41,848. MHEC had not investigated and resolved these differences.

**Recommendation 6****We recommend that MHEC**

- a. ensure that colleges submit all required audited program data;**
- b. perform documented reviews of audited program data received from colleges to identify potential excess grant program payments;**
- c. investigate any excess grant payments, including those noted above, and recover any amounts due; and**
- d. investigate significant differences between reported data and the corresponding data on its records.**

## Information Systems Security and Control

### Background

The Department of Information Technology (DoIT) provides information technology (IT) support services to MHEC. Those services include the following functions:

- workstation management
- IT service desk assistance, hardware support and software support (including malware prevention procedures)
- network firewalls and IT security services (such as firewall and intrusion detection prevention systems operations and maintenance)
- physical and virtual server hosting

MHEC utilizes a local area network with connections to multiple servers used for file and print sharing, application processing, and internet connectivity. MHEC's key system, MDCAPS, is a public web-based system that stores personal, academic, and financial information for individuals who sign up for financial aid and apply for scholarships and grants to attend Maryland colleges. MHEC relies upon a vendor for support of the MDCAPS application software and database while DoIT supports the related hosting server.

### **Finding 7**

**MHEC maintained sensitive personally identifiable information (PII) in a manner that did not provide adequate safeguards and lacked assurance that adequate security protections existed over PII on the vendor-hosted development servers.**

### Analysis

MHEC maintained sensitive PII in a critical production system in a manner that did not provide adequate safeguards and lacked assurance that adequate security protections existed over the PII on the system's vendor-hosted development servers. Specifically, our February 2020 review determined this system's database included a significant number of unique sensitive information records, which were maintained in a manner that made the information vulnerable to improper disclosure. A similar condition regarding maintenance of PII was commented upon in our preceding audit report.

Furthermore, a copy of the aforementioned sensitive PII was stored on system development servers hosted by MHEC's system support vendor, for which MHEC had neither performed independent reviews over the vendor's security controls nor obtained reports of independent, standards-based security reviews of

the vendor's IT security controls. At the conclusion of our audit, MHEC personnel advised us that certain action had been taken, as its MDCAPS support vendor confirmed that the critical system's application development activity was transferred onto DoIT hosting servers.

Detailed aspects of this finding were omitted from this report, however the related detailed information, including a sensitive information record count, was previously shared with MHEC for purposes of implementing the following recommendation.

The State of Maryland *Information Technology Security Manual* requires that agencies protect confidential data using adequate safeguards and/or other substantial mitigating controls.

#### **Recommendation 7**

**We recommend that MHEC, in conjunction with their MDCAPS vendor and DoIT, implement appropriate information security safeguards for sensitive PII it maintains (repeat).**

#### **Finding 8**

**MHEC did not use a web application firewall to provide security over MDCAPS, which is a critical public web-enabled system.**

#### **Analysis**

MHEC did not use a web application firewall to provide security over MDCAPS, a critical public web-enabled system. Accordingly, the MDCAPS system and database were exposed to potential malicious internet traffic which, without identification and prevention, could result in improper changes or unauthorized disclosure of critical data. Web application firewalls supplement firewall and intrusion detection prevention system controls by analyzing and dropping internet traffic having possible malicious content that is otherwise not prevented. Detailed aspects of this finding were omitted from this report, however the related information was previously shared with MHEC for purposes of implementing the following recommendation.

The State of Maryland *Information Technology Security Manual* requires that agencies must implement system and information integrity security controls, including employing malicious code protection mechanisms, which include, but are not limited to, validating web applications' input content, with such protection mechanisms' capabilities receiving periodic updating. Industry best practices

involve using multiple security controls, including a web application firewall, to provide for in-depth protection against malicious web traffic.

**Recommendation 8**

**We recommend that MHEC, in conjunction with DoIT, implement and use a web application firewall to provide for additional necessary security protection for its publicly accessible MDCAPS.**

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

We have conducted a fiscal compliance audit of the Maryland Higher Education Commission (MHEC) for the period beginning November 5, 2015 and ending March 31, 2020. 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 MHEC'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 financial aid, grants to nonpublic and community colleges, cash receipts, accounts receivable, budgetary transactions, payroll, and information systems. We also determined the status of the findings contained in our preceding audit report.

Our assessment of internal controls was based on agency procedures and controls in place at the time of our fieldwork. Our tests of transactions and other auditing procedures were generally focused on the transactions occurring during our audit period of November 5, 2015 to March 31, 2020, but may include transactions before or after this period as we considered necessary to achieve our audit objectives.

To accomplish our audit objectives, our audit procedures included inquiries of appropriate personnel, inspections of documents and records, tests of transactions, and to the extent practicable, observations of MHEC's operations. Generally, transactions were selected for testing based on auditor judgment, which primarily considers risk, the timing or dollar amount of the transaction, or the significance of the transaction to the area of operation reviewed. As a matter of course, we do not normally use sampling in our tests, so unless otherwise specifically indicated, neither statistical nor non-statistical audit sampling was used to select the transactions tested. Therefore, unless sampling is specifically indicated in a finding, the results from any tests conducted or disclosed by us 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). These 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 use during this audit. We also extracted data from the Maryland College Aid Processing System (MDCAPS) for examining user access and the monitoring of certain conditions of financial aid. We determined that the data extracted from this source 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.

MHEC'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. As provided in *Government Auditing Standards*, there are five components of internal control: control environment, risk assessment, control activities, information and communication, and monitoring. Each of the five components, when significant to the audit objectives, and as applicable to MHEC, were considered by us during the course of this audit.

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 MHEC's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes findings regarding significant instances of noncompliance with applicable laws, rules, or regulations. Other less significant

findings were communicated to MHEC that did not warrant inclusion in this report.

MHEC's 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 MHEC regarding the results of our review of its response.

## APPENDIX



**Larry Hogan**  
Governor

**Boyd K. Rutherford**  
Lt. Governor

**Andrew R. Smarick**  
Chair

**James D. Fielder, Jr., Ph. D.**  
Secretary

June 21, 2021

Mr. Gregory A. Hook  
Legislative Auditor  
Office of Legislative Audits  
301 West Preston Street, Room 1202  
Baltimore, Maryland 21201

Dear Mr. Hook,

Please find enclosed the Maryland Higher Education Commission (MHEC) response to the draft Legislative Audit Report for the period beginning November 5, 2015 and ending March 31, 2020.

If you have any questions regarding the response, please contact Mr. Geoffrey Newman, Assistant Secretary of Finance and Administration, at [geoff.newman@maryland.gov](mailto:geoff.newman@maryland.gov) or Mr. Aubrey Bascombe, Director of Finance and Administration, at [aubrey.bascombe1@maryland.gov](mailto:aubrey.bascombe1@maryland.gov).

Sincerely,



Dr. James D. Fielder, Jr.  
Secretary

# Maryland Higher Education Commission

## Agency Response Form

### Career-Based Financial Aid

**Finding 1**  
**MHEC did not monitor service obligation compliance in a timely and comprehensive manner, and consequently did not ensure that repayments were pursued when required.**

We recommend that MHEC

- a. generate and review all reports of recipients and employers requiring initial or follow-up action on a timely basis (repeat), and
- b. ensure that all required requests are sent and follow-up action is taken in a timely manner (repeat).

Agency Response			
<b>Analysis</b>			
Please provide additional comments as deemed necessary.			
<b>Recommendation 1a</b>	Agree	<b>Estimated Completion Date:</b>	12/31/2021
Please provide details of corrective action or explain disagreement.	<p>MHEC’s Office of Student Financial Assistance (OSFA) will complete an internal audit/review of all students that appear on the Monthly Career Based Service Obligation Report. Each student and the corresponding status will be reviewed to ensure the student is in the correct status and the student has received the service obligation questionnaire; employer verification; or been placed into repayment.</p> <p>Once the internal review is complete OSFA will continue to run monthly the Monthly Career Based Service Obligation Report to ensure that initial and follow up service questionnaire and employment verifications are being generated and sent out in a timely manner. As well as identify any student who should be placed into repayment.</p>		
<b>Recommendation 1b</b>	Agree	<b>Estimated Completion Date:</b>	02/01/2022
Please provide details of corrective action or explain disagreement.	<p>All service questionnaires and employer verifications (initial and follow up) will be generated and run every 45 days.</p> <p>OSFA is currently working with the MDCAPS vendor to make the necessary enhancements to record when the employer verification notices are released. At this time OSFA is only able to provide an estimated completion date on when the enhancements will be in MDCAPS.</p>		

# Maryland Higher Education Commission

## Agency Response Form

	<p>Until the system has been enhanced OSFA will save the corresponding excel spreadsheet that is generated for each employer notification. The names of the students that appear on the spreadsheet will be attached to a memo to document that the notification was released for the applicable students and the date.</p> <p>MDCAPS currently records when the service obligation questionnaire notices are released.</p>
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**Finding 2**  
**Adjustments made to recipient accounts were not subject to independent review and approval, and MHEC did not ensure that repayments due from recipients who did not meet their service obligation were posted to its accounts receivable system.**

We recommend that MHEC

- a. ensure that adjustments posted to the accounts receivable system, along with supporting documentation, are reviewed and approved by independent supervisory personnel and that this review is documented; and
- b. ensure that all repayments due from recipients were posted to its accounts receivable system by reconciling its financial aid and accounts receivable systems as required by its policies.

Agency Response			
<b>Analysis</b>			
<b>Please provide additional comments as deemed necessary.</b>			
<b>Recommendation 2a</b>	Agree	<b>Estimated Completion Date:</b>	09/30/2021
Please provide details of corrective action or explain disagreement.	<p>MHEC implemented procedures to ensure adjustments to the accounts receivable records are properly documented and reviewed by an independent supervisor, including trackable signoff by supervisors. The Program Administrator of OSFA will submit all requests for adjustments to the Director of OSFA for review and approval. After the OSFA review is completed, the Director of OSFA will send such requests in writing, with supporting documentation to the Director of Finance and Administration (DFA). The DFA, who is an independent supervisor, will review all adjustments for propriety and provide final approval. After</p>		

## Maryland Higher Education Commission

### Agency Response Form

	<p>approval by the DFA, the Administrative Specialist of Finance will process adjustments to the accounts receivable system.</p> <p>In addition, the Director of Finance and Administration will perform periodic sample testing of adjustments to the receivable records, to ensure records were adjusted with the necessary documentation and approval.</p> <p>The reconciliation discussed in response to Recommendation 2b will also ensure that all adjustments processed are proper.</p>		
<b>Recommendation 2b</b>	Agree	<b>Estimated Completion Date:</b>	09/30/2021
<b>Please provide details of corrective action or explain disagreement.</b>	<p>MHEC will implement a process to ensure all repayments due from recipients were posted to its accounts receivable system, by periodically reconciling the financial aid system (SOLR) and the accounts receivable system. This process will also help ensure that all adjustments are proper.</p>		

### Maryland College Aid Processing System (MDCAPS)

**Finding 3**  
**Sufficient controls were not established over the issuance and monitoring of user access to MDCAPS.**

We recommend that MHEC

- a. require independent authorization for the establishment or modification of all user access accounts, and retain the related authorization forms on file (repeat);
- b. ensure that periodic reviews of employee access are comprehensive and performed by an employee independent of the process of establishing or modifying user accounts (repeat);
- c. ensure that access reviews of external users are performed by external entities and that documentation of these reviews is received and reviewed (repeat); and
- d. remove unnecessary or improper user accounts or access capabilities, including those noted above (repeat).

Agency Response	
<b>Analysis</b>	

# Maryland Higher Education Commission

## Agency Response Form

Please provide additional comments as deemed necessary.			
<b>Recommendation 3a</b>	Agree	<b>Estimated Completion Date:</b>	01/31/2022
Please provide details of corrective action or explain disagreement.	<p>OSFA will review all internal and external active user accounts and verify there is an MDCAPS User agreement on file that includes independent authorization. In the event an MDCAPS User agreement is not on file or does not contain proper approval of the request, the internal and external user will be required to complete the agreement to continue accessing MDCAPS.</p> <p>A properly approved MDCAPS User Agreement will be required for all future requests for establishment or modification of user access accounts.</p> <p>OSFA will develop an MDCAPS User agreement for the MDCAPS vendor to complete. Existing MDCAPS vendor users will be required to complete an MDCAPS user agreement by July 31, 2021.</p>		
<b>Recommendation 3b</b>	Agree	<b>Estimated Completion Date:</b>	08/31/2021
Please provide details of corrective action or explain disagreement.	<p>The periodic review of employee access will be conducted by an employee who is independent of the process. The review of agency accounts will be completed every 90 days. The MDCAPS vendor will provide a report of all active internal MDCAPS users which will be used for this review. This review will be documented and maintained for future reference.</p>		
<b>Recommendation 3c</b>	Agree	<b>Estimated Completion Date:</b>	12/31/2021
Please provide details of corrective action or explain disagreement.	<p>OSFA will work with the MDCAPS vendor to create a standard report that agency users can run to identify all internal and external (Financial Aid Officers/ Legislators/External) active users. The report will be run every 90 days. At this time OSFA can only provide an estimated completion date of December 31, 2021.</p> <p>Once this report is developed, external entities will be notified that they must periodically perform user access reviews. OSFA will develop a policy that will require documentation of these user access reviews to be submitted to OSFA, at minimum, annually so that OSFA can review to ensure that external user access is being verified by the external entities.</p>		
<b>Recommendation 3d</b>	Agree	<b>Estimated Completion Date:</b>	09/15/2021

# Maryland Higher Education Commission

## Agency Response Form

<p><b>Please provide details of corrective action or explain disagreement.</b></p>	<p>OSFA will develop a policy for MDCAPS users that have been inactive for more than 120 days. An account that has been inactive for more than 120 days will be deactivated, therefore preventing the user from accessing MDCAPS in the future. The policy will be completed/implemented by August 15, 2021.</p> <p>For agency users the MDCAPS account will be deactivated on the employees last day with the agency.</p> <p>Additionally, the reviews noted in responses to Recommendation 3b and 3c will identify unnecessary and improper user accounts or access capabilities. Based on the findings of these reviews, user accounts' access will be removed or adjusted.</p> <p>For the 650 active external user accounts that OLA identified as not having logged in for 6 months, the accounts will be deactivated by September 15, 2021.</p>
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**Finding 4**  
**MHEC did not adequately restrict user access to SOLR resulting in employees with unnecessary access to process critical functions and others with the ability to process adjustments without independent review and approval.**

We recommend that MHEC

- a. establish procedures, including the use of output reports, to allow for an independent review and approval of critical adjustments to recipient service obligation accounts on SOLR based on supporting documentation (repeat); and
- b. remove any unnecessary access capabilities, including those noted above.

Agency Response			
Analysis			
Please provide additional comments as deemed necessary.			
Recommendation 4a	Agree	Estimated Completion Date:	TBD

# Maryland Higher Education Commission

## Agency Response Form

<p><b>Please provide details of corrective action or explain disagreement.</b></p>	<p>OSFA will implement the quality assurance review process for the review of service obligation records. An OSFA staff member independent from reviewing service records will complete the review process. The review will consist of reviewing a sufficient sampling of records for the various service statuses (i.e., in service, in deferment, repayment pending, etc.) to ensure the accuracy of SOLR records for recipients. The reviewer will review the supporting documentation such as the service questionnaire, employer verifications, and evidence of SOLR changes (i.e., balance information; employer information; status changes) to ensure service accounts reviewed were updated timely and efficiently.</p> <p>OSFA will continue to work with the MDCAPS vendor to create output reports that will be generated in SOLR to identify critical changes; those reports will be provided to the independent reviewer and used during the review process. At time OSFA is unable to provide a timeframe on when the report will be available.</p>		
<p><b>Recommendation 4b</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Agree</td> <td style="width: 50%; padding: 2px;"><b>Estimated Completion Date:</b> 12/31/2021</td> </tr> </table>	Agree	<b>Estimated Completion Date:</b> 12/31/2021
Agree	<b>Estimated Completion Date:</b> 12/31/2021		
<p><b>Please provide details of corrective action or explain disagreement.</b></p>	<p>Currently, MDCAPS does not contain the ability to restrict certain access in SOLR. Consequently, users may end up with unnecessary access due to this limitation of MDCAPS. OSFA will work with the MDCAPS vendor to determine if SOLR access capabilities can be restricted for users.</p> <p>At this time OSFA can only provide an estimated completion date of December 31, 2021.</p> <p>In the meantime, we will review the access of the 15 employees noted in the analysis to determine whether access is necessary and appropriate. Where determine necessary, we will update access where we are able to (i.e., access will be updated if we will not also be removing a users' required access capabilities). We also intend for the review that described in the response to Recommendation 4a to serve as a mitigating control to help ensure critical adjustments made are proper.</p>		

# Maryland Higher Education Commission

## Agency Response Form

### Aid to Community Colleges

**Finding 5**  
**MHEC had not implemented effective procedures for ensuring that all payments made to community colleges for retirement and pension contributions were proper.**

We recommend that MHEC ensure that the amounts paid for the State’s share of community college employees’ retirement and pension costs are proper. Specifically, we recommend that MHEC enhance its procedures to

- a. thoroughly review audited retirement and pension contribution data received from community colleges and resolve, on a timely basis, differences between the audited data and corresponding amounts in its own records, including the aforementioned differences (repeat);
- b. take appropriate actions to pay or collect differences in amounts owed to or due from the colleges (repeat); and
- c. document the actions taken (repeat).

Agency Response			
<b>Analysis</b>			
<b>Please provide additional comments as deemed necessary.</b>	<p>MHEC completes a comprehensive review process before making optional retirement payments to the community colleges. The community colleges must provide supporting documentation when submitting invoices, including a detailed list of employees. In addition, the State Retirement Agency (SRA) certifies all eligible new employees at the community colleges and MHEC will not make payments for new employees included in on invoices, if MHEC does not receive the certification from SRA.</p> <p>The OLA testing did not identify any incidents of MHEC making optional retirement payments to the community colleges, without the proper supporting documentation.</p>		
<b>Recommendation 5a</b>	Agree	<b>Estimated Completion Date:</b>	12/31/2021
<b>Please provide details of corrective action or explain disagreement.</b>	<p>MHEC has implemented a reconciliation process and performed reconciliations for FY 2019 and FY 2020.</p> <p>Annually, MHEC will reconcile the annual CC-4 audited financial reports received from the community colleges, with MHEC’s financial records. If there are differences identified, MHEC will work with the community colleges to resolve these differences, document differences,</p>		

# Maryland Higher Education Commission

## Agency Response Form

	and action taken to address differences (if any). MHEC’s annual reconciliation process will be completed by December 31st each year.		
<b>Recommendation 5b</b>	Agree	<b>Estimated Completion Date:</b>	12/31/2021
<b>Please provide details of corrective action or explain disagreement.</b>	<p>MHEC investigated the optional retirement payment differences reported by the community colleges on their CC-4s for FY 2019 and FY 2020, and the differences were driven by timing and reporting errors by the colleges.</p> <p>In addition, MHEC performed a reconciliation of the audited data reported by the colleges for the pension reimbursement payments to MHEC, including ensuring all unreconciled outstanding reimbursements listed on the CC-4s were sent to MHEC. The differences reported were driven by timing and reporting errors by the colleges.</p> <p>Based on the reconciliations performed by MHEC, no amounts were owed or due from the colleges for FY 2019 and FY 2020.</p> <p>Going forward, MHEC will follow up and take appropriate actions, based on the results of the annual reviews completed (as noted in response to Recommendation 5a) to pay or collect any differences in the amounts owed or due from the colleges.</p>		
<b>Recommendation 5c</b>	Agree	<b>Estimated Completion Date:</b>	12/31/2021
<b>Please provide details of corrective action or explain disagreement.</b>	MHEC will ensure all actions taken, as noted in the responses to Recommendations 5a and 5b, are documented and retained for future reference.		

**Finding 6**  
**MHEC did not ensure that community colleges returned unspent English for Speakers of Other Languages grant funds as required.**

**We recommend that MHEC**

- a. ensure that colleges submit all required audited program data;**
- b. perform documented reviews of audited program data received from colleges to identify potential excess grant program payments;**
- c. investigate any excess grant payments, including those noted above, and recover any amounts due; and**

# Maryland Higher Education Commission

## Agency Response Form

- d. investigate significant differences between reported data and the corresponding data on its records.

Agency Response			
<b>Analysis</b>			
<b>Please provide additional comments as deemed necessary.</b>			
<b>Recommendation 6a</b>	Agree	<b>Estimated Completion Date:</b>	09/01/2021
<b>Please provide details of corrective action or explain disagreement.</b>	<p>MHEC receives the annual MHEC CC-4 Audited Financial Report from the colleges each year by Oct. 1 as required by Section 16-305 of the Education Article of the Annotated Code of Maryland. Upon receipt of these reports, MHEC will audit the reported ESOL Grant totals against the appropriation for the same fiscal year and require the college to report the difference between the two amounts if necessary. MHEC will then require that any unexpended funds be reverted to MHEC and MHEC will revert the funds back to the General Fund. If the college has not provided the audited total in its CC-4 report, MHEC will require the college to submit this additional audited information to ensure that all funds have been accounted for. In addition, MHEC will work with the colleges to reconcile differences between reported data and recorded data.</p> <p>These reviews will be documented and retained for future reference.</p>		
<b>Recommendation 6b</b>	Agree	<b>Estimated Completion Date:</b>	09/01/2021
<b>Please provide details of corrective action or explain disagreement.</b>	See response to Recommendation 6A.		
<b>Recommendation 6c</b>	Agree	<b>Estimated Completion Date:</b>	09/01/2021
<b>Please provide details of corrective action or explain disagreement.</b>	See response to Recommendation 6A.		
<b>Recommendation 6d</b>	Agree	<b>Estimated Completion Date:</b>	09/01/2021
<b>Please provide details of corrective action or explain disagreement.</b>	See response to Recommendation 6A.		

# Maryland Higher Education Commission

## Agency Response Form

### Information Systems Security and Control

**Finding 7**  
**MHEC maintained sensitive personally identifiable information (PII) in a manner that did not provide adequate safeguards and lacked assurance that adequate security protections existed over PII on the vendor-hosted development servers.**

We recommend that MHEC, in conjunction with their MDCAPS vendor and DoIT, implement appropriate information security safeguards for sensitive PII it maintains (repeat).

Agency Response			
<b>Analysis</b>			
<b>Please provide additional comments as deemed necessary.</b>	<p>A three-phased plan has been developed with corrective action to provide adequate safeguards for PII.</p> <p>MHEC received a statement of assurance certifying that vendor-hosted development servers no longer exist, therefore, security protections over PII at the vendor site are no longer a concern.</p>		
<b>Recommendation 7</b>	Agree	<b>Estimated Completion Date:</b>	10/01/2021
<b>Please provide details of corrective action or explain disagreement.</b>	<p>A three-phased server modernization plan has begun to provide security safeguards for sensitive PII maintained by MHEC. This process is being coordinated with DoIT.</p> <p>OLA may contact MHEC for additional details, if necessary.</p>		

**Finding 8**  
**MHEC did not use a web application firewall to provide security over MDCAPS, which is a critical public web-enabled system.**

We recommend that MHEC, in conjunction with DoIT, implement and use a web application firewall to provide for additional necessary security protection for its publicly accessible MDCAPS.

Agency Response	
<b>Analysis</b>	

# Maryland Higher Education Commission

## Agency Response Form

<b>Please provide additional comments as deemed necessary.</b>	MDCAPS is a legacy system with current protections at the network firewall level. MHEC is committed to working with DoIT and the vendor to address this finding to protect the web-based system at the application layer.		
<b>Recommendation 8</b>	Agree	<b>Estimated Completion Date:</b>	TBD
<b>Please provide details of corrective action or explain disagreement.</b>	Corrective action involves building a unique solution to support MHEC's network. MHEC is committed to working with DoIT and the vendor for guidance on the best approach to implement a solution to satisfy this finding.		

AUDIT TEAM

**Adam J. Westover, CPA**  
Audit Manager

**R. Brendan Coffey, CPA, CISA**  
Information Systems Audit Manager

**Tu N. Vuong**  
Senior Auditor

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