

**D53T00**  
**Maryland Institute for Emergency Medical Services Systems**

***Operating Budget Data***

(\$ in Thousands)

	<b>FY 13</b> <b><u>Actual</u></b>	<b>FY 14</b> <b><u>Working</u></b>	<b>FY 15</b> <b><u>Allowance</u></b>	<b>FY 14-15</b> <b><u>Change</u></b>	<b>% Change</b> <b><u>Prior Year</u></b>
Special Fund	\$12,667	\$18,020	\$23,630	\$5,610	31.1%
Contingent & Back of Bill Reductions	0	0	-101	-101	
<b>Adjusted Special Fund</b>	<b>\$12,667</b>	<b>\$18,020</b>	<b>\$23,529</b>	<b>\$5,509</b>	<b>30.6%</b>
Federal Fund	529	1,285	1,286	1	
<b>Adjusted Federal Fund</b>	<b>\$529</b>	<b>\$1,285</b>	<b>\$1,286</b>	<b>\$1</b>	<b>0.0%</b>
Reimbursable Fund	733	502	302	-200	-39.8%
<b>Adjusted Reimbursable Fund</b>	<b>\$733</b>	<b>\$502</b>	<b>\$302</b>	<b>-\$200</b>	<b>-39.8%</b>
<b>Adjusted Grand Total</b>	<b>\$13,929</b>	<b>\$19,806</b>	<b>\$25,116</b>	<b>\$5,310</b>	<b>26.8%</b>

- The Governor’s fiscal 2015 allowance increases by \$5.3 million, or 26.8%, from the fiscal 2014 working appropriation. This increase largely reflects a \$5.4 million increase in special funds for the communication system upgrade and maintenance costs.
- Special funds increase by a net change of \$5.5 million, or 30.6%, when adjusted for across-the-board and contingent reductions.
- Reimbursable funds decrease by \$200,000, or -39.8%, from the fiscal 2014 working appropriation.

Note: Numbers may not sum to total due to rounding.

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## ***Personnel Data***

	<b><u>FY 13 Actual</u></b>	<b><u>FY 14 Working</u></b>	<b><u>FY 15 Allowance</u></b>	<b><u>FY 14-15 Change</u></b>
Regular Positions	94.10	94.10	94.10	0.00
Contractual FTEs	<u>9.50</u>	<u>14.45</u>	<u>14.55</u>	<u>0.10</u>
<b>Total Personnel</b>	<b>103.60</b>	<b>108.55</b>	<b>108.65</b>	<b>0.10</b>

### ***Vacancy Data: Regular Positions***

Turnover and Necessary Vacancies, Excluding New Positions	4.23	4.49%
Positions and Percentage Vacant as of 12/31/13	7.00	7.44%

- Regular positions do not change in the fiscal 2015 allowance, but contractual full-time equivalents increase by a net 0.10. An ambulance inspector position went from 0.5 to 1.0 due to additional workload, while the number of hours required for data entry decreased due to the increased use of the Electronic Maryland Emergency Medical Services Data System (eMEDS©).
- As of December 31, 2013, there were 7.0 vacant positions, accounting for 7.44% of the agency's workforce. The vacancy rate is higher than the 4.49% budgeted turnover rate.

## ***Analysis in Brief***

### **Major Trends**

***Maryland Trauma Care:*** Maryland continues to demonstrate consistent outcomes above the national norm as measured by the survivability rate of trauma care center admissions.

***County Hospital Alert Tracking System:*** The County Hospital Alert Tracking System is a real-time computerized monitoring system of emergency department status throughout Maryland. Hospital emergency departments that are temporarily unable to accept ambulance-transported patients due to overcrowding or hospital overload are identified so that ambulances can be diverted to other, less crowded emergency department facilities. Despite increases in yellow alerts in calendar 2011 and 2012, alerts have remained well below the pre-2010 level. In calendar 2013, yellow alerts again decrease to calendar 2010 levels, while red alerts have shown a slow, steady decrease since calendar 2009.

## **Recommended Actions**

1. Concur with Governor's allowance.

## **Updates**

***Automated External Defibrillator Program Changes:*** The Maryland Public Access Automated External Defibrillator (AED) Program permits a business, organization, association, *etc.*, which meet certain requirements, to make AEDs available to be used prior to the arrival of emergency medical services personnel. The Maryland Institute for Emergency Medical Services Systems (MIEMSS) oversees the AED program and approves the necessary requirements to participate. Effective January 7, 2013, the regulations of the program have been revised in an attempt to make them more user-friendly while maintaining the necessary safeguards.

***Statewide Implementation of eMEDS© Expected by Calendar 2014:*** MIEMSS is responsible for coordination and monitoring of pre-hospital care delivered by emergency medical service (EMS) providers in the field. In order to improve the quality of data and data sharing by EMS providers, MIEMSS transitioned from the Electronic Maryland Ambulance Information System (EMAIS) to eMEDS© in fiscal 2011. The eMEDS© is a software program used by EMS first responders to record patient information and symptoms before they arrive at the hospital. The goal is for 100% of Maryland counties to utilize eMEDS©, which MIEMSS expects to achieve in calendar 2014.

*D53T00 – Maryland Institute for Emergency Medical Services Systems*

*Analysis of the FY 2015 Maryland Executive Budget, 2014*

## D53T00

# Maryland Institute for Emergency Medical Services Systems

## *Operating Budget Analysis*

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### **Program Description**

The Maryland Institute for Emergency Medical Services Systems (MIEMSS) oversees and coordinates all components of the State's emergency medical services (EMS) system in accordance with State statute and regulations. MIEMSS provides guidance on medical direction, conducts EMS educational programs, licenses commercial ambulance services, and participates in EMS-related public education and prevention programs.

Chapter 592 of 1993 established MIEMSS as an independent State agency under the direction of the EMS Board. Prior to Chapter 592, MIEMSS was housed within the Department of Health and Mental Hygiene and, subsequently, the University of Maryland, Baltimore.

The EMS Board oversees the State's EMS plan to ensure effective coordination and administration of these services and appoints the executive director of MIEMSS. MIEMSS is funded primarily by the Maryland Emergency Medical System Operations Fund (MEMSOF), which receives the proceeds from a biennial \$29 surcharge on motor vehicle registrations.

MIEMSS coordinates a statewide EMS system that includes over 30,000 licensed or certified EMS providers. MIEMSS works to integrate the delivery of pre-hospital emergency care with the State's 48 hospital emergency departments, 11 trauma centers, specialty referral centers, primary stroke centers, and perinatal centers.

The EMS system is divided into five regions:

- Region I: Allegany and Garrett counties;
- Region II: Frederick and Washington counties;
- Region III: Central Maryland, including Baltimore City;
- Region IV: the Eastern Shore; and
- Region V: Metropolitan Washington.

The MIEMSS communication system is a complex network that facilitates communication between ambulances, Medevac helicopters, dispatch centers, hospital emergency departments, trauma centers, and law enforcement. The communications system includes (1) the Emergency Medical Resource Center, which is a medical channel radio communications system that links EMS providers in the field with hospital-based medical consultation; and (2) the System Communications Center

(SYSCOM), which is responsible for helicopter dispatch and monitoring of the transport of critically ill or injured patients by helicopter to area hospitals. The MIEMSS communication system handles nearly 400,000 telephone and radio calls annually.

## **Performance Analysis: Managing for Results**

### **1. Maryland Trauma Care**

A key goal of MIEMSS is to provide high-quality, systematic medical care to individuals receiving emergency medical services. The agency measures the achievement of this goal by maintaining the system’s trauma patient care performance above the national norm and monitoring the survivability rate of patients that are admitted to a trauma center, as shown in **Exhibit 1**.

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**Exhibit 1**  
**Trauma Care Performance**  
**Calendar 2008-2012**

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Maryland Trauma Patient Care Exceeds National Norm	Yes	Yes	Yes	Yes	Yes
Survivability Rate for Trauma Center Admissions (%)	96.6%	96.5%	96.5%	96.6%	96.7%

Source: Maryland Institute for Emergency Medical Services Systems

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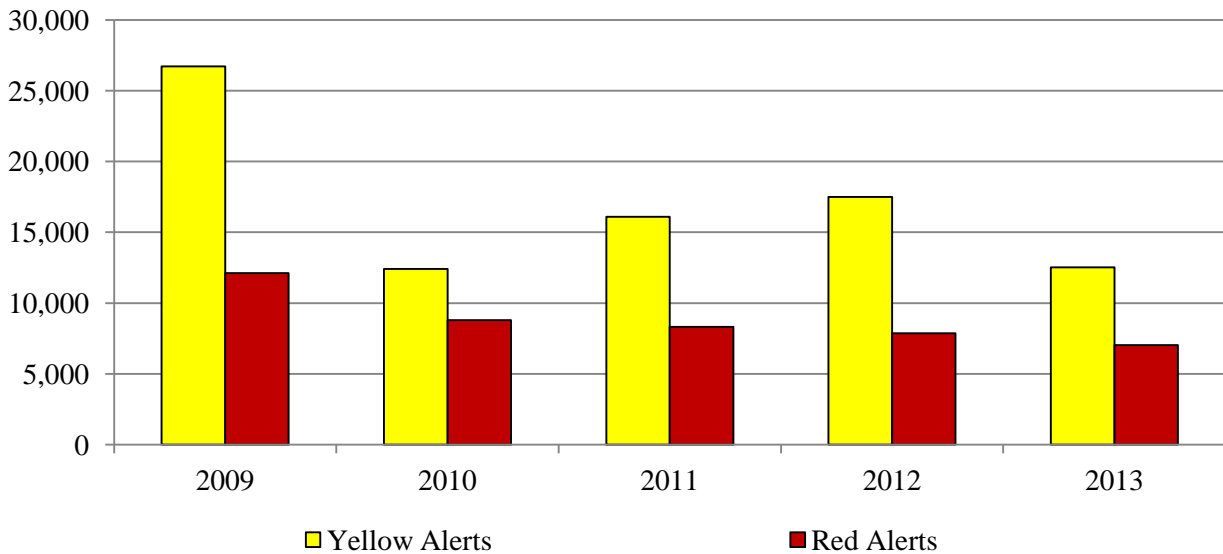
Maryland’s 11 trauma centers maintain electronic registry data on all patients transported for trauma care services. Patients are coded according to a Trauma and Injury Severity Score (TRISS). TRISS data is used to run reports to show mortality/morbidity among trauma center patients. These reports are reviewed by both the hospitals and MIEMSS to monitor trends in outcomes and to identify any deviations. Notable deviations are flagged and reviewed with the respective trauma center.

### **2. County Hospital Alert Tracking System**

The County Hospital Alert Tracking System (CHATS) is a real-time computerized monitoring system of emergency department status throughout Maryland. Hospital emergency departments that are temporarily unable to accept ambulance-transported patients, due to overcrowding or hospital overload, are identified so that ambulances can be diverted to other, less crowded emergency department facilities.

MIEMSS utilizes the CHATS to determine hospital bed availability, and while participation is not mandatory, the reporting system aids MIEMSS in diverting ambulances to hospitals with adequate capacity. MIEMSS tracks “yellow” alerts, when an emergency room requests to receive absolutely no patients in need of urgent medical care by ambulance with the exception of certain priority cases, and “red” alerts, when a hospital has no inpatient electrocardiogram monitored beds available. **Exhibit 2** shows the total number of hours of yellow and red alerts across the State from calendar 2009 through 2013. Hospitals in Washington, DC are not included in this chart, though MIEMSS does track and report this information as well. Region III and Region V make up the vast majority of yellow and red alert hours. In calendar 2013, Region III and V made up a total of 54.2 and 34.2% of alerts, respectively.

**Exhibit 2**  
**Total Hours of Yellow and Red Alerts in the State**  
**Calendar 2009-2013**



Source: Maryland Institute for Emergency Medical Services Systems

From calendar 2009 to 2010, the number of yellow alert hours for emergency room requests decreased significantly. MIEMSS credits the reduced level to improvement in hospital procedures to facilitate the movement of patients from emergency rooms to other parts of the hospital in order to keep space available for new patients that need emergency room care. Despite increases in yellow alerts in calendar 2011 and 2012, alerts have remained well below the pre-2010 level. In calendar 2013, yellow alerts again decrease to calendar 2010 levels. Region III contributed 58.2% of the yellow alerts and 47.1% of the red alerts for the entire State in calendar 2013; Region V constituted 32.9% of yellow alerts and 36.4% of red alerts. Red alerts have shown a slow, steady decrease since calendar 2009.

## **Fiscal 2014 Actions**

### **Cost Containment**

There are three across-the-board withdrawn appropriations. This includes reductions to employee/retiree health insurance, funding for a new Statewide Personnel information technology system, and retirement reinvestment. These actions are fully explained in the analyses of the Department of Budget and Management (DBM) – Personnel, the Department of Information Technology (DoIT), and the State Retirement Agency (SRA), respectively.

### **Proposed Budget**

The fiscal 2015 allowance increases by \$5.3 million, or 26.8%, as shown in **Exhibit 3**. Special funds increase by a net change of \$5.5 million, or 30.6%, when adjusted for across-the-board and contingent reductions. Reimbursable funds decrease by \$200,000, or -39.8%. The most significant budget change is a \$5.4 million increase in special funds to reflect the communication system upgrade and maintenance costs in fiscal 2015.



**Exhibit 3**  
**Proposed Budget**  
**Maryland Institute for Emergency Medical Services Systems**  
**(\$ in Thousands)**

<b>How Much It Grows:</b>	<b><u>Special</u> <u>Fund</u></b>	<b><u>Federal</u> <u>Fund</u></b>	<b><u>Reimb.</u> <u>Fund</u></b>	<b><u>Total</u></b>
2014 Working Appropriation	\$18,020	\$1,285	\$502	\$19,806
2015 Allowance	<u>23,529</u>	<u>1,286</u>	<u>302</u>	<u>25,116</u>
Amount Change	\$5,509	\$1	-\$200	\$5,310
Percent Change	30.6%		-39.8%	26.8%

**Where It Goes:**

**Personnel Expenses**

Increments and other compensation.....	\$93
Annualization of fiscal 2014 cost-of-living adjustments and increments .....	252
Employee and retiree health insurance, adjusted for across-the-board reduction .....	-231
Employee retirement, net of contingent reductions.....	72
Overtime.....	25
Social Security contributions .....	21
Turnover adjustments.....	16
Other fringe benefit adjustments .....	-1

**Other Changes**

Communication system upgrade and maintenance costs .....	5,375
Elimination of funding for radio purchases for the statewide 700 MHz system.....	-428
National testing .....	141
Grants to health providers .....	-175
Department of Budget and Management telecommunications .....	82
Lease/purchase agreement cost for major server overhaul project .....	61
Other.....	7

**Total** **\$5,310**

MHz: Megahertz

Note: The fiscal 2014 working appropriation reflects negative deficiencies and contingent reductions. The fiscal 2015 allowance reflects back of the bill and contingent reductions. Numbers may not sum to total due to rounding.

## **Cost Containment**

There is one across-the-board reduction and one contingent reduction reflected in the Governor's spending plan for the fiscal 2015 allowance. This affects funding for employee/retiree health insurance and retirement reinvestment. These actions are fully explained in the analyses of DBM – Personnel and SRA.

## **Personnel Expenses**

Personnel expenses increase by \$247,000 from the fiscal 2014 working appropriation. Regular salaries increase by \$93,000. Health insurance decreases by \$231,000 net of an across-the-board reduction. Employee retirement increases by \$72,000, net of a contingent reduction. Annualization of the fiscal 2014 cost-of-living adjustment (COLA) and increments is the primary driver behind the increase adding \$252,000 to personnel expenses.

## **Communication System Replacement and SYSCOM Renovation Project**

After an evaluation found the MIEMSS communication system obsolete and in jeopardy of failure, a conceptual design to replace the system was proposed, which would cost roughly \$12.2 million and take five years to install. The bulk of these costs would be experienced in years 2 and 3. The process to replace the communication system was initiated in fiscal 2013 by budget amendment, which authorized \$1.07 million from MEMSOF for the first year of the project and to renovate SYSCOM in order to accept console equipment required to support the State's 700 megahertz radio project. A total of \$344,000 was actually spent. In fiscal 2014, another budget amendment authorized \$4.8 million from MEMSOF for the second year of the project, and \$3.2 million in expenditures is anticipated. The fiscal 2015 allowance includes \$8.6 million for the communication system upgrade and \$1.6 million for system maintenance, resulting in a \$5.4 million increase from the fiscal 2014 working appropriation. **Exhibit 4** shows the anticipated costs and timeline for the system upgrade. The costs and timeline of the project have not changed, and the upgrade is expected to be complete by fiscal 2017.

**Exhibit 4**  
**MIEMSS Communication System Upgrade and**  
**SYSCOM Renovation Cost Schedule**

	<b>MIEMSS Communication System Upgrade and <u>SYCOM Renovation</u></b>	<b>MIEMSS Communication System Maintenance</b>	<b>Total Yearly Costs</b>
Year 1	\$344,292	\$0	\$344,292
Year 2	3,226,950	1,548,421	4,775,371
Year 3	8,555,803	1,594,874	10,150,677
Year 4	37,500	1,642,720	1,680,220
Year 5	12,500	1,692,001	1,704,501
<b>Total Project Upgrade and Renovation Cost</b>	<b>\$12,177,045</b>		

MIEMSS: Maryland Institute for Emergency Medical Services Systems

SYSCOM: System Communications Center

Source: Maryland Institute for Emergency Medical Services Systems

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## ***Recommended Actions***

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1. Concur with Governor's allowance.

## ***Updates***

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### **1. Automated External Defibrillator Program Changes**

The Maryland Public Access Automated External Defibrillator (AED) Program permits a business, organization, association, *etc.*, which meet certain requirements, to make AEDs available to be used prior to the arrival of EMS personnel. MIEMSS oversees the AED program and approves the necessary requirements to participate. Effective January 7, 2013, the regulations of the program have been revised in an attempt to make them more user friendly while maintaining the necessary safeguards. Participants in the program are still required to register with MIEMSS. In addition, the following changes now apply:

- MIEMSS no longer approves AED training programs, but participants are required to complete a cardiopulmonary resuscitation and AED training course that meets American Heart Association guidelines;
- AEDs must be placed in locations that are clearly visible and available for use by anyone willing to respond; and
- required equipment inspections have been changed from weekly to monthly.

### **2. Statewide Implementation of eMEDS© Expected in Calendar 2014**

MIEMSS is responsible for the coordination and public health oversight of the Maryland EMS system. As part of its duties, MIEMSS licenses and certifies EMS providers, develops the protocol under which EMS providers deliver pre-hospital care, and monitors trauma and specialty hospitals. In order to determine how well the Maryland EMS system is functioning, MIEMSS must gather and analyze appropriate data. To that end, MIEMSS transitioned from the Electronic Maryland Ambulance Information System (EMAIS) to the Electronic Maryland Emergency Medical Services Data System (eMEDS©) to create a new electronic medical records system that improves the quality of data and data sharing by EMS providers.

The new eMEDS© is a software system that Maryland jurisdictions can access in order to more efficiently and fully report pre-hospital patient care data. DoIT approved the project, and funds were included in the fiscal 2011 budget to secure a vendor to administer the new system. The system is currently deployed in almost every county statewide after a successful pilot in Cecil, Harford, and Queen Anne's counties. The goal is for 100% of Maryland counties to implement eMEDS©. Only Prince George's and Montgomery counties are currently not using the eMEDS©. Prince George's County is expected to go live on January 27, 2014. Montgomery County is considering purchasing other software, but MIEMSS remains hopeful that Montgomery County will decide to participate in the eMEDS© in calendar 2014.

## ***Current and Prior Year Budgets***

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### **Current and Prior Year Budgets Maryland Institute for Emergency Medical Services Systems (\$ in Thousands)**

	<b><u>General Fund</u></b>	<b><u>Special Fund</u></b>	<b><u>Federal Fund</u></b>	<b><u>Reimb. Fund</u></b>	<b><u>Total</u></b>
<b>Fiscal 2013</b>					
Legislative Appropriation	\$0	\$12,313	\$129	\$517	\$12,960
Deficiency Appropriation	0	0	0	0	0
Budget Amendments	0	1,139	500	300	1,939
Reversions and Cancellations	0	-785	-101	-84	-970
<b>Actual Expenditures</b>	<b>\$0</b>	<b>\$12,667</b>	<b>\$529</b>	<b>\$733</b>	<b>\$13,929</b>
<b>Fiscal 2014</b>					
Legislative Appropriation	\$0	\$13,040	\$129	\$502	\$13,671
Budget Amendments	0	4,980	1,156	0	6,135
<b>Working Appropriation</b>	<b>\$0</b>	<b>\$18,020</b>	<b>\$1,285</b>	<b>\$502</b>	<b>\$19,806</b>

Note: The fiscal 2014 working appropriation does not include deficiencies or contingent reductions. Numbers may not sum to total due to rounding.

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## **Fiscal 2013**

The budget for MIEMSS closed at approximately \$13.9 million in fiscal 2013, which is \$969,000 greater than the legislative appropriation. The special fund appropriation increased by a net \$354,000. Two special fund budget amendments allocated funds to initiate the first stages of the MIEMSS communication system upgrade (\$1.07 million) and for COLAs (\$65,000). Approximately \$785,000 in special funds was cancelled due to the communication system upgrade project being slightly behind schedule; this amount was reauthorized in fiscal 2014 via a budget amendment.

The federal fund appropriation increased by a net \$400,000 in fiscal 2013 due to one budget amendment authorizing \$500,000 for MIEMSS to manage the Metropolitan Medical Response System (MMRS) on behalf of Montgomery county offset by \$101,000 in cancelled funds as a result of timing differences with the federal fiscal year.

The agency's reimbursable fund appropriation increased by a net \$216,000 due to one budget amendment providing \$300,000 to support 166 patient tracking licenses on hand-held computers offset by the cancellation of \$84,000 in reimbursable funds due to overestimation of expenditures.

## **Fiscal 2014**

The total MIEMSS budget increased by \$6.1 million over the legislative appropriation. The bulk of the increase stems from one special fund budget amendment that continued the second year of the MIEMSS communication system upgrade (\$4.8 million). A federal budget amendment provided a grant for MIEMSS to continue managing the MMRS on behalf of Montgomery County (\$1.2 million). The remaining budget amendments provided COLAs, increments, and an annual salary review.

**Object/Fund Difference Report  
Maryland Institute for Emergency Medical Services Systems**

<u>Object/Fund</u>	<u>FY 13 Actual</u>	<u>FY 14 Working Appropriation</u>	<u>FY 15 Allowance</u>	<u>FY 14 - FY 15 Amount Change</u>	<u>Percent Change</u>
<b>Positions</b>					
01 Regular	94.10	94.10	94.10	0.00	0%
02 Contractual	9.50	14.45	14.55	0.10	0.7%
<b>Total Positions</b>	<b>103.60</b>	<b>108.55</b>	<b>108.65</b>	<b>0.10</b>	<b>0.1%</b>
<b>Objects</b>					
01 Salaries and Wages	\$ 8,128,254	\$ 8,609,346	\$ 8,957,846	\$ 348,500	4.0%
02 Technical and Spec. Fees	608,327	1,092,296	1,148,673	56,377	5.2%
03 Communication	826,417	998,046	1,002,361	4,315	0.4%
04 Travel	180,463	143,000	137,325	-5,675	-4.0%
06 Fuel and Utilities	105,807	110,514	111,417	903	0.8%
07 Motor Vehicles	240,081	226,978	242,392	15,414	6.8%
08 Contractual Services	2,306,741	6,703,243	12,264,939	5,561,696	83.0%
09 Supplies and Materials	263,621	136,005	138,358	2,353	1.7%
10 Equipment – Replacement	105,825	39,000	99,843	60,843	156.0%
11 Equipment – Additional	145,235	547,243	62,300	-484,943	-88.6%
12 Grants, Subsidies, and Contributions	914,495	1,094,000	944,000	-150,000	-13.7%
13 Fixed Charges	103,701	106,688	107,996	1,308	1.2%
<b>Total Objects</b>	<b>\$ 13,928,967</b>	<b>\$ 19,806,359</b>	<b>\$ 25,217,450</b>	<b>\$ 5,411,091</b>	<b>27.3%</b>
<b>Funds</b>					
03 Special Fund	\$ 12,667,160	\$ 18,019,583	\$ 23,629,789	\$ 5,610,206	31.1%
05 Federal Fund	528,966	1,284,982	1,285,500	518	0%
09 Reimbursable Fund	732,841	501,794	302,161	-199,633	-39.8%
<b>Total Funds</b>	<b>\$ 13,928,967</b>	<b>\$ 19,806,359</b>	<b>\$ 25,217,450</b>	<b>\$ 5,411,091</b>	<b>27.3%</b>

Note: The fiscal 2014 appropriation does not include deficiencies. The fiscal 2015 allowance does not include contingent reductions.



**Fiscal Summary**  
**Maryland Institute for Emergency Medical Services Systems**

<u>Program/Unit</u>	<u>FY 13 Actual</u>	<u>FY 14 Wrk Approp</u>	<u>FY 15 Allowance</u>	<u>Change</u>	<u>FY 14 - FY 15 % Change</u>
01 General Administration	\$ 13,928,967	\$ 19,378,846	\$ 25,217,450	\$ 5,838,604	30.1%
02 Information Technology Project	0	427,513	0	-427,513	-100.0%
<b>Total Expenditures</b>	<b>\$ 13,928,967</b>	<b>\$ 19,806,359</b>	<b>\$ 25,217,450</b>	<b>\$ 5,411,091</b>	<b>27.3%</b>
Special Fund	\$ 12,667,160	\$ 18,019,583	\$ 23,629,789	\$ 5,610,206	31.1%
Federal Fund	528,966	1,284,982	1,285,500	518	0%
<b>Total Appropriations</b>	<b>\$ 13,196,126</b>	<b>\$ 19,304,565</b>	<b>\$ 24,915,289</b>	<b>\$ 5,610,724</b>	<b>29.1%</b>
Reimbursable Fund	\$ 732,841	\$ 501,794	\$ 302,161	-\$ 199,633	-39.8%
<b>Total Funds</b>	<b>\$ 13,928,967</b>	<b>\$ 19,806,359</b>	<b>\$ 25,217,450</b>	<b>\$ 5,411,091</b>	<b>27.3%</b>

Note: The fiscal 2014 appropriation does not include deficiencies. The fiscal 2015 allowance does not include contingent reductions.