D53T00

Maryland Institute for Emergency Medical Services Systems

Operating Budget Data

($ in Thousands)

	FY 06 Actual	FY 07 Working	FY 08 Allowance	FY 07-08 Change	% Change Prior Year
Special Fund	$12,244	$11,701	$11,308	-$393	-3.4%
Federal Fund	299	140	700	560	400.0%
Reimbursable Fund	0	0	92	92	
Total Funds	**$12,543**	**$11,841**	**$12,100**	**$259**	**2.2%**

- The Governor's fiscal 2008 allowance for the Maryland Institute for Emergency Medical Services Systems (MIEMSS) is $259,000, or 2.2% above the fiscal 2007 working appropriation. This increase is understated because of the impact of one-time health care cost savings. Correcting for that one-time change, underlying growth in the budget is $628,000, or 5%.

Personnel Data

	FY 06 Actual	FY 07 Working	FY 08 Allowance	FY 07-08 Change
Regular Positions	92.60	93.10	94.10	1.00
Contractual FTEs	9.20	7.30	5.80	-1.50
Total Personnel	**101.80**	**100.40**	**99.90**	**-0.50**
Vacancy Data: Regular Positions				
Turnover, Excluding New Positions		2.82	3.00%	
Positions Vacant as of 12/28/06		5.00	5.37%	

- The fiscal 2008 allowance includes one new regular position, a contractual conversion.

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

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Analysis in Brief

Major Trends

Managing for Results Trends Are Mixed: Trauma care in Maryland continues to out-perform the national norm and survivability rates are improving. However, the statewide trauma complication rate worsened between fiscal 2005 and 2006.

Yellow and Red Alerts: In the major metropolitan areas, total hours on yellow and red alert have been increasing.

Recommended Actions

		Funds
1.	Reduce expenditures supported through miscellaneous service charges based on expectation of revenue from those charges.	$ 60,000
2.	Increase turnover to reflect the current vacancy rate.	63,850
	Total Reductions	**$ 123,850**

D53T00
Maryland Institute for Emergency Medical Services Systems

Operating Budget Analysis

Program Description

The Maryland Institute for Emergency Medical Services Systems (MIEMSS) was established as a State agency under legislation that became effective July 1, 1993. MIEMSS had been in existence for 20 years prior to that – first under the Department of Health and Mental Hygiene and then the University of Maryland, Baltimore.

Under the 1993 law, MIEMSS became a State agency under the direction of an Emergency Medical Services (EMS) Board appointed by, and directly responsible to, the Governor. The EMS Board is tasked with developing, adopting, and monitoring a statewide plan to ensure effective coordination and evaluation of emergency medical services. As structured, the EMS law established a system that encourages statewide participation and feedback through membership on the EMS Board and its advisory body, the State EMS Advisory Council. The EMS Board appoints the Executive Director of MIEMSS, who serves as the administrative head of the States emergency medical services and of the operations of MIEMSS. Funding for MIEMSS comes primarily from the Maryland Emergency Medical System Operations Fund, created by the 1992 General Assembly. Support for the fund is from a surcharge on motor vehicle registrations, which was increased from $8 to $11 by Chapter 33 of 2001.

MIEMSS' mission is to provide the resources, leadership, and oversight necessary for Maryland's EMS system to function optimally and to provide effective care to patients by reducing preventable deaths, disability, and discomfort. MIEMSS develops a Maryland EMS Plan that is periodically updated and that is designed to enable MIEMSS to fulfill this mission.

MIEMSS oversees an EMS system that includes over 30,000 Maryland-certified EMS providers, 48 emergency departments, and 9 trauma centers. In addition to the Department of State Police Medevac helicopter system that provides over 5,400 transports a year, MIEMSS also regulates commercial ground and air ambulance services that provide 191,000 ground and 3,500 air transports annually. Operationally, 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, including Washington, DC.

The MIEMSS mission addresses the need to:

- provide high quality medical care to individuals receiving emergency medical services; and
- maintain a well-functioning EMS system.

Performance Analysis: Managing for Results

MIEMSS collects a wide array of data concerning the State's EMS system. The key outcome measures provided through Managing for Results are shown in **Exhibit 1**.

Exhibit 1
Program Measurement Data
Maryland Institute for Emergency Medical Services Systems
Fiscal 2004-2006

	2004	2005	2006
Maryland trauma patient care exceeds national norm	Yes	Yes	Yes
Survivability rate for trauma center admissions (%)	94.7	94.3	96.0
Statewide trauma center complication rate (%)		14.8	17.8

Source: Maryland Institute for Emergency Medical Services Systems

As shown in the exhibit, there is arguably a contradictory trend in the data:

- MIEMSS manages the Maryland Trauma Registry (MTR), which details prehospital, emergency department care, inpatient care, and discharge information on all patients taken to a designated Maryland trauma center. Performance from the MTR is compared against the national norm for trauma patient care performance through a series of standardized Trauma and Injury Severity Scores analyses. Statistically, MIEMSS continues to exceed the national norm in trauma patient care.

- The survivability rate for trauma center admissions, which fell slightly between fiscal 2004 and 2005, improved in fiscal 2006.

- However, the statewide trauma center complication rate worsened between fiscal 2005 and 2006. This rate is significant as increased complications are associated with worse patient outcomes and longer length of stays. MIEMSS' Trauma Quality Improvement Committee (QIC) has been examining the data to try and understand why the complication rate worsened. Initially the thought was that it related to interhospital transfers between community hospitals and trauma centers, specifically that those transferred patients had a greater number of complications prior to transfer. However, that proved not to be the case, and it appears the issue lies with the management of patients coming directly to trauma centers from the scene of the injury. QIC will be following up on this issue. **MIEMSS should be prepared to brief the committees on any additional information available to explain the trend in the statewide trauma center complication rate.**

Yellow and Red Alerts

MIEMSS' data on the extent of ambulance diversions as a result of emergency room overcrowding also points to a system that is facing some strain. Specifically, 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 defibrillator monitored beds available. While hospital participation in the alert notification effort is voluntary, and hospitals, if they participate, declare those alerts based on internal threshold determinants, it is still interesting data to examine. **Exhibit 2** shows the total number of hours of yellow and red alerts for Region III (metropolitan Baltimore) and Region V (metropolitan Washington) from calendar 2002 to 2006. As shown in the exhibit:

- Long-term trends (calendar 2002-2006) in both regions show an increase in both yellow and red alerts.

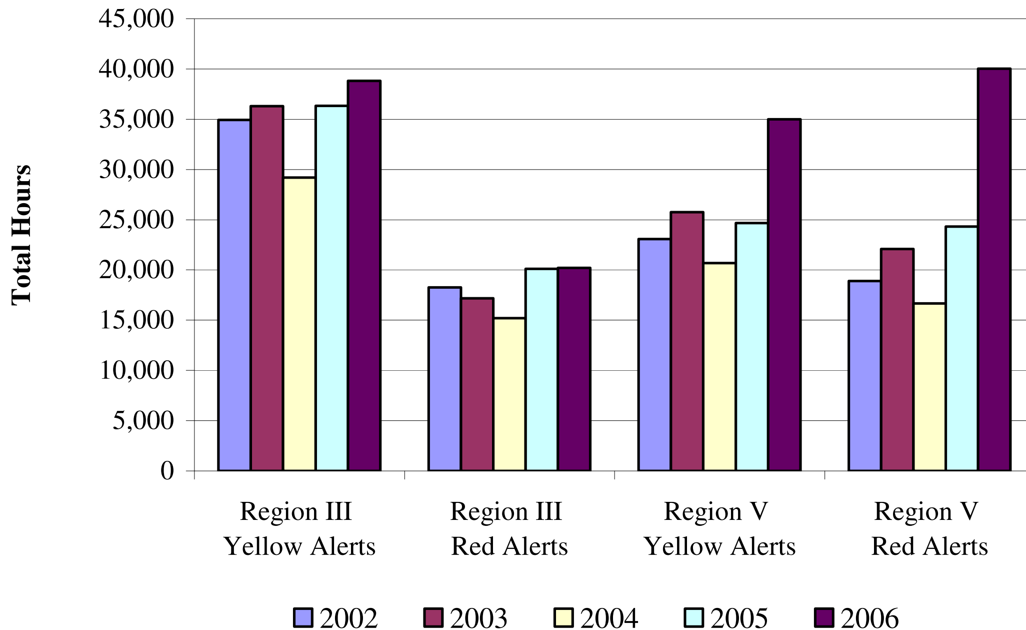
- The upward trend is far more dramatic in Region V (yellow alert hours increasing by 11% annually, red alert hours by 21% annually, compared to 3% for both yellow and red alert hours in Region III). Interestingly, most of the increase in yellow and red alert hours is derived from hospitals in Washington, DC rather than Maryland. The rate of emergency department use in Maryland has increased in recent years (17% annually between calendar 2000 and 2004) and is increasing much higher than the national average (5% annually in the same time period). Growth in Washington, DC has actually not been so large. However, in 2004 Maryland had an emergency department use rate of 389 visits per 1,000 population compared to 676.1 visits per 1,000 population in Washington, DC, the latter being the highest in the nation.

- Short-term trends (calendar 2005-2006) are similar in direction but, for Region V, different in intensity. In Region III, the yellow alert total hours are up 7%, while red alert total hours are flat. In Region V, the total hours of yellow and red alerts are up dramatically, 42% and 65% respectively.

- This increase in pressure on emergency departments comes at a time when emergency department treatment capacity of hospitals in Maryland is increasing. Treatment spaces in emergency departments increased from 1,472 to 1,682 between calendar 2003 and 2006, 14.3%. Even with this growth, a generally favorable review of Maryland's EMS by the American College of Emergency Physicians (ACEP) in its first ever National Report Card on the State of Emergency Medicine in 2006 still noted as an area of concern the State's relatively low number of emergency departments per 1 million people.

  With the closure of DC General Hospital in 2001, Washington, DC, however, has not been so fortunate in terms of emergency department capacity. This at least partly explains the pressure felt at its other hospitals.

Exhibit 2
Yellow and Red Alerts Region III and Region V
Calendar 2002-2006



Source: Maryland Institute for Emergency Medical Services Systems; Department of Legislative Services

The trend in yellow and red alerts is in fact a long-standing one that pre-dates 2001. MIEMSS has responded to this trend, as noted in a recent report from the Maryland Health Care Commission (MHCC) on emergency department use, by developing a voluntary Maryland Hospital and EMS Emergency Department Overload Mitigation Plan to manage ambulance diversion and hospital emergency department crowding. In its report, MHCC recommends that this plan continue to guide resource management when ambulance diversion significantly reduces emergency department availability.

MIEMSS also notes that it is reviewing strategies identified in a recent National Academies of Sciences Institute of Medicine report on emergency care specifically dealing with emergency department overcrowding. It is likely that this review will result in updates to the current Overload Mitigation Plan.

Disaster Preparation

In the fiscal 2007 budget analysis it was noted that a 2004 external assessment of the State EMS system by a technical assistance teams of the federal National Highway Traffic Safety Administration was generally complimentary about the State's system and MIEMSS' role in developing that system. Interestingly, that assessment noted one of the key ongoing challenges for MIEMSS was disaster preparation.

A recent report published by the Trust for America's Health, a nonprofit advocacy organization, specifically looked at each state's preparedness to deal with disease, disasters, and bioterrorism. Based on a variety of preparedness indicators, Maryland ranked very poorly meeting only 4 of 10 preparedness indicators. Only three other states, California, Iowa, and New Jersey were equally unprepared based on these 10 indicators.

One of the indicators was the ability of states to handle a moderately severe pandemic flu outbreak (modeled on a program developed by the federal Centers for Disease Control with an outbreak lasting eight weeks where 25% of the population would become ill). The indicator specifically looked at hospital bed surge capacity to meet the number of hospital beds (total beds and not just emergency department treatment capacity) likely to be needed in such an outbreak.

Maryland was one of 25 states that would run out of hospital bed capacity within 2 weeks. Based on the model used, Maryland would use 181% of its hospital bed capacity within 2 weeks of such a pandemic (only 3 states had a higher bed capacity utilization, Connecticut, Delaware, and Rhode Island). This finding is consistent with another concern raised by ACEP in its 2006 national report card, namely the relatively low number of hospital-staffed beds per 1,000 people. However, it should be pointed out that total hospital bed capacity in Washington, DC was higher than required under the same model simulation, indicating that some spill-over could be expected.

Governor's Proposed Budget

The Governor's fiscal 2008 allowance for MIEMSS shows a $259,000 increase over the fiscal 2007 working appropriation, 2.2%. However, this growth is understated because of the impact of one-time health care cost savings. Absent this distortion, underlying growth in the budget is almost $628,000, or 5%.

Major changes in the budget are shown in **Exhibit 3**. More specific change includes:

- **Personnel Growth:** There is one new position in the fiscal 2008 budget, a contractual conversion of an EMS communications technician. There is also larger than anticipated growth in proposed expenditures on increments and other compensation. This relates to a recent change in a regular position from part-time to full-time status (an action approved by the Board of Public Works). This change is reflected in the fiscal 2008 allowance but not in the fiscal 2007 working appropriation.
- **Operations:** After adjusting for the removal of a one-time management study expense ($455,000 in fiscal 2007 funding for a study to review the mission of the State of Maryland helicopter fleet and the replacement of that fleet) and aligning anticipated telecommunications expenditures to the most recent actual, spending on MIEMSS operations is essentially flat.
- **Grants:** The increase in grants is largely artificial as MIEMSS anticipates receipt of similar grants in fiscal 2007 but the working appropriation does not yet reflect them.

Exhibit 3

Governor's Proposed Budget

Maryland Institute for Emergency Medical Services Systems
($ in Thousands)

How Much It Grows:	Special Fund	Federal Fund	Reimb. Fund	Total
2007 Working Appropriation	$11,701	$140	$0	$11,841
2008 Governor's Allowance	11,308	700	92	12,100
Amount Change	-$393	$560	$92	$259
Percent Change	-3.4%	400.0%		2.2%

Where It Goes:		
Personnel Expenses	**$202**	
Increments and other compensation		$220
Workers' compensation premium assessment		107
Retirement contributions		104
New position: contractual conversion (1 FTE)		75
Turnover adjustments		27
Other fringe benefit adjustments		14
Health insurance costs decline due to one-time savings		-345
Operations	**-$548**	
Programming support		48
Utilities		32
Printing costs		31
Gas and oil expenses		22
Management studies		-455
Telecommunications (completion of centralized communications initiative)		-110
Contractual employment		-69
Miscellaneous supplies		-34
Travel		-13
Grants	**$600**	
Estimates of federal fund grants (primarily Bioterrorism grants passed through to local jurisdictions)		600
Other		5
Total		**$259**

FTE: Full-time equivalent

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

Recommended Actions

		Amount Reduction	
1.	Reduce expenditures supported through miscellaneous service charges based on expectation of revenue from those charges. This reduction aligns fiscal 2008 expectations of revenue from these charges (from such things as shirt and decal sales and training services) to the most recent actual. The Maryland Institute for Emergency Medical Services Systems may process a budget amendment to reflect higher revenues if they materialize.	$ 60,000	SF
2.	Increase turnover from 3 to 4% to reflect the current vacancy rate.	63,850	SF
	Total Special Fund Reductions	**$ 123,850**	

Appendix 1

Current and Prior Year Budgets

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

	General Fund	Special Fund	Federal Fund	Reimb. Fund	Total
Fiscal 2006					
Legislative Appropriation	$0	$10,724	$350	$0	$11,074
Deficiency Appropriation	0	0	0	0	0
Budget Amendments	0	2,038	0	0	2,038
Reversions and Cancellations	0	-518	-51	0	-570
Actual Expenditures	**$0**	**$12,244**	**$299**	**$0**	**$12,543**
Fiscal 2007					
Legislative Appropriation	$0	$11,130	$140	$0	$11,270
Budget Amendments	0	571	0	0	571
Working Appropriation	**$0**	**$11,701**	**$140**	**$0**	**$11,841**

Note: Numbers may not sum to total due to rounding
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Fiscal 2006

Fiscal 2006 expenditures at MIEMSS totaled just over $12.5 million, an increase of just under $1.5 million over the legislative appropriation. Two separate budget amendments increased the budget by just over $2 million as follows:

- just over $1.6 million for projects supported by funds originally received by the Department of Health and Mental Hygiene (DHMH), the bulk of the funding (almost $1.53 million) to support emergency preparedness activities;

- $261,000 for three projects through the Maryland Highway Safety Program supported by funds originally received by the State Highway Administration (SHA);

- $81,000 to support a fiscal 2006 cost-of-living adjustment (COLA); and

- $75,000 in higher than anticipated commercial ambulance licensing/inspection fees to support general contractual expenses.

The Department of Legislative Services (DLS) would note that the funding from DHMH and SHA are recorded as special funds but were in fact federal funds. The special fund designation noted in **Appendix 1** is explained by the fact that these federal funds were granted to MIEMSS in prior fiscal years but neither spent nor encumbered by MIEMSS or cancelled by the granting agency. In order to spend these funds in 2006, they have to be designated as special funds as MIEMSS cannot record them as federal dollars because they did not directly receive the federal dollars, nor can they be reimbursable funds, as the funds were not appropriated in fiscal 2006 by the granting agency.

This amendment has the possible unintentional effect of double-counting expenditures for a specific activity over fiscal years. DLS recommends that in the future if MIEMSS is unable to encumber federal funds granted from other State agencies, it adopt the typical practice employed elsewhere whereby unspent federal funds granted from one agency to another be appropriately cancelled by the granting agency at the end of the fiscal year and subsequently re-appropriated.

Further, it should be noted, that some of these funds were based on grant awards originally made in fiscal 2004 and early fiscal 2005. These funds should have been included in MIEMSS' original fiscal 2006 budget submission, something MIEMSS concedes and attributes to an oversight.

The increase to the fiscal 2006 legislative appropriation was offset by cancellations of $570,000. Most of this amount related to prior year encumbrances for a variety of contract expenditures that did not materialize.

Fiscal 2007

To date, the fiscal 2007 legislative appropriation has been increased by $571,000, all special funds. This increase is derived as follows:

- $455,000 in funding from the Maryland Emergency Medical Services Operations Fund (MEMSOF) and is intended to fund a study to review the mission of the State of Maryland helicopter fleet and the replacement of that fleet. The funding request comes shortly after the Department of State Police released a *Joint Chairman's Report* on its 12-helicopter Medevac fleet and the need to begin replacement of that fleet beginning in fiscal 2009. The intent of the newly proposed study is to look holistically at all of the mission elements of the State's helicopter fleet (Medevac, law enforcement, homeland security, rescue, and damage assessment) not simply the Medevac fleet and to develop specifications for aircraft necessary to meet all of these elements. The report will also include timelines, procurement steps, as well as funding options. A full review of this issue is included in the MEMSOF budget analysis.

- $101,000 to support the fiscal 2007 COLA.

- $15,000 received as a grant from the American Heart Association for an initiative to reduce death and disability from stroke.

Appendix 2

Audit Findings

Audit Period for Last Audit:	April 16, 2002 – November 7, 2005
Issue Date:	April 2006
Number of Findings:	5
Number of Repeat Findings:	3
% of Repeat Findings:	60%
Rating: (if applicable)	n/a

Finding 1: Technology services were procured without soliciting competitive bids. MIEMSS did not concur with this finding. The agency argued that it did not split purchase orders to avoid soliciting competitive bids or requiring approval from the Board of Public Works and/or the Department of Budget and Management. Rather, the agency argued that it maintained compliance with applicable State law and procurement regulations.

Finding 2: **Ambulance licensing fee collections were not adequately controlled. MIEMSS concurred with this finding.**

Finding 3: MIEMSS did not adhere to State law and related budgetary requirements applicable to certain special fund accounts. MIEMSS concurred with this finding.

Finding 4: **Proper internal controls were not established over purchasing and disbursement transactions. MIEMSS concurred with this finding.**

Finding 5: **Adequate controls and accountability were not maintained over equipment. MIEMSS concurred with this finding.**

*Bold denotes item repeated in full or part from preceding audit report.

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

Object/Fund	FY06 Actual	FY07 Working Appropriation	FY08 Allowance	FY07 - FY08 Amount Change	Percent Change
Positions					
01 Regular	92.60	93.10	94.10	1.00	1.1%
02 Contractual	9.20	7.30	5.80	-1.50	-20.5%
Total Positions	**101.80**	**100.40**	**99.90**	**-0.50**	**-0.5%**
Objects					
01 Salaries and Wages	$ 6,765,452	$ 7,118,003	$ 7,320,334	$ 202,331	2.8%
02 Technical and Spec. Fees	457,297	334,672	265,931	-68,741	-20.5%
03 Communication	1,254,945	1,379,909	1,293,994	-85,915	-6.2%
04 Travel	165,574	95,500	94,850	-650	-0.7%
06 Fuel and Utilities	78,541	43,000	74,500	31,500	73.3%
07 Motor Vehicles	211,861	185,577	205,660	20,083	10.8%
08 Contractual Services	1,131,068	1,493,212	1,093,135	-400,077	-26.8%
09 Supplies and Materials	151,839	176,100	142,100	-34,000	-19.3%
10 Equipment – Replacement	23,108	43,500	34,281	-9,219	-21.2%
11 Equipment – Additional	143,920	103,000	103,000	0	0%
12 Grants, Subsidies, and Contributions	2,082,303	790,000	1,390,000	600,000	75.9%
13 Fixed Charges	76,592	78,778	82,112	3,334	4.2%
Total Objects	**$ 12,542,500**	**$ 11,841,251**	**$ 12,099,897**	**$ 258,646**	**2.2%**
Funds					
03 Special Fund	$ 12,243,682	$ 11,701,251	$ 11,308,297	-$ 392,954	-3.4%
05 Federal Fund	298,818	140,000	700,000	560,000	400.0%
09 Reimbursable Fund	0	0	91,600	91,600	n/a
Total Funds	**$ 12,542,500**	**$ 11,841,251**	**$ 12,099,897**	**$ 258,646**	**2.2%**

Note: The fiscal 2007 appropriation does not include deficiencies, and the fiscal 2008 allowance does not reflect contingent reductions.

Appendix 3

Appendix 4

Fiscal Summary
Maryland Institute Emergency Medical Services Systems

Program/Unit	FY06 Actual	FY07 Wrk Approp	FY08 Allowance	Change	FY07 - FY08 % Change
General Administration	$ 12,542,500	$ 11,841,251	$ 12,099,897	$ 258,646	2.2%
Total Expenditures	**$ 12,542,500**	**$ 11,841,251**	**$ 12,099,897**	**$ 258,646**	**2.2%**
Special Fund	$ 12,243,682	$ 11,701,251	$ 11,308,297	-$ 392,954	-3.4%
Federal Fund	298,818	140,000	700,000	560,000	400.0%
Total Appropriations	**$ 12,542,500**	**$ 11,841,251**	**$ 12,008,297**	**$ 167,046**	**1.4%**
Reimbursable Fund	$ 0	$ 0	$ 91,600	$ 91,600	n/a
Total Funds	**$ 12,542,500**	**$ 11,841,251**	**$ 12,099,897**	**$ 258,646**	**2.2%**

Note: The fiscal 2007 appropriation does not include deficiencies, and the fiscal 2008 allowance does not reflect contingent reductions.