



# Performance Review of the Office of Medical Examiner and Trauma Services

## Office of the County Auditor

### Audit Report

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**Report No. 18-14**  
**December 14, 2017**



**OFFICE OF THE COUNTY AUDITOR**

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December 14, 2017

Honorable Mayor and Board of County Commissioners,

We have conducted our review of the Office of Medical Examiner and Trauma Services. Our review objective is to analyze OMETS' effectiveness and efficiency in several key performance areas. An additional objective is to determine the adequacy of expert witness and toxicology revenue collection practices.

We appreciate the cooperation and assistance provided by the Medical Examiner and Trauma Services and other County agencies contacted during the course of our review.

Respectfully submitted,

A handwritten signature in blue ink that reads "Bob Melton".

Bob Melton  
County Auditor

cc: Bertha Henry, County Administrator  
Andrew Meyers, County Attorney  
Dr. Craig Mallak, Chief Medical Examiner, Medical Examiner and Trauma Services

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# EXECUTIVE SUMMARY

We conducted a performance review of The Office of Medical Examiner and Trauma Services (OMETs). Our review objective is to analyze OMETs' effectiveness and efficiency in several key performance areas. An additional objective is to determine the adequacy of expert witness and toxicology revenue collection practices.

We conclude that the office operates within established parameters for Florida medical examiners and generally provides services in an efficient and effective manner when compared to established standards and/or peers. Revenue collection practices are not adequate.

We commend the Medical Examiner's Office for their pursuit of accreditation and certifications of staff. The Medical Examiner's Office received full accreditation status through the National Association of Medical Examiners in November 2016. All investigators are certified by the American Board of Medicolegal Death Investigators. All Forensic Pathologists are certified by the American Board of Pathology.

The Medical Examiner's Office compares favorably to local peers and industry best practices. The cost per resident for the Broward Medical Examiner's Office is \$2.94 while the average cost per resident, excluding Broward, is \$3.20 for other Medical Examiners (FY 2016). Also, one professional organization recommends a minimum annual funding of \$3.87 per resident (adjusted to FY 2016). From FY 2013-FY 2016, we noted that the Medical Examiner's Office completed 97% of their autopsies within 24 hours. This exceeds the accreditation standard of 90% of autopsies within 48 hours.

Approximately \$1.67 million in receivables are due to the County for services provided by the Medical Examiner's Office and remains unpaid. Nearly \$1 million of the past due amount is owed by the State Attorney's Office, primarily for expert witness testimony and toxicology testing services. The outstanding balance from the State Attorney's Office has continued to accrue over several years without payment. The failure of the State Attorney's Office, and other entities, to pay fees for services provided results in a loss of cost reimbursement to the County. Without cost reimbursement, County taxpayers are subsidizing the cost of services provided to the State of Florida.

A staffing level assessment should be conducted to determine appropriate staffing needs. Workloads for all operational areas (Investigations, Pathology and Toxicology) increased in 2016. This circumstance puts increased demands on staff, particularly Pathologists. For several applicable position classifications, the staffing of the Broward Medical Examiner's Office is approximately half of the staffing levels recommended by the organization responsible for

accreditation. Based upon these standards, staffing levels are low for pathologists, autopsy assistants, investigators, and administrative positions.

We also noted opportunities for improvement related to the accounting and management information systems and the accuracy of reported performance metrics. Our report contains a total of five recommendations for improvement.



# INTRODUCTION

## Scope and Methodology

We conducted a performance review of The Office of Medical Examiner and Trauma Services (OMETS). Our review objective is to analyze OMETS' effectiveness and efficiency in several key performance areas over the four-year period 2012 through 2016. An additional objective is to determine the adequacy of expert witness and toxicology revenue collection practices.

To understand OMETS' practices and to assess general compliance with requirements for Florida medical examiner offices, we interviewed OMETS staff and toured the facility to obtain an understanding of services provided; we reviewed Section 406, Florida Statutes, the Florida Administrative Code 11G, and *Practice Guidelines for Florida Medical Examiners*, Florida Association of Medical Examiners, issued July 2010; we considered these documents against the Investigations Section operating procedures and our general understanding of operations in our evaluation of OMETS' practices.

To evaluate OMETS performance in key areas, in addition to the above documents, we also reviewed National Association of Medical Examiners (NAME) Forensic Autopsy Performance Standards, accreditation criteria and accreditation reports issued to OMETS, American Board of Forensic Toxicology (AFBT) accreditation criteria and OMETS accreditation reports dated May 2016, to identify specific performance criteria. We considered Florida medical examiner districts<sup>1</sup> to be the most appropriate peers for comparative purposes, as all are regulated by Florida Statute 406 and Florida Administrative Code 11G. Therefore, based upon the size of populations served and NAME accreditation status of the districts, the peer districts considered in this report include: Miami Dade County (District 11), Palm Beach County (District 15), Pasco/Pinellas County (District 6), Jacksonville/Duval County (District 4), and Orange County (District 9). We also reviewed annual reports issued by the Florida Department of Law Enforcement, Medical Examiner Commission (MEC) for calendar years 2013 through 2016; reviewed "Regional Medicolegal Autopsy and Death Investigation Centers, Construction, Staffing and Costs, A Report and Recommendations Prepared by the System Infrastructure Committee of the Scientific Working Group on Medicolegal Death Investigations (SWGMDI)," issued September 17, 2013; gathered and analyzed budgetary and performance data reported by Broward and other Florida medical

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<sup>1</sup> Within Florida, there are twenty-four medical examiner districts. Some districts, like Broward (District 17), are single county districts, while others may provide services to several adjoining, less populated counties.

examiner districts; reviewed and tested OMETS' performance measures as reported to the Office of Management and Budget (OMB), as well as OMETS' internal tracking systems and other reports; and consulted with Enterprise Technology Services staff regarding the LabLynx database system utilized by OMETS staff. Information obtained from all sources was used to establish best practice performance criteria and peer standards and was compared against OMETS' performance attainment.

To evaluate expert witness and toxicology revenue collection practices, we interviewed OMETS staff, consulted with the Office of the County Attorney and Accounting Division. We also reviewed accounts receivable records and conducted such analyses as we considered necessary in the circumstances.

Our review covered the operations and services provided by the Investigations, Pathology and Toxicology operating sections. We excluded indigent cremation and cremation approval services and Trauma Services from the scope of this review. Therefore, we express no conclusions regarding the performance of these sections. It is also important to note that evaluating the quality of medical practices is beyond the scope of the review; and, accordingly we express no conclusions on the quality of medical practices of the OMETS.

## **Overall Conclusion**

We conclude that OMETS operates within established parameters for Florida medical examiners and generally provides services in an efficient and effective manner when compared to established standards and/or peers. Revenue collection practices are not adequate. Opportunities For Improvement are presented in this report.

## **Background**

The Broward County Office of Medical Examiner and Trauma Services (OMETS) is responsible for providing death investigation services to Broward County. OMETS provides the services of a state-mandated medical examiner's office, plus a forensic toxicology laboratory, and a trauma services entity. Operations are regulated by the State of Florida under Florida Statute 406 and Florida Administrative Code 11G. These regulations specify the rules and guidelines governing all district medical examiner offices operating in the State of Florida. OMETS is also regulated by Broward County Administrative Code 13.20.



OMETS is primarily tasked with determining the cause and manner of death of individuals who died under suspicious, unusual or unnatural circumstances. Specifically, according to Florida Statute 406.11, medical examiners are to determine the cause of death, via investigations, examinations and/or autopsies when a person dies: of criminal violence, accident, suicide; suddenly when in apparent good health; in police or penal custody; in suspicious or unusual circumstances; by poison; by disease or injury resulting from employment; or, by disease constituting a threat to public health. These cases are typically referred to OMETS by law enforcement or medical professionals. OMETS staff will investigate the circumstances of the death, and as necessary, perform an autopsy, and conduct toxicology and/or medical testing. This information is used to determine the cause of death, which is then classified as natural, accident, suicide or homicide.

Broward is the second largest county in the State of Florida, with over 1.8 million residents. In addition to its year-round and seasonal residents, Broward has several million visitors per year. If any person, either resident or visitor, dies within the boundaries of Broward County, under unusual circumstances as defined by Florida Statute 406.11, they are then referred to OMETS for investigation. Figure 1 displays 2016 statistics for Broward County population and deaths. As shown in this table, 4,073 deaths were referred to OMETS, of which 2,300 were investigated, representing approximately 15% of all decedents.

**Figure 1: In 2016, OMETS accepted 2,300 cases, representing 15% of all Broward County deaths.**

Broward County Death Statistics		
Population	1,854,513	Total population of Broward County
Deaths	15,154	All deaths in Broward County
% of Deaths	.8%	Percentage of population that died in 2016
# Referred to OMETS	4,073	# of deaths referred to OMETS
% of Deaths Referred	27%	Percentage of all deaths referred to OMETS
# of Cases Accepted	2,300	Number of cases accepted by OMETS
% of Death Investigated	15%	Percentage of all deaths investigated

Source: Office of the County Auditor analysis utilizing data from MEC 2016 Annual Report

### Overview of OMETS Operations and Services

OMETS services are provided at their facility located at 5301 S.W. 31st Avenue, in Fort Lauderdale. This site includes medical examination areas, a toxicology laboratory, evidence storage areas, conference and training rooms, as well as all administrative offices. While the offices are open to the public during normal business hours, the facility remains operational on a 24-hour basis. Figure 2 presents photographs of OMETS offices.



Figure 2: OMETS ' facility is located in the Fort Lauderdale area of Broward County.



Source: Photographs provided by OMETS.

OMETS is separated into four operational sections, Operations (includes Investigations and Indigent Cremation), Pathology, Toxicology and Trauma Services:

### Operations

The Operations section provides business and administrative support services such as budget, payroll, human resources and facilities management. This section also has responsibility for the Investigations unit, as well as indigent cremation services.<sup>2</sup>

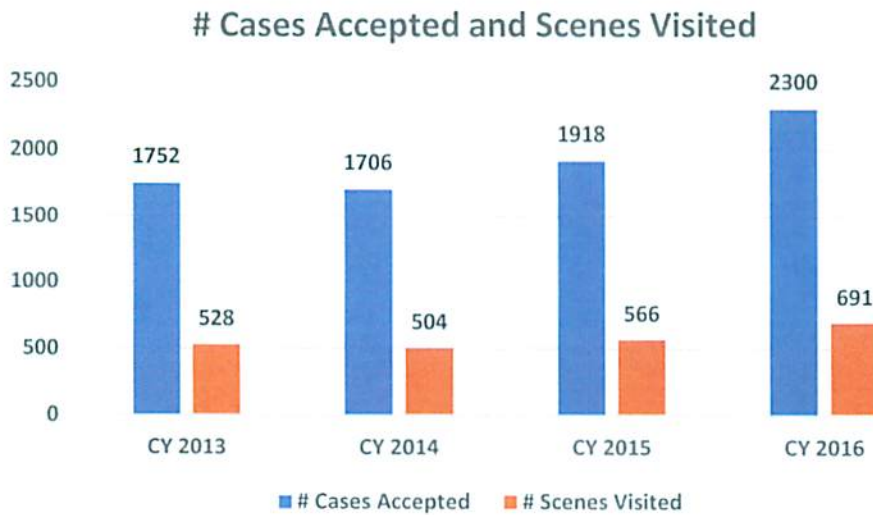
The Investigations section is responsible for the initial investigation into the cause of death. Deaths occurring under circumstances described by Florida Statutes are referred to OMETS by law enforcement officers or others for potential investigation. OMETS staff, as applicable, then assess, in compliance with Section 406.11, Florida Statutes, if referred cases should be accepted for investigative review, or 'declined jurisdiction'. These decisions are dependent upon the circumstances of the death, and may be made by the Investigations section over the telephone or after visiting the scene of the death. If a location is visited, the investigator will take photographs, and gather relevant evidence and information which will later assist pathologists in their investigations. As applicable, witnesses, family members or treating medical professionals may also be interviewed by Investigations staff.

Approximately half of the cases referred to OMETS each year are accepted for review. Figure 3 shows the number of cases accepted and number of scenes visited by the Investigations section from calendar year 2013 through calendar year 2016. Over the past four years, these metrics have both experienced a net increase 31%.

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<sup>2</sup> Indigent cremation services provide for the final disposition for individuals who have died within the boundaries of Broward County and have no family, or whose family's income is below 100% of the current poverty level.

**Figure 3: The numbers of cases accepted, and death scenes visited have increased over the past four years.**



Source: Office of the County Auditor representation of data from 2013-2016 MEC reports and data provided by OMETS

**Pathology**

The Pathology section is responsible for the completing death investigation services, as well as the transport, storage, and eventual release of the decedents. The forensic pathologists (also collectively referred to within this report as ‘medical examiners’) conduct autopsies and make final determinations of the cause of death. To assist in their investigation, the pathologists may order toxicology or other testing services to determine disease or state of injuries. Pathologists are responsible for creating final cause of death reports and, as needed, provide expert witness testimony regarding the results of their examinations.

**Toxicology**

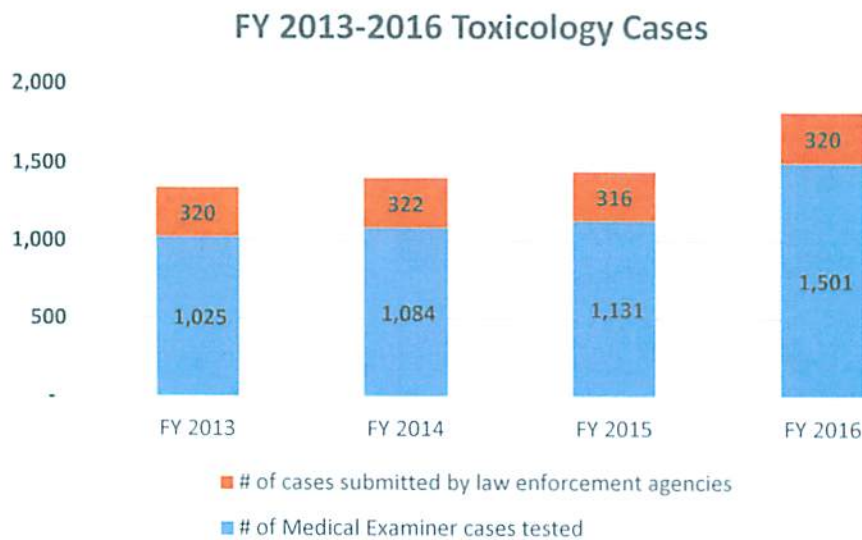
The Toxicology section provides toxicology testing for both OMETS and Broward County law enforcement agencies. Typically, testing is conducted to determine the presence or amounts of alcohol, narcotics or other poisonous substances in a person’s body at the time of death, or arrest.

Test results provide the medical examiners with additional information to assist in determining the cause of death. Similarly, the State Attorney’s Office is provided with test results indicating the absence, or presence and levels of intoxicants for arrestees, and may use the information in prosecuting cases. Toxicologists may be required to testify in court regarding the results of their testing.



In FY 2016, the Toxicology section tested over 1,800 cases. As shown in Figure 4, from FY 2013 to FY 2016, the total number of cases submitted to the Toxicology section for testing by law enforcement agencies has remained fairly consistent. However, the total number of Medical Examiner cases tested in FY 2016 increased by 370 cases, or 33% from FY 2015. OMETS Managers believe the increase in the numbers of toxicological analyses performed is the direct result of a greater number of overdose death cases investigated by OMETS in 2016.

**Figure 4: A significant increase in Medical Examiner toxicology cases is observed for FY 2016.**



Source: Office of the County Auditor representation of OMETS' data.

### Trauma Services

This section is tasked with improving the quality of trauma care for Broward County residents. The Trauma Services section coordinates regular meetings with first responders, trauma transport companies, and hospital trauma centers in an effort to ensure that all patients in Broward County are provided with the best possible care after a traumatic injury has occurred. Additionally, this section is responsible certifying emergency medical service (EMS) providers, inspecting EMS vehicles, managing the EMS grant program, and provides oversight and inspection services regarding non-emergency medical transportation services. The section administers the Broward County Trauma Council. Within the State of Florida, there are very few counties that offer/have a specifically established council to perform these services.

### Information Technology Support

Information technology services for OMETS are provided by ETS staff. To facilitate its operations and track cases, OMETS utilizes the LabLynx database system. LabLynx tracks a case from initiation through completion, allowing OMETS staff to enter information and attach files, as



applicable. The system is also utilized to generate management reports. However, Lablynx’s most important functionality is maintaining a chain of custody for case activity and use of its barcode labeling and scanning features to track cases, samples and testing.

**Public Health and Safety Services**

In addition to providing death investigation services, OMETS works within the community to enhance public health and safety. Specifically, information gathered from an autopsy can provide valuable information that can be used to reduce future mortality. OMETS has provided information to Healthy Mothers, Healthy Babies, which is used to study, and hopefully, help prevent accidental sleep-related infant deaths. The Trauma Services section was also an active participant in the recent ‘Take Five to Stay Alive’ anti-texting while driving campaign.

However, OMETS’ most recent and significant efforts in the community are related to the increasing number of fatalities due to drug overdoses. Specifically, OMETS has played an important role in improving public health by providing valuable statistical and toxicological information to local, state, and federal government officials regarding the fentanyl overdose epidemic. The information gathered by OMETS is used to assist first responders, drug intervention advocates, and community leaders by providing them with timely information regarding the severity of this new drug epidemic and the areas within the County most affected. OMETS also assists the community by taking an active role in drug awareness campaigns and community meetings.

**OMETS Funding, Staffing and Revenue**

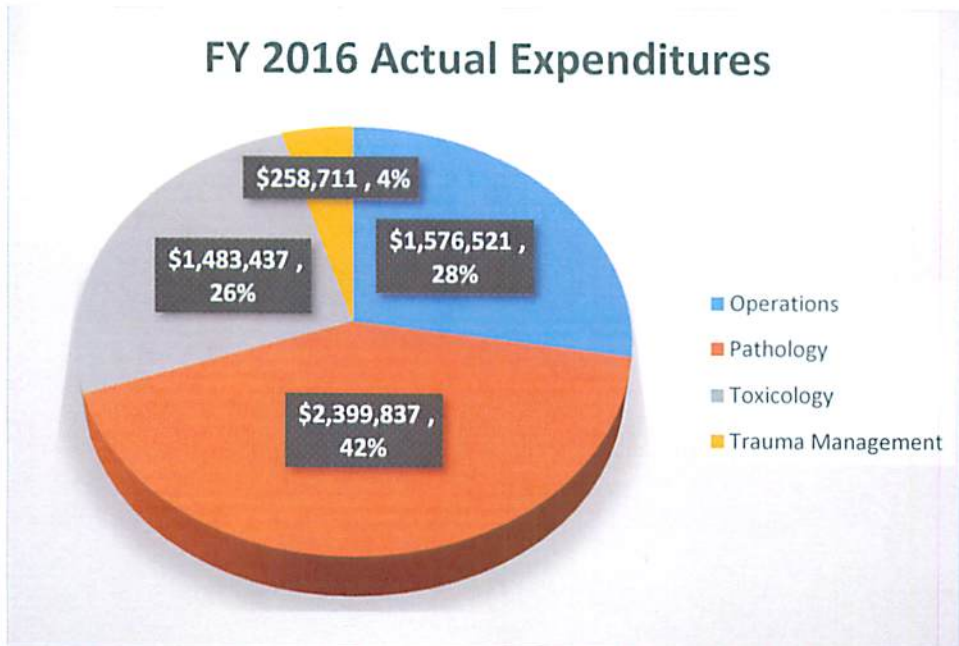
For FY 2016, OMETS’ actual expenditures were \$5,718,506. OMETS’ primary source of funding is the General Fund. Figures 5 and 6 provide a breakdown of budgeted staffing and actual expenditures and levels for FY 2016. The Pathology section is largest, representing 42% of operating expenses, and 15 full time equivalent (FTE) staff positions.

**Figure 5: In FY 2016, OMETS was budgeted for 42 FTEs**

Section	# of FTEs
Operations	13
Pathology	15
Toxicology	11
Trauma Services	3
<b>Total</b>	<b>42</b>

Source: Office of the County Auditor presentation of OMB data for FY 2016.

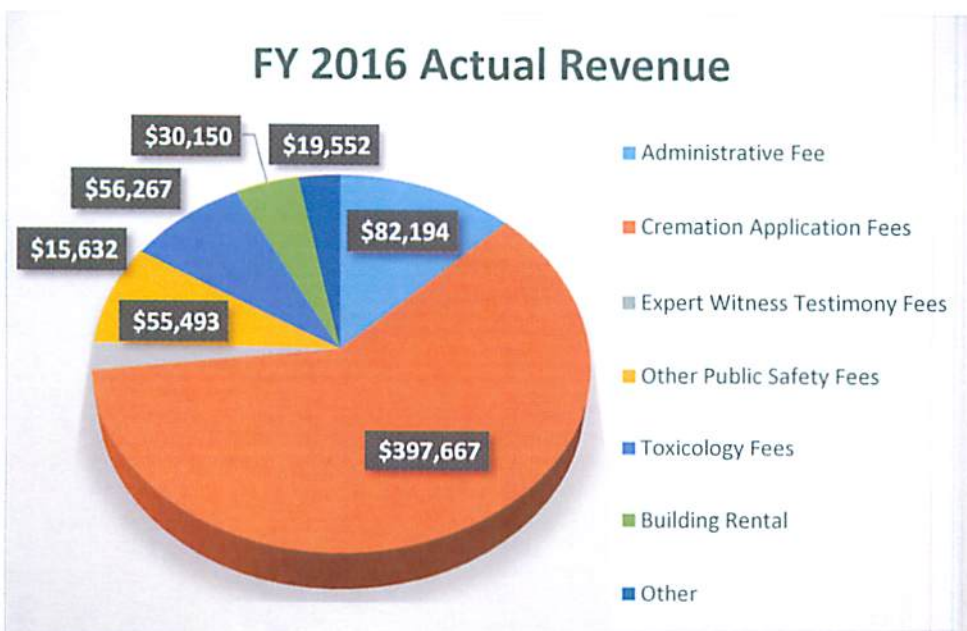
Figure 6: For FY 2016, OMETS' actual expenditures were \$5,718,506.



Source: Office of the County Auditor presentation of OMB data for FY 2016.

OMETS receives a small amount of revenue from fees for various services identified in the Administrative Code, such as: cremation approval, expert witness testimony, toxicology tests, and others. The actual revenue collected for FY 2016 is shown in Figure 7. As shown, cremation application fees represent the largest revenue source, representing over 60% of all funds collected.

Figure 7: \$656,955 was collected in FY 2016 from all revenue sources.



Source: Office of the County Auditor presentation of OMB data for FY 2016.



# ANALYSIS OF PERFORMANCE

## **Accreditation and Certification of Staff Has Been Achieved.**

Accreditations help to provide assurance regarding the quality of services provided and adherence to recognized best practices. By pursuing accreditation and certification of staff, OMETS demonstrates its overall commitment to the provision of high quality services. We noted the following noteworthy accomplishments in these areas:

- OMETS: Achieved full accreditation status through the National Association of Medical Examiners in November 2016 (valid through February 2019)
- Investigations: All investigators are certified by the American Board of Medicolegal Death Investigators (ABMDI)
- Pathology: All Forensic Pathologists are certified by the American Board of Pathology
- Toxicology: Achieved accreditation by the American Board of Forensic Toxicology (ABFT) September 2016 (two year accreditation period)

**We Commend** management for their pursuit of accreditation and certifications of staff.

## **OMETS Compares Favorably to Established Benchmarks.**

To evaluate OMETS operations, we identified significant benchmarks and compared OMETS' performance, when applicable and feasible, against local peers and industry best practices, and over OMETS' own performance over the four-year period of 2013-2016. We found that OMETS compares favorably, and generally meets or exceeds identified performance metrics. The standards used in our analyses are summarized in Figure 8, which focuses on OMETS' achievement levels for 2016.

However, our review of OMETS' performance data and tracking systems also identified opportunities for improvement in the use of LabLynx functionality and reporting capabilities, as well as additional consistency in performance measure tracking and reporting.

In each of the following sections we examine the performance standards identified in Figure 8, and as applicable, opportunities for improvements related to data collection and/or reporting practices are provided in Opportunities for Improvement Nos. 2 and 3.



**Figure 8: We reviewed five performance metrics and found OMETS met or exceeded many best practices.**

Operational Area	Performance Metric	Standard or Best Practice	Peer Averages	OMETS 2016 Performance
Office Overall	Costs per Capita	\$3.87 per capita	\$3.20	\$2.94
Pathology	Timely Completion of Autopsies	90% complete within 24 hours of case acceptance	Reported metrics are not directly comparable	99% complete within 24 hours of arrival
	Timely Completion of Final Report	90% completed in 90 Days	92%	90%
	Pathologist Caseload	Recommended levels vary from 225- 250 cases per year, not to exceed a maximum of 325	Not analyzed	309
Toxicology	Timely Completion of Testing	90% Completed in 60 days of submission	Reported metrics are not directly comparable	13 business days average

Source: Office of the County Auditor compilation of information

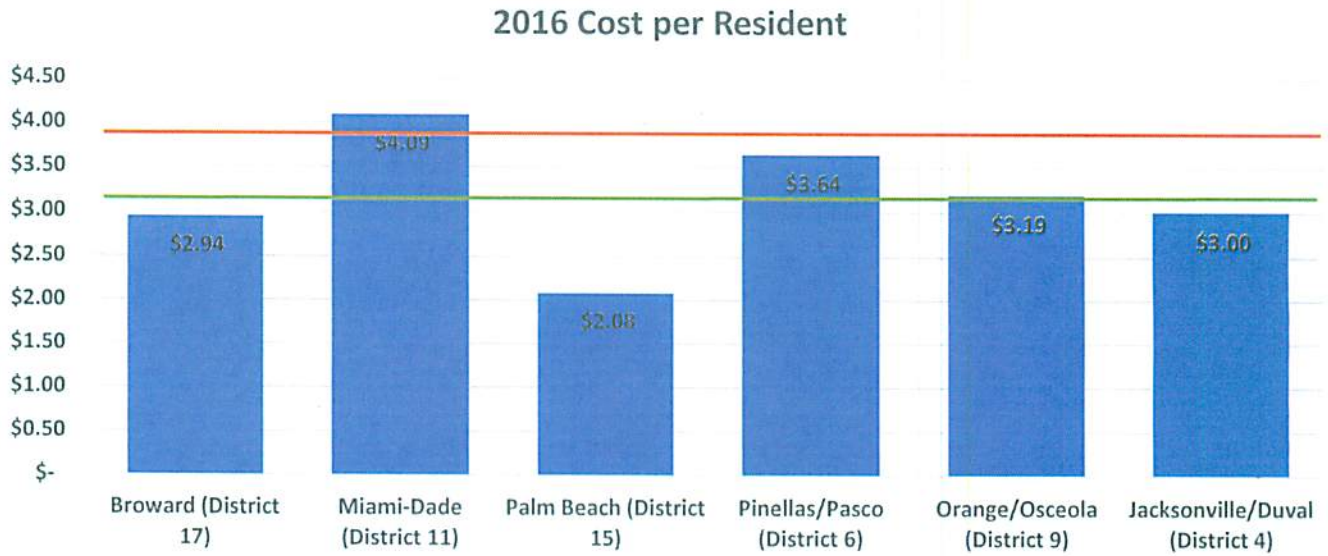
**OMETS Operational Costs of \$2.94 Per Resident are Within Identified Parameters.**

OMETS operating costs per resident appear to be reasonable and efficient based upon our analyses. First, we calculated the cost of the Broward operations on a per resident basis. This cost was compared to per resident costs for identified peers, using population data from the 2016 MEC Annual Report and FY 2016 actual expenditure information as reported in budget documents. Based on this analysis, the average cost for medical examiner services is approximately \$3.20 per resident, per district (excluding Broward); however, it is important to note that not all districts have identical operational models. For example, Broward County has a toxicology lab which is accredited by the American Board of Forensic Toxicology; this may result in a higher expenditure rate than other districts which may outsource their toxicological testing to a third-party vendor and/or may not be accredited.

We also reviewed the report *“Regional Medicolegal Autopsy and Death Investigation Centers, Construction, Staffing and Costs”*, issued by SWGMDI on September 17, 2013, which recommends “minimum annual funding of \$3.75 per capita for the operation of regional medicolegal autopsy and death investigation centers.” We adjusted this recommended rate for inflation to 2016, and used \$3.87 per resident as basis for our analysis. This study also acknowledges that additional funding may be appropriate if more comprehensive services are offered.

Figure 9 displays the results of both analyses. Broward County’s average cost<sup>3</sup> per resident for OMETS services is \$2.94, which is 8% below the \$3.20 average of identified peers, and is 24% lower than the adjusted SWGMDI recommended standard of \$3.87. This is noteworthy considering OMETS offers a fully accredited toxicology laboratory.

**Figure 9: In FY 2016, the cost per resident for Broward County OMETS services was \$2.94**



Source: Office of the County Auditor analysis of data from peer County budget documents and MEC 2016 Annual Report

\*Orange Line indicates recommended \$3.87 adjusted minimum per capita funding by SWGMDI

\*Green Line indicates peer average of \$3.20 per capita funding

**From FY 2013-2016, Medical Examiners Have Completed 97% of Autopsies Within 24 hours**

Completing an autopsy is often an important step in determining the cause of death. OMETS strives to complete 90% all examinations within 24 hours of arrival. This goal appears to be a reasonable performance standard, as completing autopsies within 24 hours allows the bodies to be released to families/funeral homes as soon as possible, facilitating additional arrangements. This practice is particularly important for some faiths whose observances require quick burial, and is considered sensitive to family members/secondary OMETS customers.

Generally, this metric is reported by OMETS to OMB using data extracted from the LabLynx system. Specifically, OMETS records the time the remains are received and the time the medical examiners begin the autopsy. These dates and times are compared, and adherence to 24-hour

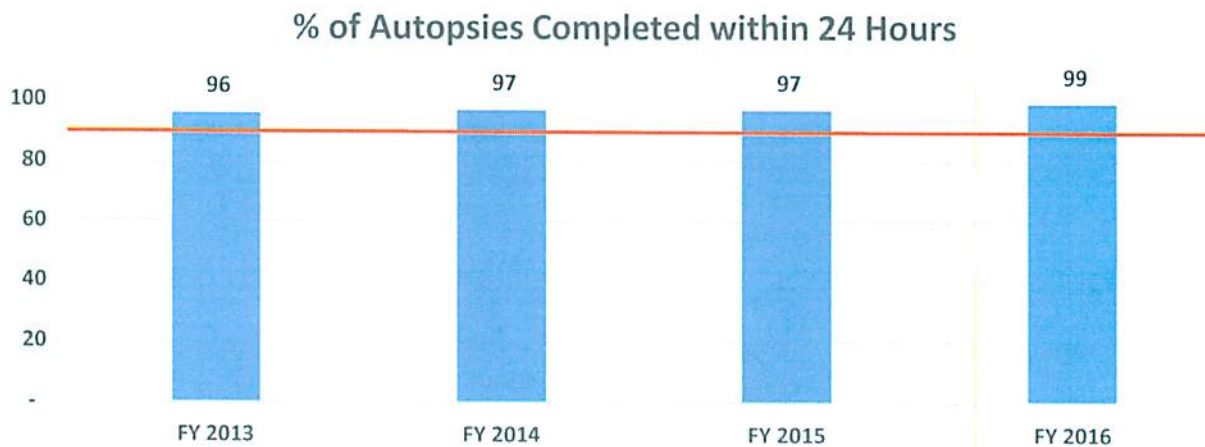
<sup>3</sup> When considering Broward’s total operating costs, the 2016 expenditure amount of \$258,711 for the Trauma Management section was removed to increase comparability, as this area is not part of death investigation services or common to peer agencies. Palm Beach County actual 2016 costs are not available, and 2016 budgeted expenditures were utilized.



standard is determined. As part of this review, raw data for calendar years 2015 and 2016 was reviewed and found to support fiscal year attainment reported to OMB.

Figure 10 shows OMETS’ reported attainment levels for this metric for FY 2013-2016. For each year shown, OMETS is exceeding its goal to complete 90% of autopsies within 24 hours of arrival to the facility, and has achieved an average attainment level of 97%.

**Figure 10: From FY 2013-2016, OMETS exceeded goal to complete 90% of autopsies within 24 hours**



Source: Office of the County Auditor representation of data from OMB FY 2013-FY2016. Orange line represents target goal of 90%

OMETS’ performance appears similar to peers and within accreditation parameters; however, performing direct comparisons against peers or industry standards of time frames to complete autopsies is limited due to variances in metrics and data collection points. For example, Palm Beach and Miami-Dade for FY 2016, reported “turnaround time for post-mortem examination” of 18 hours and “average time for release of body to funeral home (in hours)” of 25 hours, respectively. NAME accreditation standards require 90% of autopsies are performed within 48 hours from the time jurisdiction is accepted. Given OMETS high level of attainment in completing autopsies within 24 hours of arrival at OMETS’ facility, it appears performance levels are similar to peers, and well within NAME standards.

**OMETS Completes Final Cause of Death Determination Reports within Established Time Frames**

Timely completion of the final cause of death determination reports is an important metric, as this information may provide closure to family members and loved ones, or may be needed for legal proceedings. Completion of the report within 90 days is a standard within NAME accreditation and is established in the Practice Guidelines for Florida Medical Examiners



(Guidelines)<sup>4</sup>. OMETS also reports this data to OMB as part of their performance standards, as do peer counties Miami-Dade and Palm Beach.

The analysis in Figure 11 focuses upon the completion of reports for all deceased persons investigated by OMETS in calendar years 2014, 2015 and 2016. In addition to considering the targeted goal for completion of 90% of all reports in 90 days, we also calculated the completion of 100% all reports within 180 days, a secondary metric recognized by the Guidelines. As shown, OMETS has generally met the identified standards across the review period. It is of particular note, that from CY 2015 to CY 2016, the number of reports completed increased 22%, from 1,691 to 2,067, and OMETS staff have maintained the expected performance standards.

**Figure 11: From CY 2014-2016, an average of 92.7% of reports have been completed within 90 days, and 99.7% of reports have been completed within 180 days**

Calendar Year	# of Reports	Average # of Days to Complete	# Completed Within 90 Days	% Completed Within 90 Days	# Completed Within 180 Days	% Completed Within 180 Days
2014	1582	33	1542	97.5%	1578	99.7%
2015	1691	48	1523	90.1%	1686	99.7%
2016	2067	61	1871	90.5%	2062	99.8%
<b>Average</b>	-	47	-	92.7%	-	99.7%

Source: Office of the County Auditor analysis of Case Log Spreadsheets provided by OMETS

In completing 90% of their reports in 90 days, Broward’s 2016 performance levels are consistent with Miami-Dade and Palm Beach counties, which have reported 91% and 93%, respectively, in FY 2016.

OMETS tracks completion of reports using the LabLynx system; however, due to some concerns by OMETS Managers about the reliability of reports run from the system, manual spreadsheets, based upon calendar year, are also maintained which track the dates of autopsy, final reports and cause of death. Therefore, in considering OMETS’ performance for this metric, we examined data collected in these spreadsheets and provided to us by the Chief Medical Examiner and did not use data reported to OMB. Opportunities for Improvement No. 2 and No. 3 provide recommendations to address these concerns.

<sup>4</sup> Practice Guidelines for Florida Medical Examiners standards recognize that some final reports may be delayed pending receipt of reports from outside agencies, in which case the final report should be completed within 30 days of the receipt of such information; however, all reports should be completed within 180 days.

**Pathology Caseload Levels are Within Established Parameters for Efficiency and Effectiveness.**

Pathologist caseload is a performance metric OMETS reports to OMB, with a targeted goal of 250 annual cases per pathologist. This goal is consistent with NAME Forensic Autopsy Performance Standards, which state “the forensic pathologist shall not perform more than 325 autopsies in a year [and the] recommended maximum number of autopsies is 250 per year.” In considering attainment of this metric, the National Association of Medical Examiners allows 3-5 external examinations to be considered as the equivalent of one full autopsy.<sup>5</sup> The Practice Guidelines establish a similar standard, recommending 225 autopsies per year.<sup>6</sup> These standards establish a benchmark to help ensure medical examiner offices operate efficiently, but within a threshold that does not compromise quality or integrity through an excessive workload, thus maintaining an effective balance.

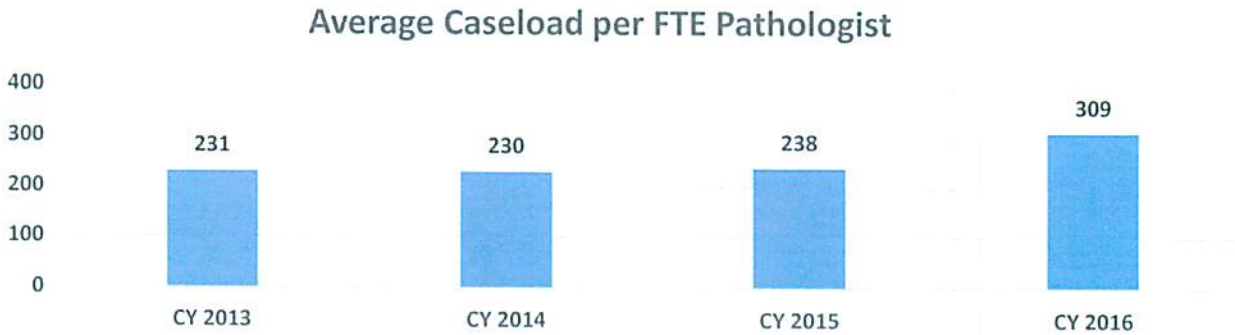
To evaluate OMETS’ historical average pathologist caseload against their standard of 250, we considered both the number of examinations conducted and the number of pathologists over a four-year period, using a methodology consistent with NAME accreditation criteria. The results of our calculations are shown in Figure 12. From calendar years 2013 through 2015, OMETS’ pathologist caseload has remained close to, but below, the targeted caseload of 250 at an average of 233, indicating an overall efficient and effective workload level. In 2016, the average caseload significantly increased to 309 cases per FTE pathologist. This represents a 30% increase in caseloads from 2015, but remains below the NAME maximum of 325. This increase is consistent with other workload increases observed throughout this report.

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<sup>5</sup> An external examination in lieu of an autopsy may be appropriate in the case of an obvious injury or clearly determined cause of death. NAME recognizes that an external examination is less time consuming to complete than an autopsy, and has therefore established this equivalency ratio to be used when considering total caseload.

<sup>6</sup> Guidelines state that this threshold may be adjusted downward for single medical examiner offices, or the upper threshold may be raised in the event of a mass fatality or a vacancy under active recruitment.

**Figure 12: From CY 2013-CY 2015, OMETS has maintained average per pathologist caseload comparable to the recommended standard of 250, with a significant increase in caseload per pathologist observed in 2016**



*Source: Office of the County Auditor analysis based upon MEC 2013-2015 reports and 2016 case data provided by OMETS*

**The Toxicology Section Reports Complete All Testing Services Within an Average of 13 Business Days.**

Timely results of toxicology testing are important to law enforcement agencies when making a determination of potential criminal charges. This metric is also important to OMETS because expedient testing of the toxicology samples can ultimately lead to a quicker determination of the final cause of death.

The NAME optimal standard for turnaround time measures whether 90% of toxicology examinations are completed within 60 calendar days of case submission. OMETS’ internal goal for turnaround time is ten days, as established by the Chief Medical Examiner.

According to the Chief Toxicologist, the testing ‘turnaround time’ begins when the Toxicology section receives the samples, and ends when all testing is complete, reviewed, and approved. Figure 13 shows the number of business days to complete testing as reported by OMETS to OMB, using data from the LabLynx system. Although this metric is reported in business days, it appears the section has historically completed its testing well below the 60-calendar day standard. For FY 2016, OMETS has achieved its internal goal for 2016 for medical examiner case testing.



Figure 13: From FY 2014- FY 2016, times frames to complete toxicology testing have improved

	FY 2014	FY 2015	FY 2016	Average
Average turnaround time of all cases submitted for toxicological analysis (business days)	12	17	11	13
Average turnaround time of Medical Examiner cases (business days)	13	16	10	13
Average turnaround time of law enforcement cases submitted (business days)	13	23	14	17

Source: Office of the County Auditor presentation of OMB data.

Note: Turnaround time was not reported by OMETS to OMB for FY 2013

# OPPORTUNITIES FOR IMPROVEMENT

Our review disclosed certain policies, procedures, and practices that could be improved. Our review was neither designed nor intended to be a detailed study of every relevant system, procedure, or transaction. Accordingly, the Opportunities for Improvement presented in this report may not be all-inclusive of areas where improvement may be needed.

## 1. Approximately \$1.67 Million in Receivables Remains Unpaid.

During our review, we considered revenue collected for certain fee-based services. The latest fee schedule for OMETS was approved by the Board of County Commissioners (Board) on February 26, 2013, and is shown in Chapter 37 of the Broward County Administrative Code. The schedule establishes required payments for OMETS services, including cremation approval certificates, administrative services, expert witness testimony and toxicology testing services. During our review, we noted the following concerns:

A. Approximately \$1.67 million in receivables are due to the County for services provided by OMETS. Figure 14 identifies all amounts due to the General Fund as of July 31, 2017. As shown, nearly \$1M, or 58%, of the past due amount is owed by the State Attorney’s Office (SAO), primarily for expert witness testimony and toxicology testing services. As a result of the SAO and other entities’ failure to pay, the County is experiencing a significant and ongoing loss of cost reimbursement.

**Figure 14: The County is owed over \$1.67M in fees, primarily for toxicology testing and testimony services.**

Entities Invoiced	Past Due <1 Year	Past Due 1-5 Years	Past Due >5 Years	Total Amount Due
State Attorney’s Office	\$199,427	\$293,694	\$483,939	\$977,060
Other Governmental Entities	\$92,497	\$362,817	\$246	\$455,560
Funeral Homes	\$122,347	\$26,870	\$3,680	\$152,897
Private Attorneys	\$10,442	\$14,851	\$22,931	\$48,224
Others	\$21,067	\$8,128	\$8,948	\$38,143
<b>Totals</b>	<b>\$445,780</b>	<b>\$706,360</b>	<b>\$519,744</b>	<b>\$1,671,884</b>

Source: Office of the County Auditor representation of data obtained from Accounting Division

Expert witness testimony services are provided by both the Pathology and Toxicology sections. Providing such testimony is recognized as an important function of OMETS, as death investigation and/or toxicology testing results can provide critical information to criminal or civil proceedings.



These court related testimony services are primarily provided by the Chief Medical Examiner and the Chief Toxicologist, for death and DUI related cases, respectively. The majority of services are provided at the request of the State Attorney's Office (SAO), but may also be on behalf of the Public Defender's Office or private attorneys, and applicable invoices are sent to the subpoenaing party.

Toxicology testing services provided on law enforcement cases are invoiced to the SAO. Each case may require several tests, which have specific charges in the fee schedule. Once testing is complete, an itemized statement of charges and a copy of the results and an invoice are sent to the SAO. Charges are then entered into PeopleSoft, and an invoice is generated.

As shown, the outstanding balance due from the SAO is significant, and has continued to accrue over several years. According to Florida Attorney General Advisory Legal Opinion (AGO 77-86), a county medical examiner "is entitled to expert witness fees as provided in s. 90.231, F.S. Section 406.09," and further states, "The state, having in effect commended the witness to appear and testify before the grand jury, is liable for such expert witness fees." The failure of the SAO, and other entities, to pay fees for services provided results in a loss of cost reimbursement to the County. Without cost reimbursement, County taxpayers are subsidizing the cost of services provided to the State of Florida.

**B. Amounts Billed for Services Should Be Properly Entered into People Soft**

Toxicology related expert witness testimony services are invoiced to the SAO as a single lump sum amount classified in PeopleSoft as 'Administrative Services'. While it is recognized that OMETS sends a separate itemized statement to the SAO identifying the subject's name and the individual tests and charges, the charges should be correctly entered into the County's financial management system. Incorrectly classifying these charges inhibits management's ability to accurately track revenue sources.

In summary, these issues indicate a lack of processes in place to ensure all invoiced services are appropriately collected, classified and assessed. Immediate action should be taken to ensure all due charges are assessed and collected.

**We Recommend Management:**

- A. Develop and implement practices to ensure amounts invoiced for services are collected on a timely basis.
- B. Develop procedures to ensure charges for services are appropriately entered into PeopleSoft.

**Management Response:**

A. Management agrees that receivables should be paid.

B. OMETS will continue to ensure charges for services are appropriately entered into PeopleSoft.

It should be noted that the majority (58%) of receivables relate to a single entity, the State Attorney's Office, with aged receivables (five or more years) of over half a million dollars. Historically, and without a formal agreement, the County's Medical Examiner has provided DUI toxicology services to the State Attorney's Office (SAO). During the severe economic downturn, the County began billing for testing services, based on the fact that the testing could be provided at the State Crime Lab. Using the State Crime Lab caused concerns for the SAO based on reported processing delays.

The SAO argue that they have no budget to cover the invoices for services provided by the OMETS. Meetings and discussions have occurred over the last five years related to wait-times and costs associated with ME personnel subpoenaed to testify. The County learned that private experts providing testimony are compensated. A recent meeting occurred with the Chief Judge seeking to establish an efficient process for ME staff members being called to testify in court and additional discussions are expected prospectively with the SAO on the same topic.

The next largest set of receivables is municipalities' DUI testing, totaling \$455,560. Municipalities deliver specimens for DUI testing to OMETS, but the results are delivered to the SAO. Management will review how best to accomplish payment for these testing services.

**2. Improvements to the Functionality and Reporting Capabilities of OMETS' Management Information System Are Needed**

During this review, we noted the automated management information system, Lablynx, is not providing reliable metric information in all areas. OMETS managers reported several challenges in using the LabLynx system and extracting accurate data. For some metrics, it is necessary for managers to conduct an extensive review of system generated reports to ensure accuracy of data reported to OMB, or others. In other instances, managers have developed manual tracking systems to assist in operational oversight. This inefficient process of manually reviewing or maintaining data may ultimately detract from the Office's overall goal of providing high quality forensic death investigation services. Staff also report other LabLynx functionality issues, such



as difficulty attaching certain documents to case files, and the need to often log in and out of the system, as well as some scanning equipment failures. Having a user friendly and reliable database system is a key element in ensuring operational effectiveness and efficiency in day to day operations, as well as providing managers with meaningful data for business decisions.

On April 4, 2017, the Board approved Lablynx, Inc. as the only reasonable source provider of the LabLynx system, and approved an agreement for LabLynx Information Management System services for an initial three-year term, plus five one-year renewal options, inclusive of services provided to OMETS. While it is recognized that all parties have worked together over the past year to resolve some identified issues, given the continued use of this database system, it is imperative that it performs in a manner that consistently and accurately supports all necessary functions.

**We Recommend Management:**

Continue to work with the LabLynx vendor on correcting issues and improving system functionality.

**Management Response:**

Management agrees to continue to work to improve system functionality. Broward County (OMETS) is presently under contract with Lablynx to convert the database currently in Oracle to the SQL environment; expected to be completed between March and June 2018. Until that time, significant changes cannot be made. After the transition to the SQL version, OMETS will be working with the vendor on programming and module corrections, updates, and improvements.

**3. The Accuracy of Reported Performance Metrics Needs Improvement.**

During the course of this review, the following issues were identified regarding the reporting of performance measures to OMB:

- A. The attainment levels for determination of the cause of death reports completed within 90 days have been understated for calendar years 2014 and 2015. Attainment levels verified during this review are 97%, and 90%, respectively, indicating the reported attainment levels of 79% and 60%, respectively, are incorrect and understated. The attainment levels for FY 2016 are not included in the section's annual report, with a note stating, "The actual for FY16 will be reported when complete data is available." These challenges are due in part to issues with how data is extracted from the LabLynx system, specifically in the instances when cases are received in one quarter, but the reports are finalized in another quarter.

- B. Data reported to OMB for the total numbers of cases tested by Toxicology (see Background Section) were found to be incorrect and often understated (less than the sum of cases tested for medical examiner cases plus cases tested for law enforcement). It is important that accurate workload measures be reported to appropriate entities.
- C. Data for the number of days to complete toxicology testing is reported based on business days, not calendar days, which is the basis used for reporting other metrics, and would better facilitate benchmarking activities. Further, the use of business day metric requires annual updates within LabLynx, which has not been completed consistently.
- D. Data reported for the numbers of cases investigated and accepted or declined (see Background Section) are likely reported in error to OMB due to missing data fields and case type classification issues within LabLynx. It is important that accurate workload measures be reported to appropriate entities.

OMETs has a responsibility to ensure information provided to oversight bodies and to the public are accurate and complete. Information provided to the Board may affect policy and funding decisions. As a public agency, OMETs also has a responsibility to provide transparency and accountability to the public.

**We Recommend Management:**

Develop methods to ensure consistent and accurate reporting to OMB. This may include developing meaningful measures and improved methodologies for tracking and calculating certain measures.

**Management Response:**

Management agrees that improved performance measures should be developed during the FY 2019 budget process and will work with OMB and the OMETs to assure that is accomplished.

**4. Optimized Staffing Levels Will Help Ensure OMETs Continues to Provide Effective and High-Quality Services.**

Throughout this review process, and as considered within this report, it is noted that workloads for all operational areas- Investigations, Pathology and Toxicology- increased in 2016. This circumstance puts increased demands on staff, particularly Pathologists, as evidenced by caseloads approaching maximum recommended levels and longer timeframes to complete final reports. However, a formal staffing level assessment has not been performed.

It is also noted that the SWGMDI report, *Regional Medicolegal Autopsy and Death Investigation Centers-Construction, Staffing and Costs*, supports recommendations by NAME in their original



Inspection and Accreditation Standards. The base model presented in the report recommends approximately 35-40 staff persons (inclusive of chiefs, pathologists, investigators, administrative support, security, etc.) for a center responsible for a population of 1,000,000, performing an average of 1,000 autopsies per year. The report acknowledges that many positions, such as pathologists, would increase linearly as populations served increased, and that additional staff may be required if services such as toxicological or other analyses were provided.

We assessed recommended staffing levels for OMETS using the model presented in the SWGMDI report. OMETS is responsible for serving a population of 1,854,513 residents, and performed 2,067 autopsies in 2016. Figure 15 displays the results of our analysis, which was completed using both population and number of autopsies metrics. For several applicable position classifications, Broward staffing is approximately half the recommended staffing levels. Considering that OMETS per capita operating costs (as previously presented in Figure 9) are below recommended levels and peer averages, it appears the addition of certain staff may be reasonable and prudent.

**Figure 15: Based upon NAME staffing recommendations, Broward staffing levels are low for pathologist, autopsy assistant, investigator and administrative positions.**

Position Title	NAME/SWGMDI Base Recommended # of Positions	Projection for 1.85M Population	Projection for 2,067 Autopsies	Broward 2016 Staffing Level	Potential Increase in # of Positions
Chief Medical Examiner	1	1	1	1	None
Staff Forensic Pathologist	5	9	10.3	5	4-5 Positions
Autopsy Assistant	7	13	14.5	8	5-7 Positions
Chief Investigator	1	1	1	1	None
Investigator	8	15	16.5	6	9-11 Positions
Administrative/Clerical	9	17	18.6	8	9-11 Positions
<b>Total</b>	-	-	-	-	<b>27-34 Positions</b>

Source: Office of the County Auditor analysis of OMETS 2016 staffing levels based upon NAME/SWGMDI recommendations. Analysis excludes OMETS toxicology section, which is not considered in the recommendations as well as custodial and security services.

To help ensure that OMETS delivers high quality services, and maintains its performance within required accreditation standards, OMETS needs appropriate staffing resources. Otherwise, inadequate staffing levels can lead to burnout, higher turnover, and reduced quality of work.

**We Recommend Management:**

Conduct a staffing level assessment to determine the appropriate staffing levels and propose budgetary resources needed to achieve necessary levels.

**Management's Response**

Management and OMETS agree to review the recommendation to assess appropriate budgetary resources for this important activity. It should be noted that the County Commission has adopted a budget for OMETS for 2018 of \$7.23M, up 19% since 2016, with one position added each year. The impact of the opioid epidemic and other public health crises are important considerations in Management's review annually and will continue to be so. Significant vacancies have historically existed and remain an issue within OMETS, with some critical positions remaining unfilled for extended periods of time (Resident Medical Examiner, 805 days; Toxicologist, 329 days; Program Performance Analyst, 228 days). Many of the positions within the OMETS are considered hard-to-fill; however, Management will work with OMETS to assure administrative vacancies are filled expeditiously.