



**A Report to the  
Audit Committee**

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# Audit of Medical Examiner's Office

April 14, 2015

Metropolitan  
Nashville  
Office of  
Internal Audit

## EXECUTIVE SUMMARY

April 14, 2015



### Why We Did This Audit

The audit was requested by the Metro Public Health Department to review the contract to provide medical examiner services valued at \$25 million over a five year period.

### What We Recommend

- Evaluate the total expenditure of funds for this function and determine if the current method should be used going forward.
- Clarify reporting relationships for the appointed County Medical Examiner position.
- Create and execute a contract monitoring plan for the Medical Examiner contract.
- Consider modification of contract items during the next procurement of Medical Examiner services.

For more information on this or any of our reports, email [Mark.Swann@nashville.gov](mailto:Mark.Swann@nashville.gov)

# AUDIT OF MEDICAL EXAMINER'S OFFICE

## BACKGROUND

Tennessee state law requires that every county provide a medical examiner function. The Metropolitan Nashville Government contracted with Forensic Medical Management Services to accomplish this task. Forensic Medical Management Services is a full service forensic pathology group, providing medical examiner services including death investigations, forensic autopsies, expert forensic testimony, and forensic management services.

## OBJECTIVES AND SCOPE

The objectives of the audit were to:

- Determine if autopsies and death investigations were performed in accordance with state and national standards.
- Determine if Forensic Medical Management Services was in compliance with contract terms.
- Determine if the costs to operate the Nashville Medical Examiner's Office were similar to costs for peer communities with similar functions.

The audit scope included July 1, 2012, through August 31, 2014.

### Exhibit 1 – Medical Examiner Costs – Fiscal Year 2014

Cost for Medical Examiner Function	July 1, 2013 – June 30, 2014
Contract Payments – Fixed Price	\$4,182,704
Required Capital Payment	60,000
Total Payments to Contractor	\$4,242,704
Building Lease Payment	\$201,369
Building Utilities and Maintenance	132,116
State Reimbursement County Autopsies	-133,015
Offsetting Reimbursed Facility Fee	-7,050
<b>Total Cost of Medical Examiner Function</b>	<b>\$4,436,124</b>

Source: Signed contracts between Metropolitan Nashville and Forensic Medical Management Services, State of Tennessee, and EnterpriseOne financial system

## WHAT WE FOUND

We found that the services being provided at the Medical Examiner's Office by Forensic Medical Management Services were delivered as contracted for. However, the per capita cost associated with this office was more than three times the state average and two times the national range.

## GOVERNANCE

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Metropolitan Nashville Code of Laws section: M.C.L. 2.38.010 states: "The medical examiner's office of the metropolitan government is established as a separate department of the metropolitan government. The medical examiner's office of the metropolitan government shall be under the management and control of the medical examiner of the metropolitan government." The Metropolitan Nashville Government has contracted with Forensic Medical Management Services to manage and operate the Medical Examiner's Office, with the most recent five year contract beginning in June 2013.

The Tennessee *Post-Mortem Examination Act*, grants authority to the County Medical Examiner to order autopsies, notify the next of kin, permit the removal of donor tissues, authorize the removal of a decedent following a suspicious death, and other rights and responsibilities.

The Metro Public Health Department provides administrative support on behalf of the Metropolitan Nashville Government for the contract with Forensic Medical Management Services.

## OBJECTIVES AND CONCLUSIONS

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1. *Were autopsies performed in accordance with the National Association of Medical Examiners standards?*

**Yes.** Our conclusion was based upon evaluations of the following sub-objectives:

a) *Were all pathologists that performed autopsies licensed?*

**Yes.** There were eleven pathologists that performed autopsies on behalf of Davidson County. All eleven were licensed by the Board of Medical Examiners.

b) *Was the number of autopsies performed by the Medical Examiner's Office in accordance with National Association of Medical Examiners standards?*

**Generally Yes.** For fiscal years 2013 and 2014, pathologists within the Medical Examiner's Office performed on average more than the recommended number of autopsies (250) per the National Association of Medical Examiner's standard but below the maximum allowed (325) by the standard, performing an average of 291 and 260 respectively (see Observation B). According to the standard:

*"The forensic pathologist shall not perform more than 325 autopsies in a year. The recommended maximum number of autopsies is 250 per year."*

c) *Were quality assurance reviews conducted to ensure high quality autopsies were being performed?*

**Yes.** Each month the County Medical Examiner randomly reviews ten cases for quality assurance. In addition, cases were reviewed if concerns or questions were raised about the results of an autopsy.

2. *Were investigations performed in accordance with national and state standards?*

**Yes.** Our conclusion was based upon evaluations of the following sub-objectives:

a) *Were the death investigators certified?*

**Yes.** There were ten death investigators tasked with conducting death investigations for Davidson County. All ten of those investigators were certified by the American Board of Medicolegal Death Investigators.

b) *Were quality assurance reviews conducted to ensure high quality investigations were being performed?*

**Yes.** Each month the Director of Investigations randomly reviews cases for quality assurance. There was also a process in place for peer to peer reviews. In addition, cases were reviewed if concerns or questions were raised about the results of an investigation.

c) *Was decedent property inventoried, maintained, and distributed as directed?*

**Yes.** Property was inventoried, maintained, and distributed as directed. Forensic Medical Management Services has in place a layered access and security process to account for and protect decedent property.

d) *Were the rights and responsibilities of the County Medical Examiner as required by Tennessee Code functioning effectively?*

**Generally, yes.** However, the contract did not address the unique situation present during the audit. The Pathologist appointed as the County Medical Examiner was also an employee of Forensic Medical Management Services who functioned under the Chief Executive Officer, who also performed autopsies requiring review by the County Medical Examiner (see Observation C).

3. *Was Forensic Medical Management Services in compliance with contract terms?*

**Yes.** Our conclusion was based upon evaluations of the following sub-objectives.

a) *Did Forensic Medical Management Services maintain full accreditation?*

**Yes.** As of July 2013 the National Association of Medical Examiners inspection team recommended that the Nashville Medical Examiner's Office receive full accreditation status for a period of five years.

b) *Was revenue for non-governmental services under five percent of total revenue?*

**Yes.** Revenue generated for non-governmental services at this location did not exceed five percent of total revenue. Revenue received for out of state operations was not reviewed.

c) *Was Metro compensated for each private or hospital autopsy performed?*

**Yes.** The number of private and hospital autopsies performed compared favorable to the number of private and hospital autopsies reported to the Metro Public Health Department. However, an error in reporting of three autopsies did occur.

4. Describe the cost for operating the Medical Examiner’s Office in comparison with in-state and out-of-state peer functions.

Funds expended for the medical examiner function were higher than funds expended for similar functions elsewhere. A recent study<sup>1</sup> indicated Davidson County spent more than three times the state per capita average for medical examiner functions. Costs (contract costs alone) for Davidson County were \$7.39 per capita while the state average was \$2.46. The state per capita average was in the middle of the national range for accredited states, which was between \$2.00 and \$3.00. The statewide report noted that Tennessee had extremely variable county budgets for this function ranging “from none to three times the national average.” Others of note were Shelby County at \$3.71 and Knox County at \$2.32 (see Observation A).

Other comparisons showed that similar sized services in Knox County, Tennessee, Shelby County, Tennessee, and Denver County, Colorado cost comparably less. The City and County of Denver, with a similar population and geographic makeup to that of Nashville and Davidson County, spends approximately \$2.8 million to operate their medical examiner function. Exhibit 2 below compares key statistical measures between Davidson County, Knox County, Shelby County, and Denver County, Colorado. The amounts do not include revenue received or reimbursements, if applicable.

**Exhibit 2 – Medical Examiner Cost Comparison** (Without rent/building and indirect costs)

COUNTY – (NUMBER OF STAFF)	POPULATION	2014 COSTS	AUTOPSIES <sup>2</sup>	CHART REVIEWS	POPULATION PER AUTOPSY
Davidson County - (24)	626,681	\$3,956,550	781	83	802
Denver County, CO - (24)	649,000	2,842,100	675	180	962
Knox County - (27)	432,226	2,223,680	728	unknown	unknown
Shelby County - (24)	927,644	3,571,056	882	111	1051

Source: Office of Internal Audit compiled data from the Knox County Controller, Denver County Medical Examiner’s Office, Metro Nashville Public Health Department, and EnterpriseOne (FY-2014 autopsy figures except Denver CY-13, Costs for Knox County are FY-15 budget)

In order to make figures comparable, figures above do not include indirect costs from host governments (such as payroll support, human resources, budget, information technology, finance support, etc.) These type costs would have to be built in to any contractor operation. Therefore, Davidson County costs shown above have subtracted calculated indirect coats of \$418,270 using the method used to calculate indirect costs for non-federal grantees in federal awards.<sup>3</sup> Forensic Medical Management Services also owns and uses a proprietary information database for all case information including investigation, decedent, and toxicology data.

<sup>1</sup> National Association of Medical Examiners study commissioned by the Tennessee Department of Health.

<sup>2</sup> Autopsy numbers are autopsies plus, external exams divided by four, as per National Association of Medical Examiners.

<sup>3</sup> 2 Code of Federal Regulations Chapter II Part 200 §200.414.

## AUDIT OBSERVATIONS

Internal control helps entities achieve important objectives and sustain and improve performance. The Committee of Sponsoring Organizations of the Treadway Commission (COSO), *Internal Control – Integrated Framework (2013 Framework)*, enables organizations to effectively and efficiently develop systems of internal control that adapt to changing business and operating environment, mitigate risks to acceptable levels, and support sound decision making and governance of the organization.

### **Observation A – Medical Examiner’s Office Solicitation**

When solicited in 2013, through a request for proposal process, adequate price competition did not exist and there was no documented analysis to determine the fair and reasonable value for medical examiner services. Also, there was no evidence of continued negotiations for contract price reductions prior to awarding the contract. Forensic Medical Management Services (the incumbent contractor) was the only contractor who responded to the solicitation valued at \$25 million over a five year period.

For comparison purposes Exhibit 3 below shows highlights of the Forensic Medical Management Services contracts for Metropolitan Nashville Government executed in 2013 and Shelby County, Tennessee executed in 2011.

#### **Exhibit 3 – Contract Cost Comparison – Shelby County/Davidson County**

Item	Shelby 2011 Contract (7/01/2011 - 6/30/2014)	Metropolitan Nashville Government 2013 Contract (05/31/2013 – 05/30/2018)
Estimated number of annual autopsies	700	500 - 600
Estimated number of annual external exams	567	700-800
Estimated number of annual cases accepted	1,323	1,275 – 1,500
Forensic Pathologists full-time equivalents	3.5	3.0
Total staff full- time equivalents	23.83	24
Base cost for fiscal year 2014 <sup>4</sup>	\$3,307,918	\$4,200,000
Fee for autopsies – out of county deaths	Contractor pays Shelby county \$300 facility use fee - estimate annual payment of \$50,100 (167 x \$300)	Specifically states no payment to Metropolitan Nashville Government for facility use for out of county deaths
Private Autopsies	Facility use fee of \$300 charged to contractor – number of private autopsies limited to ten annually – estimated annual payment of \$3,000 (10 x \$300)	Metropolitan Nashville Government reimbursed \$150 per private autopsy - no limit on number but provision to limit commercial use of facility to five percent

<sup>4</sup> Shelby amount with maximum annual two percent increase since fiscal year 2011, as per contract. For Metro Nashville, base year of contract began 05/31/13

### Exhibit 3 – Contract Cost Comparison – Shelby County/Davidson County

Item	Shelby 2011 Contract (7/01/2011 - 6/30/2014)	Metropolitan Nashville Government 2013 Contract (05/31/2013 – 05/30/2018)
Annual cost escalation	Employment Cost Index, maximum of two percent annually	Employment Cost Index, maximum of four percent annually
Capital asset funding	Mutually agreed, specific requests required	Annual \$60,000 requirement to contractor
Biohazard waste disposal	Operating cost of the contractor (approximately \$13,000)	Included in utility costs split by Metropolitan Nashville Government and State of Tennessee
Depreciation costs	Depreciation costs of \$50,000 built in	Depreciation costs of \$135,000 built in

Source: Shelby County Contract CA114461 and Metropolitan Nashville Contract 317437

#### Criteria:

- COSO, Monitoring Activities – Principle 13 (uses quality information)
- Metropolitan Nashville Government Procurement Code § 12.130.03.2

#### Recommendation for management of the Metropolitan Nashville Government to:

- 1) Develop cost and pricing analysis for the medical examiner function, including cost to operate this service with Metropolitan Nashville Government employees.
- 2) Consider continued negotiations for contract price reductions regardless of the number of responses.
- 3) Consider using a shorter contract life with possible extensions for high cost contract services when adequate price competition cannot be obtained.

#### Observation B – Contract Monitoring

A proactive effort to monitor important contract areas was not in place. Effective contract monitoring begins with a contract monitoring plan, attention to detail, timely documentation, and continuing communication with the contractor. Areas for improvement include the following:

- Section 3.2.1 includes a \$300,000 capital budget to be billed by Forensic Medical Management Services for \$60,000 on an annual basis. Documentation identifying the specific purchases and identifying information on the equipment bought was not available.
- Section 3.2.1 stipulates a \$150 fee be paid by Forensic Medical for each private autopsy performed at the facility. Three non-governmental autopsies had not been accounted for. Reviews of files to determine how many of these private autopsies were actually performed had not been conducted.
- Pathologists within the Medical Examiner’s Office performed more than the recommended number of autopsies per the National Association of Medical Examiner’s standards but below the “shall not perform” maximum.

*Criteria:*

- COSO, Information and Communication – Principle 13 (use relevant and quality information) and Control Activities – Principle 12 (documented policies and procedures).
- The National Association of Medical Examiners standard B 4.5.

*Recommendation for management of the Metropolitan Nashville Government to:*

Develop a written plan with designated responsibilities to monitor each element of the performance of the contractor along with other relevant quality of services factors for the remaining period of the contract.

**Observation C – Contract Items**

The contract with Forensic Medical Management Services lacks specifics and direction in some areas. Some areas to be considered for clarification include:

- Express rights and responsibilities of the appointed County Medical Examiner, a contractor employee.
- Identification of the specific positions to be maintained from the proposed number of employees furnished by the contractor (24) and position vacancy duration.

The exhibit below compares how some items were addressed in Forensic Medical Management Services’ contract with Shelby County, Tennessee which ended on June 30, 2014.

**Exhibit 4 – Contract Item Comparison – Shelby County/Davidson County**

Item	Shelby Contract (7/01/2011 - 6/30/2014)	Metropolitan Nashville Government Contract (05/31/2013 – 05/30/2018)
County Medical Examiner’s role	Specifically addresses the appointment, role, rights, and responsibilities of the appointed County Medical Examiner	Not addressed
Employees	Right to request removal of contractor employee	Not addressed
Position Vacancies	No position unfilled greater than 90 days	Not addressed
Position Identification	Specific positions identified to be maintained, such as death investigators = 6.5; forensic technicians = 6.0; forensic pathologists = 3.5; etc.	Only forensic pathologists specified = 3.0 of 24 total positions
Offer to Employ	Right to offer contractor employees employment at contract expiration	Not addressed

Source: Shelby County Contract CA114461 and Metropolitan Nashville Contract 317437

Background-County Medical Examiner’s role

An inherent conflict existed in the organization structure with regard to the Davidson County appointed Medical Examiner’s authority, responsibilities, and rights. It should be noted that in Davidson County, the appointed County Medical Examiner pathologist was also a Forensic Medical Management Services

employee who functioned under the company's Chief Executive Officer (also a pathologist performing autopsies). The organizational configuration (as evidenced by the contract, formal organizational chart, performance reviews, and interviews) lacks clarity. The Tennessee *Post-Mortem Examination Act*, grants authority to the County Medical Examiner to order autopsies, notify the next of kin, permit the removal of donor tissues, authorize the removal of a decedent following a suspicious death, and other rights and responsibilities. Additionally, all autopsies must be reviewed for quality assurance, and approved by the County Medical Examiner.

The current contract with Forensic Medical Management Services does not address the position of County Medical Examiner in regard to rights and responsibilities under state law. In contrast, Shelby County's contract with Forensic Medical Management Services (ended June 30, 2014) specifically addressed this issue and asserted these rights. As quoted in the Shelby County Contract:

*"Under this contract, the Shelby County Medical Examiner becomes an employee of the contractor, but the county and the appointed Shelby County Medical Examiner shall retain all rights and responsibilities as required under all applicable federal, state and local laws. The Shelby County Medical Examiner shall maintain the relationship with the Shelby Government as defined by County ordinance. An organizational chart to define the reporting relationship is attached..."*

*Criteria:*

- COSO, Control Environment Principle 3 (reporting relationships)
- The *Tennessee Post Mortem Examination Act* - Tennessee Code Annotated § 38-7-101, et sequitur
- Metropolitan Nashville Government Contract 317437
- Shelby County Contract CA114461

*Recommendation for management of the Metropolitan Nashville Government to:*

Assess each element referred to above and determine if contract modifications should be sought going forward.

## **GOVERNMENT AUDITING STANDARDS COMPLIANCE**

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We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our observations and conclusions based on our audit objectives.

## **METHODOLOGY**

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To accomplish our audit objectives, we performed the following steps:

- Interviewed key personnel within various departments.
- Reviewed and analyzed documentation for compliance with the Tennessee Code Annotated, Metropolitan Nashville Code of Laws, and other applicable laws, regulations, and policies.
- Evaluated internal controls currently in place.
- Reviewed sample selections to determine the effectiveness of internal controls.
- Considered risk of fraud, waste, and abuse.
- Considered information technology risks.

## **AUDIT TEAM**

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Carlos Holt, CPA, CIA, CFF, CFE, CGAP, Audit Manager

Tracy Carter, CFE, Senior Auditor

Mark Swann, CPA, CIA, CISA, Metropolitan Auditor – Quality Assurance

## APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN

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Karl F. Dean, Mayor

William S. Paul, MD, MPH, FACP  
Director of Health

**Board of Health**

Samuel L. Felker, JD, Chair  
Carol Etherington, MSN, RN, Vice Chair  
Alicia Batson, MD  
Henry W. Foster, Jr., MD  
Francisca Guzmán  
Ruth Stewart, MD

April 10, 2015

Mark Swann  
Metropolitan Auditor

Dear Mark:

Thank you for investing your and your staff's time and thought into the audit of the Medical Examiner's Office.

We have reviewed the findings and recommendations, and have incorporated our responses in Appendix A to the attached report.

Thank you again, and please let me know if we can provide any additional information in the future.

Sincerely,



William S. Paul, MD, MPH, FACP  
Director of Health

## APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN

We believe that operational management is in a unique position to best understand their operations and may be able to identify more innovative and effective approaches and we encourage them to do so when providing their response to our recommendations.

Recommendations	Concurrence and Corrective Action Plan	Proposed Completion Date
<b>Management of the Metropolitan Nashville Government should:</b>		
A.1 Develop cost and pricing analysis for the medical examiner function, including cost to operate this service with Metropolitan Nashville Government employees.	<b>Partially Agree.</b>	2018 – Procurement of next contract
A.2 Consider continued negotiations for contract price reductions.	<b>Partially Agree.</b>	2018 – Procurement of next contract
A.3 Consider using a shorter contract life with possible extensions for high cost contract services when adequate price competition cannot be obtained.	<b>Partially Agree.</b>	2018 – Procurement of next contract
B. Develop a written plan with designated responsibilities to monitor each element of the performance of the contractor along with other relevant quality of service factors for the remaining period of the contract.	<b>Partially Agree.</b> The contract requires that the contractor maintain NAME accreditation, which establishes and enforces the quality standards. Moreover, the quality and accuracy of the contractor’s investigations and conclusions regarding causes of death are routinely tested by the judicial and criminal justice system. Metro does now receive detailed annual documentation regarding the capital spending. Pursuant to this recommendation, Metro will consolidate our monitoring efforts into one written plan.	2015
C. Assess each element referred to above and determine if contract modifications should be sought going forward.	<b>Partially Agree.</b> Contract terms are routinely evaluated for improvement at the contract’s expiration.  Regarding the first element (“Express rights and responsibilities of the appointed County Medical Examiner, a contractor employee.”), the Department of Law has advised that the County Medical Examiner’s rights and responsibilities are already specified by state law and Metropolitan Code of Laws.  Regarding the second element (“Identification of the specific positions to be maintained from the proposed number of employees furnished by the contractor (24) and position vacancy duration.”), Metro has not encountered a problem with excessive vacancies or insufficient staff.	2018 – Procurement of next contract

**APPENDIX B – THE NATIONAL ASSOCIATION OF MEDICAL EXAMINERS TENNESSEE COUNTY WITH POPULATION GREATER THAN 200,000 COMPARISON (COST OF DEATH INVESTIGATION SYSTEM)**

County	Population	Fiscal Year 2011 - 2012			Fiscal Year 2012 - 2013		
		Final Budget	Actual	Per Capita	Final Budget	Actual	Per Capita
Davidson	626,681	\$4,528,600	\$4,528,600	\$7.23	\$4,628,600	\$4,628,600	\$7.39
Hamilton	336,463	944,717	943,406	2.80	1,051,917	1,086,353	3.23
Knox	432,226	970,300	976,814	2.26	1,001,350	1,001,350	2.32
Rutherford	262,604	242,600	226,713	0.86	253,000	241,339	0.92
Shelby	927,644	3,240,200	3,240,200	3.49	3,455,667	3,441,079	3.71

Source: National Association of Medical Examiners study commissioned by the Tennessee Department of Health.