Georgia Department of Audits and Accounts
Performance Audit Operations
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State Medical Examiner's Office

Changes to the statute could facilitate consistency in death investigations statewide

Why we did this review

In Georgia, medical death investigations are conducted by the State Medical Examiner's Office (SMEO) within the Georgia Bureau of Investigation. The purpose of this audit was to determine if: there is a best practice for how to manage death investigations at the state level; Georgia's model is cost-effective; deaths meeting statutory criteria are reported; the decisions regarding acceptance of jurisdiction are consistent; cases are completed within a reasonable timeframe; and coroners and other users of the SMEO's services are satisfied.

Who we are

The Performance Audit Operations Division was established in 1971 to conduct in-depth reviews of state programs. The purpose of these reviews is to determine if programs are meeting their goals and objectives; provide measurements of program results and effectiveness; identify other means of meeting goals; evaluate the efficiency of resource allocation; and assess compliance with laws and regulations.

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What We Found

Overall, we found that the State Medical Examiner's Office (SMEO) has appropriate policies and procedures in place to ensure effective operations; however, we identified several areas for improvement. Located within the Georgia Bureau of Investigation (GBI), the SMEO is responsible for determining the cause and manner of a person's death and establishing identity, if necessary.

The cause of death is based on the medical diagnosis of the injury or disease ultimately leading to the death, while the manner of death is a classification based on the totality of the evidence reviewed and requires the medical examiner to interpret the information using his professional judgment. A medical death investigation is usually initiated following the discovery of a death resulting from suspicious circumstances, such as occurring suddenly when the person was in apparent good health, or as a result of violence. Postmortem medical examinations provide law enforcement with medical evidence in cases where the cause of death may not be apparent, or when a crime may have been committed. These examinations may also facilitate the identification of public health issues and provide statistical data to state and federal agencies.

Our review focused on the practices the SMEO has in place to ensure cases are reviewed as appropriate, completed in an accurate and timely manner, and completed in a cost-effective manner. We found the SMEO has proper procedures in place, and is applying them when making determinations about which cases to accept for autopsy. The SMEO has policies and procedures regarding supervisory and peer review of priority autopsy cases to ensure results are consistent with the evidence and the autopsy report accurately conveys the information. While we did see evidence of

supervisory review of routine autopsy cases, there is currently no formalized policy in place regarding frequency or type of review. Given the current experience level of the staff, the likelihood of errors may be low; however, by formalizing its procedures for supervisory review of routine cases, the SMEO can ensure the quality of its work is not adversely impacted due to workload or turnover. Steps could also be taken to improve the timeliness of the release of autopsy reports. Currently, the SMEO is not meeting the National Association of Medical Examiners (NAME) standard that 90% of all autopsies be completed within 90 days of receipt of the body. We reviewed 300 cases and found that 78% (234) were completed within the 90-day time frame.

We also identified three areas for consideration by the General Assembly to ensure all deaths, statewide, receive consistent review: revising the qualifications required for local medical examiners as currently stated in the Georgia Death Investigation Act; revisiting requirements for how cases that are not reported to the SMEO are tracked; and evaluating potential methods for recovering costs associated with medical death investigations. These points are discussed briefly below and in more detail in the report.

- In Georgia, medical death investigations are handled through a mixed medical examiner/coroner system whereby medical examinations are completed by trained physicians upon notification of death by the local coroner. There are four types of medical examiners – local, county, regional and state. As the system is currently established, a local coroner may report deaths to a local medical examiner. There are currently 65 local medical examiners in Georgia on file with the SMEO.[1] While the statute requires that county, regional, and the State Medical Examiner be pathologists, the statute only requires local medical examiners be licensed physicians. We recommend that consideration be given to requiring similar training and qualifications for all medical examiners to ensure consistent and appropriate review of death cases.

- Currently, the state's fragmented death investigation system could allow cases to go unreported. The statute provides for local medical examiners to conduct autopsies; however, because there is no centralized collection of information regarding when local medical examiners are assisting in cases, there is no way to know if all cases are being handled as required by statute. We determined that the SMEO was not contacted in 23 of 87 (26%) suicide cases, which are required by statute to be referred to a medical examiner, and the county did not have a local medical examiner on record who would have handled the case. Consideration should be given to requiring that local coroners provide information on all deaths under their jurisdiction. The SMEO could then use this information to ensure that each case meeting the criteria for a medical examiner's involvement is handled as required by statute.

- Currently, Georgia is one of 16 states that cover all costs associated with death investigations. We identified other states that share costs with the counties served and/or use fees, such as disposition fees and cremation fees, to offset costs of the medical examination system.

In its response to the audit, GBI stated it did not have "any major disagreements with the procedures followed in [the] audit process, nor with the findings and conclusions of the audit, or the basis for those findings and conclusions. We did not identify any points of concern with the conclusions of the audit." The response also stated that GBI was confident that they could "utilize [the] findings to improve upon our existing policies and procedures as the Georgia Death Investigation Act allows."

[1]The number of local medical examiners does not include the county medical examiners for Cobb, DeKalb, Fulton, and Gwinnett.

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- The General Assembly should consider amending the Georgia Death Investigation Act to specify that all medical examiners be trained in pathology. 11
- Under the current system, there is no assurance that all cases that should be reported to a medical examiner for a determination of whether an autopsy is necessary are actually reported. 14
- While the SMEO's medical examination costs are in line with other states' costs for similar functions, other states employ various methods to recover costs. 15
- The SMEO's rate of timely release of autopsy reports is below the national standards of releasing 90% of the reports within 90 days of receipt of the case. 18
- The SMEO has implemented policies and procedures to ensure proper review of referred cases. 20
- The SMEO has policies and procedures that generally guide the work of the medical examiners; however, the SMEO should consider formalizing the review of routine cases. 21

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Audit Purpose

We conducted this review of the State Medical Examiner's Office within the Georgia Bureau of Investigation (GBI) to determine if: there is a best practice for how to manage death investigations at the state level; Georgia's model is cost-effective; deaths meeting statutory criteria are reported; the decisions regarding acceptance of jurisdiction are consistent; cases are completed within a reasonable timeframe; and, coroners and other users of the SMEO's services are satisfied. Details regarding the objectives, scope and methodology are located in **Appendix A**.

Findings in this report have been communicated to appropriate GBI personnel. In addition, a draft copy of this Report was provided to GBI for its review and comment. See the What We Found section for a summary of its response.

Background

Medical Death Investigations

The GBI's State Medical Examiner's Office (SMEO) conducts postmortem medical examinations to determine the cause and manner of a person's death, and to establish identity, if necessary. As shown in **Exhibit 1**, the **cause of death** is the medical reason for a person's death (e.g., heart attack or blunt force trauma). The **manner of death** is a classification based on the circumstances surrounding a particular cause of death, and includes one of the following five designations: accident, homicide, natural, suicide, or undetermined. These classifications are based on national standards for determining manner of death and are used in Georgia and throughout the country. The determination of a decedent's cause of death is based on the medical diagnosis of the injury or disease ultimately leading to the death, whereas the determination of the manner of death is made based on the totality of the evidence reviewed, and requires the medical examiner to interpret the information using professional judgment.

Exhibit 1
Cause and Manner of Death

Cause of death: Refers to the disease or injury that ultimately leads to a person's death. Examples of frequent causes of death include the following: cardiac arrhythmia, blunt force trauma, gunshot wound, drowning, multiple drug toxicity, etc.
Manner of death: Refers to a classification of the death based on the circumstances surrounding a particular cause of death and how that cause came into play. The five manners of death are summarized below:
Accident: Death resulting from an injury or poisoning and there is little or no evidence that the injury or poisoning occurred with intent to harm or cause death. In essence, the fatal outcome was unintentional. *Homicide*: Death resulting from a voluntary act committed by another person to cause fear, harm, or death. Intent to cause death is a common element but is not required for classification of Homicide for the purposes of death certification. *Natural*: Death resulting solely or nearly totally from disease and/or the aging process. *Suicide*: Death resulting from an injury or poisoning as a result of an intentional, self-inflicted act committed to do self harm or cause the death of one's self. *Undetermined*: Death where information pointing to one manner of death is no more compelling than one or more other competing manners of death.
Source: A Guide for Manner of Death Classification, National Association of Medical Examiners, 2002

Medical death investigations are usually initiated following the discovery of a death resulting from suspicious circumstances. Standard practice dictates that the investigative agency has jurisdiction over the scene, while the coroner/medical examiner takes possession of the body for examination. In addition to the criminal justice field, medical death investigations play an important role in helping to identify public health issues and in providing data for state and federal statistics. A postmortem medical examination of a human body is conducted by a medical examiner and provides law enforcement with medical evidence in cases where the cause of death may not be apparent, or when a crime may have been committed in the course of the death. In addition to observing and documenting injuries to a body, a postmortem medical examination may uncover previously unknown medical conditions that may have contributed to one's death.

Forensic Pathology: *A medical subspecialty devoted to the investigation and physical examination of persons who die a sudden, unexpected, suspicious, or violent death.*

The practice of conducting medical examinations of bodies has been in use for centuries. However, enhancements in the field of forensic pathology over the last 60 years have made the results of these examinations a reliable form of evidence in determining cause and manner of death. During this time, states have adopted laws clarifying roles in the death investigation process, including the roles of forensic pathologists. The following sections describe the models (also known as *systems*) states use to conduct medical death investigations, as well as provide detail on how Georgia's medical death investigation system operates.

State Systems for Medical Death Investigations

While there is a great deal of variation in the systems used across the United States to investigate suspicious deaths, there are generally three types of systems: Medical Examiner Systems, Coroner Systems, and Mixed Systems. Each is organized at the state or local level, and is described below:

Medical Examiner System: Twenty-two states operate a Medical Examiner (ME) System. MEs may be appointed at the state, regional, or local level. They conduct investigations without the assistance of a county coroner. MEs are typically physicians trained to conduct medical death investigations.

Coroner System: Ten states operate a Coroner System. Coroners are usually elected officials at the county level and typically are not trained physicians; however, there are currently five states that require the coroner be a trained physician. In these five states, the difference between a Medical Examiner System and the Coroner System may be the elected nature of the position. Coroners aid in the investigation process by obtaining evidence used in investigations, such as medical records. They obtain the services of a trained pathologist for the purpose of conducting an examination as needed.

Mixed System: Eighteen states operate a Mixed System. These states have chosen to have both local coroners and state or county employed medical examiners. The local coroners typically assist in obtaining evidence on-scene; however, the medical examiner is responsible for conducting the examination. A hybrid of this model is one in which counties elect to abolish the coroner position and replace it with a local medical examiner, who is then responsible for all forensic investigations in that county.

Medical Death Investigations in Georgia

In Georgia, medical death investigations evolved from a coroner system to a mixed medical examiner/coroner system in which medical examinations are completed by trained physicians upon notification of death by the local coroners. Georgia is one of eighteen states that currently have a mixed death investigation system. In Georgia, coroners are elected officials and are not required to have a background in medical investigations. They must complete a 40-hour training course provided by the Georgia Public Safety Training Center upon election as coroner, and must complete an additional 16 hours of training annually. These training courses cover death scene investigations, death certificate completion, child fatality reviews, etc.



SMEO Headquarters Office – Decatur, Georgia
Source: Photo taken by audit team

Counties may employ their own medical examiners to conduct examinations. Cobb, DeKalb, Fulton and Gwinnett counties have abolished their coroner offices and currently operate their own medical examiner offices. In each of these counties, the medical examiner is a forensic pathologist and is appointed by the county commission with no reliance on the SMEO. State statute refers to these medical examiners as County Medical Examiners. In addition, Hall, Henry, and Rockdale counties seldom use the SMEO and have chosen to contract for examination services. According to statute, the Chief Medical Examiner, employed by the SMEO, must be a trained forensic pathologist. The Office employs medical examiners as well as case investigators and support staff.

Medical death investigations begin once a death has been discovered. The Georgia Death Investigation Act requires that the county coroner be notified (and a Medical Examiner's Inquiry be initiated) whenever a death:

- Is a result of violence
- Is by suicide or casualty
- Occurs suddenly when the decedent was in apparent good health
- Is unattended by a physician
- Is suspicious or unusual in manner, with particular attention to persons aged 16 and under
- Is after birth but before 7 years of age if the death is unexpected or unexplained
- Is a result of a death penalty execution
- Is an inmate of a state hospital or a state, county, or city penal institution, or
- Occurs after the individual has been admitted to a hospital in an unconscious state and without regaining consciousness within 24 hours of admission

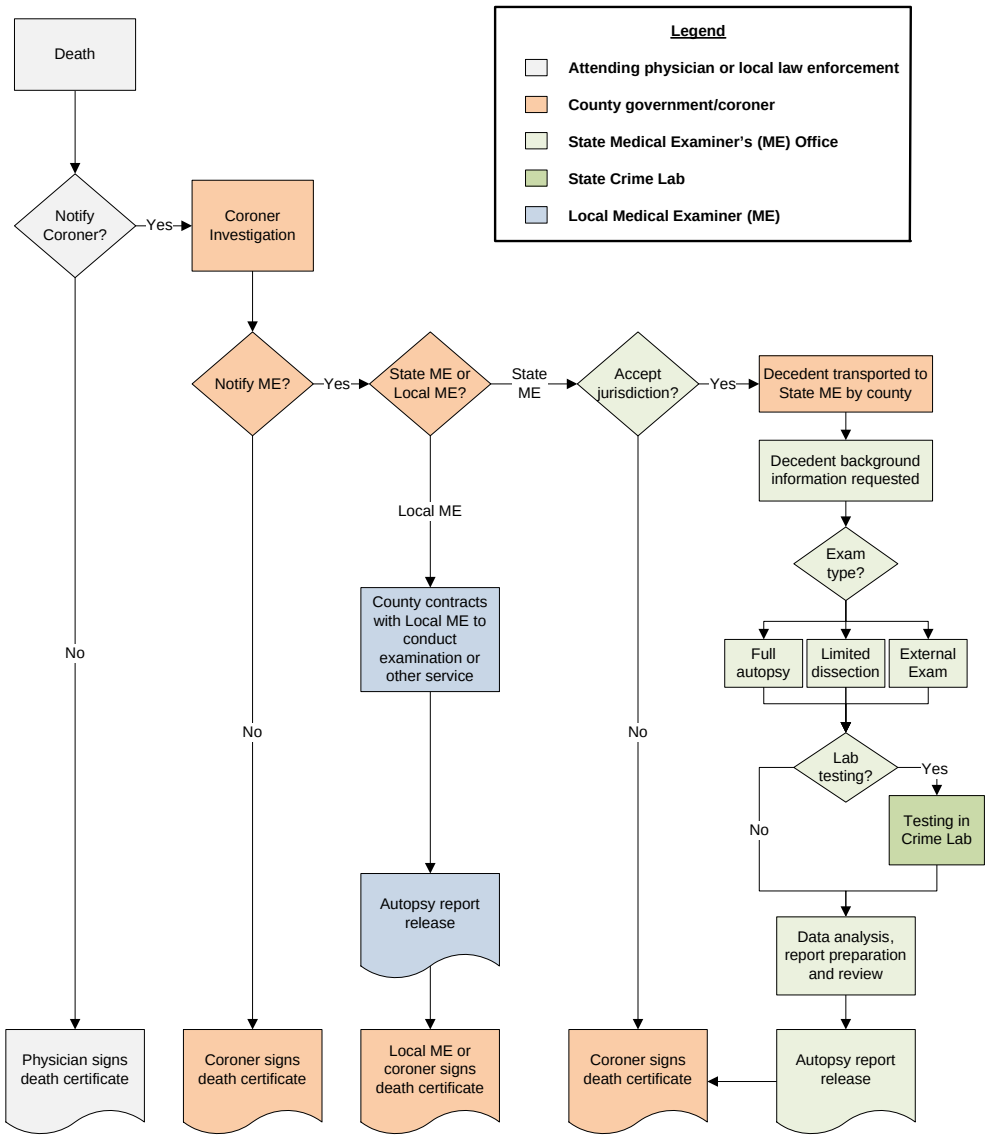
According to the Act, the Medical Examiner's Inquiry is the communication of the circumstances of the death to a medical examiner who will then determine if a postmortem examination is required. A medical examiner is defined as the State's Chief Medical Examiner, a regional medical examiner (one of the SMEO medical examiners), a county medical examiner, or a local medical examiner.[1] Coroners may report deaths meeting the criteria described on the previous page to any of the medical examiners serving their counties.

When the case is reported to the SMEO, it is the responsibility of the Chief Medical Examiner, or his designee, to determine whether or not to accept jurisdiction over a case. The determination is made based on information provided by the coroner, and may be supplemented by additional information collected by SMEO investigators, such as witness accounts, a listing of medications found, a summary of known medical conditions or illnesses, accounts of the decedent's psychological state, etc. Once the investigator has gathered the necessary information, he or she contacts the medical examiner on-call, and, based on the information collected, the medical examiner determines whether it is necessary to examine the body.

If the SMEO accepts jurisdiction in a case, meaning they decide to conduct an examination, the county is not charged for the services provided. The county is responsible for arranging transportation of the decedent to and from the examination facility. This process is shown in detail in **Exhibit 2** on the following page.

[1] According to the statute, the county governing authority shall, after consulting with the coroner, be authorized to appoint one or more local medical examiners who shall be licensed physicians or pathologists. According to SMEO staff, these individuals are then approved by the Chief Medical Examiner to serve the specified county.

Exhibit 2
Medical Death Investigation Process



Source: Georgia Vital Records Act, O.C.G.A 31-10-15; Georgia Death Investigation Act, O.C.G.A 45-16; Interviews with Medical Examiner's Office staff

Once the decedent has been received at the SMEO, preparations are made for the examination. Preparations may include weighing and taking measurements of the body, examining the body bag for trace evidential matter, obtaining X-rays of the body, removing and cataloging clothing and other personal items, drying clothing, cleaning the body, takings photographs of the body, obtaining fingerprints, and cataloging medications that were retrieved from the scene.

The medical examiner determines which of three types of examinations – an external exam, a limited dissection, or an autopsy – will be conducted. (**Appendix B** includes information on the number of each type of examination, by county, for fiscal year 2009.) Each are described below:

- An **external examination** is an inspection of the outside of a body only. Lab samples may also be taken and held in the event future testing is required. These exams take place when the cause and manner of death are known, and a more in-depth examination is deemed unnecessary. The purpose of the exam is to verify the information already known, for example, to determine whether or not the decedent's injuries are consistent with a motor vehicle accident in which he or she was involved.

- A **limited dissection** involves an external examination and the partial dissection of a body, allowing for evaluation of one or more, but not all, of the following: brain, neck organs, thoracic organs, and abdominal organs. The limited dissection can verify the cause of death and check for any additional injuries. Evidence, such as a bullet, can also be retrieved during a limited dissection.

- An **autopsy** is the external examination and the dissection of a body, including evaluation of the brain, neck and thoracic organs, and abdominal organs. Autopsies are conducted in cases where the evidence regarding cause of death is not conclusive. A full autopsy is the most complete of the three services provided, and requires the most significant amount of resources to complete.

The examination typically takes a couple of hours to complete. In addition to the examination of the body, the autopsy process may also involve analysis of tissue and/or blood samples, or other forensic analyses (such as firearms testing). These analyses are requested by the medical examiner and conducted by the Georgia Bureau of Investigation's Crime Lab.

Examinations typically begin with the removal of the internal organs, which are then dissected and examined by the medical examiner. The dissection allows for the identification of disease, injuries, or other conditions that may have contributed to the death. The medical examiner may collect samples of the organ tissues and have them made into microscopic slides so a more detailed evaluation can be conducted. Blood and tissue samples may also be taken for analysis by the lab. The SMEO does not track the number of cases that require lab testing, but more than 80% of cases reviewed in our sample involve some sort of lab testing. This usually includes a blood alcohol test (74% of cases) and toxicology testing (76% of cases). Other tests are also completed, such as firearms analysis and DNA typing, but with far less regularity.

Once the medical examiner has completed the examination, the body is prepared to be sent to the funeral home. After all tests have been completed, the medical examiner concludes the cause and manner of death. SMEO staff contact the coroner to let them know the report is complete. They may also relay information regarding cause and manner so that the coroner may complete the death certificate. The written autopsy report is sent to the coroner and any investigative agencies working on the case. Coroners can also view the autopsy report through GBI's online portal. The SMEO's internal goal is to have 90% of cases completed in 90 days or less.

Exhibit 3
State Medical Examiner's Office



Examination Room - Headquarters



Examination Table – Macon Office

Source: Photographs by audit team

The SMEO has a policy and procedures manual in place to guide its work. Included are procedures for: receiving and processing requests from local governments, operating the morgue, completing medical examinations, writing autopsy reports, testing lab samples, and other related subjects.

While the SMEO has policies and procedures for conducting postmortem medical examinations, much of the content in the resulting autopsy report and supporting documents is driven by each medical examiner's training and experience. The determination of cause of death is a medical determination; however, manner of death requires a decision based on the medical examiner's interpretation and assessment of the circumstances surrounding the death in addition to findings from a physical exam.

Priority cases, such as homicides, complicated child deaths, and high profile cases, are reviewed by another medical examiner prior to the release of the autopsy report. This review is designed to ensure the accuracy of manner and cause determinations, as well as to identify any other technical or grammatical issues in the report itself. The SMEO also has informal processes in place for ensuring quality autopsies. According to staff, medical examiners may discuss cases with each other, or with the Chief Medical Examiner, to get advice on how to proceed with difficult cases. Medical examiners may also participate in a regular video conference where cases are discussed to generate ideas and to get feedback from other medical examiners so that cases can be properly completed.

Staffing

The SMEO's main office is at the GBI headquarters in Decatur, with field offices in Augusta, Macon, and Savannah. Field offices in Summerville and Moultrie were closed in 2009 due to budget cuts. The Chief Medical Examiner for the State of Georgia oversees the Office and establishes policies and guidelines for all Georgia coroners and local medical examiners. In addition to the Chief, the Decatur office currently employs eight medical examiners, seven investigators, five forensic pathology assistants, one photographer, and six administrative and support staff. The remaining three field offices have a total of five medical examiners, four investigators, one administrative staff, and five forensic pathology assistants. Clayton County has chosen to eliminate its coroner position and contract with the SMEO for these services. As a result, all coroner cases in Clayton County are handled by the SMEO. The contract stipulates $152,010 per year, which is intended to cover three investigators and one clerical position. The SMEO uses PathAssist, the medical examiner module within the JusticeTrax laboratory information management system, to manage its cases. Case information for each decedent, including the autopsy findings, is recorded in PathAssist.

Georgia is one of only eight states that are fully accredited by the National Association of Medical Examiners (NAME), which is a professional organization for physicians, investigators, and administrators involved in the field of medical death investigations. The accreditation process includes an on-site inspection and review of the facilities, investigative practices, caseload, record keeping, and staff qualifications and training.

Financial Information and Activity Data

As shown in **Exhibit 4**, the SMEO expended a total of $5.1 million during fiscal year 2010. SMEO expenditures for operations accounted for approximately $4.6 million; it also received federal stimulus funding of approximately $727,000. Approximately $3 million was spent at the headquarters location while the remaining $1.6 million was spent at the field offices. In addition to state and federal stimulus funding, the SMEO received approximately $152,000 in revenue from Clayton County for performing coroner services (included in "Other" funds in **Exhibit 4**). Additional funding sources over the last two fiscal years include open records request fees, crime lab report fees, federal asset sharing funds, and a Homeland Security grant.

Exhibit 4
SMEO Budgeted and Actual Expenditures
Fiscal Years 2009 through 2011

	FY2009 (Actual)	FY2010 (Actual)	FY2011 (Budgeted)
FUND SOURCES			
State Appropriations	$4,704,141	$3,880,345	$5,017,935
Federal[1]	37,179	726,502	-
Other[2]	336,282	524,172	295,736
Total	$5,077,602	$5,131,019	$5,313,671
EXPENDITURES			
Headquarters (Decatur)	$3,003,262	$3,004,326	$3,205,446
Macon	378,212	584,896	768,036
Savannah	619,525	704,048	727,686
Augusta	331,205	313,577	316,767
Moultrie[3]	90,991	-	-
Summerville[3]	280,946	-	-
Crime Lab Reports[4]	99,783	138,358	5,856
County Pathology Service[4,5]	131,434	152,010	152,010
RFS Open Records[6]	2,255	-	-
DOFS Asset Sharing	78,000	233,805	137,871
Homeland Security (GEMA)	37,179	-	-
Total	$5,052,792	$5,131,019	$5,313,671

[1]Includes a Homeland Security grant and American Recovery and Reinvestment Act funds.
[2]Includes Clayton County contract, crime lab reports, open record requests, and asset sharing funds.
[3]Regional offices in Moultrie and Summerville were closed in fiscal year 2009. Positions were officially transferred to other locations in fiscal year 2010.
[4]Funds received for the Clayton County contract and for crime lab reports exceeded expenditures in those areas in fiscal year 2009. Excess funds were returned to the state treasury.
[5]Contract with Clayton County.
[6]Changes from one year to the next are due, in part, to the volume of open records requests.

Source: Medical Examiner's Office financial documents

As shown in **Exhibit 5,** in fiscal year 2010, the SMEO received 4,834 death notifications from coroners across the state (including Clayton County where the SMEO provides coroner services). Of these, the SMEO conducted 2,806 (58%) full autopsies, 271 (6%) limited dissections, and 148 (3%) external examinations. Jurisdiction was declined for the remaining 1,609 (33%) cases. Of the postmortem examinations completed, 65% (2,109) were conducted at the SMEO's headquarters in Decatur. The majority of examinations are conducted within 1-2 days following receipt of the body. Bodies received on weekends or holidays are usually held until the following workday; the exception is the Decatur location, which maintains a Saturday schedule.

Exhibit 5
SMEO Activity
Fiscal Year 2010

Location	Autopsies	Limited Dissections	External Examinations	Jurisdiction Declined	Totals (% of all)
HQ – Decatur	1,775	221	113	1,292*	3,401 (70%)
Augusta	157	43	35	100	335 (7%)
Macon	382	7	0	74	463 (10%)
Savannah	492	0	0	143	635 (13%)
TOTAL	2,806 (58%)	271 (6%)	148 (3%)	1,609 (33%)	4,834

*Includes 26 cases where the location was not indicated in the data
Source: PathAssist Data, FY 2010

Of the 4,834 death notifications received, jurisdiction was accepted in 3,225 cases. As shown in **Exhibit 6**, the SMEO determined the manner of death to be accidental in 37% (1,179 of 3,225) of all deaths under its jurisdiction. More than half of these (52%) were drug or alcohol related. Drugs commonly cited as being present at the time of death were methadone, oxycodone, and hydrocodone.[2] Homicides and suicides accounted for a combined 909 deaths (28%) during the same period. A majority of these deaths (65%) were the result of a single or multiple gunshot wound(s).

Exhibit 6
Manner and Cause of Death
Fiscal Year 2010

Manner of Death			Cause of Death					
Manner	Number		Drug or Alcohol	Gunshot Wound	Medical/ Natural	Blunt/ Sharp Force Trauma	Other	Undetermined/Pending
Accident	1,179		618	8	55	271	227*	0
Homicide	396		3	259	6	104	24	0
Natural	972		65	0	880	0	20	7
Suicide	513		67	331	0	9	106	0
Undetermined	140		9	3	11	5	77	35
Pending	25		1	1	0	0	0	23
Total	**3,225**		**763**	**602**	**952**	**389**	**454**	**65**

*Includes asphyxiations, hangings, electrocutions, smoke and soot inhalations, etc.
Source: PathAssist Data, FY 2010

[2] The actual number of cases where these drugs were present could not be determined.

Findings and Recommendations

The General Assembly should consider amending the Georgia Death Investigation Act to specify that all medical examiners be trained in pathology.

The Georgia Death Investigation Act requires that the Chief, regional, and county medical examiners be, at a minimum, trained in pathology. No such requirement exists for the local medical examiners. Standards published by the National Association of Medical Examiners indicate that *allowing non-forensic pathologists to conduct forensic autopsy procedures without direct supervision and guidance is fraught with the potential for serious errors and omissions.* Our review found that Georgia's local medical examiners represent a variety of medical specialties. As a result, cases reported to a local medical examiner may not be reviewed by a pathologist. While current practices dictate that local medical examiners have to be approved by the Chief Medical Examiner, the only requirement regarding medical qualifications is that he or she be a licensed physician or pathologist.

***Pathology**: the study of the essential nature of diseases and especially of the structural and functional changes produced by them.*

***Forensic Pathology Subspecialty**: the investigation and physical examination of persons who die a sudden, unexpected, suspicious, or violent death.*

- **The statute does not require that local medical examiners have training related to forensic pathology.** The field of forensic pathology requires a residency training program of four to five years beyond medical school and requires a period of one to two years of work specific to forensic pathology. The training qualifies these physicians to perform forensic autopsies to determine cause and manner of death, particularly in cases of sudden, unexpected, or violent death. The statute does specify that the Chief Medical Examiner be a pathologist certified in forensic pathology by the American Board of Pathology. Other medical examiners employed by GBI, including regional medical examiners, must be pathologists; however, the requirement that they be board-certified in forensic pathology was lifted in 2003. The statute stipulates that county medical examiners must be licensed physicians eligible for certification by the American Board of Pathology with at least one year of medico-legal training or one year of experience with legal or judicial procedures in a scientific field.

  Within the SMEO, all of the medical examiners are licensed physicians and have one or more board certifications in pathology. All are also certified in forensic pathology. In addition, one of the medical examiners is also board certified in pediatric pathology.

- **Local medical examiners specialize in a variety of fields other than pathology.** There are currently 65 physicians on record with the SMEO as being appointed as local medical examiners; 21 (32%) specialize in pathology, which is the study of the essential nature of diseases and especially of the structural and functional changes produced by them. It is not known how many of these 21 are certified in forensic pathology. However, according to the statute, all local medical examiners have authority to conduct full autopsies. Their specialties are listed in **Exhibit 7**. As shown in **Exhibit 8**, the pathologists are located across the state. In some counties, more than one local medical examiner has been selected and

approved by the Chief Medical Examiner.[3] As a result, while there are 65 physicians appointed as local medical examiners, they serve a total of 45 counties. Additionally, four counties (shown in gray in **Exhibit 8**) have abolished their coroner position and established their own medical examiner positions. These are the county medical examiners referred to in the statute.

The use of physicians who are not trained in pathology as local medical examiners reduces the state's assurance that suspicious deaths, as defined by statute, are sufficiently reviewed. Having deaths reviewed and autopsies conducted by persons other than those trained in pathology increases the risk of error or omissions in determinations of cause and manner of death. Such errors or omissions could also adversely impact investigations. If the state intends to maintain a minimum standard of quality for death investigations, the General Assembly should consider clarifying the law to require that all suspicious deaths, as defined by statute, be referred to the SMEO, or that local medical examiners be trained in pathology.

Exhibit 7
Local Medical Examiner Specialties

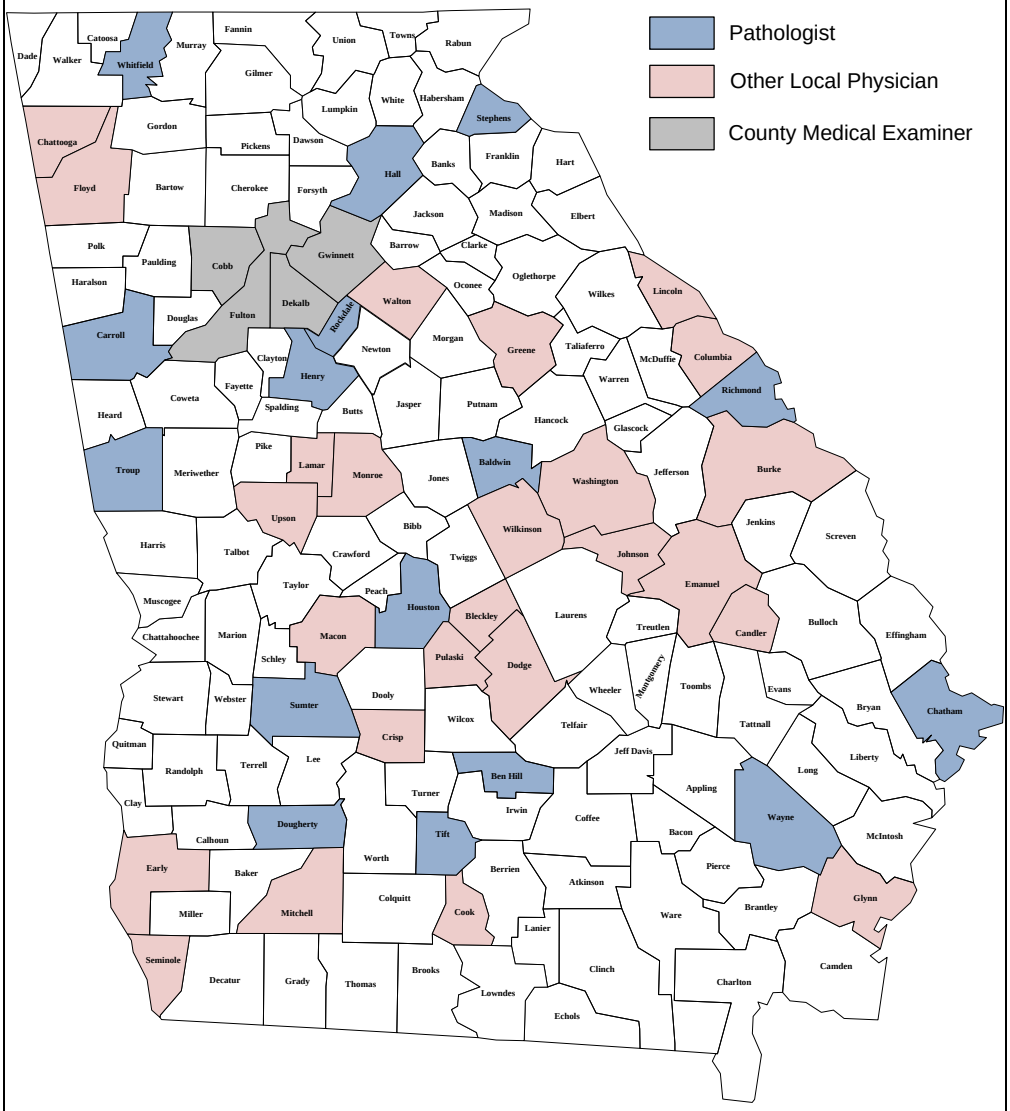
Specialty Field	Number
Pathology	21*
Family Medicine	20
Internal Medicine	6
General Practice	5
Dentist	5
Other Specialties**	6
Unknown Specialties	2
Total	**65**

*Does not include the MEs for Cobb, DeKalb, Fulton, and Gwinnett counties.
**Includes emergency medicine, geriatrics, and orthopedics.

Source: SMEO records, Georgia Composite Medical Board

[3] According to statute, county governing authorities can appoint local medical examiners upon consultation with the coroner. Additionally, the Chief Medical Examiner can appoint local medical examiners. According to staff, in practice, the Chief Medical Examiner approves the appointment of the local medical examiners.

Exhibit 8
Location of Local Medical Examiners



Source: SMEO Records

Under the current system, there is no assurance that all cases that should be reported to a medical examiner for a determination of whether an autopsy is necessary are actually reported.

*A **Medical Examiner's Inquiry** is required when a death is:*

- *A result of violence*
- *By suicide or casualty*
- *Sudden when in apparent good health*
- *Unattended by a physician*
- *Suspicious or unusual in manner*
- *Unexpected in a child under 7 years of age*
- *A result of a death penalty execution*
- *Of an inmate of a state hospital or a state, county, or city penal institution; or*
- *After the individual has been admitted to a hospital in an unconscious state and without regaining consciousness within 24 hours of admission*

Source: Georgia Death Investigation Act

Currently, the state's fragmented death investigation system could allow cases to go unreported. The statute provides for local medical examiners to conduct autopsies; however, because there is no centralized collection of information regarding when local medical examiners are assisting in cases, there is no way to know if all cases are being handled as required by statute. Additionally, when a coroner determines it is not necessary to report a case to a medical examiner, or when the case is reported to a local medical examiner, the law requires only that coroners internally document the decision *and shall maintain permanent records of such.* It should be noted that the statute previously included a requirement that coroners submit a notification to the SMEO on each medical death investigation conducted; however, this provision was not enforced, notifications were sporadic, and the information derived was not used. In 2010, the law was revised, as quoted above, to require the coroners complete an internal document and maintain it themselves.

To determine if cases that, according to statute, should be referred to a medical examiner for a determination about the need for an autopsy were being referred, we reviewed a sample of death certificates at the Office of Vital Records.[4] The audit team sampled death certificates from fiscal year 2009 and identified 87 instances in which the manner of death was listed as suicide. According to the statute, a medical examiner must be contacted in all suspected suicides. However, we determined that the SMEO was not contacted in 23 of the 87 (26%) cases, and the county did not have a local medical examiner on record with the SMEO who would have handled the case.[5] As shown in **Exhibit 8**, the SMEO does not have a record of a local medical examiner in every county. It is possible that the coroner could have contracted with a doctor to conduct the autopsy in these cases. However, there is no information available at the state level to indicate when this happens. In an attempt to assess the frequency with which local medical examiners are utilized to conduct an autopsy, and the frequency with which autopsies are contracted to private doctors, we surveyed 153 coroners in the state.[6] However, only 21 of the 153 (14%) coroners responded to the survey, so the results were not usable.

If all coroners were required to submit notifications to the SMEO when a case was handled by a local medical examiner, or when it was determined that a case did not meet the criteria requiring a medical examiner's input, the SMEO could begin tracking data to identify underreporting and trends over time. One potential benchmark is a 2004 Bureau of Justice Statistics study which found that 40% of all deaths are referred to a coroner; of those, approximately half are selected for autopsy.

[4] The Office of Vital Records maintains hardcopy records of all death certificates. The certificates are filed in boxes according to date of receipt. We selected three of the 18 boxes from fiscal year 2009 death certificates for sample. Approximately 4,500 death certificates were reviewed.

[5] Currently, local medical examiners provide services in the county for which they are appointed. As shown in **Exhibit 8**, 45 of the state's counties are served by a local medical examiner.

[6] There are 154 coroners in the state; we were not able to obtain contact information for one of them.

To ensure information on all death cases was forwarded for autopsy determinations as required, the SMEO would need to have the authority to investigate problems with reporting and take action as necessary. Consideration should be given to re-establishing the requirement that local coroners provide information on all deaths under their jurisdiction. The SMEO could then use this information to ensure that each case meeting the criteria for a medical examiner's involvement is handled as required by statute.

While the SMEO's medical examination costs are in line with other states' costs for similar functions, other states employ various methods to recover costs.

The costs to provide forensic examination services to Georgia counties are in line with the costs of three other states reviewed. However, Georgia is one of only 16 states that fund the entire medical examination process (See **Exhibit 9**), and there may be options for alternative funding if necessary.

The SMEO's cost to conduct a forensic medical examination is approximately $1,600 per case.[7] This amount includes the cost of obtaining the decedent's background information, keeping the decedent in the morgue prior to and after the examination, preparing the body for the examination, completing the examination service, reviewing and analyzing lab testing results, and producing the final autopsy report. The variation in death investigation systems makes comparison between states difficult; however, the audit team was able to obtain cost information for three other states that have a State Medical Examiner and county coroner system similar to Georgia's. In Arkansas, the cost of an examination was reported to be approximately $1,600; in Kentucky, the cost was reported to be approximately $1,600; and in Alabama, the cost was reported to be approximately $1,900 per case.

In other states, counties share the costs or the Medical Examiner's Office is funded through other fees. As shown in **Exhibit 9** on the following page, in 34 states the counties pay a portion of the cost (between $20 and $1,200) or the full cost. This includes 11 states with a state system where the counties pay at least a portion of the costs of the examination. The remaining 23 states have county systems where the costs for medical examiner services are the responsibility of each county.

[7] This cost, and the cost of comparable states, does not include lab costs. In Georgia, the lab costs of autopsy related cases cannot be isolated. All costs shown are for 2009, except for Arkansas, which is for 2010.

Exhibit 9 Financial Responsibility for Postmortem Medical Examinations by Type of System	
State Pays Full Cost (16)[1]	
State ME System (including Georgia)	16
County Pays Full Cost (27)	
County-Based ME or Coroner System	23
State ME System	4
Costs Shared Between State and County (7)	
State ME System, County Pays Variable Amount	2
State ME System, County Pays Set Portion of Cost	5

[1]The state covers all costs for all counties served. For example, Georgia's SMEO serves 152 counties and pays all costs associated with all services provided.

Source: Review of State ME websites and code sections

Other fees collected through related services are used to fund medical examiners' offices in some states. Our research identified the following fees that fund medical examiners, or county coroners, throughout the country. These fees each fund some aspect of the medical death investigation process:

- ***Cremation Permit*** – Sixteen states require a permit before a decedent can be cremated. A medical examiner or coroner reviews the case to ensure that no further investigation is needed before granting the permit. State fees range from $25 (Vermont) to $150 (Oklahoma). County permit fees are usually determined by the county and range from $40 to $225. Georgia does not currently require that a medical examiner review the case and issue a permit before a decedent is cremated.

- ***Disposition Permit*** – California requires a permit for any type of final disposition (e.g., burial or cremation). From the permit fee, $1 is used for coroner training. Georgia does not currently assess a disposition permit fee to fund any portion of the death investigation system.

- ***Death Certificate Fee*** – Four states (Idaho, Kansas, Nevada, and Washington) require or allow a death investigation fee to be charged as part of the fee for a death certificate. These fees are used for coroner training in Idaho ($1). Washington imposes an $8 fee on birth and death certificates to fund death investigations at the county level and through the state toxicology lab and forensic investigations council. The Georgia Department of Human Services currently charges a $25 fee for a death certificate copy, which is deposited in the General Fund.

- ***Defendant Fees*** – Two states charge defendants convicted of specified crimes an additional fee to fund medical examiner services. Alabama charges anyone convicted of a drug offense a $100 fee, which is credited to the Alabama Forensic Services Trust Fund. Iowa allows counties to recover the entire cost of the medical examiner fees and expenses for a case from a defendant convicted of murder, manslaughter, or vehicular homicide. Georgia does not currently assess a defendant fee to fund any portion of the death investigation system.

- ***Other Fees*** – Oklahoma charges $100 for a permit to transport a decedent out of state, which funds medical examiner operations. Wisconsin allows county medical examiners and coroners to charge additional reasonable fees for their services, such as a morgue fee after 24 hours, a private autopsy fee, and a transport fee. In Georgia, no other fees were identified that fund any portion of the death investigation system.

GBI officials expressed opposition to requiring counties pay for medical examinations and cited concerns that some deaths would not be reported by the coroners if counties were required to pay for the SMEO's examination. Medical examiners in other states cited no indications that the incidence of unreported deaths had increased with the implementation of these payment processes. Under the current statute, coroners who fail to initiate a medical examiner's inquiry would still be in violation of the Georgia Death Investigation Act and subject to misdemeanor charges, regardless of which entity pays for the examination.

The law also states that *when there is no coroner or deputy coroner in a county in which the office of coroner has not been replaced by a county medical examiner or when both are absent from the county when needed or will not or cannot perform the duties required under this article, the medical examiner shall assume the duties and responsibilities of the coroner.* If such a situation occurred, the SMEO could see an increase in volume. Additionally, the SMEO currently provides services to 152 of 159 counties. The state's four largest counties (Cobb, DeKalb, Fulton, and Gwinnett) operate medical examination services at their own expense, and at least three additional counties currently contract with private pathologists for services.[8] Any changes in these arrangements could also increase the SMEO's volume and place a strain on its resources. As shown in **Exhibit 10,** the state's four largest county medical examiner offices conducted nearly as many examinations as the SMEO in fiscal year 2009. Information on the number of cases contracted out by Henry, Hall and Rockdale was not obtained.

Exhibit 10
Number of Examinations by County Medical Examiner Office
Fiscal Year 2009

County	Number of Examinations
Cobb	487
DeKalb	515
Fulton	1,272
Gwinnett*	286
Total	**2,560**
SMEO	3,012

*Gwinnett data is for fiscal year 2008, the most recent year for which data was available.

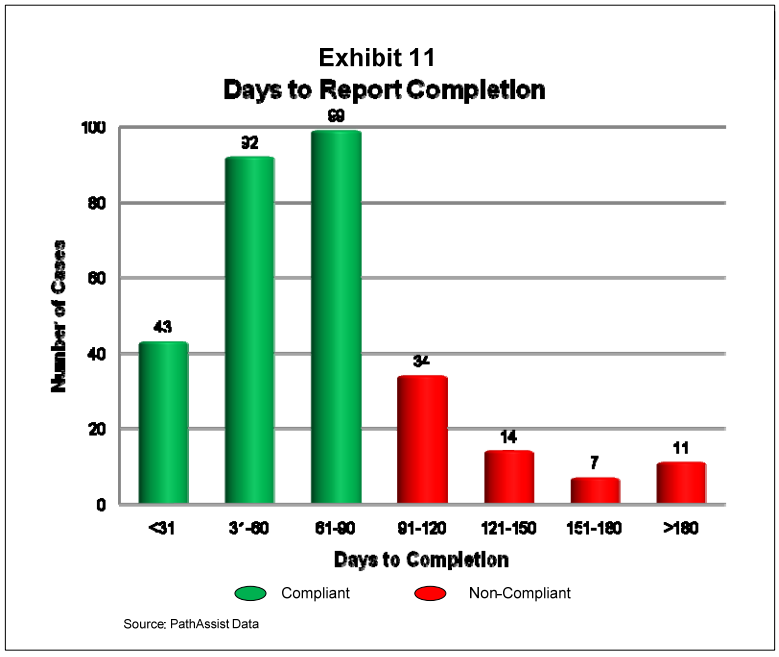
Source: County Medical Examiner Offices and SMEO

[8] Additional counties could be contracting for services. No information is available at the state level to determine if this is the case. In the survey to coroners, we asked about contracting practices. However, as noted earlier, only 14% of the coroners returned the survey so the results were not usable.

If alternative funding options are needed, opportunities exist for funding medical death investigations, many of which are already being implemented in other states. The General Assembly could consider requiring counties to pay a portion of the cost, establishing funding through a related fee, or a combination of the two to offset the cost of the services. Additional funding measures could be used to improve the services provided, particularly in regard to the timeliness of service, as discussed in the following findings, or to replace existing funding.

The SMEO's rate of timely release of autopsy reports is below the national standard of releasing 90% of the reports within 90 days of receipt of the case.

Both the National Association of Medical Examiners' (NAME) standard and the SMEO's goal for the timely completion of autopsy reports state that 90% of examination reports should be issued within 90 days of the completion of the autopsy. This standard is intended to ensure that cases are completed within a reasonable period of time, without impacting quality. NAME standards indicate that the failure to meet this standard *may seriously impact the work or adversely affect the health and safety of the public or agency staff.* The audit team's review of a sample of 300 examinations conducted during fiscal year 2009 found that 234 (78%) met the 90-day standard.[9] As shown in **Exhibit 11**, the remaining 66 reports were completed within timeframes ranging from 91 to 365 days. Eleven reports were not released until six months or more following the examination.



[9] This sample was statistically valid.

According to GBI personnel, several factors may impact its ability to meet the timeliness standard for reporting, including heavy caseloads, reliance on lab testing, managing complicated cases, and obtaining medical records and other required documents. Each of these areas is addressed below.

- ***Heavy caseloads*** – NAME standards for autopsy completion indicate that the ideal caseload per medical examiner is 250 autopsies per year; however, according to the standard, a medical examiner can conduct as many as 325 per year without adversely affecting the health and safety of the public. Our review of fiscal year 2009 data found that no medical examiner had a caseload of more than 325 during the year. Of the 13 medical examiners, 10 performed 250 or fewer examinations during the year, and the remaining three performed between 250 and 300 examinations.

- ***Reliance on the timely completion of lab testing*** – The timeframe for completing the autopsy report is extended when lab testing is required. Approximately 78% (233 of 300) of the cases we reviewed required toxicology or blood alcohol testing[10] and these samples were usually submitted within four days following the examination. Blood alcohol testing took an average of 23 days to complete and toxicology took an average of 44 days to complete. Of the 66 cases in our sample that did not meet the 90-day timeframe, 61 required lab testing. Our review found that in 32 cases (52%) lab results were available within 50 days.

- ***The number of "complicated" cases, such as child deaths, which take longer to complete*** – It is not currently possible to identify which cases are "complicated." Cases are reviewed on their individual merits and medical examiners rely on their training and expertise to determine cause and manner of death. The identification of some cases as "complicated" could not be validated by the audit team; however, one class of cases that are considered complicated is child deaths. Of the 300 cases we reviewed, 33 (11%) were children aged 16 and under.[11] These 33 cases were completed in an average of 90 days, ranging from 41 to 242, with a median of 77.

- ***Obtaining past medical records*** – Each SMEO medical examiner interviewed indicated that they obtain the past medical records of the decedent during the medical examination process. The average length of time required to obtain these records could not be determined from the data; however, a medical examiner indicated that the coroners often must obtain a court subpoena to get access to these records. This likely extends the time required to complete medical examinations.

It is possible that a combination of the above factors would result in slower processing of cases; however, the NAME standard does allow for 10% of cases to go over the desired timeframe. While no specific instance of an adverse effect of not meeting the NAME standard for timeliness was identified, the standard provides a clear basis for the length of time to report completion. During the audit, we

[10] Other lab services were also requested but with far less regularity.
[11] Approximately 11% of all fiscal year 2009 cases involved children under the age of 16.

contacted the Georgia Sheriffs' Association to obtain information on their satisfaction with SMEO services. According to results of a survey they conducted, 70% (33 of 47) of responding sheriffs stated they were satisfied with the time in which autopsy reports were provided. The Medical Examiner's Office should further analyze its data and identify the specific reasons for which the established timeframe was exceeded in all cases. Such information may allow the SMEO to take more directed action to reduce the time required to produce autopsy reports following examination of decedents.

The SMEO has implemented policies and procedures to ensure proper review of referred cases.

The SMEO has established policies and procedures for reviewing referred cases and is applying these policies. According to its manual, the investigator on-call receives a call from a local coroner notifying the SMEO of the discovery of a death. The investigator collects the relevant information, including the circumstances of the death, and contacts the medical examiner on-call. The investigator provides pertinent information and using that information, and the criteria set forth in the Georgia Death Investigation Act, the medical examiner decides whether to accept jurisdiction over the case. If jurisdiction is declined in any case, the name of the medical examiner is recorded in the PathAssist database to indicate the case was discussed and declined.

In fiscal year 2009, the SMEO was consulted and ultimately declined jurisdiction in 1,354 cases. To determine if medical examiners were being consulted when cases were declined as called for in policies, the audit team randomly selected 53 cases for review. The case file was reviewed to determine if one of the medical examiners was contacted to confirm the decision that it was not necessary to conduct an autopsy. We found that the investigator had documented the communication with the medical examiner in 49 cases (92%). We consulted the Chief Medical Examiner about the each of the four undocumented cases and it was confirmed that declining the case was the appropriate action. Given that the policies were being followed in 92% of the cases, additional review was not deemed necessary.

The SMEO has policies and procedures that generally guide the work of the medical examiners; however, the SMEO should consider formalizing the review of routine cases.

All undetermined manner, homicides, high profile cases, and complicated child deaths are categorized as "priority cases" and are subject to peer review.

As discussed on page 8, the SMEO has policies and procedures in place to guide the work of medical examiners. Interviews with medical examiners conducted at the headquarters facility and at each of the three field locations found that the medical examiners understand the processes in place and are knowledgeable of the procedures manual. However, our review found that there is not a formalized procedure for reviewing routine cases (those not categorized as "priority").

A review of fiscal year 2009 case data found that 25% (753 of 3,012) of cases were identified as priority cases and subject to a formal review.[12] While a medical examiner can seek assistance in any of the remaining cases, it is unlikely that the case will receive any type of formalized supervisory review if assistance is not sought.

Given the experience level of current medical examiner staff, the lack of a formalized quality review process for cases that are not "priority" may not have a significant impact on the quality of forensic exams and autopsy reports. However, a formalized supervisory or peer review process would help ensure that all autopsies are performed according to national and agency standards, even if the Office experiences changes in personnel. NAME recommends the random selection of autopsy reports for review as part of a comprehensive quality control policy. Such a review may include the random selection of cases for each medical examiner by supervisory personnel on a regular basis or selection based on the experience of the medical examiner conducting the autopsy. Such routine reviews of cases selected by supervisors would provide reasonable assurance that cases are handled appropriately and are accurate and representative of the facts involved.

[12] The manner of death was listed as homicide in 388 cases and undetermined in 164 cases. An additional 201 child death cases were reported (excluding homicides and undetermined). The number of high profile cases could not be determined. Therefore, the number of "priority" cases – excluding high profile cases – for the year totaled 753.

Appendix A
Objectives, Scope, and Methodology

This audit set out to accomplish the following objectives:

- Determine if there was a best practice/accepted standard for how death investigations should be managed at the state level. If not, determine if Georgia's model was similar to those in other states.
- Determine if Georgia's model was cost-effective. If not, determine if the state could charge for services to recoup costs without damage to the process.
- Determine if Georgia's county coroners notify the SMEO of all reportable deaths as required by law to ensure adequate evaluation by the SMEO. If not, has the SMEO put measures in place to enforce reporting?
- Determine if the SMEO is consistent in determining that an examination be completed, as well as to determine if there was supervisory review in cases that were rejected for examination.
- Determine if cases accepted for autopsy were completed and results reported within a reasonable timeframe. If not, determine the factors impacting the completion of autopsies, or result reporting.
- Determine if the deliverable provided to its customers is useful.

These objectives were included because they provide a basis for determining if medical death investigations were being completed as required in certain circumstances, and that they were completed accurately and at a reasonable cost. The scope of this review did not include an evaluation of the accuracy of medical decisions made by the forensic pathologists or the work quality of individual pathologists.

To achieve the audit objectives, we conducted interviews with 11 of the 14 state medical examiners and conducted site visits to the headquarters location, as well as the three field locations. To gain an understanding of the process for completing toxicology and blood alcohol testing, the audit team toured the Toxicology Section within the GBI laboratory. Interviews were also conducted of other relevant stakeholders or interested parties including the President of the Georgia Coroner's Association, a designee of the National Association of Medical Examiners, the Executive Director of the Georgia Sheriff's Association, and the General Counsel of the Prosecuting Attorney's Council of Georgia. The auditors also spoke with representatives from each of the four county medical examiner offices in Georgia.

The auditors contacted medical examiner staff in nine other states (Alabama, Arkansas, Kentucky, Maryland, New Jersey, North Carolina, Oklahoma, Utah, and Virginia) and coroner association representatives in two states (Colorado and Missouri) for information on their death investigation systems. We reviewed budget and activity data from these nine state medical examiner offices for cost information. The audit team also searched statutes in all states to locate additional revenue sources, specifically for county and fee funding practices.

The audit team reviewed the Georgia Death Investigation Act, as well as other relevant laws, including the laws governing the completion and dissemination of death certificates. Standards for autopsies and death investigations were located in documents published by

the National Association of Medical Examiners, the industry's accrediting body. We also reviewed the accreditation process and accreditation status of the Georgia SMEO. The SMEO's Policy and Procedures Manual was obtained and reviewed, as well as other relevant literature in the field of medical death investigations.

Financial information was obtained from the statewide accounting system (Peoplesoft). Interviews were conducted with staff from the financial office to better understand the revenues and expenditures. The audit team also reviewed SMEO contracts with Clayton County and the Chief Medical Examiner.

To determine the activity of the SMEO, the audit team obtained and analyzed data from the Office's information management system (PathAssist). The audit team also completed file reviews using PathAssist to determine compliance with internal policies in several issue areas, including the acceptance or declining of cases, peer review, and report completion timelines. The audit team primarily used data from fiscal year 2009, which was the most recent year completed at the time of the review.

The audit team sought to obtain an understanding of internal controls relevant to the audit's objectives. We focused on the controls intended to ensure that all deaths meeting the statutory criteria for reporting receive appropriate review. A sample of death certificates from fiscal year 2009 was analyzed at the Office of Vital Records. The audit team pulled cases that met the statutory requirement for reporting and compared each case against PathAssist data to see if it was reported to the SMEO. Death certificate information was not available electronically, and files were organized by when they were received at Vital Records, preventing a search by county or by date of death. Instead, the sample consisted of the 4,481 certificates in randomly chosen file boxes. The audit team also analyzed the local medical examiner files to determine geographic presence. The website of the Composite State Board of Medical Examiners was used to determine the qualifications of state and local medical examiners.

To determine relative satisfaction of coroners with the services obtained from the Medical Examiner's Office, the audit team distributed a survey to 153 of the state's 154 coroners where contact information could be obtained. However, only 21 completed surveys were returned, reportedly due to reservations on the part of the coroners in answering questions regarding their counties. Due to the low return rate by the county coroners, their responses were not evaluated and are not included in our review. District attorneys throughout the state were also contacted through the Prosecuting Attorney's Council of Georgia, but only three responses were received. The Georgia Sheriffs' Association was contacted to obtain information regarding satisfaction with the performance of the SMEO. The Association staff surveyed the sheriffs and provided the responses to us. We received responses from 48 of 159 sheriffs.

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. Whenever possible, the audit team used the most reliable data available to conduct our analysis. We believe that the evidence obtained provides a reasonable basis for our findings, conclusions, and estimations based on our audit objectives.

Appendix B
SMEO Activity Data by County
Fiscal Year 2010

County	Autopsy	External Examinations	Limited Dissections	Total Examinations		Consultations
Appling	6	0	0	6		2
Atkinson	6	1	0	7		0
Bacon	5	0	0	5		0
Baker	0	0	0	0		0
Baldwin	26	0	0	26		27
Banks	10	0	0	10		6
Barrow	16	1	3	20		0
Bartow	50	2	2	54		27
Ben Hill	6	0	1	7		4
Berrien	6	0	1	7		2
Bibb	86	0	2	88		8
Bleckley	4	0	0	4		0
Brantley	12	0	0	12		0
Brooks	7	0	0	7		2
Bryan	17	0	0	17		14
Bulloch	14	0	0	14		4
Burke	3	0	1	4		10
Butts	22	0	0	22		28
Calhoun	6	0	0	6		1
Camden	32	0	0	32		13
Candler	7	0	0	7		1
Carroll	69	4	5	78		50
Catoosa	22	0	3	25		20
Charlton	13	0	1	14		0
Chatham	168	0	0	168		32
Chattahoochee	2	0	0	2		10
Chattooga	16	2	3	21		10
Cherokee	78	10	9	97		26
Clarke	34	1	4	39		4
Clay	2	0	0	2		1
Clayton	162	23	18	203		306
Clinch	4	0	0	4		1
Cobb	1	0	0	1		1

Appendix B, Continued

County	Autopsy	External Examinations	Limited Dissections	Total Examinations	Consultations
Coffee	17	0	1	18	4
Colquitt	19	1	1	21	1
Columbia	39	5	10	54	11
Cook	10	0	1	11	0
Coweta	31	3	10	44	51
Crawford	8	0	0	8	3
Crisp	6	0	0	6	2
Dade	8	0	2	10	2
Dawson	14	1	4	19	14
Decatur	10	1	1	12	1
DeKalb	6	1	0	7	4
Dodge	5	1	0	6	4
Dooly	3	0	0	3	0
Dougherty	40	0	1	41	15
Douglas	59	3	7	69	10
Early	3	0	0	3	4
Echols	0	0	0	0	0
Effingham	33	0	0	33	17
Elbert	6	3	3	12	22
Emanuel	12	1	0	13	4
Evans	6	0	0	6	5
Fannin	12	1	0	13	19
Fayette	28	1	2	31	27
Floyd	48	0	5	53	79
Forsyth	54	6	10	70	41
Franklin	22	0	1	23	3
Fulton	5	0	0	5	11
Gilmer	18	1	3	22	35
Glascock	2	0	0	2	0
Glynn	59	1	0	60	2
Gordon	24	3	1	28	4
Grady	6	0	1	7	2
Greene	11	3	5	19	14
Gwinnett	0	0	0	0	0
Habersham	24	1	3	28	9
Hall	0	0	0	0	0

Appendix B, Continued

County	Autopsy	External Examinations	Limited Dissections	Total Examinations		Consultations
Hancock	4	0	4	8		12
Haralson	31	2	0	33		15
Harris	14	0	4	18		8
Hart	10	0	3	13		4
Heard	4	0	0	4		2
Henry	1	0	0	1		1
Houston	9	0	0	9		1
Irwin	5	0	0	5		3
Jackson	43	0	4	47		11
Jasper	8	2	1	11		3
Jeff Davis	6	0	0	6		0
Jefferson	9	2	1	12		7
Jenkins	4	0	1	5		2
Johnson	3	1	0	4		0
Jones	13	1	0	14		3
Lamar	12	0	0	12		3
Lanier	3	0	0	3		0
Laurens	31	0	1	32		6
Lee	9	0	1	10		4
Liberty	29	0	0	29		15
Lincoln	2	1	0	3		0
Long	10	0	0	10		2
Lowndes	42	0	6	48		11
Lumpkin	16	1	4	21		8
Macon	7	0	0	7		3
Madison	15	1	2	18		2
Marion	2	0	0	2		0
McDuffie	12	7	6	25		5
McIntosh	10	0	0	10		2
Meriwether	11	1	3	15		2
Miller	4	0	0	4		2
Mitchell	5	0	1	6		4
Monroe	18	1	4	23		5
Montgomery	3	0	0	3		0
Morgan	8	0	0	8		6
Murray	22	0	4	26		8
Muscogee	121	7	13	141		101

Appendix B, Continued

County	Autopsy	External Examinations	Limited Dissections	Total Examinations		Consultations
Newton	41	2	8	51		24
Oconee	6	1	0	7		2
Oglethorpe	7	2	3	12		2
Paulding	59	5	7	71		41
Peach	12	0	0	12		1
Pickens	14	1	2	17		5
Pierce	11	0	0	11		12
Pike	11	0	1	12		8
Polk	13	1	2	16		3
Pulaski	5	0	0	5		1
Putnam	8	3	1	12		2
Quitman	0	0	0	0		0
Rabun	11	0	4	15		17
Randolph	5	0	0	5		0
Richmond	99	16	19	134		31
Rockdale	3	0	0	3		0
Schley	0	0	0	0		0
Screven	4	0	0	4		1
Seminole	4	0	1	5		3
Spalding	27	0	5	32		6
Stephens	18	1	0	19		4
Stewart	3	0	2	5		2
Sumter	8	0	0	8		0
Talbot	7	0	0	7		0
Taliaferro	1	0	0	1		0
Tattnall	20	0	0	20		0
Taylor	3	0	0	3		5
Telfair	3	0	0	3		1
Terrell	4	0	0	4		1
Thomas	12	0	0	12		1
Tift	11	0	0	11		0
Toombs	9	0	0	9		2
Towns	6	0	2	8		3
Treutlen	2	0	0	2		0
Troup	54	3	5	62		27
Turner	4	0	0	4		0
Twiggs	5	0	0	5		4

Appendix B, Continued

County	Autopsy	External Examinations	Limited Dissections	Total Examinations		Consultations
Union	10	1	2	13		10
Upson	13	1	0	14		10
Walker	22	1	5	28		7
Walton	34	1	4	39		31
Ware	23	0	0	23		13
Warren	3	0	2	5		1
Washington	5	0	0	5		2
Wayne	21	0	0	21		14
Webster	0	0	0	0		1
Wheeler	1	0	0	1		0
White	13	0	1	14		5
Whitfield	23	0	2	25		5
Wilcox	3	0	2	5		2
Wilkes	4	1	2	7		8
Wilkinson	1	0	1	2		0
Worth	4	0	0	4		0
Total	**2,806**	**148**	**271**	**3,225**		**1,606**

Source: Analysis based on PathAssist Data

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