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Medical Examiners and Coroners' Offices, 2004

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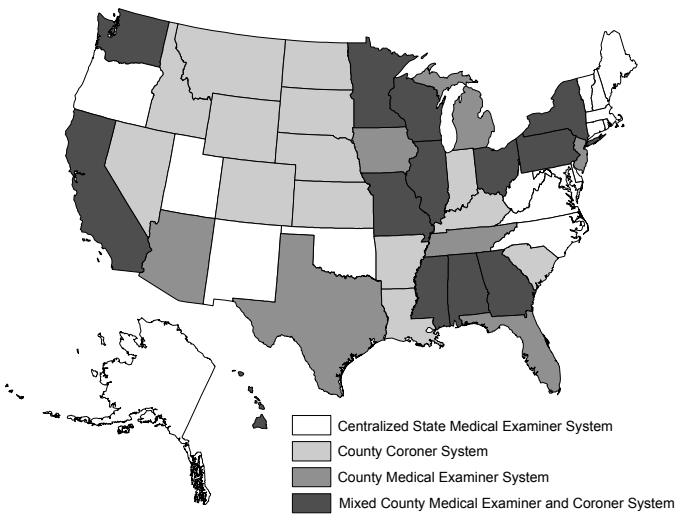
About 2,000 medical examiners and coroners' (ME/C) offices provided death investigation services across the United States in 2004. These offices were responsible for the medicolegal investigation of death. They may conduct death scene investigations, perform autopsies, and determine the cause and manner of death when a person has died as a result of violence, under suspicious circumstances, without a physician in attendance, or for other reasons.

As of 2004, 16 States had a centralized statewide medical examiner system (see map). Fourteen States had a county coroner system, 7 had a county medical examiner system, and 13 had a mixed county medical examiner and coroner system. Eight States with decentralized death investigation systems also had a State medical examiner office performing medicolegal duties (Alabama, Arkansas, Georgia, Iowa, Kentucky, Montana, North Dakota, and Tennessee). The District of Columbia reported a city medical examiner office, which functioned similar to a statewide system.

ME/C offices employed an estimated 7,320 FTE employees. Estimated annual budgets for these offices totaled $718.5 million, an average of $387,000 per office.The majority of ME/C offices in 2004 were county coroners' offices (1,590 or 80%), most of which served small jurisdictions (less than 25,000 persons).

Nearly one million human death cases were referred by medical and law enforcement personnel to the Nation's ME/C offices in 2004, accounting for approximately 40% of all deaths in the United States that year.[1] Depending on the circumstances of the death, characteristics of the death scene, the decedent's medical history, and other factors, death cases may be cleared without the medical examiner or coroner accepting jurisdiction and conducting an additional investigation to determine the cause and manner of death. Overall, ME/C offices in 2004 accepted about half of all referred cases for further investigation.

Death investigation systems in the United States, 2004



The 2004 Bureau of Justice Statistics' (BJS) Census of Medical Examiner and Coroners' Offices represented the Bureau's first effort to describe the medicolegal investigation of death in the United States. The census also gathered detailed information on unidentified human decedents handled by ME/C offices because they represent a critical component in the Nation's effort to resolve missing persons cases. In a typical year ME/C offices reported that they handled about 4,400 unidentified human decedents of which about 1,000 remained unidentified after one year.

[1]For more information about the total number of deaths in the United States, see the Center for Disease Control's website on "Deaths/Mortality" at <http://www.cdc.gov/nchs/fastats/deaths.htm>.

Sixteen States in 2004 had centralized, statewide medical examiner systems

Although the specific title and duties of medicolegal officials varied, each State had one of three basic types of death investigation systems: *medical examiner*, *coroner*, or *mixed systems*. States varied in the degree to which death investigation was centralized. Some States had a statewide medical examiner system with no independently functioning county entities, while other States had independent medical examiner or coroner offices in each county or in other political or geographic subdivisions, such as judicial districts. Some ME/C offices were responsible for a specific city, a county, multiple counties, or larger regions within a State.

Caution should be exercised when making comparisons by the type of office. States differed in selection and qualification standards for medicolegal officials. The distinction between coroner and medical examiner systems varied by jurisdiction; and the qualifications, skills, and activities of medicolegal personnel cannot necessarily be inferred from the title attached to the office.

In general, coroners were elected officials while medical examiners were appointed. Coroners may be lay persons while medical examiners were generally required to be physicians and may have specialized training (such as forensic pathology). Among many exceptions, there were forensic pathologists who had been elected to the position of coroner and served in a coroner's office. In addition, some medicolegal officials held the title of medical examiner or coroner, while the title of the office was the opposite. These factors complicate comparisons by type of office.

Two-thirds of the nearly 2,000 ME/C offices in the United States served populations of less than 50,000 persons

A total of 1,998 ME/C offices were enumerated in the BJS census, including offices in the District of Columbia and in each State except Louisiana. Due to Hurricane Katrina, data collection was temporarily suspended in affected gulf-coast States and ultimately canceled in Louisiana. Sixty-four offices were operating in Louisiana at the time of the census. In the aftermath of Hurricane Katrina, Louisiana created a centralized State medical examiner office.

	ME/C offices		Estimated FTE salaried positions	
Population served	Number	Percent	Number	Percent
Total	1,998	100.0 %	7,320	100.0 %
1,000,000 or more	57	2.9 %	2,900	39.6 %
500,000 to 999,999	68	3.4	1,000	13.7
250,000 to 499,999	80	4.0	570	7.8
100,000 to 249,999	192	9.6	540	7.4
50,000 to 99,999	240	12.0	440	6.0
25,000 to 49,999	428	21.4	700	9.6
10,000 to 24,999	542	27.1	780	10.7
2,500 to 9,999	326	16.3	320	4.4
Less than 2,500	65	3.3	60	0.8

Most ME/C offices served relatively small jurisdictions. About two-thirds of the offices in the BJS census (1,361 offices, or 68%) served populations of less than 50,000 persons. Nearly 1 in 5 served populations of less than 10,000 persons. Of the 57 offices that served jurisdictions with populations of 1 million or more, 12 were centralized medical examiner offices serving an entire state.

County coroners' offices accounted for 80% of all ME/C offices in the United States

The majority of ME/C offices in the United States were county coroner offices (1,590 offices, or 80%), most of which serve relatively small jurisdictions (table 1). County medical examiner offices were the next most common type of office (316 offices, or 16%), the majority serving medium-sized jurisdictions (25,000 to 249,999 persons). The remainder consisted of State medical examiner offices, district or regional medical examiner and coroner offices, and city medical examiner offices.

ME/C offices employed an estimated 7,320 full-time personnel nationwide; over half worked in offices serving 500,000 or more persons.

ME/C offices employed an estimated 7,320 full-time equivalent (FTE) personnel in 2004. Most of the personnel were employed in offices serving jurisdictions of 500,000 or more persons. While only 6% of all offices served populations of 500,000 or more persons, these offices employed over half of all FTE personnel.

Table 1. Number of medical examiners and coroners' offices in the United States, 2004

Type of office	Total number of offices	National estimate* FTEs	National estimate* Percent
Total	1,998	7,320	100.0%
County coroner office	1,590	3,520	48.1%
Large jurisdiction (250,000 or more)	82	1,100	15.0
Medium jurisdiction (25,000 to 249,999)	660	1,360	18.6
Small jurisdiction (Less than 25,000)	848	1,060	14.5
County medical examiner office	316	2,040	27.9%
Large jurisdiction (250,000 or more)	69	1,700	23.2
Medium jurisdiction (25,000 to 249,999)	172	240	3.3
Small jurisdiction (Less than 25,000)	75	100	1.4
District or regional medical examiner office	35	500	6.8%
District or regional coroner office	29	60	0.8%
State medical examiner office	24	680	9.2%
City medical examiner office	3	520	7.1%
Other	1	1	--

Note: Detail may not add to total due to rounding. Excludes offices in Louisiana.
*Estimates based on 1,547 offices reporting 6,540 FTEs. See *Methodology* for details on estimation procedures.
--Less than 0.5%.

Offices serving 100,000 or more persons, representing 20% of all offices, employed more than two-thirds (69%) of all FTE personnel. County coroner offices employed nearly half (48%) of all FTE personnel in 2004, and county medical examiner offices employed 28%.

ME/C offices serving large jurisdictions had an average of over 20 FTE personnel, while those serving medium and small jurisdictions averaged about 1 to 2 FTE positions. Offices serving jurisdictions of 1 million or more persons had an average of about 50 FTE personnel.

Among offices serving large jurisdictions (250,000 or more persons), most of the FTE salaried employees (40%) were

Eighty percent of ME/C offices reported they "rarely or never" used NCIC

An estimated 20% of ME/C offices reported they used the FBI's National Crime Information Center (NCIC) "somewhat often" or "very often," while 80% said they used the NCIC "rarely or never" (table 3). Frequent use of NCIC was more common among offices serving larger jurisdictions, including 59% of those serving 1,000,000 or more persons.

Direct access to NCIC by ME/C offices was not permitted at the time of the census. Typically, information on unidentified human remains was entered by law enforcement agencies on behalf of ME/C offices. In May 2006 direct access to NCIC was granted to ME/C offices by the FBI. Greater use of NCIC might be expected as a result, but increased workload and the cost of access remain obstacles.

As of February 2005 the NCIC Unidentified Person file contained about 5,800 unidentified human decedent records. Twenty-seven percent of these unidentified persons were determined to be homicide victims. The cause of death for more than half of the victims could not be determined.

California was the only State that mandated information about the unidentified be reported to NCIC within a specified period. About 42% of all records in the NCIC unidentified persons file were from California.

Table 3. Use of the FBI's NCIC unidentified persons file by medical examiners and coroners' offices, by size of jurisdiction

Population served	Number of offices reporting	Percent of offices using the FBI's NCIC — Very or somewhat often	Rarely or never
Total	1,655	20%	80%
1,000,000 or more	56	59%	41%
500,000 to 999,999	61	41	59
250,000 to 499,999	70	39	61
100,000 to 249,999	166	21	79
50,000 to 99,999	196	20	80
25,000 to 49,999	343	16	85
10,000 to 24,999	439	14	86
2,500 to 9,999	271	17	83
Less than 2,500	53	30	70

Note: Detail may not add to total due to rounding.
Excludes offices in Louisiana.

Estimated annual budgets totaled $718.5 million or about $387,000 per office

ME/C offices had estimated overall annual budgets of nearly $718.5 million, an average of $387,000 per office (table 4). The median budget was $37,000.

County medical examiner budgets averaged $715,000, ranging from an average of $2.5 million among those serving large jurisdictions to $18,000 among those serving small jurisdictions.

County coroner budgets averaged $225,000, ranging from an average of about $1.4 million among those serving large jurisdictions to $41,000 among those serving small jurisdictions.

Overall, ME/C offices had annual budgets equivalent to about $99,000 per FTE employee. Among county coroner and medical examiner offices, per FTE amounts were higher in medium jurisdictions and lowest in small jurisdictions. County medical examiner offices serving small jurisdictions had the lowest per FTE budget, at $11,400. County coroner offices serving medium jurisdictions had the highest per FTE budget, at $143,400.

Table 4. Estimated average operating budget of medical examiners and coroners' offices in the United States, by type of office, 2004

Type of office	Total	Mean	Median	Per FTE
Total	$718,450,000*	$387,000	$37,000	$99,000
County coroner office	$335,959,000	$225,000	$31,000	$96,900
Large jurisdiction (250,000 or more)	112,010,000	1,366,000	796,000	101,800
Medium jurisdiction (25,000 to 249,999)	192,381,000	302,000	64,000	143,400
Small jurisdiction (Less than 25,000)	31,569,000	41,000	16,000	30,800
County medical examiner office	$200,303,000	$715,000	$69,000	$98,600
Large jurisdiction (250,000 or more)	173,064,000	2,508,000	1,270,000	101,600
Medium jurisdiction (25,000 to 249,999)	26,159,000	173,000	66,000	112,000
Small jurisdiction (Less than 25,000)	1,079,000	18,000	10,000	11,400
District or regional medical examiner office	$55,830,000	$1,595,000	$1,025,000	$111,000
District or regional coroner office	$3,723,000	$155,000	$21,000	$62,000
State medical examiner office	$65,311,000	$2,721,000	$2,161,000	$96,600

Note: Includes city and other types of offices. Does not include offices reporting zero annual budget (such as offices compensated on a per case, per diem, fee-for-service, or other "as needed" basis). Detail may not add to total due to rounding. Excludes offices in Louisiana.
*Estimates based on 1,570 offices reporting $674,678,583 for total operating budgets. See *Methodology* for details on estimation procedures.

Methodology

Data collection for the 2004 Census of Medical Examiner and Coroner Offices was conducted by RTI International (RTI) on behalf of BJS under cooperative agreement 2005-MU-MU-K011. BJS provided an initial draft questionnaire and respondent list to RTI. RTI reviewed the draft questionnaire for general content and design and coordinated a forensic expert panel review of the instrument to obtain feedback on specific items.

The initial list of ME/C offices operating in the United States was provided to BJS by the Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. RTI updated the list and conducted telephone verification of contact information for each office.

Data were collected by mixed mode. In addition to mail-out packages, RTI created a web site on which respondents could access the questionnaire and provide responses electronically. Follow-up efforts included Computer Assisted Telephone Interviewing (CATI) and e-mail. Seventy-one percent of respondents used mail or facsimile transmission of data, 13% responded via the Internet, and 16% responded by telephone.

A total of 1,998 ME/C offices were enumerated in the census. Despite extensive follow-up efforts, 281 ME/C offices did not respond to the request for information, yielding an overall response rate of 85.9%. By population served, the response rate was lowest among ME/C offices serving 10,000 to 49,999 persons (83.9%), and generally higher among those serving 100,000 or more.

Population served	Total	Response rate
Total	1,998	85.9 %
1,000,000 or more	57	98.2 %
500,000 to 999,999	68	94.1
250,000 to 499,999	80	88.8
100,000 to 249,999	192	88.5
50,000 to 99,999	240	86.3
25,000 to 49,999	428	83.9
10,000 to 24,999	542	83.9
2,500 to 9,999	326	85.6
Less than 2,500	65	86.2

By type of office, the response rate was lowest among county medical examiner offices serving small jurisdictions (77.3%). Response rates for other types of offices were as follows: State medical examiner offices (100.0%); city medical examiner offices (100.0%); district or regional medical examiner offices (94.3%); county coroner offices (85.9%); county medical examiner offices (84.2%).

Type of office	Total	Response rate
Total	1,998	85.9%
County coroner office	1,590	85.9%
Large jurisdiction (250,000 or more)	82	89.0
Medium jurisdiction (25,000 to 249,999)	660	86.4
Small jurisdiction (Less than 25,000)	848	85.3
County medical examiner office	316	84.2%
Large jurisdiction (250,000 or more)	69	94.2
Medium jurisdiction (25,000 to 249,999)	172	83.1
Small jurisdiction (Less than 25,000)	75	77.3
District or regional medical examiner office	35	94.3%
District or regional coroner office	29	82.8
State medical examiner office	24	100.0
City medical examiner office	3	100.0
Other	1	100.0

Five States had overall response rates below 80%, including Kansas (79.4%), Wyoming (78.3%), Tennessee (77.4%), Arizona (64.3%), and Illinois (60.4%). In counties in Texas, justices of the peace are not death investigators or coroners. They may make cause and manner of death determinations but were out of scope for this census.

Imputations were made for missing continuous data elements including FTEs, budgets, and workload items (cases referred and accepted, and unidentified decedents handled in an average year). Imputation cells were based on the State in which an ME/C office was located, type of office, and population served.

For FTE data the median ratio of FTEs to population served was calculated within imputation cells and multiplied by the population for offices with missing data to produce the imputed values. Imputations for FTE data in sheriff-coroner offices were based on agency employment data from the BJS Law Enforcement Management and Administrative Statistics (LEMAS) program.

For budget data the median ratio of budget to FTEs was calculated within imputation cells and multiplied by the total FTEs in offices with missing data to produce the imputed values.

For referred cases, accepted cases were divided by the median ratio of cases accepted to those referred. For accepted cases, referred cases were multiplied by the median ratio of cases accepted to those referred. If both elements were missing, the median ratio of cases referred to population served was multiplied by the population for offices with missing data to impute referred cases. The median ratio of cases accepted to those referred was multiplied by the number of referred cases to impute accepted cases.

For unidentified decedents reported annually, remaining unidentified after 1 year, and undergoing final disposition, the median value within imputation cells was used as the imputed value.

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The Bureau of Justice Statistics is the statistical agency of the U.S. Department of Justice. Jeffrey L. Sedgwick is director.

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The National Association of Medical Examiners (NAME) and the International Association of Coroners and Medical Examiners (IACME) provided valuable assistance in development of the data collection instrument and in encouraging participation in the study. (See <http://thename.org> and <http://www.theiacme.com> for more information.)

Carolyn C. Williams edited the report, with assistance from Joanna S. Bradford, and Jayne Robinson prepared the report for final printing, under the supervision of Doris J. James.

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