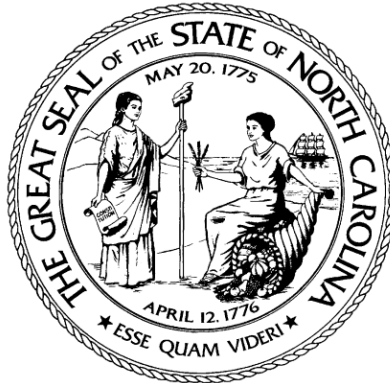


Annual Autopsy Centers Report
Session Law 2023-134, Section 9H.8.(g)



Report to the
Joint Legislative Oversight Committee on
Health and Human Services

and

Fiscal Research Division

By

North Carolina Department of Health and Human
Services

March 5, 2024

BACKGROUND

The North Carolina General Assembly passed the Statewide Medical Examiner Act of 1967 to provide a statewide system for postmortem medicolegal examinations. The Office of the Chief Medical Examiner (OCME) was established in 1968 and the first Chief Medical Examiner was appointed. The OCME is responsible for overseeing the operations of the entire medical examiner system in North Carolina and is assisted in that effort by three (3) regional autopsy centers and another four (4) hospital-based pathology practices that are contracted to perform autopsies for the medical examiner system.

Session Law 2023-134, Section 9H.8.(g) requires the Office of the Chief Medical Examiner to submit an annual report each February 1st on the autopsy centers and regional autopsy centers within the North Carolina medical examiner system.

Data on medical examiner jurisdictional cases, toxicology testing, District Attorney ordered autopsies for suspected death by distribution violation, submitted death certificates, and pending/not yet submitted death certificates are provided for calendar year 2023. Data are considered provisional and subject to change as cases continue to be finalized and entered, and some cases may not yet be captured within tracking systems. Data on cases from January 2024 and later is not included as it was not available at the time of data query for the submission of this report.

Limitations of current data systems:

We are in the process of implementing a new information technology system which will enable OCME to better track and report data on medical examiner cases. However, our existing tracking system was leveraged to develop this annual report, and it lacks a number of key data points – such as date the case was commenced and a host of data points on autopsies completed and pending at our regional autopsy centers. We will be able to track and report this data after the successful system wide launch of our new information technology system that is anticipated at the end of 2024.

About the Medical Examiner System in North Carolina

Jurisdictional Authority

There are approximately 110K deaths each year in North Carolina, but only a portion (less than 15%) are referred to the medical examiner system. Pursuant to § 130A-383 of the North Carolina General Statutes, the following deaths are investigated by the medical examiner system:

- Any death resulting from violence, poisoning, accident, suicide, or homicide.
- Sudden deaths when the deceased had been in apparent good health or when unattended by a physician.
- Deaths occurring in a jail, prison, correctional institution, or in police custody.
- Deaths occurring in State facilities operated in accordance with Part 5 of Article 4 of Chapter 122C of the General Statutes.
- Deaths occurring pursuant to Article 19 of Chapter 15 of the General Statutes.
- Deaths occurring under suspicious, unusual, or unnatural circumstances.

There are approximately 340 county medical examiners across North Carolina, at least two in each county – all of which are appointed by NC’s Chief Medical Examiner. All county medical examiners have some type of medical or death investigation background. The appointment for local medical examiners is for 3 years, and initial training (orientation) and ongoing, continuing education are required. Once the medical examiner has determined that a death falls under the jurisdiction of the medical examiner system, the medical examiner may perform an external examination on the body, collect specimens for toxicological testing, and is responsible for providing an investigation report to the OCME and assisting in certifying the cause and manner of death on the death certificate.

The medical examiner determines whether the body requires an autopsy based on the investigation and OCME guidelines and statutes. Such cases will receive both an external and internal examination at facilities staffed by forensic or anatomic pathologists. There are four Regional Autopsy Centers (RACs), which are staffed by American Board of Pathology-certified forensic anatomic pathologists, and there are four Autopsy Centers, which are staffed by American Board of Pathology-certified anatomic pathologists.

The four Regional Autopsy Centers in the state include the Office of the Chief Medical Examiner in Raleigh (a state agency) which does one-third of all medicolegal autopsies in the system. The other three are contracted entities located in Greenville, staffed by the East Carolina University (ECU) at Brody School of Medicine; Winston-Salem, staffed by Wake Forest University Health Services (WFUHS); and Charlotte, staffed by County of Mecklenburg Medical Examiner’s Office (Meck). The four, hospital-based Autopsy Centers, who are also under contract, are located at: Coastal Pathology Associates at Onslow Memorial Hospital in Jacksonville, Falvy C. Barr, Jr., MD. at Sampson Regional Medical Center in Clinton, Southeastern Pathology Associates in Lumberton, and Mountain Pathology Services at Harris Regional Hospital in Sylva.

OCME is located in Raleigh and serves as the central administrative office of NC’s medical examiner system and provides oversight for the statewide ME system. OCME is the only component of the system operated by the State of North Carolina. In addition to serving as a Regional Autopsy Center, OCME includes a forensic toxicology laboratory accredited by the American Board of Forensic Toxicology that provides toxicology testing for the entire ME system. OCME is a unit/section within the Division of Public Health (DPH), which is part of the North Carolina Department of Health and Human Services (NC DHHS).

AUTOPSY FACILITIES AND DESIGNATED COUNTIES

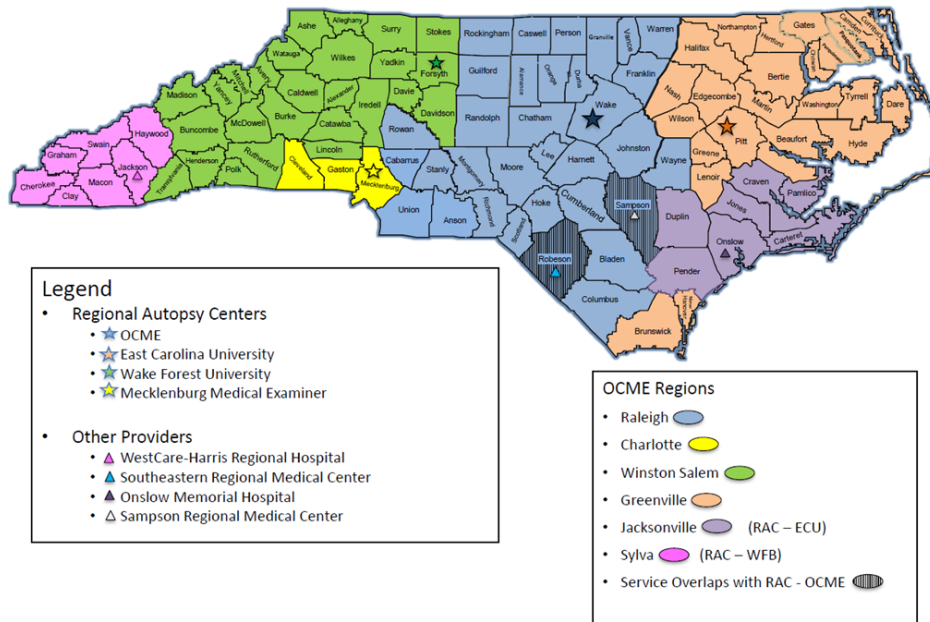
Facility	Counties Served
Office of the Chief Medical Examiner (OCME)	(33) Alamance, **Anson, Bladen, **Cabarrus, Caswell, Chatham, Columbus, Cumberland, Durham, Franklin, Granville, Guilford, Harnett, Hoke, Johnston, Lee, Montgomery, Moore, Orange, Person, Randolph, Richmond, *Robeson, Rockingham, Rowan, *Sampson, Scotland, Stanly, **Union, Vance, Wake, Warren, Wayne
Southeastern Pathology Associates Falvy C. Barr, Jr., MD	*Robeson *Sampson
East Carolina University	(31) Beaufort, Bertie, Brunswick, Camden, *Carteret, Chowan, *Craven, Currituck, Dare, *Duplin, Edgecombe, Gates, Greene, Halifax, Hertford, Hyde, *Jones, Lenoir, Martin, Nash, *New Hanover, Northampton, *Onslow, *Pamlico, Pasquotank, *Pender, Perquimans, Pitt, Tyrrell, Washington, Wilson
Coastal Pathology Associates	(7) *Carteret, *Craven, *Duplin, *Jones, *Onslow, *Pamlico, *Pender
Wake Forest University Health Services	(33) Alexander, Allegheny, Ashe, Avery, Buncombe, Burke, Caldwell, ***Catawba, *Cherokee, *Clay, Davidson, Davie, Forsyth, *Graham, *Haywood, Henderson, Iredell, *Jackson, Lincoln, Madison, McDowell, *Macon, Mitchell, Polk, Rutherford, Stokes, Surry, *Swain, Transylvania, Watauga, Wilkes, Yadkin, Yancey
County of Mecklenburg	(3) Cleveland, Gaston, Mecklenburg
Mountain Pathology Services	(7) *Cherokee, *Clay, *Graham, *Haywood, *Jackson, *Macon, *Swain

Note: * County designations may overlap with multiple regional facilities.

** Absorbed by OCME in 2022 without additional resources when autopsy center eliminated coverage.

*** Absorbed by WFUHS in 2021 when autopsy center stopped providing ME/Autopsy services.

Medical Examiner Autopsy Centers in North Carolina



2023 MEDICAL EXAMINER CASES

In 2023, 107,677 people died in North Carolina and 17,486 of these deaths were referred to the ME system. Of these reported deaths, 15,175 were accepted as jurisdictional cases and investigated by the ME system. At the time of this report, 11,239 (74%) of medical examiner cases have a certified death certificate.

Note: Pending refers to deaths when determination of manner depends on further information (Centers for Disease Control). All case counts exclude assessment for non-human remains, historical remains, fetal deaths, those that are not yet identified, delayed examinations where death occurred prior to 2023 (e.g. exhumations), and deaths occurring outside North Carolina. In addition, other cases that have not yet been processed as of the date of query (January 1, 2024 for death certificate data) are not counted in this data set meaning that all numbers, especially those in the later months, are underestimates for case volume.

Table 1. Overview of Deaths Reported and Jurisdictional Dispositions, 2023[†]

	<i>OCME Jurisdiction*</i>	<i>NC Medical Examiner System</i>
<i>Total Deaths</i>	44,351	107,677
<i>Deaths Referred to ME</i>	7,990	17,486
<i>Cases Declined by ME</i>	1,082 (13.5%)	2,266 (13.0%)
<i>Deaths Investigated by ME</i>	6,881 (86.1%)	15,175 (86.7%)
<i>Autopsies</i>	1,508	4,346
<i>Cases with Toxicology Performed</i>	5,476 (84.3%)	13,065 (92.0%)
<i>External and Supplemental Examinations</i>	2,345	N/A
<i>Completed Death Certificates (non-pending)</i>	4,745	11,239 (74%)
<i>Pending Death Certificates on Autopsies</i>	683	1,840

Note: *OCME jurisdiction: deaths investigated by ME system in the 33 counties OCME serves and autopsies performed at OCME (see Technical Notes), including Falvy C. Barr, Jr., MD and Southeastern Pathology Associates because services overlap with OCME.

[†]2023 Data are provisional data and subject to change. OCME does not perform partial autopsies or hospital autopsies.

TOTAL DEATHS AND AUTOPSIES

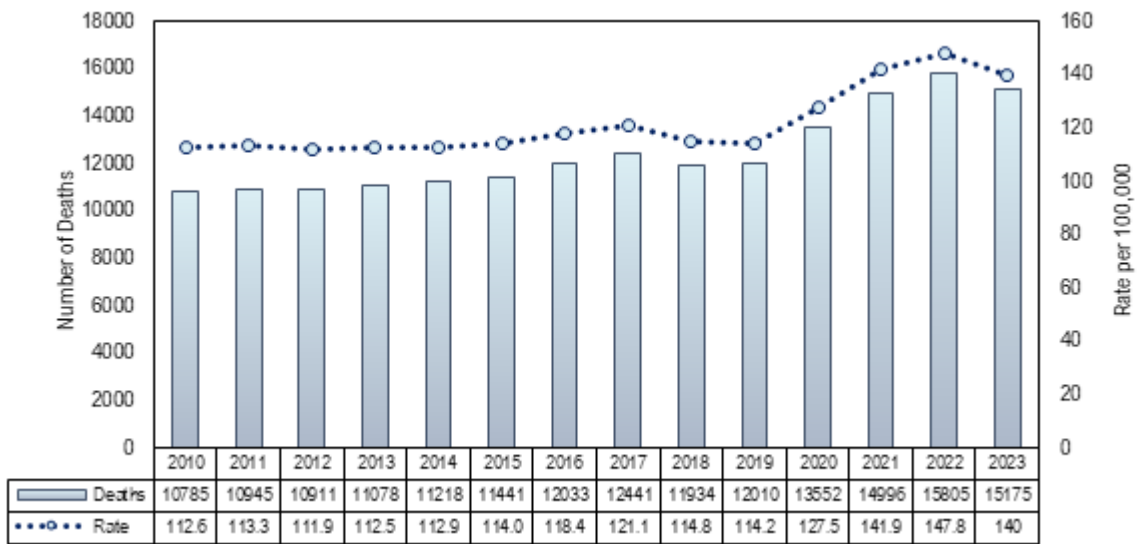
Deaths Investigated by the Medical Examiner System

A total of 17,486 deaths were reported to the ME system with 15,175 investigated by the ME system in 2023.

Note: Rates include pending cases and exclude assessment for non-human remains, historical remains, fetal deaths, those that are not yet identified, delayed examinations where the death occurred prior to 2023 (e.g. exhumations), and deaths occurring outside North Carolina. In addition, other cases that have not yet been processed as of the date of query (January 1, 2024 for death certificate data) are not counted in this data set meaning that all numbers, especially those in the later months, are underestimates for case volume.

Death investigation data by Regional Autopsy Center and Autopsy Center is not available in current information technology systems; however, the information system to be launched in late CY 2024 will have this functionality.

Figure 1. Deaths Investigated by the NC Medical Examiner System and Rate, 2010 – 2023[†]



Note: Rates per 100,000 NC residents.

[†] 2023 Data are provisional data and subject to change.

Autopsies Performed at Autopsy Centers

A total of 4,346 autopsies were performed by the ME system in 2023. OCME performed the largest number of autopsies (35%), followed by Wake Forest University Health Services (24%), and East Carolina University (16%).

Table 2. Autopsies Performed at Autopsy Centers, 2023[†]

Type of Centers	Autopsy Centers & RACs	Number of Autopsy Performed
Regional Autopsy Center	East Carolina University	707
Regional Autopsy Center	County of Mecklenburg	570
Regional Autopsy Center	Office of the Chief Medical Examiner** Falvy C. Barr, Jr., MD Southeastern Pathology Associates	1,508
Regional Autopsy Center	Wake Forest University Health Services	1,063
Other Providers	Mountain Pathology Services	140
Other Providers	Coastal Pathology Associates	358
Other Providers	Falvy C. Barr, Jr., MD	**
Other Providers	Southeastern Pathology Associates	**
	TOTAL	4,346

Note: **Data reported for OCME includes Dr. Barr and Southeastern Pathology Associates because services overlap with OCME Autopsies per autopsy center are estimates as they are based on autopsy facility primary county coverage, which does not account for back-up coverage by another autopsy facility. Dr. Barr, Jr., MD and Southeastern Pathology Associates perform approximately 4.7% of the autopsy examinations in OCME covered areas.

[†] 2023 Data are provisional data and subject to change.

TOXICOLOGY TESTING

A total of at least 13,065 or 92% of medical examiner jurisdictional cases in 2023 had toxicology testing. Of medical examiner jurisdictional cases that had toxicology testing, OCME has the largest number of cases with toxicology testing (41.9%), followed by Wake Forest University Health Services (18.6%), and East Carolina University (11.7%).

Note: Toxicology testing data is provisional and an underestimation as it does not include cases that were in process at the time of data query and have not yet issued an initial result.

Toxicology testing consists of toxicological or other chemical tests performed upon tissue or body fluid(s) from a decedent. Substances tested may include toxins, alcohol, drugs of abuse, prescription drugs, their metabolites, or clinical chemistries. Toxicology testing numbers do not account for multiple tests performed on one case. The OCME Toxicology Laboratory performs more than 36,000 analytical tests each year.

Table 3. Toxicology Testing Performed by Autopsy Centers, 2023[†]

Type of Centers	Autopsy Centers & RACs	Cases - Toxicology Testing Performed
Regional Autopsy Center	East Carolina University	1,531
Regional Autopsy Center	County of Mecklenburg	1,321
Regional Autopsy Center	Office of the Chief Medical Examiner** Falvy C. Barr, Jr., MD Southeastern Pathology Associates	5,476
Regional Autopsy Center	Wake Forest University Health Services	2,428
Other Providers	Mountain Pathology Services	340
Other Providers	Coastal Pathology Associates	629
Other Providers	Falvy C. Barr, Jr., MD	**
Other Providers	Southeastern Pathology Associates	**
	County Not Assigned	1,340
	TOTAL	13,065

Note: **Data reported for OCME includes Dr. Barr and Southeastern Pathology Associates because services overlap with OCME.

Toxicology screenings per autopsy center are estimates as they are based on autopsy facility primary county coverage, which does not account for back-up coverage by another autopsy facility.

County Not Assigned: Not all data was complete at query date for toxicology testing performed. This designation is for those cases where toxicology testing county was not yet identified.

[†] 2023 Data are provisional data and subject to change.

DEATH BY DISTRIBUTION (G.S. 14-18.4)

District Attorney Authorized Death by Distribution Autopsies

Note: Suspected drug overdose and fentanyl positive cases reflect the most recent available data at the time of data query for this report (<https://injuryfreenc.dph.ncdhhs.gov/DataSurveillance/overdose.htm>).

Coinciding with the effective date for revisions to G.S. 14-18.4, tracking was implemented December 1, 2023, for the number of autopsies performed as a result of the District Attorney of the county asserting to the Chief Medical Examiner (or the ME of the county in which the decedent was located) that there was probable cause to believe that a violation of G.S. 14-18.4 had occurred. For individuals who died in December 2023, we received 21 autopsy requests from District Attorneys to authorize autopsies in these circumstances. The exams were conducted at the following autopsy facilities: OCME (eight, 38%); Wake Forest University Health Services (seven, 33%); East Carolina University (three, 14%); County of Mecklenburg (two, 9%), and Southeastern Pathology Associates (one, 5%). All autopsy examinations for District Attorney autopsy requests for violation of G.S. 14-18.4 are complete. Autopsy reports and death certificates are still in process for these cases. January 2024 data is still in process at the date of submission of this report.

Table 4. District Attorney Autopsy Request for Violation of G.S. 14-18.4, December 2023[†]

County of DA Autopsy Request and Autopsy Center	December 2023	Autopsy Examination Complete Y/N	Death Certificate Pending (P) or Complete (C)
Alamance OCME	1	Y	P
Beaufort ECU	2	Y	P
Buncombe WFUHS	1	Y	P
Catawba WFUHS	2	Y	P
Cleveland OCME	1	Y	P
Gaston Meck	2	Y	P
Harnett OCME	4	Y	P
Iredell WFUHS	1	Y	P
Pamlico ECU	1	Y	P
Robeson SE Path	1	Y	P
Rutherford WFUHS	3	Y	P
Wake OCME	2	Y	P
Total	21		

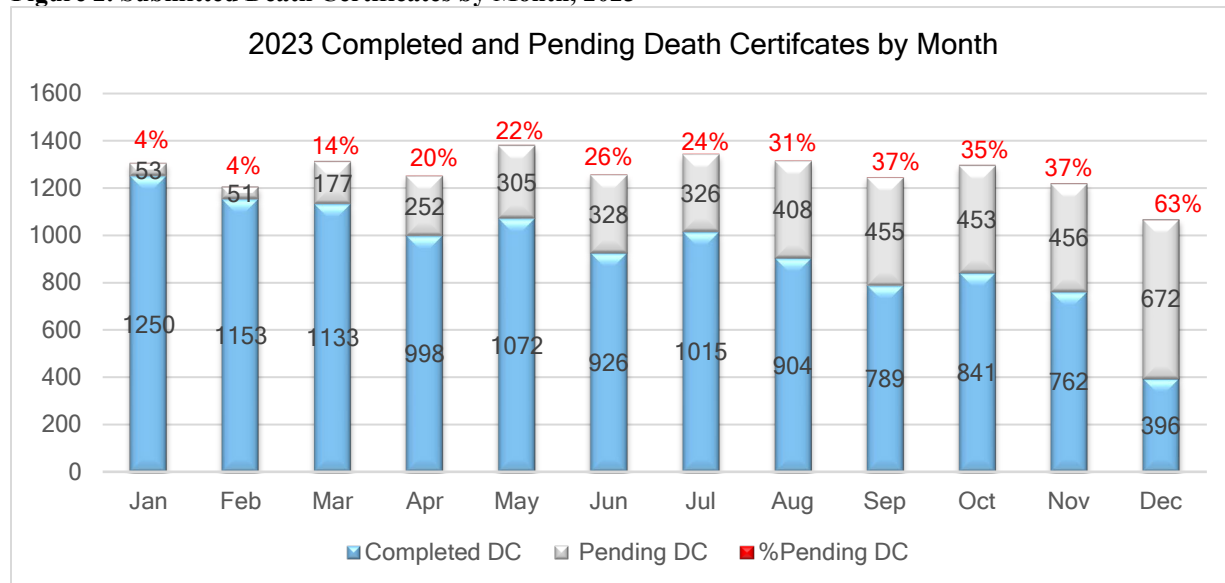
Note: † 2023 Data are provisional data and subject to change.

DEATH CERTIFICATES, 2023

We will be able to track and report the total number of outstanding autopsies and autopsy reports after the successful system wide launch of our new information technology system at the end of 2024. However, pending death certificates serve as a useful surrogate measure at this time and are reflected in Figure 2 below. The low numbers in general for the later months, including December, are reflective of a likely large number of cases that are in process as of date of query (January 1, 2024) and are not accounted.

As of January 1, 2024, there were 15,175 deaths investigated by the ME system; 14,211 death certificates (74%) were certified by Medical Examiners for 2023. Based on the date of inquiry and time to complete a full death investigation including ancillary testing, it is not surprising that death certificates for earlier months in the year have lower percentages of death certificates that are either pending or not yet submitted. The months of January and February have the lowest percentages of pending or not yet submitted death certificates at 4%.

Figure 2. Submitted Death Certificates by Month, 2023[†]



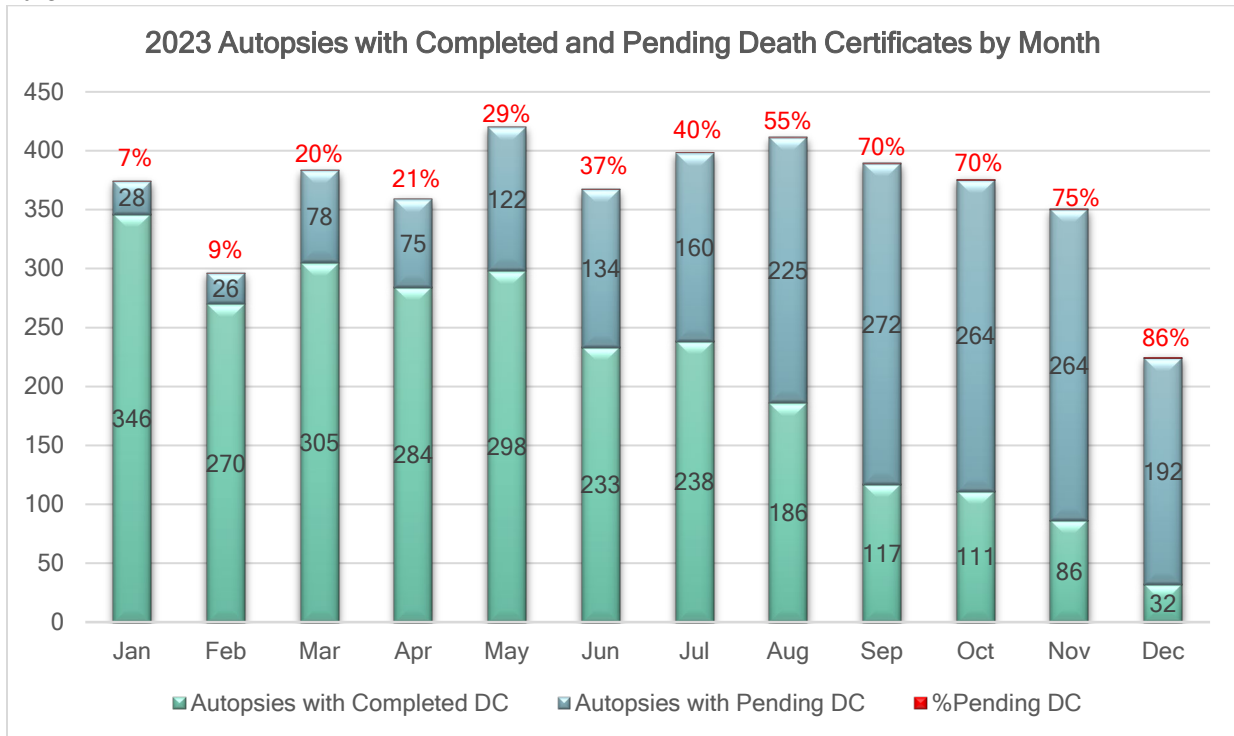
NOTE: Pending DC includes those with a pending manner of death or not yet submitted.

[†] 2023 Data are provisional data and subject to change.

Autopsies with Pending Death Certificates, 2023

A total of 4,346 autopsies were performed by the ME system in 2023. Of those autopsy cases, 58% (n=2,506) have completed death certificates. Based on the date of inquiry and time to complete a full death investigation including ancillary testing, it is not surprising that death certificates on autopsy cases for earlier months in the year have lower percentages of death certificates that are either pending or not yet submitted. January 2023 has the lowest percentage of pending or not yet submitted death certificates on autopsy cases at 7%. The low autopsy numbers in general for the later months, including December, are reflective of a likely large number of cases that are in process as of date of query (January 1, 2024) and are not accounted for.

Figure 3. Autopsies with Pending Death Certificates with Date of Death and Month of Death Certification, 2023[†]



Note: Pending DC includes those with a pending manner of death or not yet submitted

[†] 2023 Data are provisional data and subject to change.

Table 5. Autopsies with Pending Death Certificates by County, 2023[†]

Alamance-19	Cumberland-77	Johnston-13	Randolph-12
Alexander-5	Currituck-9	Jones-2	Richmond-13
Alleghany-2	Dare-7	Lee-8	Robeson-35
Anson-0	Davidson-25	Lenoir-14	Rockingham-14
Ashe-6	Davie-3	Lincoln-16	Rowan-30
Avery-0	Duplin-16	Macon-13	Rutherford-17
Beaufort-17	Durham-48	Madison-1	Sampson-17
Bertie-3	Edgecombe-15	Martin-3	Scotland-18
Bladen-8	Forsyth-64	McDowell-14	Stanly-7
Brunswick-50	Franklin-6	Mecklenburg-108	Stokes-5
Buncombe-55	Gaston-40	Mitchell-3	Surry-13
Burke-17	Gates-1	Montgomery-0	Swain-12
Cabarrus-38	Graham-7	Moore-21	Transylvania-6
Caldwell-9	Granville-5	Nash-16	Tyrrell-0
Camden-0	Greene-6	New Hanover-105	Union-24
Carteret-32	Guilford-86	Northampton-2	Vance-14
Caswell-0	Halifax-7	Onslow-90	Wake-81
Catawba-25	Harnett-22	Orange-11	Warren-1
Chatham-16	Haywood-23	Pamlico-7	Washington-1

Cherokee-15	Henderson-8	Pasquotank-8	Watauga-3
Chowan-4	Hertford-4	Pender-21	Wayne-16
Clay-3	Hoke-8	Perquimans-2	Wilkes-6
Cleveland-20	Hyde-3	Person-8	Wilson-25
Columbus-7	Iredel-13	Pitt-34	Yadkin-3
Craven-71	Jackson-20	Polk-2	Yancey-0

Note: Pending DC includes those with a pending manner of death or not yet submitted.

† 2023 Data are provisional data and subject to change.

Table 6. Autopsies with Pending Death Certificates by Autopsy Facility, 2023[†]

Type of Centers	Autopsy Centers & RACs	Pending Death Certificate
Regional Autopsy Center	East Carolina University	336
Regional Autopsy Center	County of Mecklenburg	168
Regional Autopsy Center	Office of the Chief Medical Examiner** Falvy C. Barr, Jr., MD Southeastern Pathology Associates	683
Regional Autopsy Center	Wake Forest University Health Services	321
Other Providers	Mountain Pathology Services	93
Other Providers	Coastal Pathology Associates	239
Other Providers	Falvy C. Barr, Jr., MD	**
Other Providers	Southeastern Pathology Associates	**
	TOTAL	1,840

Note: Pending autopsy death certificates cannot be easily separated into each regional and supporting facilities based on county of death given overlapping and backup county examination and ME coverage. Number of pending death certificates on autopsy cases is an **estimate** based on payment/billing information from 2023 correlated with county of death listed on the death certificates for information listed in above figure. See Regional and Supporting Facilities and Their Designated Counties.

Pending DC includes those with a pending manner of death or not yet submitted.

† 2023 Data are provisional data and subject to change.

** Data reported for OCME includes Dr. Barr and Southeastern Pathology Associates because services overlap with OCME.

TECHNICAL NOTES

Deaths Investigated

“Deaths Investigated” in this report include deaths reported to the medical examiner where the ME accepts jurisdiction. Death totals include North Carolina residents and non-North Carolina residents whose deaths were investigated under the jurisdiction of the medical examiner. Deaths investigated include Medical Examiner Investigator Scene Investigations as well as reported deaths that, while may not allow for a scene investigation, involved an investigation beyond the initial report of the death, usually in the form of a records review in response to information provided as part of a cremation request.

County of Death

Deaths in this report are assigned to the county where the decedent was pronounced dead, rather than county of residence or the county where an event leading to death may have occurred. For example, an individual is injured in one county, and is transported and later pronounced dead in a different county. This death is reported to the medical examiner of the second county where the individual was pronounced dead.

ME Jurisdiction

Refers to any death where the ME assumes jurisdiction in accordance with § 130A-383 of the North Carolina General Statutes. These include autopsies performed at the four regional autopsy centers and the four hospital-based pathology practices that are contracted to perform autopsies for the ME system.

OCME Jurisdiction

Deaths that fall under OCME jurisdiction are defined as deaths autopsied at the OCME and deaths investigated in one of the 33 counties OCME provides examination (autopsy, external exam, supplemental exam) and medical examiner services: Alamance, **Anson, Bladen, **Cabarrus, Caswell, Chatham, Columbus, Cumberland, Durham, Franklin, Granville, Guilford, Harnett, Hoke, Johnston, Lee, Montgomery, Moore, Orange, Person, Randolph, Richmond, Robeson*, Rockingham, Rowan, Sampson*, Scotland, Stanly, **Union, Vance, Wake, Warren, and Wayne.

**NOTE: County designations may overlap with multiple regional facilities.*

***NOTE: Absorbed by OCME in 2022 without additional resources when autopsy center eliminated coverage.*

Additional Technical Notes

1. Toxicology results are based on blood, vitreous fluid, or other specimens used for testing at the discretion of the pathologist and/or toxicologist.
2. Percentages may total above or below 100% due to rounding.