

INTRODUCTION

Among the governmental organizations within the counties of New York State, Westchester's Department of Laboratories and Research remains unusual. This is so in that the department represents a fusion between the Medical Examiner Office and the associated laboratory functions of Toxicological and Forensic Science Services with the county's Public Health Laboratories. This arrangement groups nearly all county laboratories under single administrative control concentrating laboratory expertise and sophisticated instrumentation to the good of all sections, thus permitting interchange of scientific knowledge, technology and data. This arrangement works favorably toward the department's goal which is fulfillment of the medicolegal and public health needs and requirements of Westchester County through service and developmental research.

ORGANIZATION

**COUNTY OF WESTCHESTER
DEPARTMENT OF LABORATORIES AND RESEARCH - 2009**

STAFF

| | |
|------------------------------|--|
| Millard J. Hyland, M.D. | Pathologist-Medical Examiner |
| Kunjlata Ashar, M.D. | Pathologist-Deputy Medical Examiner |
| Aleksandar Milovanovic, M.D. | Pathologist-Deputy Medical Examiner |
| Benjamin Bristol, M.D. | Pathologist-Associate Medical Examiner |
| William Fallon | Director of Administrative Services |
| Syed Abid, Ph.D. | Director, Microbiological Services |
| David Vinci | Chief, Environmental Laboratory Services |
| Elizabeth Spratt, M.S. | Director of Toxicology |
| Robert Adamo | Chief of Forensic Sciences |

**CONSULTANT STAFF TO THE OFFICE OF THE MEDICAL
EXAMINER**

| | |
|-------------------------|---------------------|
| Neal Riesner, D.D.S. | Forensic Odontology |
| Alex Braun, M.D. | Neuropathology |
| Vincent H. Stefan, M.D. | Anthropologist |

2009 FINANCIAL STATEMENT

| | 2009 <u>Budget</u> | 2009 <u>Actual</u> | Under (Over) <u>Budget</u> | % Rounded Under (Over) <u>Budget</u> |
|------------------------------|-----------------------|-----------------------|----------------------------------|--|
| Expenditures: | | | | |
| Personal Services | \$8,507,341 | \$8,360,242 | \$147,099 | 2% |
| Equipment | 26,500 | 25,600 | 900 | 3% |
| Materials and Supplies | 1,425,891 | 1,349,065 | 76,826 | 5% |
| Expenses | 1,583,745 | 1,325,332 | 258,413 | 16% |
| Interdepartmental Charges | <u>4,073,341</u> | <u>3,518,753</u> | <u>554,588</u> | 14% |
| S/T: Expenditures | \$15,616,818 | \$14,578,992 | \$1,037,826 | 7% |
| Less: Services to Others | <u>552,500</u> | <u>600,190</u> | <u>(47,690)</u> | (9)% |
| S/T: Net Expenditures | \$15,064,318 | \$13,978,802 | \$1,085,516 | 7% |
| Revenues: | | | | |
| Departmental | \$1,980,700 | \$1,950,741 | \$29,959 | 2% |
| State Aid | <u>2,974,421</u> | <u>2,836,287</u> | <u>138,134</u> | 5% |
| Total Revenues | \$4,955,121 | \$4,787,028 | \$168,093 | 3% |
| Net Department Budget | \$10,109,197 | \$9,191,774 | \$917,423 | 9% |

2009

THE OFFICE OF THE MEDICAL EXAMINER

I. Medical Investigation

II. Autopsy Service

III. Histology Laboratory

THE OFFICE OF THE MEDICAL EXAMINER

The Office of the Medical Examiner is responsible for investigating and determining both cause and manner of death in all deaths occurring “in or presumably in the County of Westchester due to unlawful act, criminal neglect, violence, casualties, or by sudden or unexplained circumstances”. *Notification of such deaths is usually made to the office by a police officer, physician or funeral director at the scene of death. Because duty personnel are available every day of the year, twenty-four hours a day, notification should be made as soon as possible. In this way a decision as to whether or not the case falls under the Medical Examiner’s jurisdiction can be made quickly.

When accepted as a Medical Examiner case, the death undergoes an investigation the extent of which depends on the nature of the case. Table 1 summarizes the activities of the Office for 2009.

*Westchester County Administrative Code 273.141

MEDICAL EXAMINER

TABLE 1
Medical Examiner (M.E.) Cases and Autopsies

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|------|------|------|------|------|
| Deaths in Westchester County | 7088 | 7054 | 6803 | 6713 | 5978 |
| Deaths Reported to M.E. Office | 2683 | 2783 | 2578 | 2618 | 2597 |
| % Reported to M.E. Office | 37% | 39% | 38% | 39% | 49% |
| Deaths Certified by M.E. | 781 | 830 | 735 | 729 | 717 |
| Autopsies Performed | 522 | 593 | 509 | 537 | 559 |
| % Certified Cases Autopsied | 66% | 71% | 69% | 73% | 78% |
| Autopsies Not Performed Due to Religious Objection | 17 | 17 | 23 | 24 | 22 |
| Scenes Visited by M.E. & Medical Investigators | 310 | 352 | 342 | 290 | 308 |
| Court Appearances by Medical Examiners | 16 | 16 | 21 | 26 | 23 |

*Unavailable

TABLE 2
Medical Examiner Certifications By Manner of Death*

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|------|------|------|------|------|
| Natural Causes (Sign Outs & Nat.) | 468 | 478 | 428 | 384 | 401 |
| Sudden Infant Death Syndrome | (1) | (3) | (1) | (4) | (0) |
| Homicides | 27 | 22 | 24 | 33 | 27 |
| Suicides | 57 | 53 | 53 | 69 | 65 |
| Traffic (Includes Out of County Transfers) | 71 | 91 | 57 | 69 | 57 |
| Accidents (Exclusive of Traffic Deaths) | 51 | 77 | 52 | 84 | 91 |
| Drug & Drug Related (Exclusive of Suicides) | 56 | 63 | 67 | 61 | 58 |
| Alcohol & Alcohol Related | 20 | 27 | 21 | 24 | 18 |
| Undetermined Causes** | 1 | 2 | 3 | 1 | 3 |
| Circumstances Undetermined** | 2 | 5 | 8 | 20 | 14 |

Occasional cases have been included under more than one category to avoid statistical loss of cases falling under dual categories.

**Excludes religious objection cases.

MEDICAL EXAMINER

TABLE 3
Suicide By Means

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|
| Gunshot Wounds | 17 | 12 | 14 | 14 | 18 |
| Cutting Wounds | 4 | 2 | 2 | 2 | 1 |
| Hanging | 9 | 17 | 9 | 20 | 15 |
| Poisoning: Carbon Monoxide | 1 | 4 | - | 1 | 2 |
| Mixed Drug Ingestion | 9 | 6 | 12 | 13 | 5 |
| Single Drug Ingestion | 3 | 4 | 3 | 3 | 10 |
| Jumped From Height | 9 | 2 | 5 | 3 | 6 |
| Plastic Bag Over Head | 1 | 2 | - | 1 | 3 |
| Drowning | 1 | 1 | 1 | 2 | - |
| Jumped in Front of Train | 1 | 1 | 2 | 3 | 1 |
| Other (Includes Combined Methods) | 2 | 2 | 5 | 7 | 4 |
| (Suicides While in Custody) | | - | - | - | - |
| Total | 57 | 53 | 53 | 69 | 65 |

TABLE 4
Suicide Victim Characteristics

| Suicide Characteristics / % Total Suicides | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|-------------|-------------|-------------|-------------|-------------|
| Female Victims | 15/26% | 9/17% | 18/34% | 22/31% | 15/23% |
| Alcohol Recovered in Victim | 14/24% | 18/34% | 11/21% | 17/24% | 25/38% |
| Illicit Drug Recovered in Victim | 13/23% | 12/23% | 8/15% | 15/21% | 8/12% |
| Suicide Note (s) Recovered | 11/19% | 17/32% | 14/26% | 21/30% | 21/32% |

MEDICAL EXAMINER

TABLE 5
Suicide By Age Groups

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------|-------------|-------------|-------------|-------------|-------------|
| 10-19 | 4 | 3 | 3 | 4 | 1 |
| 20-29 | 13 | 7 | 8 | 11 | 5 |
| 30-39 | 7 | 5 | 4 | 8 | 8 |
| 40-49 | 9 | 13 | 18 | 17 | 19 |
| 50-59 | 8 | 14 | 13 | 9 | 14 |
| 60-69 | 6 | 3 | 3 | 7 | 10 |
| 70-79 | 6 | 4 | 2 | 8 | 2 |
| Above 80 Years | 4 | 4 | 2 | 5 | 6 |
| Total | 57 | 53 | 53 | 69 | 65 |

TABLE 6
Traffic Deaths By Vehicular Type*

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| Automobile: Driver | 28 | 27 | 30 | 30 | 22 |
| Passenger | 20 | 14 | 8 | 14 | 14 |
| Motorcycle | 8 | 7 | 7 | 10 | 3 |
| Bicycle | 2 | 1 | 1 | - | 1 |
| Train | - | - | - | - | 2 |
| Pedestrian Struck By Vehicle | 9 | 12 | 10 | 9 | 13 |
| Hit & Run | 1 | 1 | 1 | 5 | 2 |
| Other | 3 | - | - | 1 | - |
| Total | 71 | 62 | 57 | 69 | 57 |

*Includes deaths from traffic incidents occurring in Westchester County only.

MEDICAL EXAMINER

2009

TABLE 7

Blood Alcohol Concentration (BAC, Grams %) In Traffic Victims

| | Not Tstd. | Neg. Test | 0.01-0.04 | 0.05-0.09 | 0.1-0.14 | 0.15-0.19 | 0.2-0.24 | 0.25-0.29 | 0.3-0.34 | 0.35 | Drugs Only | Total |
|----------------|-----------|-----------|-----------|-----------|----------|-----------|----------|-----------|----------|------|------------|-------|
| M.V. Driver | | 16 | | | | 1 | 2 | 2 | | | 1 | 22 |
| M.V. Passenger | 1 | 11 | | | | | | 1 | | | 1 | 14 |
| Motor-cyclist | | 1 | 1 | | | | 1 | | | | | 3 |
| Bicyclist | | 1 | | | | | | | | | | 1 |
| Pedestrian | 1 | 9 | | 1 | | | 1 | | | | 1 | 13 |
| Train Victim | | | | | | | | | | | 1 | 1 |
| Hit & Run | | 2 | | | | | | | | | | 2 |
| Airplane | | 1 | | | | | | | | | | 1 |
| Total | 2 | 41 | 1 | 1 | | 1 | 4 | 3 | | | 4 | 57 |

TABLE 8

Accidental Deaths By Means (Excluding Traffic Fatalities)*

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|------|------|------|------|------|
| Falls: At Home | 19 | 28 | 20 | 32 | 43 |
| On the Job | 2 | 5 | 6 | 2 | 4 |
| Unspecified | 7 | 7 | 6 | 15 | 14 |
| Fire (<i>burns & soot with carbon monoxide inhalation</i>) | 9 | 10 | 6 | 7 | 8 |
| Choking | 1 | 5 | 4 | - | 5 |
| Drowning | 2 | 9 | 6 | 3 | 5 |
| Carbon Monoxide | 1 | - | 1 | - | - |
| Autoerotic Death | - | 2 | - | 1 | - |
| Electrocution | - | - | - | - | - |
| Struck By Object | 6 | 1 | - | 11 | 2 |
| Miscellaneous | 2 | 6 | 3 | 10 | 10 |
| Total | 51 | 77 | 52 | 84 | 91 |

*Includes cases examined, not autopsied.

MEDICAL EXAMINER

TABLE 9
Individual Drugs of Abuse Recovered In Drug (Non-Suicidal) Deaths*

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|-------------------------------------|------|------|------|------|------|
| Cocaine (<i>includes "Crack"</i>) | 35 | 37 | 29 | 30 | 29 |
| Morphine/Heroin | 34 | 35 | 34 | 21 | 24 |
| Methadone | 8 | 7 | 7 | 9 | 7 |
| Meperidine | - | - | - | - | 1 |
| Fentanyl | - | - | 4 | 6 | 2 |
| PCP (<i>Phencyclidine</i>) | 2 | 2 | 2 | - | 3 |
| Cannabinoids | 2 | 4 | 2 | 2 | - |
| Benzodiazepines | 15 | 6 | 11 | 11 | 15 |
| Other Opiates** | | | | 13 | 11 |

*In nearly every case several drugs have been recovered in combinations.

**Includes Hydro/Oxymorphone, Hydro/Oxycodone

TABLE 10
Homicides By Means

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|------|------|------|------|------|
| Gunshot Wounds | 16 | 11 | 14 | 16 | 11 |
| Cutting Wounds | 2 | 6 | 6 | 6 | 5 |
| Blunt Force Trauma | 1 | 2 | 2 | 7 | 2 |
| Strangulation | 2 | 1 | 1 | 1 | 1 |
| Arson | - | - | - | - | - |
| Battered Child (<i>Includes Infanticide</i>) | 2 | 1 | 1 | 1 | 3 |
| Other (<i>Including Mixed</i>) | 4 | 1 | - | 2 | 5 |
| Total | 27 | 22 | 24 | 33 | 27 |

TABLE 11
Deaths While In Custody

| Cause Or Manner Of Death | 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------|------|------|------|------|------|
| Natural | 14 | 11 | 8 | 13 | 20 |
| Drug or Ethanol Related | - | - | - | - | - |
| Suicide | - | - | 1 | - | - |
| Homicide | - | - | - | - | - |
| Other | 1 | 1 | - | 2 | - |
| Total | 15 | 12 | 9 | 15 | 20 |

HISTOLOGY LABORATORY

TABLE 12

Tissue Examination

The Histology Laboratory prepares and processes all tissues submitted from autopsies affixing thin tissue sections onto glass slides. These are then stained appropriately for examination through the microscope by the Forensic Pathologist. Often such examinations play a necessary part in determining the cause of death since at autopsy some diseases do not present themselves as distinct changes visible to the naked eye.

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|-------------|-------------|-------------|-------------|-------------|
| Autopsies Examined Histologically | 302 | 338 | 418 | 456 | 411 |
| % Total Autopsies | 54% | 53% | 82% | 85% | 74% |
| Microscopic Slides Stained With Ordinary Stains | 1172 | 1334 | 1371 | 1404 | 1457 |
| Average No. of Slides Per Autopsy | 4 | 4 | 5 | 4 | 4 |
| Microscopic Slides Stained With Special Stains | 12 | 24 | 20 | 12 | 11 |

MEDICAL EXAMINER

POLICE JURISDICTION/MUNICIPALITY BY CASE TYPE: 2009

| | Ext Exam | Nat | Veh | Sui | Hom | Acc | Drug & Rel | Alc & Rel | Undetermined C&M | M | Total |
|------------------------------|----------|-----|-----|-----|-----|-----|------------|-----------|------------------|---|-------|
| Ardsley | 1 | | | | 1 | | | | | | 2 |
| Bedford | | 2 | | 1 | | 1 | | | | | 4 |
| Briarcliff | 2 | 2 | | | | | | | | | 4 |
| Bronxville | | | | 1 | | 3 | 2 | 1 | | 1 | 8 |
| Buchanan | | | | | | | | | | | |
| Croton | 1 | 1 | | 1 | | 4 | | | | | 7 |
| Dobbs Ferry | | 1 | | | | | | | | | 1 |
| Eastchester | 2 | 4 | | 1 | | 1 | 1 | | | | 9 |
| Elmsford | 1 | 4 | | 1 | | | | | | | 6 |
| Greenburgh | 5 | 6 | 4 | 5 | 2 | 1 | | | | 1 | 24 |
| Harrison | 2 | 4 | | | | | 4 | | | 1 | 11 |
| Hastings | 1 | 8 | | | | 2 | | | | | 11 |
| Irvington | | 2 | | | | | | | | | 2 |
| Larchmont | 1 | | | | | 1 | | | | | 2 |
| Mamaroneck Town | 1 | 2 | | | | | | | | | 3 |
| Mamaroneck Vlg. | 2 | 3 | | 1 | | | 2 | 1 | | | 9 |
| Metro North | 1 | 1 | 1 | 2 | | 1 | | | | | 6 |
| Mount Kisco | 2 | 4 | | 1 | | | 1 | 1 | | | 9 |
| Mount Pleasant | 2 | 5 | 3 | 2 | | 2 | | | | | 14 |
| Mount Vernon | 16 | 25 | 3 | 2 | 7 | 1 | 7 | 1 | | 2 | 64 |
| New Castle | | 1 | | | | 3 | | | | | 4 |
| New Rochelle | 19 | 17 | 1 | 2 | 2 | 9 | 3 | 1 | | 1 | 55 |
| NYS Police Dept. Brewster | | | 1 | | | | | | | | 1 |
| Hawthorne | 1 | 1 | 11 | | | 1 | | | | | 14 |
| Cortlandt | 12 | 8 | 2 | 3 | 1 | 3 | 2 | | 1 | 1 | 33 |
| Somers | 3 | 5 | 1 | 3 | | 5 | 1 | 1 | | | 19 |
| Tarrytown | | 1 | | 1 | | | | | | | 2 |
| North Castle | 2 | 2 | | | | 2 | | | | | 6 |

MEDICAL EXAMINER

POLICE JURISDICTION/MUNICIPALITY BY CASE TYPE: 2009

| | Ext Exam | Nat | Veh | Sui | Hom | Acc | Drug & Rel | Alc & Rel | Undetermined C&M | M | Total |
|------------------|----------|-----|-----|-----|-----|-----|------------|-----------|------------------|---|-------|
| Ossining Town | | 1 | 1 | | | | | | | | 2 |
| Ossining Village | 3 | 5 | 1 | 1 | | 3 | 2 | 2 | | | 17 |
| Pelham | 1 | | | | | | 2 | | | | 3 |
| Pelham Manor | | | | 1 | | | | | | | 1 |
| Peekskill | 5 | 10 | 1 | 2 | | 2 | 4 | 1 | | | 25 |
| Pleasantville | 1 | | | 2 | | 1 | | | | | 4 |
| Portchester | 6 | 2 | | 2 | | 1 | | 2 | | | 13 |
| Rye Brook | | 1 | | 1 | 1 | 1 | | | | | 4 |
| Rye City | | | 1 | | | | 1 | | | | 2 |
| Scarsdale | 3 | | 1 | | | 1 | | | | | 5 |
| Sleepy Hollow | 2 | 1 | | 1 | | 1 | | | | | 5 |
| Tarrytown | 1 | 2 | | | | 1 | | | | | 4 |
| Tuckahoe | | 1 | 1 | | | 1 | | 1 | | | 4 |
| W.C. Corrections | | | | | | | | | | | |
| West. Cty. P.D. | | 2 | 4 | 1 | | 2 | 2 | | | | 11 |
| White Plains | 11 | 12 | 1 | 6 | 1 | | 3 | 1 | 1 | 2 | 38 |
| Yonkers | 32 | 54 | | 13 | 8 | 10 | 20 | 4 | 1 | 3 | 145 |
| Yorktown | 7 | 7 | 5 | 3 | | 4 | 1 | | | | 27 |
| Other | 10 | 35 | 14 | 5 | 4 | 22 | | 1 | | 2 | 93 |

Legend: Ext Exam: External Examination; Nat: Natural; Veh: Vehicular Death;
 Sui: Suicide; Hom: Homicide; Acc: Accidental;
 Drug & Rel: Drug & Drug Related; Alc & Rel: Alcohol & Alcohol Related;
 Undet C&M: Undetermined Cause & Manner;
 Undet M: Undetermined Manner

MEDICAL EXAMINER

In-Service Training & Educational Activities

Medical Examiners participated in numerous educational activities including ten afternoon problem solving exercises for New York Medical College students and fifteen group autopsy demonstrations, histology reviews, and case discussions; individual one month rotations through the Department by two pathology residents from Westchester County Medical Center; monthly electives by New York Medical College senior students and Mercy College physician assistant students; Paramedic students, nursing students, radiology technicians, and police recruits attended autopsy instruction viewings.

Lectures in Forensic Pathology were delivered to the New York Medical College sophomore medical students, Westchester Community College students, Municipal Police Recruit Training School, detective groups, and advanced crime scene law enforcement officers. Review of Forensic Pathology was given to Westchester Medical Center pathology residents in preparation for both resident in-service examination and American Board of Pathology Anatomic Qualifying Examination.

Members of the division were involved in county health and safety programs through membership and participation in Westchester's Criminal Justice Advisory Board, Arson Task Force, Emergency Operations Center Task Force, Criminal Justice Advisory Group and Child Fatality Review.

MEDICAL EXAMINER

Diplomate Certifications, Professional Society

Memberships and Academic Appointments

Millard J. Hyland: American Board of Pathology (*Anatomic Pathology, Clinical Pathology, Forensic Pathology*)
College of American Pathologists
National Association of Medical Examiners
New York Medical College: Department of Pathology

Kunjilata Ashar: American Board of Pathology (*Anatomic Pathology, Forensic Pathology*)
National Association of Medical Examiners
New York Medical College: Department of Pathology
Member, Disaster Mortuary Operational Response Team

Aleksandar Milovanovic: American Board of Pathology (*Anatomic Pathology, Clinical Pathology, Forensic Pathology*)
College of American Pathologists
American Academy of Forensic Sciences
National Association of Medical Examiners
New York Medical College: Department of Pathology

Benjamin Bristol: American Board of Pathology (*Anatomic Pathology, Forensic Pathology*)
Member, Westchester County Medical Society
New York Medical College: Department of Pathology