

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

BOARD OF MANAGERS*

2008

Edward Stolzenberg, Chairman

Myron Melamed, M.D.

Giulio Cavallo, M.D.

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Douglas G. Aspros, D.V.M. (Ex-Officio)

John Schesny

*Jurisdiction does not extend to the Office of the Medical Examiner and the Division of Toxicological and Forensic Science Services.

ORGANIZATION

**COUNTY OF WESTCHESTER
DEPARTMENT OF LABORATORIES AND RESEARCH - 2008**

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

2008 DEPARTMENT UPDATE

DEPARTMENTAL IMPROVEMENTS

The newly constructed addition to Forensic Sciences has relieved overcrowding in that division by providing new DNA laboratories, up-to-date specimen examining rooms, expanded specimen receiving area, and open-space offices for the staff. Newly vacated lab space has allowed expansion of trace evidence labs.

A newly purchased Laboratory Management System has begun operation replacing a departmentally designed collection of individual systems whose overall function failed to satisfy the needs of all sections it serviced. This system now permits police to complete specimen submission forms in their stations transmitting these electronically when the specimens are delivered. Electronic operation of lab reports for the District Attorney's Office will be another advantage of this system reducing cost of typing, faxing, and mailing.

MOLECULAR DIAGNOSTIC LABORATORY

Identification of disease-producing microorganisms has been universally accomplished by plating specimens and testing the growing organisms utilizing time-consuming methods developed over the last century. The advent of DNA identification for these organisms has meant that TB bacilli, for example can now be identified within hours in contrast to weeks required for the classical method. This DNA mechanism allows for immediate, proper treatment of the patient, restriction of costly isolation only to those truly requiring quarantine, improved public health handling of communicable diseases and identification of difficult to grow organisms like the childhood whooping cough coccobacillus. The county recognizing the value of this new technique has approved funds for design of a specialized laboratory addition to provide for identification of disease organism through their genetic makeup.

NEW DEPARTMENTAL PROGRAMS

With the recognition of dangerous contaminants in the construction of some imported metal objects and toys, the county obtained numerous small metal toys, all small enough for children to place in their mouths, and requested analyses for metals composition from our inorganic environmental laboratory. Nearly every item proved to contain high levels of lead as well as other dangerous metals such as cadmium. These findings were publicized at a press conference held to alert the public of the dangers inherent in such objects.

A desire to approach the problem of teenage drinking-drug use and driving has resulted in a program called No Second Chances developed by several county departments including the Medical Examiner's Office. Juvenile probationers are brought by the Department of Probation to Labs and Research for an hour of brief talks and demonstrations by probation officers, police officers, and medical examiners culminating in an autopsy room simulated demonstration of an autopsy. Favorable responses to the program have resulted in plans to expand it to high school classes throughout the county.

2008 FINANCIAL STATEMENT

	2008 <u>Budget</u>	2008 <u>Actual</u>	Under (Over) <u>Budget</u>	% Rounded Under (Over) <u>Budget</u>
Expenditures:				
Personal Services	\$8,316,640	\$8,027,640	\$289,000	3%
Equipment	232,842	147,669	85,173	37%
Materials and Supplies	1,468,671	1,371,608	97,063	7%
Expenses	2,034,670	1,827,889	206,781	10%
Interdepartmental Charges	<u>3,843,843</u>	<u>3,827,946</u>	<u>15,897</u>	0%
S/T: Expenditures	\$15,896,666	\$15,202,752	\$693,914	4%
Less: Services to Others	<u>535,000</u>	<u>569,413</u>	<u>(34,413)</u>	(6)%
S/T: Net Expenditures	\$15,361,666	\$14,633,339	\$728,327	5%
Revenues:				
Departmental	\$2,215,700	\$1,859,593	\$356,107	16%
State Aid	<u>3,071,145</u>	<u>3,163,132</u>	<u>(91,987)</u>	(3)%
Total Revenues	\$5,286,845	\$5,022,725	\$264,120	5%
Net Department Budget	\$10,074,821	\$9,610,614	\$464,207	5%

2008

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 2008.

*Westchester County Administrative Code 273.141

MEDICAL EXAMINER

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

	2004	2005	2006	2007	2008
Deaths in Westchester County	7155	7088	7054	6803	6713
Deaths Reported to M.E. Office	2710	2683	2783	2578	2618
% Reported to M.E. Office	38%	37%	39%	38%	39%
Deaths Certified by M.E.	838	781	830	735	729
Autopsies Performed	602	522	593	509	537
% Certified Cases Autopsied	56%	66%	71%	69%	73%
Autopsies Not Performed Due to Religious Objection	17	17	17	23	24
Scenes Visited by M.E. & Medical Investigators	308	310	352	342	290
Court Appearances by Medical Examiners	20	16	16	21	26

*Unavailable

TABLE 2
Medical Examiner Certifications By Manner of Death*

	2004	2005	2006	2007	2008
Natural Causes (Sign Outs & Nat.)	466	468	478	428	384
Sudden Infant Death Syndrome	(4)	(1)	(3)	(1)	(4)
Homicides	28	27	22	24	33
Suicides	61	57	53	53	69
Traffic (Includes Out of County Transfers)	91	71	91	57	69
Accidents (Exclusive of Traffic Deaths)	57	51	77	52	84
Drug & Drug Related (Exclusive of Suicides)	61	56	63	67	61
Alcohol & Alcohol Related	29	20	27	21	24
Undetermined Causes**	1	1	2	3	1
Circumstances Undetermined**	3	2	5	8	20

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

	2004	2005	2006	2007	2008
Gunshot Wounds	9	17	12	14	14
Cutting Wounds	5	4	2	2	2
Hanging	13	9	17	9	20
Poisoning: Carbon Monoxide	3	1	4	-	1
Mixed Drug Ingestion	15	9	6	12	13
Single Drug Ingestion	4	3	4	3	3
Jumped From Height	2	9	2	5	3
Plastic Bag Over Head	-	1	2	-	1
Drowning	6	1	1	1	2
Jumped in Front of Train	1	1	1	2	3
Other (Includes Combined Methods)	3	2	2	5	7
(Suicides While in Custody)	-		-	-	-
Total	61	57	53	53	69

TABLE 4
Suicide Victim Characteristics

Suicide Characteristics / % Total Suicides	2004	2005	2006	2007	2008
Female Victims	21/34%	15/26%	9/17%	18/34%	22/31%
Alcohol Recovered in Victim	15/25%	14/24%	18/34%	11/21%	17/24%
Illicit Drug Recovered in Victim	12/20%	13/23%	12/23%	8/15%	15/21%
Suicide Note (s) Recovered	21/34%	11/19%	17/32%	14/26%	21/30%

MEDICAL EXAMINER

TABLE 5
Suicide By Age Groups

	2004	2005	2006	2007	2008
10-19	4	4	3	3	4
20-29	7	13	7	8	11
30-39	10	7	5	4	8
40-49	16	9	13	18	17
50-59	15	8	14	13	9
60-69	4	6	3	3	7
70-79	2	6	4	2	8
Above 80 Years	3	4	4	2	5
Total	61	57	53	53	69

TABLE 6
Traffic Deaths By Vehicular Type*

	2004	2005	2006	2007	2008
Automobile: Driver	45	28	27	30	30
Passenger	18	20	14	8	14
Motorcycle	12	8	7	7	10
Bicycle	-	2	1	1	-
Train	-	-	-	-	-
Pedestrian Struck By Vehicle	16	9	12	10	9
Hit & Run	(1)	1	1	1	5
Other	-	3	-	-	1
Total	91	71	62	57	69

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

MEDICAL EXAMINER

2008

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	7	17	1			2	3	1			(4)	31
M.V. Passenger	3	8				3					(1)	14
Motor-cyclist	1	6	1			1		1			(1)	10
Bicyclist												
Pedestrian	3	5		1								9
Train Victim												
Hit & Run		4					1					5
Airplane												
Total	14	40	2	1		6	4	2			(6)	69

TABLE 8

Accidental Deaths By Means (Excluding Traffic Fatalities)*

	2004	2005	2006	2007	2008
Falls: At Home	23	19	28	20	32
Outside the Home	6	2	4	-	3
On the Job	4	2	5	6	2
Unspecified	2	7	7	6	15
Fire (<i>burns & soot with carbon monoxide inhalation</i>)	16	9	10	6	7
Choking	-	1	5	4	-
Drowning	3	2	9	6	3
Carbon Monoxide	1	1	-	1	-
Autoerotic Death	-	-	2	-	1
Electrocution	-	-	-	-	-
Struck By Object	1	6	1	-	11
Miscellaneous	1	2	6	3	10
Total	57	51	77	52	84

*Includes cases examined, not autopsied.

MEDICAL EXAMINER

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

	2004	2005	2006	2007	2008
Cocaine (<i>includes "Crack"</i>)	28	35	37	29	30
Morphine/Heroin	34	34	35	34	21
Methadone	11	8	7	7	9
Meperidine	-	-	-	-	-
Fentanyl	-	-	-	4	6
PCP (<i>Phencyclidine</i>)	-	2	2	2	-
Cannabinoids	4	2	4	2	2
Benzodiazepines	13	15	6	11	11
Other Opiates**					13

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

**Includes Hydro/Oxymorphone, Hydro/Oxycodone

TABLE 10
Homicides By Means

	2004	2005	2006	2007	2008
Gunshot Wounds	16	16	11	14	16
Cutting Wounds	5	2	6	6	6
Blunt Force Trauma	4	1	2	2	7
Strangulation	1	2	1	1	1
Arson	-	-	-	-	-
Battered Child (<i>Includes Infanticide</i>)	-	2	1	1	1
Other (<i>Including Mixed</i>)	2	4	1	-	2
Total	28	27	22	24	33

TABLE 11
Deaths While In Custody

Cause Or Manner Of Death	2004	2005	2006	2007	2008
Natural	8	14	11	8	13
Drug or Ethanol Related	3	-	-	-	-
Suicide	1	-	-	1	-
Homicide	-	-	-	-	-
Other	-	1	1	-	2
Total	12	15	12	9	15

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.

	2004	2005	2006	2007	2008
Autopsies Examined Histologically	329	302	338	418	456
% Total Autopsies	54%	54%	53%	82%	85%
Microscopic Slides Stained With Ordinary Stains	1281	1172	1334	1371	1404
Average No. of Slides Per Autopsy	4	4	4	5	4
Microscopic Slides Stained With Special Stains	6	12	24	20	12

MEDICAL EXAMINER

POLICE JURISDICTION/MUNICIPALITY BY CASE TYPE: 2008

	Ext Exam	Nat	Veh	Sui	Hom	Acc	Drug & Rel	Alc & Rel	Undetermined C&M	M	Total
Ardsley				2			1				3
Bedford	3	2	1	3		1	1				11
Briarcliff	1		1								2
Bronxville	4					3					7
Buchanan	3	1					1				5
Croton	3			2		1					6
Cortlandt	1					1				1	3
Dobbs Ferry	4										4
Eastchester	8	3		1		1	1				14
Elmsford	2		1	1				1			5
Greenburgh		8	5	2	1	3	2	1		2	24
Harrison		3	1			1					5
Hastings											
Irvington		3									3
Larchmont	1					1					2
Mamaroneck Town	2										2
Mamaroneck Vlg.	2	4	1	2		4	1				14
Metro North				3		2		1			6
Mount Kisco	2	2		1		1		1		1	8
Mount Pleasant	1	3		2	1			1			8
Mount Vernon	16	20		2	8	2	5			1	54
New Castle	1			1							2
New Rochelle	12	19	2	3		4	9	2		1	52
NYS Police Dept. Brewster		1									1
Hawthorne		3	7	1						1	12
Cortlandt	2	6	5	2	1	3	3	1		1	24
Somers	5	6	2	2		5		2		1	23
Tarrytown				2			3				5
North Castle		2	2	1		1		1		1	8

MEDICAL EXAMINER

POLICE JURISDICTION/MUNICIPALITY BY CASE TYPE: 2008

	Ext Exam	Nat	Veh	Sui	Hom	Acc	Drug & Rel	Alc & Rel	Undetermined C&M	M	Total
Ossining Town			1				1				2
Ossining Village	7	2		2		1				1	13
Pelham	1										1
Pelham Manor	1				1						2
Peekskill	6	5		2	5	2	4	1		2	27
Pleasantville	3										3
Portchester	4	2		1			1			1	9
Rye Brook	1	1		1		1					4
Rye City	2					1					3
Scarsdale	1			1		1					3
Sleepy Hollow	2							1			3
Tarrytown	2	1				1					4
Tuckahoe	2	1		1		2					6
W.C. Corrections	2										2
West. Cty. P.D.	2		4	1		1		2		1	11
White Plains	16	12	3	3	1	3	7	1			46
Yonkers	42	55	7	14	7	8	17	6		3	159
Yorktown	10	4	3	5		5	3	1		1	32
Other	18	20	23	5	8	24	1	1		2	102

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

Kunjlata 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