

Department of Laboratories & Research

2022 Executive Proposed Budget



Core Programs & Functions

- **Medical Examiner** – Investigates cause and manner of deaths in Westchester “due to unlawful acts, criminal neglect, violence, casualties, or by sudden or unexplained circumstances”. Help is extended to grieving families in time of intense grief. Partners with other divisions to provide accurate results and answers to public health or criminal justice questions.
- **Forensic** — Performs DNA, gunshot residue and fire debris analysis on crime scene evidence, analysis of drugs submitted by law enforcement agencies throughout the County, analysis of audio video evidence such as surveillance videos of crime scenes and trace evidence analysis including paint samples from hit and run cases. Provides expert witness testimony upon request by prosecution or defense on processed cases.
- **Toxicology** — Provides analysis of biological samples from autopsies, DWI, DWAI, DFSA specimens for alcohol, drugs and medications. Toxicology continues to support the breath alcohol instruments and testifies in court upon request.
- **Microbiology** — Identifies bacteria, viruses and parasites of public health concern in clinical and environmental samples. Maintains the Laboratory Response Network Level B Biodefense Laboratory as a national security asset to identify agents of Bioterrorism.
- **Environmental** — Analyzes drinking water, waste water, soil and hazardous materials for harmful chemicals and microorganisms and for regulatory compliances. Supports Health Department monitoring of public swimming pools and bathing beaches, in addition to the Environmental Lead Program for water, soil, paint, dust wipes, and food items.

Budget Summary

ITEM	2021	2022
Operating Positions	102	102
Trust Positions	4	4
TOTAL POSITIONS	106	106
Personal Service	\$8,696,699	\$9,068,498
Equipment	\$177,338	\$225,150
Materials & Supplies	\$1,385,558	\$1,157,500
Contractual Expenses	\$1,034,392	\$1,050,916
Inter-Departmental Charges	\$3,764,658	\$3,784,499
TOTAL EXPENDITURES	\$15,058,645	\$15,286,563

Budget Summary

ITEM	2021	2022
Inter-Departmental Revenue	\$5,000	\$5,000
Departmental Revenue	\$2,476,000	\$2,566,761
State & Federal Aid	\$1,066,102	\$1,223,913
TOTAL REVENUE	\$3,547,102	\$3,795,674
DEPARTMENT TAX LEVY	\$11,511,543	\$11,490,889

COVID-19 Response

CARES Act Funding

- Purchase of Cepheid real time RT-PCR Instrument for testing specimens for COVID-19. Testing is provided for our Department of Health and Medical Examiners Office.
- Continuous need to use refrigerated containers to accommodate increased number of bodies.
- Purchase of interface between Microbiology laboratory Information system to NYS information system to automate the electronic reporting of COVID-19 test results.

Additional responsibilities

- Provided COVID-19 testing and reporting of test results and additional patient demographics to NYSDOH within specified time frames.
- Medical Investigators attended more death scenes due to increased number of decedents not being transported to Emergency Departments.
- Staff were provided to help in vaccine clinics.

Impact on department services

- Overtime for personnel involved in COVID laboratory testing and for increased number of bodies retrievals in Westchester municipalities.
- Delays in shipments of supplies and difficulties in finding alternate suppliers.

New Initiatives & Highlights

Forensics

- Validation of new instrumentation to streamline DNA extraction lab quantification, amplification and analysis. One new robot is to extract more samples at one time and another to automate addition of liquids thus decreasing TAT and adding efficiency.
- Validation of upgraded software to enhance interpretation of complex DNA mixture results and to add eligible DNA profiles to the CODIS DNA databanks.
- Joined a new NYS Investigative Genetic Genealogy (IGG) working group to support the attempt to identify individuals, such as missing persons using advanced DNA techniques. IGG was recently used to identify a Jane Doe homicide victim killed in 1992 in Yonkers.
- Validation of methods for speed determination of vehicles and other objects in surveillance videos
- With the influx of synthetic opioids, validation of a new instrumental technique, Gas Chromatography-Vacuum Ultraviolet Spectrometer-Mass Spectrometer (GCMS-VUV) is occurring, which will allow us to differentiate between the various analogs of fentanyl.
- Validation in progress is a new (second) Scanning Electron Microscope with Energy Dispersive Spectrometer (SEM/EDS) instrument for the analysis of gunshot residue.

New Initiatives & Highlights

Toxicology

- Addition of new “dilute and shoot” methods for the confirmation of drugs in urine for DWI cases. This will decrease turnaround times as well as cost when compared to traditional solid-phase column extraction methods.
- Evaluation of a new enzyme to hydrolyze drugs in certain procedures. This will decrease turn-around time of several assays
- Expanded testing for the DWI blood samples to always include the main drugs of abuse on all cases regardless of the alcohol level.
- The lab continues to report heroin, Fentanyl and oxycodone in DWAI and Medical Examiner casework. Fentanyl, the abused Fentanyl analogues, new opioid drugs and new designer drugs continue to be detected in Medical Examiner and DWI/DWAI casework. Fentanyl and opiates represent 30% of all drug positive cases from the Medical Examiner.

New Initiatives & Highlights

Microbiology

- Completed laboratory interface to NYS via their Electronic Clinical Laboratory Reporting System (ECLRS) to automate reporting of COVID-19 test results and for additional future reporting.
- Updated current testing methodologies for agents of Bioterrorism as required by revisions of CDC National Laboratory Response Network protocols.
- Validated and implemented multiplexed real-time RT-PCR test intended for the simultaneous detection and differentiation of SARS-COV-2, influenza A, influenza B, and respiratory syncytial (RSV) viral RNA in nasopharyngeal swabs.
- Reduced cost of molecular testing by developing Individualized Quality Control Plans in Bacteriology and TB laboratories.

New Initiatives & Highlights

Environmental

- Increased Lead and Copper analysis workload is expected due to a revised Lead & Copper Rule effective 12/16/2021, with compliance required by 10/16/2024. A new lower Trigger Value of 10 µg/L for lead (Pb) will cause actions to lower the Pb level and initiate lead service line replacements. Schools and day-care facilities will have specific sampling responsibilities now. The volume and frequency of sampling in a distribution system will increase.
- PFA validation is in process but requires the purchase of a new instrument for extraction- a Solid Phase Extraction concentrator. The current SPE has Teflon within the instrument which causes false readings. This instrument was requested in the Capital budget for 2022.
- Migration to the new NELAC Institute (TNI) 2016 accreditation standard which is the first major update in 13 years. This TNI revision permits quicker turn-around-time between adjacent PTs, spells out stricter calibration requirements (updates will be required in all SOPs) and meaningfully updates to bench QC requirements in Bacteriology.