

# Department of Laboratories & Research

2021 Executive Proposed Budget



# Core Programs & Functions

- **Medical Examiner** - Investigates cause and manner of deaths in Westchester “due to unlawful act, criminal neglect, violence, casualties, or by sudden or unexplained circumstances”
- **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.
- **Toxicology** — Analysis of biological samples from autopsies, DWI DWAI, DFSA specimens for alcohol, drugs and medications. Toxicology continues to support the breath alcohol instruments.
- **Microbiology** — Diagnostic Testing provided for TB, STDs, COVID-19, Flu, Communicable Disease outbreaks (e.g.: Measles, Norovirus, Legionella) and Biodefense
- **Environmental** — Bacteriology, Organic and Inorganic Chemistry sections testing drinking & waste water for bacterial pathogens from fecal sources, heavy metals (e.g.: lead, arsenic) and chemical contaminants of emerging concerns (e.g.: pesticides, herbicides, petroleum products, industrial solvents, and aircraft deicing chemicals)

# Budget Summary

ITEM	2020	2021
Operating Positions	102	102
Trust Positions	4	4
<b>TOTAL POSITIONS</b>	<b>106</b>	<b>106</b>
Personnel Service	9,262,645	8,696,699
Equipment	615,000	129,000
Materials & Supplies	1,185,345	1,154,500
Contractual Expenses	1,002,688	933,700
Inter-Departmental Charges	3,571,119	3,764,658
<b>TOTAL EXPENDITURES</b>	<b>15,636,797</b>	<b>14,678,557</b>

# Budget Summary

ITEM	2020	2021
Inter-Departmental Revenue	5,000	5,000
Departmental Revenue	2,576,000	2,476,000
State & Federal Aid	1,316,102	1,066,102
TOTAL REVENUE	3,897,102	3,547,102
DEPARTMENT TAX LEVY	11,739,695	11,131,455

# New Initiatives & Highlights

## Toxicology

- The Toxicology Division is working with the DA's office and IT to ensure compliance with the new Discovery Law.
- Toxicology is now sending DWI reports electronically to the DA's office and Law Enforcement.
- New workflows have reduced turnaround time and backlog for Medical Examiner testing.
- Toxicology is adding designer benzodiazepines such as flualprazolam to its screening protocols

# New Initiatives & Highlights

## Forensics

- The Forensic Chemistry section provides intel to the DA's office to coordinate with the overdose response initiative. The new gas chromatography instrument acquired through Capital Budget financing will allow us to better differentiate and detect opiates and the various forms of fentanyl.
- Forensic Chemistry – To comply with new NYS Statutes which changed the definition of Marijuana, we are validating a Liquid Chromatography-Ultraviolet Spectrometer-Mass Spectrometer (LC-UV-MS).
- Forensic Chemistry – A new Scanning Electron Microscope with Energy Dispersive Spectrometer (SEM/EDS) for the analysis of gunshot residue is being validated.



# New Initiatives & Highlights

- The Forensic Biology section will continue to incorporate advances in DNA technology including lab automation which makes the procedures more efficient and continue to research the expansion of DNA technology into Next Generation Sequencing (NGS). Next Generation Sequencing examines the DNA sequence of a sample and is the newest technology used in Forensic DNA analysis.
- The Forensic Trace Evidence /Audio Imaging section is in the process of validating two new types of analyses in Image Analysis: Speed Determinations and Single-Image Photogrammetry (determining the length/height of an object or person from a surveillance camera).
- The Forensic Chemistry and Forensic Trace Evidence /Audio Imaging sections are now “paperless.” Notes, communications, results, reports, and case jackets are housed in a Laboratory Information Management System. Results can be interpreted, written and reviewed without having to print individual documents. During the lockdown due to the pandemic, scientists in these sections were able to write and review reports from home, since all case information was accessible remotely within the system.

# New Initiatives & Highlights

## Environmental

- The Environmental Lab has implemented new EPA methods for testing drinking water for 1,4-Dioxane (a likely human carcinogen and an environmentally persistent contaminant) and Total Microcystins (Hazardous Algal Blooms).
- The Environmental Lab is providing analytical support for detailed lead exposure assessments. In response to new NYSDOH Public Health Law regulations for pediatric health that cuts the acceptable serum lead levels by a third. This requires monitoring the child's environment for lead in paint, carpets, furnishings, toys, foods, and removable dusts (wipes).
- The Environmental Lab continues to provide analytical support for NYCDOH monitoring of pesticide residuals when mosquito inhibitors Anvil and Deltamethrin are applied around ponds, lakes, and other water bodies.



# New Initiatives & Highlights

## Microbiology

- In response to COVID-19, the Microbiology division began testing using a molecular method (PCR) for specimens submitted by the Department of Health and the Medical Examiner. A new automated instrument was acquired to perform this testing. To meet the challenge of the upcoming Flu season, the division is preparing to test for COVID-19, Flu A, Flu B and RSV in the same specimen. Test results are immediately sent to providers upon completion of testing.
- In collaboration with DoIT a new interface is being built to electronically report COVID test results and patient information to New York State Department of Health . This will eliminate time-consuming manual reporting to NYS and meet required turnaround times for reporting.