

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Forensic Sciences



Fiscal Year 2020 Budget Oversight Hearing

Testimony of
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Director

Before the
Committee on the Judiciary and Public Safety
The Honorable Charles Allen, Chairman
Council of the District of Columbia

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Good afternoon, Chairperson Allen, members of the Committee, and Committee staff. I am Dr. Jenifer Smith, the Director of the Department of Forensic Sciences (DFS). I am pleased to testify before you today.

Recently, Mayor Bowser presented “A Fair Shot,” the Fiscal Year 2020 (FY20) Budget and Financial Plan, which marks the District’s 24th consecutive balanced budget. This budget does more to make Washington, D.C. a place where people of all backgrounds and in all stages of life are able to live and thrive by making key investments in our infrastructure, education, affordable housing, the provision of health and human services, economic opportunity, our seniors, and public safety. These investments reflect the key priorities identified by District residents at Budget Engagement Forums and telephone town halls held during the budget formulation process.

The Department of Forensic Sciences is an important component in protecting the health and safety of the people of the District. We are an internationally accredited forensic and public health sciences agency that provides services to law enforcement, public health, and investigative agencies including: the Metropolitan Police Department (MPD), the Office of the Chief Medical Examiner (OCME), the Office of the Attorney General (OAG), DC Health (DOH), the Fire and Emergency Medical Services Department (FEMS), and many others. Our continuing mission is to provide high-quality, timely, accurate, and reliable forensic science services using best practices and the best available technology, with a focus on unbiased science and transparency, toward the goal of enhancing public health and safety.

With the Mayor Bowser’s and the Council’s support, DFS has delivered on this mission with greater impact and efficiency year over year. Today, I am pleased to share that Mayor Bowser’s FY20 Budget for the Department of Forensic Sciences prepares us to further raise the level of services we provide to the people of the District to continue to leverage the wealth of scientific and technical expertise of our staff to help deliver a safer, stronger D.C. With your support, the FY20 budget will allow me to continue to:

- Meet the statutory mandates set out in the Department of Forensic Sciences Act of 2011;
- Provide high-quality, timely, accurate, and reliable forensic science services with the use of best practices and best available technology;
- Maintain our multiple accreditations;
- Ensure a qualified workforce through efficient hiring and continual training;
- Provide discovery documentation to critical stakeholders for court procedures; and
- Conduct crime scene investigations with a majority civilian work force supplemented with experienced MPD officers who possess crime scene experience.

The Mayor’s FY20 budget for DFS is \$30,305,499 and funds 227 Full Time Employees (FTEs). The budget has three components: local, intra-district, and federal grant funds. The local budget represents \$28,257,221 and funds 212 FTEs. The intra-district budget represents \$1,588,178, and funds 10 FTEs. The federal grant budget represents \$460,100 and funds 5 FTEs. The budget supports the following organizational components:

- Forensic Science Laboratory Division (FSL), representing a total of 73 FTEs, including the Forensic Biology Unit, Latent Fingerprints Unit, Firearms Examination Unit, Forensic Intelligence Unit, and the Digital Evidence Unit;

- Public Health Laboratory Division (PHL), representing a total of 28 FTEs, including the Accessioning Unit, Microbiology Unit, Biomonitoring and Analytical Chemistry Unit, Virology Unit, Molecular Diagnostics Unit, and the new Forensic Chemistry Unit;
- Crime Scene Sciences Division (CSS), representing a total of 87 FTEs, including the Crime Scene Sciences Unit and the Central Evidence Unit; and
- Agency Operations (OPS), representing a total of 39 FTEs, consisting of quality assurance, training and development, legal affairs, performance management, human resources, resource allocation, health and safety, and information technology support.

Similar to our current budget, the DFS FY20 budget is structured to allow streamlined distribution, management, and oversight of spending. Within the three major operational divisions, “unit activities” are grouped into three categories: maintaining custody of evidence from collection to storage; conducting coordinated and timely forensic analysis in accordance with industry standards and accreditation guidelines; and public health laboratory diagnostic, analytical, and emergency response testing.

The Mayor’s FY20 budget, an increase of \$2,264,733 (8%) from FY19 levels, will continue to support productivity levels established over the past three years within all units of the FSL. Under the FY20 budget, funding for personnel, critical equipment, reagents, contract analysts, and DNA outsourcing will ensure that DFS continues to play its vital role in driving down violent crime in the District, as demonstrated this past year.

As of the second quarter of FY19, the Latent Fingerprint Unit (LFU) reports out 98 percent of their homicide cases and 97 percent of their priority cases within 60 days. Additionally, the Firearms Examination Unit (FEU) reports out 98 percent of their homicide cases and 100 percent of their priority cases within 60 days. Earlier investments in the Forensic Biology’s Unit’s (FBU) complex DNA mixture interpretation tools have not only enabled us to perform much more sophisticated analyses, but to deliver reliable results to the residents of the District on evidence samples that could not have been effectively processed any other way. DFS’s accomplishments in implementing this emerging technology have been recognized in the leading professional journal *Forensic Science International: Genetics*. The FBU continues to operate without any backlog in processing sexual assault kits. FBU’s current turnaround time (TAT) to process these kits is 65 days, well below the Sexual Assault Victims Right Act Amendment (SAVRAA) requirement of 90 days.

In addition, 52 percent of firearms cases processed through FBU yielded usable DNA results in FY18, compared with 39 percent in FY17, demonstrating improved efficiency from the investment in the probabilistic software used for the interpretation of DNA mixtures. The FY20 budget will maintain and, through increased proficiency, improve the observed productivity gains that will be further enhanced through the implementation of next generation sequencing. The FY20 budget includes federal funds totaling \$460,100 and intra-district funds totaling \$1,588,178. The federal funds reflect an increase of 36 percent for the DNA Capacity Enhancement and Backlog Reduction Program from the amount received in FY19. The purpose of this federal grant award is to reduce the backlog of forensic biology cases and improve laboratory efficiency by increasing laboratory capacity and reducing bottlenecks. This federal award supports testing of sexual assault kits and compliance with SAVRAA’s requirement of 90-day TAT.

In previous fiscal years, the FEU and LFU have strategically utilized funding for contractors to ensure efficient TAT in both units. FY20 funding will support contract analysts embedded within both the FEU and LFU, who help to decrease case backlogs and increase entries and verifications associated with intelligence databases. In previous years, FBU has had sufficient funds to utilize outside contract labs to provide DNA testing to maintain reasonable TATs for non-sexual assault cases. The FY20 budget has sufficient resources to allow outsourcing to continue where needed.

All FSL units continue to make efficient use of three critical national intelligence databases: the National Integrated Ballistic Information Network (NIBIN), the Automated Fingerprint Identification System (AFIS), and the Combined DNA Index System (CODIS). Their results have provided invaluable leads to stakeholders. In FY18 there were 9,268 AFIS entries resulting in 2,112 hits; 581 CODIS entries resulting in 209 hits; and 3,667 NIBIN entries resulting in 834 hits. This high level of participation in and contribution to these databases help make the District, the region, and the nation as a whole safer places to live. DFS's indispensable involvement will continue in FY20.

Since FY18, DFS has participated as a sub-grantee to MPD on a Crime Gun Intelligence Center (CGIC) federal grant supported by the Bureau of Alcohol, Tobacco and Firearms (ATF) and the Bureau of Justice Assistance. The goal of this two-year grant was to assess the reduction in gun violence as a result of dedicated utilization of NIBIN. DFS's role in the CGIC pilot program was to ensure that all eligible cartridge cases were entered into the NIBIN system in a timely manner, as well as to deliver quality, timely, and reliable NIBIN verification results that led to key investigative intelligence for MPD detectives. Last year, FEU entered 3,667 items into NIBIN to include test fires from 1,981 firearms and from that effort, DFS was able to confirm 834 hits with the NIBIN system. This was a 150 percent increase over the number of hits made in FY17. Additionally, we provided accurate statistics concerning firearms and the latest trends on recovered weapons that we give as forensic intelligence to law enforcement. The CGIC grant paid for a dedicated contractor team who focused on NIBIN entries and verifications. The FY20 budget enhancement for five additional FTEs for the FEU will ensure this dedicated approach will be maintained within FEU in the absence of federal funds, in order to continue to address the increased burden caused by gun-related crimes occurring in the District.

The Mayor's FY20 budget will continue to support productivity levels established over the past three years within all units of the CSS. In FY18, DFS CSS personnel, with the assistance of a reduced MPD officer cohort, responded to 5,879 scenes. Their average response time to the scene was 25 minutes, and they provided 75 percent of their reports in fewer than 14 days. In FY18, CSS personnel responsible for the secure intake, storage, and maintenance of evidence and property that has been submitted to DFS, took custody of 74,360 items of evidence. Under the Mayor's FY20 budget, funding for CSS personnel and equipment will continue at levels sufficient to support effective crime scene response.

The Mayor's FY20 budget will continue to support critical information technology upgrades. FY18 and FY19 budget enhancements provided critical infrastructure and software to improve digital storage capacity for several cutting-edge technologies that create large amounts of digital information. DFS CSS teams use high resolution cameras for crime scene photography and high resolution 3D Laser scanners for crime scene mapping. We have implemented special software

for digital analysis of firearms in order to streamline evidence examination workflows and to allow for a complete electronic case jacket approach. This software also improves forensic latent analyses and verification of work product quality. DFS has implemented next generation DNA sequencing within the PHL as required by the Center for Disease Control and Prevention (CDC). Additionally, the STRmix mixture interpretation tool yields usable DNA results in FBU. Both of these generate high volumes of data. DFS estimates, at minimum, 10 terabytes of additional storage is needed per day to provide active storage during analysis. The Mayor's FY20 budget provides enhanced funding to continue to build additional digital information storage capacity to keep up with our technological advances in evidence processing and examination.

The Mayor's FY20 budget fully funds programs that ensure quality-driven results and that the DFS workforce is highly trained and skilled in delivering appropriate forensic and public health programs. In FY18 our training program delivered over 3,400 hours of instruction in discipline-specific topics for DNA, firearms, fingerprint examiners, and public health laboratory scientists. The Mayor's budget ensures that our Quality Team will lead the Department through internal inspections and external audits needed to keep pace with the updated ISO/IEC 17025:2017 standards in order to maintain agency accreditation in critical forensic disciplines. Under Mayor Bowser's FY20 budget, sufficient resources are available to demonstrate compliance with the Centers for Medicare & Medicaid Services' Clinical Laboratory Improvement Amendments (CLIA) regulatory guidelines, as well as CDC's Division of Select Agents and Toxins (DSAT) requirements, within our PHL.

The Mayor's FY20 budget ensures continuation of critical employee health and safety programs, such as our medical surveillance program, which systematically assesses employees that may have been exposed to biological pathogens while performing work duties. This assessment monitors individuals for adverse health effects and determines the effectiveness of biosafety and exposure prevention strategies.

The Mayor's FY20 budget also continues to support PHL testing of public health significance, such as influenza subtyping, Norovirus, and rabies testing, to continuously improve the level of service and protection we offer the District's visitors and residents. For example, the number of tests for influenza performed by PHL increased by almost 700 percent in FY18. This increased testing led to a better understanding of the different types of influenza circulating in the District and informed the creation of the 2019 vaccine. PHL will continue to rapidly test samples submitted from the Office of the Chief Medical Examiner for potentially deadly bacteria that may be causing meningitis as well as samples from suspected foodborne pathogens to help stem outbreaks before spreading too far. Teaming with DC Health epidemiologists, DFS applied for an Epidemiology and Laboratory Capacity for Infectious Diseases grant and received an award of \$653,349, representing the highest award to date for DFS. Using this funding, DFS was able to expand our current laboratory testing capabilities to test mosquitos for deadly West Nile virus and Zika and improve our ability to detect dangerous multi-drug resistant bacteria in hospitals. PHL is a member of the National Laboratory Response Network (LRN) for the detection of bio and chemical terrorism threats. As a Tier I Laboratory, PHL has both the competency and capacity to test for Category A biological terrorism (BT) agents, as well as detection of any emerging diseases. We have cross-trained five scientists to perform testing for select agents, and we are the single point of testing for suspected BT agents in our region. This team has also analyzed clinical patient

samples to rule out the presence of these naturally occurring select agents - testing that cannot be done at local hospitals.

The Drug Enforcement Administration (DEA) previously analyzed all suspected illegal narcotics collected within the District. In FY18, the Mayor allocated resources to expand DFS chemistry capability to support transition of analysis of DC's controlled substances from the DEA to DFS, utilizing DFS chemists within the PHL's Biomonitoring and Analytical Chemistry Unit (PHL/BACU). This unit provides clinical diagnostic testing, emergency response support, applied research, laboratory training, and other essential services, and is a critical player in the CDC's Chemical Terrorism Laboratory Response Network (LRN-C).

DFS took over responsibility for analysis of controlled substances for the District on April 2, 2018, completing a commitment I made to Mayor Bowser when I took the helm of DFS nearly four years ago. In FY19, DFS was awarded over \$1 million by the CDC to conduct surveillance testing of all opioids collected within the District. The expansion of this analytical capability for controlled substances seized in the District now supports critical decisions and policies for both law enforcement and public health stakeholders. This has allowed the District better to respond to the K2 summer overdose epidemic, during which a previously unknown K2 variant was discovered to be circulating within our borders. Since that time, DFS's surveillance testing has led to the discovery of numerous new synthetic opioids and cannabanoids present in the District's illegal drug supply, providing the District government the intelligence it needs to address these emerging threats as they arise. The Mayor's FY20 budget provides sufficient funding to support personnel, critical equipment, and reagents to continue this important work, and to ensure we remain at all times aware of the new threats to which our population may be exposed.

The Mayor's FY20 Capital Improvements Plan (CIP) will provide the infrastructure to retain data from high resolution cameras for crime scene photography and high resolution 3D Laser scanners for crime scene mapping; a digital repository (called Mideo) to enhance the digital analysis of firearms and latent fingerprints; the digital storage necessary for next generation sequencing for DNA; public health samples, for our Digital Evidence Unit; and for the 10 terabytes per day of images, data, and information that is generated in our analyses of forensic evidence and public health specimens.

The Mayor's FY20 CIP provides our CSS with \$154,000 to replace specialized crime scene vehicles. As the responsibility for crime scene attendance and evidence collection has transferred from MPD to the civilian CSS at DFS, specialized vehicles are required to help preserve and prevent contamination of evidence while in the custody of a Crime Scene Scientist. With the Office of the Chief Financial Officer's (OCFO) guidance, DFS has identified vehicles that are up for replacement in FY20. The replacement of vehicles in CSS is critical to the success of DFS due to the fact that this division utilizes these vehicles up to 24 hours each day. In addition, the replacement of these vehicles is essential to maintain scene integrity and to safeguard evidence while in the care of DFS. This will strengthen tools and resources needed to investigate crimes in the District.

In addition, the Mayor's FY20 CIP budget provides \$2 million to support the Digital Forensic Evidence Storage Project. This storage system allows DFS to minimize disruption and downtime

during installation as it requires no alteration to the existing server room due to its low power consumption and cooling capabilities, while still meeting DFS's need for high performance storage. The funding will cover Phase II of the project, which is mostly focused on data protection and disaster recovery to complete the Digital Forensic Evidence Storage Project. DFS will expand the Storage Solution to provide for future expansion and necessary redundancy. Based on recommendations made by DC.NET, DFS will purchase a second network switch to be installed for high availability and redundancy, and DFS plans to install an in-rack fire suppression system to better protect our data. The current fire suppression system is sprinkler-based and inadequate for data protection at the volume required for flash-based storage. As DFS expands and improves its capabilities, the need for storage grows. Modern instrumentation, especially those that are used for imaging - a fundamental need in forensic science - generates a very high volume of data that must be securely stored, retrieved and analyzed in an orderly, auditable way.

The Mayor's FY20 CIP budget also provides \$347,000 capital funding for new critical laboratory equipment and \$80,000 for laboratory equipment replacement. With this funding, DFS will be able to complete the purchase and replacement of the specialized laboratory equipment identified by OCFO in the Capital Assets Replacement Scheduling System (CARSS). This includes FSL's specialized equipment needs, which are essential to ensuring evidence is presented correctly, and to limiting any uncertainties in cases. For example, FSL needs a Leeds Comparison Microscope for high profile and complex cases, such as Homicides and Assaults which typically require courtroom testimony. Additionally, PHL is in the process of purchasing a Direct Analysis in Real Time Mass Spectrometry device at a cost of \$174,532. This will help to confirm the identity of new drugs that are missed by traditional GC-MS screening, and will decrease TAT in controlled substance testing. Further, in establishing the FCU's drug analysis capability, the DEA provided DFS with several pieces of analytical instrumentation. This equipment will soon need to be replaced at a cost of approximately \$600,000.

Finally, the FY20 CIP includes \$3,600,000 for a replacement Laboratory Information Management System (LIMS) to support the Mayor's agenda. DFS's current LIMS comprises two primary systems, one for forensic science and one for public health. There are an additional two systems specifically to support DNA analysis and for forensic image management and comparison in fingerprints and firearms. None of the systems are integrated and the primary systems do not meet the needs of modern, continuously improving forensic science and public health laboratories. Data transfers between the systems are performed manually, which increases the probability of transcription errors that can lead to significant errors. The new system will be fully integrated obviating the need for any manual transfer of data.

The FY20 Budget Support Act includes a Subtitle for DFS to allow the Department to provide public health laboratory testing services for a fee to other jurisdictions, hospitals, and other health-related entities such as academia, private, commercial, non-profit organizations, etc. This Subtitle also will allow DFS to receive the funds in our new Laboratory Fund, established in the FY19 Budget Support Act. If approved, we will identify the services and fees to charge in FY20. By providing public health laboratory services to these other entities, and by charging other entities a fee for providing these services, DFS can develop a revenue stream that will help support its operations on an ongoing basis. In addition, DFS can help ensure that District and regional entities receive a higher quality of service than they may currently receive. DFS laboratories and forensic

services have accreditation and certifications while some private commercial laboratories may not. Some of these private commercial laboratories are providing services with unclear methodologies, or methodologies that are not approved by the Food and Drug Administration (FDA), or not certified by the Clinical Laboratory Improvement Amendments (CLIA).

In closing, I would like to thank the Mayor and her staff for the support of DFS and its mission. The FY20 budget represents the city's deep commitment to public safety and its faith in objective, repeatable, and rigorously refined science. I would like to recognize and thank all of the DFS employees for their support in ensuring the Department is run efficiently and effectively and for their tireless efforts to make the District a safer place.

Finally, the Council and this Committee, led by you, Chairperson Allen, have been key allies, and I appreciate your continued efforts to ensure our agency is appropriately staffed and adequately funded to support our mission to provide high-quality, timely, accurate, and reliable forensic science services with the use of best practices and best available technology.

Thank you for the opportunity to testify today. I look forward to answering your questions at this time.