COMMONWEALTH of VIRGINIA

FORENSIC SCIENCE BOARD

Shannon Dion, Chair

November 1, 2021

The Honorable Luke E. Torian, Chair
House Appropriations Committee
4222 Fortuna Plaza, Suite 659
Dumfries, Virginia 22025

The Honorable Janet D. Howell, Chair
Senate Committee on Finance and Appropriations
P.O. Box 2608
Reston, Virginia 20195-0608

The Honorable Charniele L. Herring, Chair
Virginia State Crime Commission
P.O. Box 11779
Alexandria, Virginia 22312

Re: Forensic Science Board 2021 Annual Report

Dear Delegate Torian, Senator Howell, and Leader Herring:

Pursuant to the provisions of Subsection B of § 9.1-1110 of the *Code of Virginia*, the Forensic Science Board shall, by November 1 of each year, review and make recommendations concerning items 1 through 6 below. *Chapter 473 of the 2019 Virginia Acts of Assembly* requires that information about use of the Physical Evidence Recovery Kit Tracking System also be included in the Forensic Science Board's Annual Report. Accordingly, this report is broken out into the following seven sections:

1. New major programs and plans for activities of the Department of Forensic Science and elimination of programs no longer needed;
2. Policy and priorities in response to agency needs;
3. General fiscal year operational budget and any major changes in appropriated funds;
4. Actions to foster and promote coordination and cooperation between the Department of Forensic Science and the user programs which are served;

5. Rules and Regulations necessary to carry out the purposes and intent of this chapter;
6. Any recommendations submitted to the Board or the Director by the Scientific Advisory Committee; and
7. Information about use of the Physical Evidence Recovery Kit Tracking System.

The Forensic Science Board 2021 Annual Report addressing these matters is attached.

Please do not hesitate to contact me through the Department of Forensic Science Director's Office if you have any questions or would like additional information.

Sincerely,

Shannon Dion
Chair, Forensic Science Board

Enclosure

cc: The Honorable Brian J. Moran, Secretary of Public Safety and Homeland Security
Jae K. Davenport, Deputy Secretary of Public Safety and Homeland Security
Members, Forensic Science Board
Linda C. Jackson, Director, Department of Forensic Science
Division of Legislative Automated Systems

FORENSIC SCIENCE BOARD
2021 ANNUAL REPORT

Virginia Code § 9.1-1110(B) requires the Forensic Science Board (FSB) to review and make recommendations by November 1 of each year concerning items 1 through 6 below. Chapter 473 of the 2019 Acts of Assembly requires that information about use of the Physical Evidence Recovery Kit (PERK) Tracking System also be included in the Forensic Science Board's Annual Report. Accordingly, this Report is broken out into the following seven sections:

1. New major programs and plans for the activities of the Department of Forensic Science (DFS) and elimination of programs no longer needed;
2. Policy and priorities in response to agency needs;
3. General fiscal year operational budget and any major changes in appropriated funds;
4. Actions to foster and promote coordination and cooperation between DFS and the user programs which are served;
5. Rules and regulations necessary to carry out the purposes and intent of Chapter 11 of Title 9.1 of the Code of Virginia;
6. Any recommendations submitted to the Board or the Director by the Scientific Advisory Committee; and
7. Use of the Physical Evidence Recovery Kit Tracking System.

The Forensic Science Board met electronically on January 6, 2021 and April 21, 2021. The Board met in person at the DFS Central Laboratory in Richmond on July 14, 2021 and October 14, 2021. A list of members of the Board is included as Attachment A.

Pursuant to Code § 9.1-1110(B) and Chapter 473 of the 2019 Acts of Assembly, the Board makes this report.

1. NEW MAJOR PROGRAMS AND PLANS FOR THE ACTIVITIES OF DFS AND ELIMINATION OF PROGRAMS NO LONGER NEEDED

DFS Accreditation Through ANSI National Accreditation Board (ANAB)

The Department is currently accredited by the ANSI National Accreditation Board (ANAB). DFS was initially accredited in 1989 through the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), which merged with ANAB in 2016.

Each DFS regional laboratory is accredited through ANAB as a testing laboratory, and the Breath Alcohol Section is accredited as a calibration laboratory. A Surveillance Document Review was conducted in May 2021 and successfully completed. The Department's current accreditation cycle expires September 30, 2022, and a full on-site assessment of DFS will be conducted in 2022.

Additional information about the Department's accreditation, including Accreditation Certificates and Scope documents, can be found on the DFS website at the following link: http://www.dfs.virginia.gov/about-dfs/accreditation/accreditation-documentation/

Central Laboratory Facility Project

In 2014, the Department was authorized to begin space programming and schematic design work for the renovation and expansion of the Central Laboratory facility (Biotech 2) for DFS and the Office of the Chief Medical Examiner (OCME), which is co-located in the Central Laboratory with the Department. Currently, the agencies together lease approximately 25,000 square feet of space in the Biotech 8 Building, which is across the street from the Central Laboratory.

In 2018, after it was determined that the current location would not allow for future expansion, the General Assembly amended the budget language to change the scope of work for the project to allow DFS to explore building a new facility at another location. In December 2019, DFS acquired 24 acres of land in Hanover County for the Central Laboratory project.

The Conceptual Design for the new facility was completed in February 2020. The Schematic Design process, in which the internal and external features become more defined and detailed (i.e., individual room configuration, planning of where windows, walls, doors and hallways are located, as well as some utilities and mechanical systems pre-planning), was completed in September 2020.

The Preliminary Design drawings for the project, which add substantial detail to the plans, including mechanical layout, interior and exterior finishes, and laboratory casework design, were approved in April 2021. Because the project transitioned from a renovation/expansion of the existing Central Laboratory to construction of an entirely new facility, the budget for the project needed to be re-evaluated once the preliminary drawings were approved. DFS received a funding recommendation from the Department of General Services' Division of Engineering & Buildings in April 2021 and has submitted the project for funding approval through the capital project pool process.

Construction (working) drawings for the project are being prepared, and a groundbreaking is anticipated in the first or second quarter of calendar year 2022.

Service Area Activities

New Forensic Biology Methods and Software

An additional software system (STRmix), which will provide statistical estimates as to the rarity of profiles within DNA mixtures is being implemented statewide. STRmix will help determine the strength of the DNA match when a person cannot be eliminated as a possible donor to the DNA mixture.

Through a DNA research grant, DFS has hired a research scientist to continue work on a project to increase the efficiency of spermatozoa DNA extractions so that most of the process can be automated and performed on robotic platforms that are commonly used in forensic laboratories. This type of DNA extraction is used routinely in sexual assault cases and includes a number of manual steps, which, if automated, will lead to an increase in efficiency in testing these types of cases.

Additional validation projects underway in the Forensic Biology Section include the testing of a new DNA quantitation system, which will replace the current system in use. The Section is also evaluating new Y-STR testing chemistries to replace the current testing chemistries being used. Both of these changes will make the testing process more efficient for batch sample testing.

The DNA Data Bank will be implementing a new DNA Data Bank Sample Tracking System. Currently, Data Bank samples are mailed or hand delivered to DFS with the sample information filled out on paper forms, which accompany the submission. The new system will have a module to allow user agencies to log on and electronically fill out submission information. The sample submission process will remain the same, but the samples will be joined with the corresponding electronic record upon receipt by DFS. This will make the sample accessioning process more efficient with less data entry for laboratory staff, as well as less handwriting interpretation necessary from the written forms. The software module will also allow user agencies to securely search to see if a sample is already on file from the individual to minimize duplicate sample submissions. Legislative changes will be required before all agencies begin using the system. Beta testing by some selected user agencies is expected to begin in the fall of 2021.

New Toxicology Methods

In 2021, the Toxicology Section finalized the validation and implementation of the Miscellaneous Basic Drugs method by LCMSMS. This method updates a few older methods into one method using the LCMSMS system. The Toxicology Section also finalized the validation and implementation of a method to quantitate over 30 fentanyl derivatives using the LCMSMS. This method builds upon a previously validated method to detect these fentanyl derivatives allowing the Section to determine the quantity of these additional compounds present in blood or urine samples.

New Controlled Substances Methods

In December 2020, the Controlled Substances Section expanded a semi-quantitative method, previously only validated for suspected marijuana plant material, to other cannabis matrices such, as waxes and oils. A ten-fold dilution was incorporated for concentrated samples expected to have high THC concentrations. This method allows the alternative cannabis matrices and plant material to be treated the same, with the exception of any necessary dilution, and evaluates the total tetrahydrocannabinol (THC) concentration by first converting delta-9-THC acid, if present, to delta-9-THC. The resulting delta-9-THC concentration is measured and compared to a 1% administrative threshold. If initial tests in the analytical scheme are positive and the material is found to have a THC concentration above the 1% administrative threshold, DFS will report that the plant material is marijuana. If the THC concentration is found to be below the 1% administrative threshold, DFS will indicate that the plant material is cannabis and that the sample would require quantitation to determine the exact concentration of THC for distinction between industrial hemp and marijuana. For the vast majority of cases submitted to DFS, full quantitation is unnecessary as the semi-quantitative method provides the required information (i.e., whether the Cannabis sativa plant material is marijuana).

In August 2021, DFS implemented a full quantitative method for total delta-9-THC content as part of its analytical scheme for Cannabis plant material. This new method evaluates the total THC concentration by first converting delta-9-THC acid, if present, to delta-9-THC. The resulting delta-9-THC concentration is measured and reported.

DFS also implemented an alternative method for differentiating two methorphan enantiomers. Prior to this implementation, DFS relied upon a microcrystal test to identify non-controlled dextromethorphan versus the Schedule II controlled levomethorphan. The alternative derivatization method, implemented in August 2021, requires analytical instrumentation available to make the distinction.

Trace Evidence Alignment with National Standards

The Trace Evidence Section made revisions to its Standard Operating Procedures to further align with national standards. The changes included adding assessment of significance to comparison reports and incorporating the number of confirmed primer residue particles and their type into reports, as well as changes related to the preservation and handling of ignitable liquid and fire debris evidence.

New Firearms 3D Imaging System

The Department's Firearms & Toolmarks Section verified the Cadre TopMatch-3D High-Capacity imaging and analysis system. The system consists of 3D scanning hardware and virtual comparison software. The hardware utilizes a high-resolution imaging platform and a fifteen cartridge case scanning tray to provide 3D images of cartridge cases. The software allows for efficient side-by-side comparison of images, as well as annotation tools to mark the areas used to render an opinion of identification or elimination. Three separate verifications were conducted. The first was the verification of the equipment to identify any potential sources of variability in the measurement or images captured. The other two involved examiners utilizing the virtual comparison software to compare cartridge cases and document the conclusions with the annotation tools available in the software. The Section implemented the system in August of 2021 for use in the National Integrated Ballistic Information Network (NIBIN) Administrative Sampling Plan method in the Eastern laboratory. It is anticipated 3D imaging will be more widely used when additional equipment can be acquired.

Executive and Legislative Policy Initiatives

Diversity, Equity and Inclusion Strategic Plan

Chapter 168 of the 2021 Acts of Assembly requires all state agencies to establish and maintain a comprehensive diversity, equity, and inclusion strategic plan. The Department submitted its ONE Virginia Plan to the Governor's Office of Diversity, Equity, and Inclusion on June 28, 2021. An agency wide team of staff members representing all four locations created the Plan, which includes recommendations for additional training and development for staff around diversity and inclusion, increased access to information about forensic science in order to develop a broader pool of future applicants for scientific positions, and new diversity, equity and inclusion language being added to all Employee Work Profiles. The Department is working to implement the strategies specified in the Plan.

Executive Order 77

On March 23, 2021, Governor Northam issued Executive Order 77 (EO77), which is designed to reduce plastic pollution and eliminate the need for new solid waste disposal facilities in Virginia. The first phase of EO77 required, within 120 days, the cessation of use of certain items, including plastic water bottles, plastic cutlery, and disposable plastic bags. There is an exception for medical, public health or public safety use. DFS requested and received an exception for its use of plastic trash bags in laboratory areas.

Phase two of EO77 required each agency to develop a Plastic Pollution Reduction Plan to eliminate the use of all non-medical single-use plastic and expanded polystyrene objects. DFS submitted its Plan on September 20, 2021. The elimination of single use plastics is challenging for the Department because disposable plastic laboratory consumables are utilized to significantly reduce the potential for cross contamination between samples. Single use plastic consumables are also part of validated methods. DFS is also evaluating its current laboratory recycling programs.

Historical (Archived) Case File Review Project

DFS began its Historical or Archived Case File Review Project after obtaining funding in FY16. Through the project, an electronic database of archived case file information is being created that includes scanned copies of all Certificates of Analysis and additional case information (e.g., the jurisdiction of the offense, the investigating agency, victim and suspect names, date evidence received, type of examination, and examiner names). The database of archived case files will include cases from 1973 through 1994. DFS implemented a Laboratory Information Management System (LIMS) in 1995 so DFS is already able to electronically search cases from 1995 forward using its LIMS.

DFS has five wage positions assigned to the project, each eligible to work up to 29 hours per week. However, three of the positions were vacant from July through December 2020 as a result of the hiring freeze implemented in April 2020. As of September 30, 2021, over 254,000 of the estimated 1,000,000 archived case files covering the relevant period have been entered into the database. This searchable database of case information and scanned documentation ultimately will be integrated with the Department's LIMS.

Microscopic Hair Comparison Case Review

In 2016, the Board created a Microscopic Hair Comparison Case Review Subcommittee, which developed a process for the initial screening of DFS's microscopic hair comparison cases and for the review of transcripts in cases with convictions. A Review Team, consisting of two attorneys (i.e., one defense attorney and one prosecutor) and one

DFS scientist with experience as a hair examiner, conducts reviews of the transcripts and makes recommendations to the Subcommittee regarding whether notification to the parties is appropriate in each case.

The Department has continued its work identifying microscopic hair examination cases as part of its Historical Case File Review. For cases determined to include positive, probative hair associations, the Department confirms conviction information for the cases and seeks out transcripts or transcript substitutes, where appropriate, for review. DFS has obtained an additional five transcripts and anticipates scheduling a Review Team Meeting in the fall of 2021.

2. POLICY AND PRIORITIES IN RESPONSE TO AGENCY NEEDS

Improving Timeliness

Caseload Data

The caseload data reported in the table below reflects, for FY20 and FY21, the total number of case submissions statewide for each DFS testing section, the ending backlog (total number of cases on hand) in each section as of the end of the respective fiscal years, and the average case turnaround time (number of days from receipt of evidence in a case by DFS to the release of the Certificate of Analysis) for each section. The table also specifies the percentage change for each category, by Section, between the two fiscal years.

Section	Case Submissions			Backlog			Average Turnaround Time for Cases Completed (days)		
	FY20	FY21	% Change	As of 6/30/20	As of 6/30/21	% Change	FY20	FY21	% Change
Controlled Substances	33,757	27,111	-20%	6,239	1,826	-71%	119	45	-62%
Digital & Multimedia Evidence	119	178	50%	102	75	-26%	376	216	-43%
Firearms & Toolmarks	7,202	8,169	13%	1,928	2,646	37%	74	104	41%
Forensic Biology (DNA)	5,988	6,430	7%	1,741	2,065	19%	122	117	-4%
Latent Prints & Impressions	2,581	2,196	-15%	797	413	-48%	110	119	8%
Toxicology	10,047	11,384	13%	1,105	1,603	45%	46	49	7%
Trace Evidence	679	714	5%	122	161	32%	54	63	17%

The table below presents, for each testing discipline, the ending backlog as of September 30, 2021, and the average turnaround time for cases completed in September 2021.

Discipline/Section	Ending Backlog As of 9/30/2021	Average TAT (in days) September 2021
Controlled Substances	1,157	22
Digital & Multimedia Evidence	81	133
Firearms & Toolmarks	2,578	125
Forensic Biology (DNA)	1,798	161
Latent Prints & Impressions	346	61
Toxicology	1,377	58
Trace Evidence	151	84

The Controlled Substances Section has seen reduced case submissions since the start of the pandemic, which has enabled the Section to reduce its backlog from 10,761 cases at the end of March 2020 to 1,157 cases at the end of September 2021. The average turnaround time for Controlled Substances cases in September 2021 was 22 days. As a result of the lower submissions and turnaround times, the Department was able to reallocate four of the Controlled Substances' positions it received in FY19 to those areas in the agency where they are more urgently needed. Additionally, Controlled Substances examiners have been cross-trained and are assisting other sections. This will allow the Department to maintain the ability to respond to an expected return in Controlled Substances case submissions, which has occurred in other states.

Backlogs and resulting case turnaround times in the Toxicology Section have escalated due to an increase in case submissions. The expansion of case submissions is a result of the continuing rise in drug overdose deaths, as well as an increase in samples submitted in driving under the influence of alcohol and drugs cases. In calendar year 2020, postmortem and driving cases requiring drug testing each increased by 19%.

The Firearms Section saw case submissions increase 13% between FY20 and FY21, which was on top of a 9% increase between FY19 and FY20. To assist with these increases, three of the Controlled Substances positions reallocated were moved to the Firearms Section; however, the training period for new firearms examiners is approximately 18 months so there will be continued delays before there is any increase to the Section's capacity as a result of these additional positions.

Pandemic Impact on Breath Alcohol Tests Administered

Based on data downloaded from evidential breath test instruments statewide, the number of breath tests performed dropped significantly beginning in March 2020 as a result of the pandemic. The table below shows the number of tests performed by month

comparing FY19, FY20, and FY21, as well as the percentage change for each month. The overall number of breath tests per month continues to be approximately 20% below pre-pandemic numbers.

Total Tests by Month	FY19	FY20	FY21	% Change FY19 to FY21	% Change FY20 to FY21
July	1,977	1,999	1,538	-22.3%	-23.1%
August	2,011	2,141	1,647	-18.1%	-23.1%
September	2,008	1,988	1,604	-20.2%	-19.3%
October	1,912	1,899	1,667	-12.2%	-12.2%
November	1,920	2,207	1,624	-15.5%	-26.4%
December	2,237	2,073	1,369	-38.8%	-34.0%
January	1,781	1,863	1,432	-19.6%	-23.10%
February	1,868	2,026	1,362	-27.1%	-32.80%
March	2,309	1,630	1,732	-25.0%	+6.3%
April	1,841	903	1,362	-26.0%	+50.8%
May	2,144	1,449	1,693	-21.0%	+16.8%
June	2,094	1,394	1,478	-29.4%	+6.0%
Overall	**24,102**	**21,572**	**18,508**	**-23.2%**	**-14.20%**

Factors Affecting DFS Workloads and Backlogs

Outsourced Testing of OCME Toxicology Cases

The Office of the Chief Medical Examiner (OCME) maintains accreditation through the National Association of Medical Examiners (NAME). NAME requires that 90% of all toxicology testing be completed within 90 days. Further, the OCME is finding it difficult to meet the NAME requirement of completing 90% of autopsy cases within 90 days due in great part to the DFS Toxicology Section's insufficient testing capacity.

In light of increased turnaround times in the Toxicology Section, DFS entered into an MOU with the OCME in January 2021 to allow the OCME Central District to outsource cases to a private laboratory as DFS works to increase capacity. Due to recent staffing shortages in Western Toxicology, the outsourcing authorization was expanded to include the Western District. Approximately 60 cases are being outsourced by the OCME each month.

Subpoenas and Court Appearances

When examiners are out of the laboratory for court appearances, they have fewer hours available to perform forensic analyses. Controlled Substances and Toxicology are the two sections that receive the largest volume of subpoenas, and Toxicology makes the most court appearances. As a result of the COVID pandemic, the Department saw a reduction in

both the number of subpoenas received and associated court appearances, which provided examiners with additional time in the laboratory.

In FY20, DFS staff statewide spent approximately 887 days away from the laboratory for court appearances. This represented a 31% reduction from the 1,294 days spent away in FY19. In FY21, the volume of subpoenas and court appearances was comparable to pre-pandemic levels. DFS staff statewide received a total of 14,678 witness subpoenas in FY21, which resulted in 4,198 appearances and approximately 1,226 days away from the laboratory.

Ability to Hire and Train Qualified Examiners

The demand for trained, experienced forensic scientists has exceeded the supply for many years. In order to fill positions with limited qualified applicants, DFS hires and trains individuals with the necessary educational credentials, but without the practical experience. The table below reflects the average length of the training for new scientists hired as trainees in each discipline. The length of training for scientists who come to DFS as previously "qualified" in another laboratory system should be reduced.

Section	Average Examiner Training Period
Breath Alcohol	12 months
Controlled Substances	10 months
Digital & Multimedia Evidence	12 months
Firearms & Toolmarks	6 months (NIBIN Forensic Scientists) 18 months (Firearms Forensic Scientists) 24 months (Firearms & Toolmarks Forensic Scientists)
Forensic Biology (DNA)	12 months
Latent Prints & Impressions	12 months (Latent Prints Forensic Scientists) 12 months (Impressions Forensic Scientists)
Toxicology	12 months (Forensic Scientists) 18 months (Toxicologists)
Trace Evidence	12 months

Current examiners conduct the training for new hires and must dedicate significant time to working with the trainees, which results in decreased case output for the examiners conducting the training.

3. GENERAL FISCAL YEAR OPERATIONAL BUDGET AND ANY MAJOR CHANGES IN APPROPRIATED FUNDS

Budget Overview

The Department's annual budget for FY2022 is:

General Fund Base Budget	$50,014,798
Technical Adjustments to Base Budget	$2,591,176
Additions to Base Budget	$ 719,680
Non-General Funds	$2,944,305
TOTAL OPERATING BUDGET	$56,269,959

The "Additions to Base Budget" include $246,880 for two additional IT positions, $104,800 for one additional Finance position, and $368,000 to cover the increased cost of equipment maintenance contracts for the Chemistry and Toxicology program areas. The "Non-General Funds" include $505,375 in American Rescue Plan Act (ARPA) funding that DFS requested and the General Assembly approved to purchase equipment and pay maintenance costs for instrumentation used in the Firearms & Toolmarks Section.

Grant Awards

During the period of October 1, 2020 through September 30, 2021, funding was awarded to DFS under the following grant programs:

FY20 Paul Coverdell Forensic Science Improvement Program – $460,370 was awarded by NIJ to Virginia (DCJS) for DFS and the Office of the Chief Medical Examiner. The DFS portion ($230,185) is for training and continuing education of scientific staff in the Chemistry, Physical Evidence, and Toxicology program areas. In addition, funding will support a part-time LIMS Customer Coordinator position that will be responsible for system testing, preparation of training materials, provision of customer training, customer password management, and support for other LIMS projects focused on reduction of paper records. The grant period for the DFS subaward is January 1, 2021 – June 30, 2022.

FY20 DNA Capacity Enhancement and Backlog Reduction Grant – $1,588,369 awarded by BJA to enhance capacity in the Forensic Biology Section. The funds are to be used to support personnel, training, and supplies. The grant period is October 1, 2020 – September 30, 2022.

Opioid Joint Project (OCME and DFS) – Overdose Data to Action Project Continuation – DFS received funds from the OCME in 2019 to support additional personnel in DFS to improve both the timeliness and comprehensiveness of toxicological studies in deaths suspected as opioid overdoses. This continuation grant fully funded the project for a third and final year, at the same level of $164,807, for the same activities. The new award period is September 1, 2021 – August 31, 2022.

Byrne Justice Assistance Grant (JAG) – via MOU with DCJS – $45,407 awarded by DCJS to maintain the increased capacity in the Forensic Training Section that was realized with the FY18 grant project. Funds will be used to retain the part-time forensic trainer position and to purchase supplies needed for a third (summer) session of the Forensic Science Academy. The grant period is October 1, 2020 – September 30, 2021.

2021 Highway Safety Grant Program – $ 264,510 in federal funds awarded by DMV for the DFS Breath Alcohol Section. Funding is provided for reimbursement of travel costs for law enforcement officers, supplies needed for breath alcohol classes, continuing education for DFS Breath Alcohol personnel, and the retention of the grant-funded Breath Alcohol forensic scientist position. The award requires an in-kind match of $66,128. The grant period is October 1, 2020 – September 30, 2021.

2021 Highway Safety Grant Program (TREDS Project) – $84,290 awarded to DFS as a sub-recipient of DMV under its TREDS (Traffic Records Electronic Data System) Program. The project goal is to decrease the turnaround time of data from the OCME to DMV in cases involving motor vehicle accident fatalities. This project will involve the OCME, DFS and DMV. DFS received funds to retain four part-time forensic laboratory specialists to assist in the Toxicology Sections statewide to increase capacity. The grant period is October 1, 2020– September 30, 2021.

FY20 Sexual Assault Kit Initiative (SAKI) Grant – $340,618 awarded by the OAG to DFS as a subrecipient. Funding supports a PERK Tracking Coordinator position, PCR amplification kits for familial testing, and overtime for forensic scientists performing technical reviews and subsequent upload to CODIS of eligible DNA profiles resulting from analyses performed by a contract laboratory. The grant period for the DFS subaward is October 1, 2020 – September 30, 2023.

4. ACTIONS TO FOSTER AND PROMOTE COORDINATION AND COOPERATION BETWEEN DFS AND THE USER PROGRAMS WHICH ARE SERVED

Notices Sent to DFS User Agencies

Policy Notices

Locations Included in Automatic NIBIN Searches

On December 7, 2020, a Notice of DFS Policy Change was sent to the Department's user agencies, advising that, effective December 4, 2020, the Department would no longer conduct automatic National Integrated Ballistic Information Network (NIBIN) searches against cases entered by agencies outside of Virginia. However, DFS will continue to conduct automatic searches against all state and local NIBIN sites in Virginia and for all cases entered by ATF for ATF Zone 1. Also, for jurisdictions served by the Northern Laboratory, cases will continue to be manually searched against the District of Columbia Department of Forensic Sciences and Prince George's County Police Department (Maryland). Requests for searches of additional sites should be included on the Request for Laboratory Examination form.

Latent Print Database Search Results

On February 10, 2021, the Department sent a Notice of DFS Policy Change to its user agencies, advising that the Latent Print Section had implemented additional quality assurance measures and reporting requirements for complex latent prints. The Latent Print Section utilizes the Virginia Automated Fingerprint Identification System (AFIS) and the Next Generation Identification (NGI) system to provide investigative information about individuals potentially associated with criminal events through the search of partial latent prints recovered from evidence against databases of known exemplars (fingerprints and palm prints). The known exemplars obtained as a result of a database search could potentially contain characteristics very similar to those present in the partial latent print (considered a "close non-match"). The changes to DFS's quality assurance measures and reporting requirements were implemented to minimize the risk associated with searching these complex latent prints.

New Packaging Requirements for Firearms and Ammunition Submissions

On May 6, 2021, the Department sent a Notice of DFS Policy Change to all law enforcement agencies served by DFS, advising that, effective immediately and due to safety concerns, DFS would no longer accept evidence packages that contain both a firearm and ammunition/cartridges.

New NIBIN Case Acceptance Policy

On June 17, 2021, the Department disseminated a Notice of DFS Policy Change to all Virginia law enforcement agencies, advising that, effective immediately and in order to focus resources on cases most likely to yield investigative leads, the Department would no longer accept cases for National Integrated Ballistic Information Network (NIBIN) examinations that were collected more than one calendar year prior to potential submission.

New Digital & Multimedia Evidence Mobile Device Capabilities

On July 20, 2021, a Notice of DFS Policy Change was disseminated to all enforcement agencies served by the Department, announcing that the Digital & Multimedia Evidence (DME) Section had expanded its ability for enhanced data extraction of Android devices while continuing these services for several Apple devices and iOS versions. The Notice also outlined a new tiered examination approach, which was implemented to expedite results and provide services to agencies based on their mobile device analysis capabilities.

Implementation of Quantitative Method for THC and Updated Submission Policy for Cannabis Sativa Plant Material

On August 19, 2021, the Department sent a Policy Notice to its user agencies announcing the validation and implementation of a new quantitative method for Cannabis sativa (marijuana/hemp) plant material. The quantitative method will be used when necessary to determine the concentration of delta-9-tetrahydrocannabinol (THC). The Notice also summarized DFS's current submission guidelines for marijuana evidence based on the marijuana legislation that went into effect on July 1, 2021.

General Notices

Impact of Shortage of DNA Testing Supplies on Forensic Biology Case Processing

On March 21, 2021, a Notice was sent to all DFS user agencies, advising that the Department's Forensic Biology Section was experiencing a shortage of DNA testing supplies that was impacting case processing. The shortage, which was due to the fact that the supplies are also used by COVID-19 testing laboratories, directly impacted use of robotics. The Forensic Biology Section was required to return to manually processing samples, resulting in longer completion times for DNA testing and an increase of backlogged cases.

Reported Measurement Uncertainty for Controlled Substances THC Purity Determinations

On May 4, 2021, DFS disseminated a Notice to its user agencies, advising that it had identified an incorrect calculation in the uncertainty of measurement reported in Controlled Substances analyses with delta-9-tetrahydrocannabinol (THC) purity determinations. This issue did not impact the laboratory analysis conducted or the resulting THC purity value reported, only the associated estimation of measurement uncertainty. Once the calculations were corrected, the variability estimated for the method was lower than originally reported. This issue only affected Certificates of Analysis issued between October 22, 2019, and March 11, 2011. Amended Certificates were issued to correct the calculated measurement uncertainty in cases where the THC purity was reported at or between 10.0% and 14.0%. The cases with THC purities within that range were selected given the customer request was to analyze for Hashish Oil, formerly in the Virginia Code as an oily extract material with greater than or equal to 12% THC.

DFS COVID Response

DFS has maintained all laboratory testing capabilities throughout the pandemic. Early in the pandemic, staff were permitted to work staggered schedules to maintain social distancing and allow for child care. Use of teleworking was also increased. The Department has since revised its policies to implement more expansive teleworking and hours of work options to continue to provide staff additional flexibility.

The Department developed internal disinfection capability, which allows DFS Facilities staff in each laboratory to perform any required disinfection.

DFS staff who testify are required to have their testimony evaluated each year. Due to COVID-19 restrictions on the number of people allowed in courtrooms, the Department was required to rely more heavily on use of testimony review evaluations by attorneys. While the Department's preference is to have scientists with the same competencies review the testimony of their colleagues, given the current limitations, DFS developed a new Court Testimony Evaluation Form to assist with the request to have attorneys review an examiner's testimony.

Average Case Turnaround Times Posted on DFS Website

The Department posts, on the DFS website, the average turnaround times (in days) for cases completed in the prior month. This information, which is available by section, is updated at the beginning of each month.

Compounds Scheduled Through Board of Pharmacy Regulations

Pursuant to Virginia Code § 54.1-3443(D), the Board of Pharmacy is permitted to temporarily place substances into Schedule I or II via an expedited regulatory process. DFS monitors evidence submissions to its Controlled Substances Section and tracks new compounds that are submitted statewide. DFS recommends compounds to the Board of Pharmacy for this process on a quarterly basis for their consideration under the statute.

Between October 1, 2020, and September 30, 2021, DFS recommended a total of twenty-one compounds to the Board of Pharmacy for consideration. These compounds included: five synthetic opioids (Schedule I), seven research chemicals (Schedule I), four compounds that are expected to have depressant properties based on their structure (Schedule I), and five cannabimimetic agents (Schedule I). All twenty-one compounds have been placed into Schedule I via Board of Pharmacy regulation.

Report of *Drug Cases Submitted to the Virginia Department of Forensic Science*

The Virginia Department of Forensic Science (DFS) receives tens of thousands of drug samples every year, submitted by law enforcement agencies across the state. The annual report of *Drug Cases Submitted to the Virginia Department of Forensic Science*, a joint effort by DFS and the Virginia Department of Criminal Justice Services (DCJS), highlights the frequency with which various selected drugs are submitted, broken out by the seven Virginia State Police divisions and 32 Virginia Court Districts.

The report of *Drug Cases Submitted to the Virginia Department of Forensic Science CY2019* was released on November 5, 2020. Calendar year 2019 was the first year that methamphetamine was found in more seized drug items in the Commonwealth of Virginia than any other controlled substance. In addition, although heroin and prescription opioids decreased compared to 2018, illicit synthetic opioids increased by 14%. New for the CY2019 report was a list of synthetic drugs (including opioids and benzodiazepines) that were identified.

On August 6, 2021, the Department released the report of *Drug Cases Submitted to the Virginia Department of Forensic Science CY2020*. Overall, drug submissions were down in 2020 due in part to the COVID-19 pandemic. However, methamphetamine submissions were essentially unchanged, and methamphetamine continued to be the drug found in more items than any other controlled substance. Increases were observed for the drug classes of synthetic opioids, synthetic benzodiazepines, and designer drugs. New in the CY2020 report are lists of specific drugs identified within the drug classes to demonstrate submission trends between 2012 and 2020.

Reports from CY2019 and CY2020, as well as those from previous years, are accessible on this DFS webpage: https://www.dfs.virginia.gov/documentation-publications/

Training

Forensic Training Section

The Department's Forensic Training Section conducts the Forensic Science Academy (FSA), a nine-week school in Crime Scene Technology. Each nine-week FSA session provides in-depth training to twelve select law enforcement personnel in the recognition, documentation, collection, preservation, and handling of physical evidence through classroom instruction by forensic experts, evidence collection demonstrations, and numerous practical exercises in simulated crime scenes. The third FSA session for 2021 is scheduled to be completed in November.

The Forensic Training Section also presents numerous short courses throughout the year on various crime scene investigation subjects, including Basic Crime Scene Investigation, Basic Digital Crime Scene Photography, and Impression Evidence Documentation and Collection. After receiving positive feedback to the virtual short courses offered as a result of the pandemic in 2020, the Training Section has continued offering virtual classes, along with in-person courses, in 2021.

A "Laboratory Capabilities and Update" was offered to law enforcement personnel across the state remotely in April 2021. This training allows DFS personnel to communicate evidence collection guidelines and changes to laboratory services to, as well as receive feedback directly from, the larger law enforcement community.

The Virginia Forensic Science Academy Alumni Association Annual Retraining Seminar was offered online over two and a half days in September 2021. DFS staff, FSA graduates, and other subject matter experts from as far away as California and Germany gave presentations at this seminar, which was coordinated by the Forensic Training Section and attended by 85 Forensic Science Academy alumni.

Breath Alcohol Instrument Operator Training

The Department's Breath Alcohol Section provides maintenance of the evidential breath alcohol instruments, responses to legal requests for information, testimony, and training for law enforcement personnel. From October 1, 2020 through September 30, 2021, the Breath Alcohol Section conducted 49 initial breath alcohol instrument operator (three-day) classes and licensed 653 new operators. During this period, the Section

continued to utilize the online recertification course, and, as of September 30, 2021, had offered 17 of these courses, relicensing 1,179 operators online. In addition, the Section conducted 82 in-person recertification (four-hour) sessions and subsequently relicensed 1,312 operators in person.

The Breath Alcohol Section has continued to ensure adherence to the Governor's Executive Orders regarding COVID-19 by continued reduced class sizes to accommodate social distancing requirements. Students are also required to maintain appropriate physical distance, wear face coverings, etc. Instructor Recertification, which is typically held in September, was conducted online due to the pandemic. DFS anticipates holding the class in person in September 2022.

In consultation with the Virginia Occupational Safety and Health (VOSH) Program, DFS provided COVID-19 appropriate guidance and precautionary measures relating to conducting evidential breath testing to operators and agency contacts. Initial guidance, which was provided in March 2020 and updated in April 2020 as the pandemic progressed, continues to be utilized by operators.

Forensic Science Training Program for Attorneys and Judges

DFS began offering training for Virginia criminal attorneys and judges in 2018. The courses are designed to help attorneys and judges who use and evaluate testing in their cases to have the background to understand the methods and practices of the discipline. No continuing legal education (CLE) credits are being provided for the trainings because the program teaches science and does not include a legal component, which is a requirement for CLE credit. However, the Department does not charge for the training.

The first offering, a day-long DNA training was held in 2018 and again in 2019. A training on the DUI/DUID discipline, which was a half-day training, was held in 2019. In 2018 and 2019, the trainings were offered in person at each of the four DFS laboratories. DFS had planned to offer the DNA and DUI/DUID trainings again in 2020, but they were cancelled as a result of the COVID pandemic. In light of the ongoing pandemic, DFS created a half-day training on Controlled Substances for criminal attorneys and judges, which was held virtually on the following dates:

- Friday, October 1, 2021, 8:30 a.m. – 12:00 p.m.
- Friday, November 12, 2021, 8:30 a.m. – 12:00 p.m.

The Controlled Substances training consists of pre-recorded presentations on each topic, followed by live question and answer periods.

Legal Resources Added to DFS Website

The Department added Legal Resources to its agency's website. Topics include Freedom of Information Act (FOIA) Requests, Subpoenas Duces Tecum (SDTs), Requests for Results and Orders for Scientific Investigations under Virginia Code § 9.1-1104, Long-Term Storage Orders under § 19.2-270.4:1, Post-Conviction Testing under § 19.2-327.1, and Witness Subpoenas for Civil Cases. Model Orders are also available. The information can be accessed on the DFS website here: https://www.dfs.virginia.gov/about-dfs/legal-resources/

New Forensic Science Board Policy on Electronic Meeting Participation

At its meeting on July 14, 2021, the Board adopted a Policy on Participation of Forensic Science Board Members in Meetings by Electronic Means Pursuant to Virginia Code § 2.2-3708.2. Adopting the policy will allow individual members to participate remotely in meetings of the Board, provided a quorum of the Board is present at the meeting location, in instances when a member is unable to attend due to a temporary or permanent disability or other medical condition, a family member's medical condition, or a personal matter.

5. RULES AND REGULATIONS NECESSARY TO CARRY OUT THE PURPOSES AND INTENT OF CHAPTER 11 OF TITLE 9.1 OF THE CODE OF VIRGINIA (DFS)

Regulations

At its January 6, 2021 meeting, the Board voted to initiate the periodic reviews of its regulations (i.e., 6 VAC 40-20 through 6 VAC 40-60). A notification of the Periodic Reviews was published in the Virginia Register of Regulations on March 1, 2021. A public comment period was opened on the publication date and closed on March 22, 2021. No public comments were received for any of the regulations.

At its April 21, 2021 meeting, the Board voted to retain the majority of its regulations as is. The Board approved amendments to 6 VAC 40-50, the Regulations for the Approval of Marijuana Field Tests for Detection of Marijuana Plant Material, which would permit the Department to approve non-Duquenois Levine field tests, as well as other technology that may evolve that could distinguish marijuana from industrial hemp. The results of the periodic reviews of the regulations, including the recommendation that 6 VAC 40-50 be amended, were published on Virginia's Town Hall website on May 25, 2021.

The Notice of Intended Regulatory Action (NOIRA) for 6 VAC 40-50 was considered by the Board at its July 14, 2021 meeting. DFS staff had prepared proposed amendments to

6 VAC 40-50 that would permit the consideration and approval of non-Duquenois Levine field tests and mobile instruments for the purposes of testimony by law enforcement under Virginia Code § 19.2-188.1(B). The Board approved the proposed amendments with one minor change. The approved NOIRA was submitted for Executive Branch approval through the Virginia Town Hall website.

The Board also approved an exempt regulatory action for amendments to 6 VAC 40-30, the Regulations for the Approval of Field Tests for Detection of Drugs, to reflect the addition of a second definition of marijuana under the Cannabis Control Act (Virginia Code §§ 4.1-600 et seq.). Because the amendments are necessary to conform the regulation with the new Cannabis Control Act, which went into effect on July 1, 2021, the regulatory action was exempt under Code § 2.2-4006(A)(4)(A) of the Administrative Process Act. These amendments were published on August 30, 2021 in the Virginia Register of Regulations and became effective on September 30, 2021. No public comments were received on this action.

6. ANY RECOMMENDATIONS SUBMITTED TO THE FORENSIC SCIENCE BOARD OR THE DIRECTOR BY THE SCIENTIFIC ADVISORY COMMITTEE

The Scientific Advisory Committee (SAC) met electronically on April 20, 2021, and in person on October 13, 2021. A list of members of the Scientific Advisory Committee is included as Attachment B.

Scientific Advisory Committee (SAC) Recommendations/Actions

- In advance of the Scientific Advisory Committee's meeting on April 20, 2021, the Toxicology Subcommittee members were provided with the Method Development Summary and Validation Plan for the Barbiturate Quantitation and Confirmation by Liquid-Liquid Extraction Using LCMSMS. After reviewing the documents, the Subcommittee members decided that a separate meeting to discuss the materials was not necessary.

  At the SAC meeting on April 20, 2021, the members heard a presentation from the Department regarding the change to the barbiturate method, which transfers it from gas chromatography to liquid chromatography. The new method improves the extraction procedures and reduces the volume of sample used. However, since there are two compounds that coelute with the new method, the old methodology will be maintained. The procedures manual will specify that the old methodology is to be used in case of coelution to confirm the substance. The SAC closed the review of the Toxicology Barbiturate Method Development and Validation Plan.

- The SAC's Controlled Substances Subcommittee met on October 12, 2021 to review and discuss the following materials, which had been provided to the members in advance of the meeting:

  Method Development Summary
  - Plant Material Desiccation and Cannabinoid Decarboxylation Study

  Method Validation Summaries
  - Dextromethorphan Enantiomer Determination via Derivatization with (-)-Menthyl Chloroformate
  - Evaluation of Alternative Cannabis Matrices using Semi-quantitative Gas Chromatography-Flame Ionization Detection/Mass Spectrometry (GC-FID/MS)
  - Quantitative Analysis of Tetrahydrocannabinol (THC) in Cannabis using Gas Chromatography-Mass Spectrometry (GC-MS)

  After hearing an overview of each method development and method validation summary and then discussing them, the Controlled Substances Subcommittee closed its reviews of all four method development/validation summaries.

- The SAC's Forensic Biology Subcommittee met on October 12, 2021 to review and discuss the STRmix Validation Summary, which had been provided to the members in advance of the meeting. After hearing an overview of the STRmix Validation Summary and discussing it with DFS staff, the Forensic Biology Subcommittee closed its reviews of the STRmix Validation Summary.

- The SAC's Toxicology Subcommittee met on October 13, 2021 to review and discuss the following materials, which had been provided to the members in advance of the meeting:

  Method Validation Plans
  - Cannabinoid Quantitation and Confirmation by Liquid-Liquid Extraction Using LCMSMS
  - Qualitative Analysis of Ephedrine using LCMSMS
  - Etizolam Quantitation and Confirmation by Liquid-Liquid Extraction Using LCMSMS

  Method Validation Summaries
  - Barbiturate Quantitation and Confirmation by LCMSMS
  - Miscellaneous Basic Drugs Quantitation and Confirmation by LCMSMS

  Limit of Detection Experiments
  - Fentanyl Derivative Quantitation and Confirmation by LCMSMS
  - GHB, GBL, and 1,4-Butanediol Quantitation and Confirmation by LCMSMS
  - NSAID Quantitation and Confirmation by LCMSMS

DFS presented an overview of the three method validation plans, the two method validation summaries, and the three limit of detection experiments. After discussion, the Toxicology Subcommittee made recommendations related to the two validation summaries and then closed its reviews of all of the materials.

- At its meeting on October 13, 2021, the Scientific Advisory Committee received reports from the Controlled Substances, Forensic Biology, and Toxicology Subcommittees regarding its review of materials related to the various methods described above. The SAC accepted the reports from each of the Subcommittees closing the reviews of each method development summary, method validation plan, method development summary, and limit of detection experiment.

  The SAC also heard a presentation related to the verification of the Cadre Forensics TopMatch - GS 3D Scanner Equipment and the Cadre Virtual Comparison Microscopy (VCM) for Comparison and Screening/Grouping. Materials relating to these method verification summaries had been provided to the Firearms Subcommittee in advance of the SAC meeting. After reviewing the materials, the Firearms Subcommittee had indicated that a meeting to discuss them was not necessary. There was no discussion after the presentation from DFS summarizing the method verification summaries. The SAC then voted to close its reviews of the Firearms verification summary materials.

7. INFORMATION ABOUT USE OF THE PHYSICAL EVIDENCE RECOVERY KIT (PERK) TRACKING SYSTEM

PERK Tracking System Overview

In accordance with Code § 19.2-11.13, DFS maintains a statewide electronic tracking system for physical evidence recovery kits (PERKs). All health care providers, law enforcement agencies, the Division of Consolidated Laboratory Services (DCLS), and the Office of the Chief Medical Examiner (OCME) are required to update the status and location of each kit in the PERK Tracking System whenever such status or location changes. Kits are tracked by their unique ID number or barcode; no personally identifying information is captured in the system. An enactment clause included in the legislation creating Code § 19.2-11.13 requires DFS to include information about use of the PERK Tracking System in this Annual Report. *Chapter 473 of the 2019 Virginia Acts of Assembly*.

Now that agencies across Virginia have been actively using the PERK Tracking System since its use was mandated on July 1, 2020, DFS is able to analyze the data generated by the System to better understand the flow of PERKs throughout the Commonwealth. This section of the Report will focus on the key metrics that measure

System use and the composition of kits entered into the System. It will also discuss how DFS identifies and notifies law enforcement agencies that have not submitted kits for analysis within the required 60-day window.

It is important to acknowledge the limitations associated with data derived from the PERK Tracking System. Not all actions performed on PERKs are ultimately logged in the PERK Tracking System, which may lead to the counts of kits presented in this report to be an underestimation of what is actually occurring in the Commonwealth. Additionally, not all agencies with access to the System have been using it consistently and accurately. However, the PERK Tracking System does allow for new entries related to a kit to be added despite previously skipped entries so that incomplete information logged by one agency does not affect subsequent entries of other agencies handling the kit.

On a regular basis, DFS performs multiple standardized quality checks to identify anomalies in the data. With these findings, DFS can provide targeted assistance to agencies and their users so that they can adjust information that may have been entered in error or add entries that may have been skipped entirely.

PERK System Users[1]

Only authorized personnel from collection sites, law enforcement, DCLS, and DFS may access the system. Users are granted access to the System only after completing PERK Tracking System Training. Victims can also access the PERK Tracking System by using the Victim Portal, which allows victims to access information about the location and status of their kits.

Collection Site Users

Collection site users are typically sexual assault nurse examiners (SANEs), sexual assault forensic examiners (SAFEs), forensic nurse examiners (FNEs), and other medical personnel responsible for collecting PERK evidence at collection sites, such as hospitals, medical centers, clinics, and community-based centers that provide services to those affected by sexual and/or domestic violence. The OCME is also a collection site user. Pursuant to Code § 19.2-11.13, health care providers (i.e., collection sites) are required to provide sexual assault victims with their kit's unique PERK ID number and information regarding the PERK Tracking System.

[1] Full descriptions of PERK System User Types can be found in the 2020 Forensic Science Board Annual Report, which may be accessed online at https://rga.lis.virginia.gov/Published/2020/RD481.

Law Enforcement Users

Law enforcement agencies are able to choose which personnel will serve as PERK Tracking System users for their agency. Most law enforcement users are investigators, detectives, or property and evidence technicians. In addition to entering status and location information into the System, law enforcement users may grant victims access to the System by providing victim PINs when such access will not interfere with the investigation or prosecution of the offense.

Division of Consolidated Laboratory Services Users

Pursuant to Code § 19.2-11.6, all anonymous PERKs are required to be sent to DCLS for storage. DCLS is required to store all anonymous kits for a minimum of two years. If DCLS receives a written objection to the destruction of a kit from the victim, DCLS is required to store the anonymous kit for an additional 10-year period. If DCLS receives notice from either law enforcement or the attorney for the Commonwealth that a victim has elected to report the offense, DCLS is required to release the victim's kit to the law enforcement agency.

The System automatically calculates the destruction due date for each anonymous kit received by DCLS and sets it two years from the date it was received. DCLS manages the destruction dates and any extensions in the System so that victims can easily view that information in the Victim Portal.

Department of Forensic Science Users

Pursuant to Code § 19.2-11.13, DFS maintains the PERK Tracking System and serves as System Administrator. As such, DFS provides training and grants access to all other user agencies. The Tracking System was designed to be integrated with the Department's Laboratory Information Management System (DFS LIMS) so that, as information regarding PERKs is entered into the DFS LIMS (e.g., kits are received as evidence, reports are issued, kits are returned to the submitting agency), the information is automatically updated in the PERK Tracking System. The distribution of new PERKs to collection sites, however, is something that is not captured in the DFS LIMS and is manually entered into the System by DFS staff.

Victim Portal

The PERK Tracking System includes a Victim Portal, which allows victims to view information regarding the status and location of their PERKs. No identifying information is

entered into the System; instead, all kit status and location information is tracked by the kit's unique ID number.

Victims with anonymous PERKs may access the System through the Victim Portal by entering their unique PERK ID number, which should be provided to them at the time of examination by the health care provider/collection site. Victims who elect to report the offense to law enforcement will be required to enter a PIN, in addition to their kit's unique PERK ID, to access the System. The victim must obtain the PIN from the investigating law enforcement agency, which can use the Tracking System to generate a PIN for the victim, provided it has determined that victim access to the System will not interfere with the investigation or prosecution of the offense. As of September 30, 2021, 258 Victim PINs have been granted by law enforcement, and 205 of those were granted within the last year (October 1, 2020 to September 30, 2021). DFS cannot determine whether these PINs were actually used to access the Victim Portal.

The information accessible to each victim in the Portal varies depending on whether it is an anonymous or reported offense; however, for both kit types, the Portal includes general information on kit status and location, victim helplines, and other victim resources. For anonymous kits, the Portal displays the kit's scheduled destruction date, as well as instructions on how to extend that date and how to report the offense to law enforcement. For reported offenses, the Portal displays the statewide average turnaround time for DNA cases at DFS for the most recent month to give the victim an idea of how long it may take before the results of the analysis of their kit will be available.

For victims who do not have their PERK ID and/or victim PIN in order to access the Victim Portal, there is a link to a Victim Portal User's Manual and to a list of answers to Victim/Survivor Frequently Asked Questions. In response to inquiries received by victims who were having difficulty accessing the System, DFS also developed a Victim Portal Troubleshooting Guide that is now available on the Victim Portal login screen. Additionally, the homepage for the System includes a link to a directory of victim and survivor support services in Virginia by location, including crisis intervention hotlines, individual support services, support groups, and emergency housing and transportation.

PERK Tracking System Training

Although use of the PERK Tracking System became mandatory effective July 1, 2020 pursuant to Code § 19.2-11.13, users from many law enforcement agencies, collection sites, and DCLS were provided training and granted access to the System prior to the mandatory start date. For the statewide rollout of the System, DFS developed and offered multiple training options in order to accommodate the unique needs and schedules of user agencies. These options included: 1) an online training video accessible at the user's convenience;

and 2) an interactive web training, which allowed trainees to participate in a live demonstration of the System and ask questions throughout. Users must complete the PERK Tracking System training before they are granted access to the System. DFS is continuing to offer training and contact agencies that have no users on the System.

Collection Sites

As of September 30, 2021, DFS has identified 24 collection sites that routinely collect PERKs.[2] DFS has been in contact with the individual who will head the Department of Criminal Justice Service's new Sexual Assault Forensic Examiner Coordination Program pursuant to Code § 9.1-191. The new Coordinator is responsible for creating and maintaining a statewide list of available sexual assault forensic examiners, sexual assault nurse examiners, sexual assault forensic nurse examiners, and pediatric sexual assault nurse examiners, which will include the location and facility affiliation of each examiner. The Coordinator has agreed to share this information with DFS, once it is available.

The majority of identified collection sites (75% or 18 collection sites) were trained and given access to the PERK Tracking System prior to the July 1, 2020 mandatory start date. Five additional collection sites were trained and granted access between July 1, 2020 and September 30, 2021. One collection site has yet to respond to multiple invitations for training. Of the 23 collection sites that have been trained and granted access to the System, 22 (96%) are active System users.[3]

Law Enforcement

Prior to the mandatory start date for use of the System, half of all law enforcement agencies who handle PERKs[4] (166 of 314 agencies[5]) were trained and granted System access. An additional 76 law enforcement agencies (24%) completed training and were granted access to the System between July 1, 2020 and September 30, 2021. Seven law enforcement agencies are still in the process of completing training, and the remaining 65 law enforcement agencies (21%) have yet to begin training.

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[2] OCME is not included in this count of collection sites. Since the release of the 2020 Forensic Science Board Annual Report, the total count of collection sites identified decreased by one due to a site closure.
[3] An "active System user" is defined as an agency that has initiated at least one action in the System.
[4] The total count of law enforcement agencies who handle PERKs (314) excludes non-primary law enforcement sheriffs (30) and regional jails (22).
[5] Since the release of the 2020 Forensic Science Board Annual Report, four law enforcement agencies closed and two additional law enforcement agencies that were not previously included in the final count were added. This decreased the total count of law enforcement agencies who handle PERKs from 316 to 314. Additionally, the total number of law enforcement agencies trained lists 166 instead of the 167 specified in the 2020 Report as the sole trainee from one agency (who was trained before July 1, 2020) was transferred to another agency and was granted access to the System for the new agency after July 1, 2020.

Of the 242 law enforcement agencies that have been trained and granted access to the System, 166 (69%) are active System users. Not all law enforcement agencies with System access may be active users at this point because they may not have handled any PERKs since they were granted System access or use of the System became mandatory (whichever came first).

In October 2020, the Office of the Attorney General hired a Sexual Assault Kit Initiative (SAKI) Investigator. The Investigator, a retired law enforcement officer with more than 25 years of experience, has been assisting DFS with contacting law enforcement agencies who have not yet been trained on the System. He has successfully reached multiple law enforcement agencies that had failed to respond to repeated contact attempts by DFS. He has also helped communicate to law enforcement agencies the benefits of the PERK Tracking System even if an agency rarely (if ever) handles PERKs.

Victim Advocates

Although victim advocates do not have direct access to the PERK Tracking System, law enforcement agencies with victim advocates on staff (or who work for the Commonwealth's Attorney's Office) may provide these victim advocates with viewer-only access to their agency account. However, without access, being knowledgeable about the System will assist the advocates in supporting victims. Accordingly, upon request, DFS provides PERK Tracking System training to victim advocates so they can inform victims of their right to access the System, as well as what information is available to them through the Victim Portal. In 2021, the PERK Tracking System Coordinator presented at the 38th Annual Conference on Crime Victims' Issues hosted by the Virginia Victim Assistance Network. The presentation focused on PERK-related legislation and aspects of the PERK Tracking System that are most relevant to the work of victim advocates.

User Feedback Surveys

On November 18, 2020, DFS released separate PERK Tracking System User Feedback Surveys via email to law enforcement and collection site personnel who had been granted access to the System. DFS emailed the PERK Tracking System Law Enforcement User Feedback Survey to approximately 1,200 law enforcement personnel and the PERK Tracking System Collection Site User Feedback Survey to approximately 140 medical personnel. Each survey was also made available through a banner posted on the PERK Tracking System homepages for law enforcement and collection site users from December 1, 2020 to December 18, 2020. The survey asked respondents closed-ended questions[6] about their overall experience with the PERK Tracking System and individual System

[6] Respondents were required to answer all closed-ended questions.

features, such as frequency of use, level of satisfaction, and rating. Respondents could also provide detailed comments regarding updates or improvements they would like to see.

Law Enforcement

For the month that the survey was live, 174 law enforcement users responded to the PERK Tracking System Law Enforcement User Feedback Survey. A wide range of positions is represented in the respondent pool. About half are detectives or investigators, and almost one-third are property and evidence staff. Only a few identified themselves as a chief or sheriff, and the remaining respondents selected "Other" and chose to write in their response (e.g., analyst, forensic specialist, special agent).

Results from the survey indicate that most law enforcement respondents use the System less than once a month, but are either extremely satisfied or somewhat satisfied with the System. A majority of law enforcement respondents found the System easy to access, their accounts easy to set up, and the available documentation clear. The favorite facets of the System according to law enforcement respondents who reported using the System[7] include the option to add agency case numbers in the System and the ability to search by kit number and agency case number to see details of a kit's history, including its current location and status.

Collection Sites

For the month that the survey was live, 35 collection site users responded to the PERK Tracking System Collection Site User Feedback Survey. Results from the survey indicate that most collection site respondents use the System at least once a month, and are either extremely satisfied or somewhat satisfied with the System. A vast majority of collection site respondents found the System easy to access, their accounts easy to set up, and the available documentation clear. One of the highest rated aspects of the System, according to collection site respondents who reported using the System[8], is the feature that allows them to log actions taken on kits. These respondents also gave high ratings to the kit number search function.

[7] The results for measures that rate System features were limited to only those who reported using the System because an appropriate rating cannot be assigned to a feature if the feature has never been used.
[8] The results for measures that rate System features were limited to only those who reported using the System because an appropriate rating cannot be assigned to a feature if the feature has never been used.

Kits in the PERK Tracking System

Kit Types

The System is designed to capture status and location information for kits collected by health care providers from victims of sexual assault during forensic medical examinations and those collected by the OCME from decedents who may be victims of sexual assault.

Although the requirement to enter kits they handle into the System went into effect on July 1, 2020, many agencies began entering data into the System before that date. In these instances, agencies began actively using the System as soon as they completed training (if they completed training prior to July 1, 2020). Certain agencies also decided to back-enter information on older kits in their custody from prior to implementation of the PERK Tracking System so all kits in their possession would be documented in the System.

As of September 30, 2021, 6,893 kits have been entered in the PERK Tracking System. Of these kits, the vast majority (92%, 6,344) are barcoded PERKs[9] (including barcoded OCME PERKs), while the remaining kits are composed of non-barcoded legacy PERKs[10] (7%, 498), and non-Virginia kits[11] (1%, 51).

Anonymous vs. Offense Reported Kits

Once a kit has been collected from a victim of sexual assault during a forensic medical examination, the kit will either be an anonymous kit or an offense reported kit. An anonymous kit is one where the victim elects, at the time of the examination, not to report the sexual assault to law enforcement. As of September 30, 2021, there were 812 anonymous kits in the System with a post-collection status.[12] This figure includes

[9] DFS began distributing the new, barcoded PERKs at the end of 2018. The barcoded kits are manufactured with the unique barcode/PERK ID on the outside of the kit so they can be entered into the System before they are distributed.

[10] Non-barcoded Virginia PERKs (referred to as "legacy" kits), which preceded the barcoded kits, also have a unique ID number; however, the unique ID number is not placed on the outside of the legacy kits until they are collected. Accordingly, legacy PERKs are being initially entered into the System after collection, and they were not logged into the System by DFS before distribution.

[11] Non-Virginia kits also have unique ID numbers, and user agencies have been provided information on how to enter those kits into the System.

[12] Post-collection status refers to current kit statuses that reflect that the kit was collected at some point in time. A collection does not have to be logged for a kit to have a post-collection status (e.g., a collected kit that was never logged as collected by the collection site would have a post-collection status once it is received as a reported offense kit by law enforcement). Accordingly, the total number of kits with a post-collection status will not equal the count of kits logged in the System as collected.

anonymous PERKs currently at DCLS for anonymous storage and anonymous PERKs at collection sites or law enforcement pending transfer to anonymous storage.

An offense reported kit is one collected from a victim where the victim elects, at the time of the examination (or at a later time), to report the offense to law enforcement. As of September 30, 2021, there were 3,879 offense reported kits in the System with a post-collection status. This figure includes all offense reported kits except those that were exempt from submission because the kit was collected as part of a routine death investigation.

Not all anonymous kits remain anonymous. Victims who, at the time of collection, elect not to report the offense to law enforcement may subsequently decide to report the offense. Within the past year (October 1, 2020 to September 30, 2021), 20 kits in anonymous storage at DCLS became offense reported and were transferred to the investigating law enforcement agency. This is six fewer than the count of kits released to law enforcement during the same period in the previous year (October 1, 2019 to September 30, 2020). The ratio of kits transferred to law enforcement and kits received by DCLS during the same period also decreased from the previous year (7.1% to 6.4%).[13]

Actions Performed on Kits in the PERK Tracking System

Kits Collected

Each time a kit is collected, the collection site is responsible for logging that information into the PERK Tracking System. From October 1, 2020 through September 30, 2021, 1,521 kits have been logged as collected.[14] Of these kits, the vast majority were logged as collected by Virginia (non-OCME) collection sites (97% or 1,471 kits). The OCME logged the collection of 48 kits (3%). Less than one percent of all kits logged as collected (2 kits) were collected at Tennessee hospitals.[15]

[13] Between October 1, 2019 and September 30, 2020, DCLS received 367 kits for anonymous storage. Between October 1, 2020 and September 30, 2021, DCLS received 313 kits for anonymous storage.
[14] The total number of kits that are logged in the System as collected will not equal the count of kits with a post-collection status. Kits in the System with a post-collection status will include kits that may not have been logged as collected. For example, a kit that is received by DCLS for anonymous storage, by a law enforcement agency as a reported offense, or by DFS for analysis will have a post-collection status even if the collection site did not log it as a collected kit.
[15] Ballad Health, a large health network that covers hospitals in Virginia and Tennessee, receives new kits from DFS at both their Virginia and Tennessee locations and has access to the PERK Tracking System to enter information on kits they collect for Virginia cases.

Kits Received by DCLS for Anonymous Storage

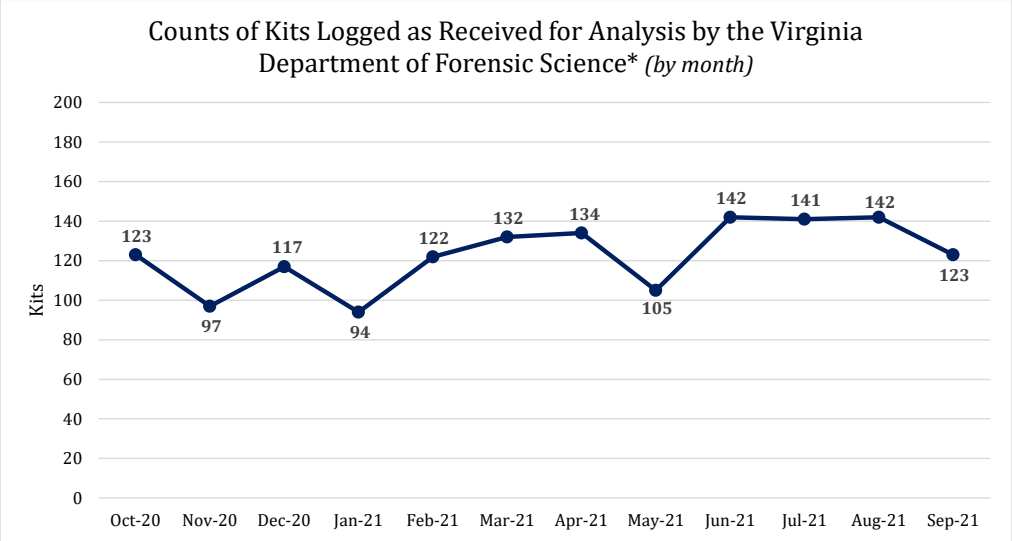
Between October 1, 2020 and September 30, 2021, DCLS has logged the receipt of 313 kits for anonymous storage.

Kits Received by Law Enforcement from Collection Sites or DCLS

Between October 1, 2020 and September 30, 2021, law enforcement users have logged the receipt of 1,374 kits from various collection sites and DCLS.

Kits Received by DFS for Analysis

From October 1, 2020 through September 30, 2021, DFS has logged the receipt of 1,472 kits from law enforcement for analysis. Since October 2020, DFS has logged the receipt of an average of 123 kits per month for analysis (median: 123 kits).



*Kits logged as received from law enforcement by DFS for analysis; only includes the initial submission for kits that were submitted multiple times.
Kits counted in this graph include barcoded PERKs (including OCME PERKs), non-barcoded legacy PERKs, and non-Virginia kits.

PERK Distribution

One of the main purposes of the PERK Tracking System is to track the distribution of new barcoded PERKs and monitor their life course. Prior to the PERK Tracking System, a significant portion of new PERKs distributed were never returned to DFS for analysis. As of September 30, 2021, 5,652 new barcoded victim PERKs (including OCME victim PERKs) have been distributed for collection. Of these distributed barcoded PERKs, 1,319 are still available for collection, 695 are anonymous kits, 283 are offense reported kits pending

submission for analysis, 2,913 have been submitted to DFS for analysis, and 262 are exempt because they were deemed not connected to a crime, were collected as part of a routine death investigation, or were transferred to an out-of-state law enforcement agency. Additionally, 21 barcoded kits were destroyed by law enforcement, and 159 barcoded kits were removed from the System because they were used for training purposes or damaged.

Designated Statutory Reasons for Non-Submission

Pursuant to Code § 19.2-11.8, a law enforcement agency that receives a PERK must submit the kit to DFS for analysis within 60 days unless one of five statutory exceptions applies. If a collected PERK received by a law enforcement agency will not be submitted to DFS for analysis because an exception applies, the statutory reason for non-submission should be designated in the PERK Tracking System.[16] These statutory exemptions are:

1. The PERK is anonymous;
2. The PERK is part of a routine death investigation and the medical examiner and law enforcement agree that analysis is not warranted;
3. The PERK is connected to an out-of-state offense;
4. The investigation associated with the PERK is being transferred to another law enforcement agency; and
5. The PERK was determined by the law enforcement agency not to be connected to a criminal offense

As of September 30, 2021, 396 kits have been exempted from submission by law enforcement users.[17] Thus far, the most widely designated statutory reason for non-submission is "not connected to crime"; 298 kits fall in this category. "Anonymous kit" is the next most common statutory exception to submission used by law enforcement; however, most of this count (24 of 38 kits) comes from a single metropolitan law enforcement agency that back-entered actions performed on older legacy PERKs.

[16] Not all law enforcement users will explicitly designate that a kit is exempt from submission in the System, but will instead only log a related subsequent action. For example, a law enforcement user may not designate that a kit is exempt from submission because it is associated with an out-of-state offense and may only log the transfer of the kit to an out-of-state agency. Such scenarios **are** captured in the measures presented in this section.

[17] The count of kits that have been exempted from submission by law enforcement is derived from **all** kits entered into the PERK Tracking System and includes barcoded PERKs, OCME PERKs, "legacy" PERKs, and non-Virginia kits. Only the most recently designated statutory reason is counted for each kit. For example, a kit that is transferred from one Virginia law enforcement agency to another because of a transfer of investigation will first meet the "transfer of investigation" statutory exemption for that first agency. However, the Virginia law enforcement agency that receives the transferred kit may then designate the statutory reason as "not connected to crime". In this instance, this kit is only counted once in the total count of kits exempted from submission and only falls into the "not connected to crime" count.

There are 31 kits that have been designated as exempt from submission as a result of being collected as part of a routine death investigation, 21 kits that have been exempted because the kit was transferred to another law enforcement agency for investigation, and eight kits that have been exempted because the kit was associated with an out-of-state offense.

PERK Legislation Compliance

As indicated above, Code § 19.2-11.8 requires any law enforcement agency receiving a PERK to submit the kit to DFS for analysis within 60 days of receipt unless one of the five statutory reasons applies. Law enforcement users are notified if they have missed this deadline in two ways: 1) through the PERK Tracking System's internal notification system; and 2) through targeted emails sent by DFS at the beginning of every month.

The PERK Tracking System's internal notification system helps law enforcement users stay compliant with the PERK legislation. When a law enforcement agency has one or more kits that are past the 60-day deadline for DFS submission, the agency's PERK Tracking System homepage will show that there are notifications that require action. Once the user navigates to the notifications page, they will be presented with a list of kits that are past the 60-day deadline for DFS submission. The interface of the notifications page allows users to quickly and easily select kits that require action and navigate to the relevant action screen so that necessary actions can be logged for these kits.

DFS also sends notices via email on the first business day of each month to any law enforcement user agency that has kits in the System that have not been acted upon in the relevant 60-day period. Law enforcement agencies will receive the email notification if either of two scenarios applies:

1. If they have logged the receipt of a collected kit more than 60 days ago, but they did not log it as transferred to DFS for analysis or as falling under one of the statutory reasons for non-submission; or
2. If another user (i.e., collection site, DCLS or another law enforcement agency) has logged the transfer of a kit to the affected law enforcement agency more than 60 days ago, and no further action has been logged in the System with respect to the kit.

DFS sent the most recent round of notifications to law enforcement on September 1, 2021. Of the law enforcement agencies that were notified, 21 had logged the receipt of a collected kit more than 60 days ago, but had not logged it as transferred to DFS for analysis or as falling under one of the statutory reasons for non-submission. Each agency in this category had, on average, about 2.5 kits that did not have the necessary actions taken on it within the mandated 60-day window.

Seven agencies had one or more kits logged as transferred to their agency more than 60 days ago, and no further action, including the initial receipt by the law enforcement agency, had been logged in the System with respect to the kit. Agencies in this category had, on average, about 1.7 kits that required further action.

Conclusion

Although DFS began using the System in June 2019 with a handful of beta test users, and statewide use of the System became mandatory on July 1, 2020, there are still a number of law enforcement agencies that have not been trained and granted access to the System. DFS plans to continue its outreach to these law enforcement agencies, which are primarily smaller agencies that do not regularly handle PERKs, to facilitate their training so they can be granted access.

Given that this report only includes one full year of data on use of the System, there are limited analyses that can be conducted. By next year, DFS anticipates being able to leverage two full years of data and provide a more thorough examination of the flow of PERKs throughout the Commonwealth.

Attachment A

FORENSIC SCIENCE BOARD MEMBERS
(as of October 1, 2021)

- **Colonel Gary T. Settle** – Term: period in office or employment
  Superintendent of the Virginia State Police
- **Shannon Dion (Chair)** – Term: period in office or employment
  Director of the Department of Criminal Justice Services
- **William T. Gormley, M.D.** – Term: period in office or employment
  Chief Medical Examiner
- **Caroline D. Juran** – Term: period in office or employment
  Executive Director of the Virginia Board of Pharmacy
- **The Honorable Mark R. Herring** – Term: period in office or employment
  Attorney General of Virginia
- **Karl R. Hade** – Term: period in office or employment
  Executive Secretary of the Supreme Court of Virginia
- **Kristen J. Howard** – Term: period in office or employment
  Designee of the Chair of the Virginia State Crime Commission, Delegate Charniele L. Herring
- **Denise M. Toney, Ph.D.** – Term: period in office or employment
  Director of the Division of Consolidated Laboratory Services
- **The Honorable John S. Edwards, Senator** – Term: period in office or employment
  Chair of the Senate Committee for Courts of Justice (Judiciary Committee)
- **The Honorable Charniele L. Herring, Delegate** – Term: period in office or employment
  Chair of the House Committee for Courts of Justice
- **Leslie E. Edinboro, Ph.D.** – Term: designated by Scientific Advisory Committee Chair
  Member of the Scientific Advisory Committee
- **Richard P. Meyers** – Term: designated by Scientific Advisory Committee Chair
  Member of the Scientific Advisory Committee
- **Colonel Maggie A. DeBoard (Vice Chair)** – Term: ending 6/30/2025
  Governor Appointee – Member of Law Enforcement
- **The Honorable Megan L. Clark** – Term: ending 6/30/2025
  Governor Appointee – Member of the Virginia Commonwealth's Attorneys Association
- **Michael HuYoung** – Term: ending 6/30/2025
  Governor Appointee – Criminal defense attorney with specialized knowledge in the area of forensic sciences

Attachment B

SCIENTIFIC ADVISORY COMMITTEE MEMBERS
(as of October 1, 2021)

- **Linda C. Jackson** – Term: period in office or employment
  Director of the Department of Forensic Science
- **Leslie E. Edinboro, Ph.D.** – Term: ending 6/30/2023
  Governor Appointee – Director of a private or federal forensic laboratory located in the Commonwealth
- **Erin P. Forry** – Term: ending 6/30/2023
  Governor Appointee – Scientist or other person with education, training or experience in laboratory standards or quality assurance regulation and monitoring
- **Peter M. Vallone, Ph.D**. – Term: ending 6/30/2025
  Governor Appointee – Molecular Biologist
- **George C. Maha, Ph.D.** – Term: ending 6/30/2023
  Governor Appointee – Population Geneticist
- **Richard P. Meyers** – Term: ending 6/30/2022
  Governor Appointee – Forensic Chemist
- **Kristin Schelling (Chair)** – Term: ending 6/30/2023
  Governor Appointee – Forensic Biologist
- **Maureen C. Bottrell** – Term: ending 6/30/2022
  Governor Appointee – Trace Evidence Scientist
- **Marc A. LeBeau, Ph.D.** – Term: ending 6/30/2022
  Governor Appointee – Toxicologist certified by the American Board of Forensic Toxicologists
- **Kenneth B. Zercie** – Term: ending 6/30/2023
  Governor Appointee – Member of the Board of the International Association for Identification
- **William E. Demuth, II** – Term: ending 6/30/2025
  Governor Appointee – Member of the Board of the Association of Firearms and Toolmark Examiners
- **Randall E. Beaty (Vice-Chair)** – Term: ending 6/30/2022
  Governor Appointee – Member of the International Association for Chemical Testing
- **Kathleen Corrado, Ph.D.** – Term: ending 6/30/2025
  Governor Appointee – Member of the American Society of Crime Laboratory Directors