COMMONWEALTH of VIRGINIA

FORENSIC SCIENCE BOARD

David R. Lett, Chair

October 30, 2020

The Honorable Luke E. Torian
Chair, House Committee on Appropriations
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: 2020 Annual Forensic Science Board Report

Dear Delegate Torian, Senator Howell, and Delegate 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 be included in the Forensic Science Board's annual report. Accordingly, this report is broken out into the following 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; and
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 2020 Report of the Forensic Science Board concerning 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,

David R. Lett

David R. Lett
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
2020 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 Virginia Acts of Assembly* requires that information about use of the Physical Evidence Recovery Kit Tracking System be included in the Forensic Science Board's Annual Report. Accordingly, this Report is broken out into the following 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; and
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 met at the Department of Forensic Science's Central Laboratory in Richmond on January 6, 2020. The Board met electronically on June 29, 2020, July 15, 2020, and October 15, 2020. 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 Virginia Acts of Assembly,* the Board makes the following report.

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

Post-Conviction DNA Testing Program and Notification Project

Post-Conviction DNA Testing Program

In 2001, swabs and cuttings from evidence that had been affixed to a worksheet by a DFS serologist were discovered in an old case file. Post-conviction DNA testing on the evidence found in the case file exonerated an individual who had been convicted of rape. Subsequently, two additional individuals were exonerated of rapes based on post-conviction DNA testing conducted on evidence found in their case files.

In 2004, as a result of the three individuals exonerated through post-conviction DNA testing on evidence found in old DFS case files, Governor Mark R. Warner ordered the Department to review 10% of its serology case files to identify cases where post-conviction DNA testing could provide probative evidence of the defendant's guilt or innocence. Files

were reviewed for the years 1973 to 1988, the time period identified for when the practice of retaining swabs and cuttings from evidence in case files by serologists occurred. Thirty-one cases were identified where the serologist had affixed swabs and cuttings from the evidence to worksheets in the files, and the original serology test results indicated the presence of seminal fluid. Post-conviction DNA testing conducted on the evidence from these thirty-one case files resulted in three additional defendants being exonerated of rapes.

Based on the results from the random sample of 31 cases tested, DFS recommended, and Governor Warner concurred, that a full-scale review of DFS case files be conducted, and that DNA testing be conducted when appropriate. The criteria specified by Governor Warner for the random sample case review was limited to sexual assault cases because of the requirement for the presence of seminal fluid on the evidence to be tested. These criteria were modified by the Governor for the full-scale review of files for the Post-Conviction DNA Testing Program, and testing was ordered to be conducted in any case involving a felony crime against a person where there was evidence suitable for DNA testing located in the file, and there was a named suspect who was convicted of the felony crime against a person. Ultimately, any person convicted of a violent felony offense specified in Code § 17.1-805 was included in the Post-Conviction DNA Testing Program.

During the full-scale review of the 1973 to 1988 case files, approximately 534,000 files were retrieved from the State Records Center and individually reviewed. Swabs and cuttings suitable for DNA testing were identified in 3,051 case files. Of the 3,051 case files containing this evidence, there were 2,204 that had at least one named suspect listed. Efforts have identified 860 cases (of the 2,204) where a named suspect was convicted of a violent felony offense. DNA testing has been conducted in all 860 cases. Since the full-scale review of old serology case files began in 2005, seven additional individuals have been exonerated of rapes through the Post-Conviction DNA Testing Program, which brings the total number of individuals exonerated through the project to thirteen.

Convicted Suspect Notification Project

In 2008, the General Assembly included language in the budget requiring the Forensic Science Board to "ensure that all individuals who were convicted due to criminal investigations, for which its case files for the years between 1973 and 1988 were found to contain evidence possibly suitable for DNA testing, are informed that such evidence exists and is available for testing." *Item 408(B) of Chapter 879 of the 2008 Virginia Acts of Assembly.*

A Notification Subcommittee was created by the Board to guide its efforts to fulfill the General Assembly's budget mandate. The Notification Subcommittee was chaired by the Executive Director of the Virginia State Crime Commission (VSCC), and the Superintendent of State Police and the criminal defense attorney representative serving on the Board were the members of the Subcommittee. A Commonwealth's Attorney representative from the Board was later added as a member of the Subcommittee.

Although initially the Department of Corrections and the Virginia State Police gathered address information on individuals requiring notification, the staff of the VSCC has, since the creation of the Notification Subcommittee, led the efforts to identify correct addresses for these individuals so that notification letters can be mailed. When address information for a convicted suspect requiring notification is identified, notification letters are sent to the individual via First-Class and certified mail. A pre-stamped postcard is included with each letter, and the person who receives the letter is requested to indicate on the postcard whether they are or are not the person specified in the letter, and then return the pre-stamped postcard to the Department.

In 2009, the General Assembly passed Senate Bill 1391 *(Chapter 172 of the 2009 Virginia Acts of Assembly),* which directed the Board to continue its efforts to make the notifications required by the 2008 budget language. Senate Bill 1391 also specifically granted the authority for agencies and private organizations assisting with the notification project to receive criminal history record and other information necessary to complete the notifications, and it directed the Board to utilize the services of pro bono attorneys. Since 2009, the Crime Commission has authorized its staff to provide assistance to the Board with notification efforts.

At its October 3, 2019 meeting, the Board heard a presentation on the status of the notification portion of the project. For the 860 cases where DNA testing was conducted, there were 969 convicted individuals requiring notification. The final notification status of those 969 convicted individuals is as follows:

- Notified: 436
- Deceased: 280
- Unable to locate (all leads exhausted): 253

There were also an additional 1,809 suspects who were originally classified as "ineligible" due to federal grant funding being restricted to "violent felonies."

As of October 2019, of the 1,809 additional suspects who were initially deemed ineligible, it was determined that 289 had been convicted; 122 were convicted of felonies, and 167 were convicted of misdemeanors. Of the 122 individuals convicted of felonies, 11 had been notified, 41 were deceased, 44 were pending notification, and 26 could not be located after all leads had been exhausted. Of the 167 individuals convicted of misdemeanors, 35 were previously notified and 28 were deceased; the remaining 104 convicted misdemeanants were the final group requiring additional efforts. At its October 2019 meeting, the Board unanimously approved a motion, which stated that, once efforts to make the final notifications of the 104 convicted misdemeanants are completed, all due diligence and reasonable efforts would have been made to ensure that all convicted individuals deemed eligible by the General Assembly have been received such notification.

In January 2020, notification letters were sent to all remaining additional eligible individuals for whom address information could be obtained. As such, due diligence was met and all reasonable efforts were made to notify eligible individuals as mandated by the General Assembly. The table below shows the final notification status of the 289 additional individuals who were initially deemed ineligible.

Notification Status	Felony	Misdemeanor	Total
Notified	14	42	56
Deceased	42	46	88
Unable to Locate	66	79	145
TOTAL	**122**	**167**	**289**

As of September 30, 2020, no requests had been made for post-conviction DNA testing by any of these additional eligible individuals.

The Department and the Board would like to extend their sincere appreciation to the Virginia State Crime Commission and, in particular, Senior Methodologist Christina Arrington, Ph.D., for her dedication and tremendous efforts over many years to complete an exhaustive review of all project case files and ensure due diligence was met in each case.

A detailed description of this project is included in the 2019 Annual Report of the Virginia State Crime Commission, which was submitted to the Governor and the General Assembly. The Crime Commission's 2019 Annual Report is available online here:

http://vscc.virginia.gov/2020/2019%20VSCC%20Annual%20Report.pdf

DFS Accreditation Through ANSI National Accreditation Board (ANAB)

The Department is currently accredited by the ANSI National Accreditation Board (ANAB). DFS initially became accredited in 1989 through the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), which merged with ANAB in 2016. The Department's latest cycle of accreditation extends until September 30, 2022.

The Department successfully completed its on-site surveillance, which was conducted remotely in light of the pandemic from May 18-21, 2020. DFS was one of the first laboratory systems to undergo a remote assessment activity. DFS successfully transitioned to the updated accreditation criteria, ISO/IEC 17025:2017 and AR 3125. 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/

DFS Facilities

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 for DFS and the Office of the Chief Medical Examiner (OCME), which is co-located in the Central Laboratory with the Department. This project would allow for DFS and OCME operations currently housed across the street in the Biotech 8 Building to be moved back into an

expanded Central Laboratory facility. Currently, the agencies together lease approximately 25,000 square feet of space in the Biotech 8 Building.

It was determined through the schematic design process that the project could not be completed within the approved budget and that the current location would not allow for future expansion. Accordingly, in 2018, 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.

Chapter 168 of the 2019 Virginia Acts of Assembly amended the Code to eliminate the requirement that the central office and facilities of the Office of the Chief Medical Examiner be located in the City of Richmond. As a result, DFS was able to explore suitable land for the Central Laboratory project outside the City of Richmond. A Request for Information (RFI) seeking parcels of land suitable for the project was issued, and a 24-acre parcel in Hanover County was identified as a site for relocation due to its available usable acreage, proximity to interstate highways, and existing infrastructure (utilities). On December 10, 2019, DFS completed acquisition of the 24 acres of land in Hanover County for the Central Laboratory project.

The Conceptual Design for the new facility was initiated in December 2019. This is the outline design in which the general form of the building is determined (i.e., general appearance, placement/orientation on the site, broad internal space assignments). This process was completed in late February 2020 and discussed with design review staff from the Department of General Services, Division of Engineering and Buildings.

The Schematic Design process, in which the internal and external features become more defined and detailed (i.e., individual room by room configuration, including planning of where windows, walls, doors and hallways are located, as well as some utilities and mechanical systems pre-planning) was initiated in March 2020. The project was approved to move into Preliminary Design in September 2020.

Meetings with the design team and DFS staff to initiate the Preliminary Design process will begin in October 2020. This phase is anticipated to require approximately seven months to complete. This step will add substantial detail to the existing plans, including mechanical layout, interior and exterior finishes, and laboratory casework design.

Arbinger Training

The Department began implementing Arbinger's outward mindset agency-wide through its 2018 Annual Leadership Training for Supervisors, which entailed a two-day Arbinger Institute "Developing and Implementing an Outward Mindset" Workshop. During the Outward Mindset Workshop, participants learn the difference between inward and outward mindsets and how to apply various self-awareness, mindset change, accountability and collaboration tools to help turn their mindsets outward. DFS had also sent five staff members to the Arbinger Train the Trainer Workshop, where they became certified Arbinger facilitators. In 2019, the five DFS Arbinger facilitators began conducting Developing and Implementing an Outward Mindset Workshops for DFS staff across the state. A Workshop for DFS staff was conducted in March 2020, but the remaining

Workshops that had been scheduled for 2020 were postponed due to the pandemic. As of September 30, 2020, 257 DFS employees have received the Outward Mindset training.

Service Area Activities

New Forensic Biology Methods and Software

The increase in sexual assault case submissions has driven the need for more specialized testing, known as Y-STR testing, for these types of cases. DFS has expanded its capabilities by training additional staff and now offers this testing in all four laboratories. The training of a few last staff members continues with an estimated completion in the fall of 2020. Additionally, this testing has been transitioned to a different instrument, which is currently used for normal case work in all DFS laboratories. Consolidating both types of testing to one instrument type created cost savings by eliminating service and maintenance costs for the other instrument type.

An additional software system (STRmix), which will provide statistical estimates as to the rarity of profiles within DNA mixtures, continues to be validated by DFS. This will help determine the strength of the DNA match when a person cannot be eliminated as a possible donor to the DNA mixture. The system parameters have been determined and deployment to the regional laboratories occurred in the fall of 2019. Validation and training of staff statewide will continue in all laboratories and laboratory procedures/user instructions are in development. It is anticipated DFS will begin using the software in late 2020 or early 2021.

Through a DNA research grant, DFS will be hiring 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 Y-STR testing chemistries. Both of these changes will make the testing process more efficient for batch sample testing.

The DNA Data Bank is upgrading its computer 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 samples will be married up to 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 early 2021.

New quality assurance standards (QAS) for Forensic DNA testing went into effect on July 1, 2020. DFS updated its policy and procedures manuals to comply with the new standards, and an external audit against the new standards is scheduled for late 2020. Much of the audit will be conducted remotely to limit the amount of external auditor time necessary in DFS facilities during the pandemic.

New Toxicology Methods and Instrumentation

In 2018, the Toxicology Section implemented a new method for the qualitative identification of 34 fentanyl derivatives. In 2019, the Toxicology Section developed a new method to quantify the amount of those 34 fentanyl derivatives. This new methodology now has the ability to detect and quantify up to 50+ fentanyl derivatives and can provide specific information to the Office of the Chief Medical Examiner in opioid overdose death investigations.

In early 2019, using opioid grant funding, the Toxicology Section purchased four custom designed Hamilton STAR automated liquid handling systems (ALS). These systems are being utilized to automate the sample preparation process for the Opioids and Cocaine methods with the goal of reducing the time that the analyst is needed for the preparation. The analyst can use this saved time to reduce the backlog of the section through other activities. Additionally, the sample extraction for the fentanyl derivatives method has been adapted and validated for use on the Hamilton STAR ALS.

In early 2020, the Toxicology Section purchased four Agilent 6470 liquid chromatograph tandem mass spectrometers (LCMSMS) and four Agilent Cary 60 UV-Vis spectrophotometers. The 6470 LCMSMS instruments, which will be utilized for all current LCMSMS methodology (e.g., cannabinoids, opioids and cocaine, fentanyl derivatives), were purchased using the Master Equipment Lease Program (MELP) and replace instruments originally purchased in 2011. The Agilent Cary 60 UV-Vis instruments are used solely for the analysis of potential carbon monoxide poisoning. The Cary 60 provides for a robust system that minimizes routine maintenance and streamlines data processing.

In early to mid-2020, the Toxicology Section finalized the validation and implementation of the gamma-hydroxybutyrate (GHB) method by LCMSMS. This methodology allows for the analysis of GHB, gamma-butyrolactone (GBL), and 1,4-butanediol in both blood and urine. Due to the low number of requests for this analysis, this method will only be performed in the Northern Laboratory (Manassas) with the other labs submitting their samples for Instrument Support.

New Controlled Substances Methods

In January 2020, DFS implemented a semi-quantitative method as part of its analytical scheme for suspected marijuana plant material. This new method 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 2% administrative threshold. If the initial tests in the analytical scheme are positive and the plant material is found to have a THC concentration above the 2% administrative threshold, DFS will report that the plant material is marijuana. If the THC concentration is found to be below the 2% 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, quantitation is unnecessary as the semi-quantitative method provides the required information; that is, whether the *Cannabis sativa* plant material is marijuana.

Since the spring of 2020, DFS has developed and is validating a semi-quantitative method for the evaluation of total THC concentration in other, non-plant material matrices (e.g., oils, waxes, kief). This was necessary given legislation, effective July 1, 2020, which eliminated hash oil (any oily extract containing one or more cannabinoids with a THC content of 12% or greater) from the Code of Virginia, thereby limiting the number of full quantitative analyses that would be necessary on oily extracts.

The development of a quantitative method for delta-9-tetrahydrocannabinol content in plant material, potential "hemp products", and other matrices with THC is also progressing. In September 2020, DFS outsourced one case to ensure this quantitation service is available to customers who require such determination prior to the DFS method being implemented. As additional requests for THC quantitation are received, DFS will continue to evaluate the need to outsource these cases.

Trace Evidence Expanded Report Language

On October 16, 2020, the Trace Evidence Section implemented procedures for new Certificate of Analysis wording for examinations involving a comparison. The new wording is designed to qualify associations by providing context and a descriptive justification to allow for better understanding of the strength of the conclusion. Additionally, primer residue report wording now includes particle numbers, although the particle number cannot be used to determine the most likely reason for primer reside presence. The significance assessment and primer residue report wording changes align DFS to meet future standards stemming from the Organization of Scientific Area Committees (OSAC).

Grant Funded Physical Evidence Recovery Kit (PERK) Related Activities

Testing of Inventoried PERKs

In 2015, the Department and the Office of the Attorney General were awarded $1.4 million in funds from the New York County District Attorney's Sexual Assault Kit Backlog Elimination Program (DANY) to support testing of the PERKs identified by the inventory completed by DFS. The DANY funds were intended to pay for the outsourced testing of kits that were collected, but not submitted to DFS for analysis, prior to July 1, 2014. Under the DANY grant, 1,798 kits from 98 Virginia law enforcement agencies were tested by the outsource private testing laboratory, Bode Cellmark Forensics. DFS completed the review of all cases in February 2019. In 568 cases, DNA profiles obtained by the private laboratory

were uploaded for searching in the DNA Data Bank by DFS. As of September 30, 2020, there have been 243 resulting Data Bank hits in the DANY grant cases.

Virginia also received funds from the Sexual Assault Kit Initiative (SAKI) grant awarded to the Office of the Attorney General to support the outsourced testing of untested PERKs collected, but not submitted for analysis, between July 1, 2014 and June 30, 2016. Bode Cellmark Forensics also was awarded the contract to conduct the outsourced testing of kits under the SAKI grant. A total of 894 kits from 78 Virginia law enforcement agencies were tested by the private laboratory. DFS completed its review of the results in all SAKI cases on September 29, 2020. In 337 cases, DNA profiles obtained by the private laboratory were uploaded for searching in the DNA Data Bank by DFS. As of September 30, 2020, there have been 148 resulting Data Bank hits in the SAKI grant cases.

Physical Evidence Recovery Kit Tracking System

The DFS Physical Evidence Recovery Kit (PERK) Tracking System is addressed in Section 7 of this report, which begins on page 25.

Historical (Archived) Case File Review Project

DFS obtained funding in FY16 to begin its Historical or Archived Case File Review Project. Through the project, an electronic database of archived case file information is being created that will include scanned copies of all Certificates of Analysis and additional case information, including 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.

Five wage employees were each working up to 29 hours per week on the project. However, three of the positions have been vacant since early July 2020 and are not being filled because of the hiring freeze. As of September 30, 2020, over 216,000 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 January 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 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.

As a result of these efforts, an additional nine transcripts were obtained during the spring of 2020, and a Review Team Meeting was held virtually on June 5, 2020, to review those transcripts and make recommendations regarding notifications. The Microscopic Hair Comparison Case Review Subcommittee met on September 2, 2020, to consider the Review Team's recommendations. Notifications were approved by the Subcommittee in four cases.

Serology Case Review

In 2016, with the Board's approval, the Department commenced a Serology Case Review. The review was initiated by DFS in response to allegations made in a petition for a writ of actual innocence filed with the Supreme Court of Virginia. DFS performed conventional serological testing from 1972 – 1974 (i.e., ABO blood typing or secretion typing). The Department ceased this type of serological testing in April 1994 when PCR DNA typing was implemented.

For the Serology Case Review, a random sample of serology cases from the Eastern and Northern Laboratories between the years 1972 and 1990 were reviewed.[1] Fifteen post-conviction cases where DNA testing was used to exonerate a wrongly convicted individual were also part of the review. DFS also mailed letters to statewide associations for its user groups seeking recommendations for additional cases to be considered for the review. Three cases were added to the review as a result of attorney recommendations.

Each case was reviewed separately by two scientists. DFS scientists who were trained in conventional serology conducted reviews. Additionally, Jami St. Clair, a member of the Department's Scientific Advisory Committee with experience as a serologist, served as an independent, external reviewer and conducted the second review for twenty percent of the cases.

Once the double review of all cases was completed, an internal committee, which included the DFS Biology Program Manager and two DFS scientists trained in serology, reviewed the cases. The internal committee recommended nine cases for possible notification or further action, and all nine were sent to the external reviewer.

At the Board's July 14, 2020 meeting, the Board heard a presentation summarizing each of the nine cases with specific observations, including those recommended for notification by the internal committee and the external reviewer. The Serology Case Review found no duplication of the issue observed in the case that prompted the review,[2] and no other isolated or systemic issues that would warrant continuing the review. The Board was

[1] In total, there were 101 cases involving 110 reports from the Eastern Laboratory, and 70 cases involving 103 report from the Northern Laboratory, that were included in the review. The work of 18 scientists was reviewed.

[2] The Serology Case Review was initiated in response to a case where there were typing results in the case notes that would have eliminated the defendant, but the results were not reported in the Certificate of Analysis.

advised that the Scientific Advisory Committee recommended that notification be made in five of the nine cases, if conviction information for the suspects is confirmed, and that the Serology Case Review be closed. The Board unanimously approved a motion that the Department make notification in the five cases recommended, if conviction information for the suspects is confirmed, and that the Serology Case Review be closed. Moving forward, the Department indicated that it would continue to offer reviews, upon request, on a case by case basis.

2. POLICY AND PRIORITIES IN RESPONSE TO AGENCY NEEDS

DFS Bills Passed During 2020 General Assembly Session

During the 2020 General Assembly Session, two bills were introduced on behalf of the Department. Both bills passed unanimously.

Delegate Clinton L. Jenkins introduced House Bill 821, which made a technical correction to the DNA Arrestee Law that was overlooked when the DNA Data Bank statute was amended to add misdemeanors to the list of offenses requiring a person to be sampled upon conviction. The result is that a DNA sample collected from a person who is arrested for any qualifying felony offense may be retained by the DNA Data Bank if the person is convicted of any offense requiring the person to provide a sample for the Data Bank, including a qualifying misdemeanor.

Senator Scott A. Surovell introduced Senate Bill 646, which clarified that the term "tetrahydrocannabinol" in the definition of marijuana refers to delta-9-tetrahydrocannabinol (delta-9-THC). Delta-9-THC is the major psychoactive component in marijuana. Cannabis plant material naturally contains both delta-9-THC and delta-9-THC acid, which breaks down into delta-9-THC when heated. Post-decarboxylation methods for testing measure both THC and THC-acid. This bill requires that DFS determine the proper methods for testing for delta-9-THC in criminal matters and that such methodology be post-decarboxylation testing or other equivalent method that considers the conversion of delta-9-THC acid into delta-9-THC. This bill made Virginia criminal law consistent with the Federal Farm Bill and the USDA interim final rule for hemp production and testing. It also made testing in regulatory and criminal matters consistent in Virginia. The bill passed with an emergency clause and went into effect when approved by Governor Northam on April 7, 2020.

Improving Timeliness

Caseload Data

The caseload data reported in the table below reflects, for FY19 and FY20, the total number of cases received statewide by each DFS testing section, the total number of cases completed by each section, 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 ending backlog (total number of cases on hand) in each section as of the end of the respective fiscal years.

Section	Cases Received (FY19)	Cases Received (FY20)	Cases Completed (FY19)	Cases Completed (FY20)	Average Case Turnaround Time (FY19)	Average Case Turnaround Time (FY20)	Ending Backlog 6/30/19	Ending Backlog 6/30/20
Controlled Substances	34,787	33,757	36,133	39,767	132	119	12,101	6,239
Digital & Multimedia Evidence	233	188	136	289	142	376	202	103
Firearms & Toolmarks	6,627	7,202	7,949	6,594	112	74	1,308	1,928
Forensic Biology	6,027	5,988	6,401	6,214	137	122	1,888	1,741
Latent Prints & Impressions	2,558	2,581	2,315	2,482	91	110	673	797
Toxicology	9,669	10,047	9,452	10,033	40	46	1,098	1,105
Trace Evidence	714	679	725	657	58	54	93	122
Total	**60,615**	**60,442**	**63,111**	**66,115**	**114**	**104**	**17,363**	**12,035**

The table below presents, for each testing discipline, the ending backlog as of September 30, 2020, the average turnaround time for cases completed in September 2020, and the directional trend for the backlog.

Discipline/Section	Ending Backlog As of 9/30/2020	Average TAT (in days) September 2020	Backlog Trend
Controlled Substances	3,333	58	↓
Digital & Multimedia Evidence	72	286	↓
Firearms & Toolmarks	2,283	100	↑
Forensic Biology (DNA)	1,670	112	↓
Latent Prints & Impressions	747	136	↔
Toxicology	1,551	44	↑
Trace Evidence	107	52	↔

Case completions in Controlled Substances were higher than average from April through September due in part to the reduction in time out of the laboratory for court testimony, but also because capacity in the section is higher as a result of the twelve additional examiner positions provided in FY19 that are now filled with fully trained scientists. At the end of September 2020, the backlog stood at 3,333 cases, which is down from 10,761 at the end of March 2020.

The Digital & Multimedia Evidence Section is now fully-staffed and is continuing to reduce its backlog as a result of increased capacity. Longer turnaround times are a result of

the Section working cases that have been in the backlog.

Case submissions for the Firearms & Toolmarks Section for July, August and September 2020 were 16% higher than the same period in 2019. Additionally, the section has four positions in training and one in the hiring process.

The Latent Prints & Impressions Section's backlog and turnaround times were higher than in 2019 as a result of one scientist completing training and three scientist beginning training during FY20. Additionally, two scientists were hired and began training in the first quarter of FY21.

While many sections saw reduced submissions from the pandemic, case submission for the Toxicology Section for July, August and September 2020 were 22% higher than the same period in 2019. The Section also has three positions in training (two forensic scientist trainees and one Toxicologist trainee), as well as an additional forensic scientist position in the hiring process.

Impact from Pandemic on Case Submissions and Breath Alcohol Tests

Although case submissions in March 2020 were similar to those in March 2019, overall submissions dropped off beginning in April. Statewide case submissions in all testing disciplines for the second quarter of calendar year 2020 were down 16% overall, when compared to the second quarter of 2019. For the third quarter of calendar year 2020, statewide submissions were approximately 8% lower than submissions from the third quarter of 2019. However, the decreased submissions were driven primarily by a reduction in Controlled Substances submissions, which make up the largest volume of cases received by DFS. From April – September 2020, the Controlled Substances Section received 4,771 less cases (-23%) than in the same period in 2019. In the third quarter of CY2020, case submissions for Toxicology (+22%), Firearms (+16%), Forensic Biology (+8%), and Trace Evidence (+6%) were actually higher than for the same period in 2019.

Based on data downloaded from evidential breath test instruments statewide, the number of breath tests performed dropped significantly beginning in March 2020. Overall, breath tests are down nearly 23% for the year through September. The table below shows the number of tests performed from April through September 2020 as compared to the same period in 2019, as well as the percentage change for each month.

Total Tests by Month	2019	2020	% Change
January	1,781	1,863	+4.6%
February	1,868	2,026	+8.5%
March	2,309	1,630	-29.4%
April	1,841	903	-51.0%
May	2,144	1,449	-32.4%
June	2,094	1,394	-33.4%
July	1,999	1,538	-23.1%
August	2,141	1,647	-23.1%
September	1,988	1,604	-19.3%
Overall	18,165	14,054	-22.6%

Factors Affecting DFS Workloads and Backlogs

Outsourced Testing of Controlled Substances Cases

As part of its efforts to reduce Controlled Substances case turnaround times and decrease the backlog, in January 2019, DFS entered into a contract with NMS Labs (NMS) of Willow Grove, Pennsylvania, for the outsourced testing of seized drug evidence. NMS is a testing laboratory, accredited to the ISO/IEC 17025:2017 International Standard, which has been performing forensic testing for over 40 years.

The Department outsourced 4,107 cases to NMS. Outsourcing cases stopped in April 2020 after backlog projections were reassessed based on reduced submissions. The average turnaround time for cases tested by NMS was 21 days. The cases selected for outsourcing involved one or two items, and the charge noted on the Request for Laboratory Examination form was simple possession of a controlled substance.

If a Commonwealth's Attorney's Office received notification that the defendant was objecting to the admissibility of the Certificate of Analysis from NMS, and the case was going forward to trial, upon resubmission of the evidence, the Department would reanalyze the evidence on an expedited basis and provide a Certificate of Analysis prepared by DFS. A DFS Controlled Substances Forensic Scientist would then be available to testify at trial as to the results of the reanalysis. Overall, two percent of cases tested by NMS were re-analyzed by DFS, either as a result of the defense objecting to the admissibility of the NMS Certificate of Analysis or as a quality assurance measure.

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 coronavirus pandemic, beginning in late March, the number of subpoenas received and the number of court appearances required was reduced dramatically, which provided examiners with additional time in the laboratory. As more courts began reopening in late summer, staff in Breath Alcohol, Controlled Substances, and Toxicology began to travel to court for more bench trials.

In FY2020, DFS staff statewide received 15,931 subpoenas, which resulted in 3,117 appearances, and approximately 887 days spent away from the laboratory. The 887 days away from the laboratory for court appearances for FY20 is a 31% reduction from the 1,294 days spent away in FY19 due to the pandemic.

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) 24 months (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 FY2021 is:

General Fund Base Budget	$50,014,798
Technical Adjustments to Base Budget	$2,591,176
Additions to Base Budget	$0
Non-General Funds	$2,414,280
TOTAL OPERATING BUDGET	$55,020,254

The original budget passed by the 2020 General Assembly included $433,160 in "Additions to Base Budget" for DFS. However, due to significant changes in the revenue estimates because of the pandemic, these additions were unallotted and then removed from the introduced budget for the 2020 Special Session. These additions would have included $185,160 for two additional IT positions, and $248,000 to cover the increased cost of equipment maintenance contracts for the Chemistry and Toxicology program areas.

In addition, DFS requested and DPB approved $34,374 in CARES ACT funding for COVID-19 related expenses.

Grant Awards

During the period of October 1, 2019, through September 30, 2020, funding was awarded to DFS under the following grant programs:

FY19 Paul Coverdell Forensic Science Improvement Program – $487,591 awarded by NIJ to Virginia (DCJS) for DFS and the Office of the Chief Medical

Examiner. The DFS portion ($243,796) was for training and continuing education of scientific staff in the Chemistry, Physical Evidence, and Toxicology program areas. In addition, the DFS portion of the budget included funding for a joint DFS-OCME training related to the opioid crisis. The grant period is January 1, 2020 – December 31, 2020.

FY19 DNA Capacity Enhancement and Backlog Reduction Grant – $1,656,427 awarded by NIJ to enhance capacity in the Forensic Biology Section. The funds are to be used to support personnel, training, and equipment. The grant period is January 1, 2020 – December 31, 2021.

FY19 Research and Evaluation for the Testing and Interpretation of Physical Evidence in Publicly Funded Forensic Laboratories (DNA) – $250,636 awarded by NIJ to DFS to adapt a modification of the widely used differential extraction procedure to separate sperm cells from non-sperm cells, to a specific robotic platform. The grant period is January 1, 2020 – December 31, 2021.

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 fully funded the project for another year, at the same level of $164,807, for the same activities. The new award period is September 1, 2020 – August 31, 2021.

FY20 Byrne Justice Assistance Grant (JAG) – Continuation Funding Final Year – $46,536 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 add several items of equipment that can be used as a back-up when the current equipment is in need of repair. The total amount of the grant includes a required in-kind match of $11,634. The grant period is October 1, 2019 – September 30, 2020.

FY 2019 Sexual Assault Kit Initiative (SAKI) Grant – $75,000 awarded by the Office of the Attorney General (OAG) to DFS as a sub-recipient. Funding will be provided to DFS to retain the PERK Tracking System Coordinator position for an additional year to continue to provide help-desk support for law enforcement. The grant period is October 1, 2019 – September 30, 2022.

2020 Highway Safety Grant Program – $ 273,519 in federal funds awarded by DMV for the DFS Breath Alcohol training program. 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 $68,380. he grant period is October 1, 2019 – September 30, 2020.

2020 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, 2019– September 30, 2020.

2020 Coronavirus Emergency Supplemental Funding (CESF) – $26,334 awarded through DCJS for two essential projects related to the coronavirus. One is in the DFS Breath Alcohol Section and the other is in the DFS Forensic Training Section. Both projects are designed to ensure continuity of operations. DFS will use the funds for various supplies, personal protective equipment, and audio/visual equipment to assist with working/training remotely and with protection of students and staff during on-site learning. Additionally, DFS will contract with the Breath Alcohol database provider to modify the system to allow for increased functionality for remote operations. The grant period will be retroactive to January 1, 2020 and will end on September 30, 2021.

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

Resubmission of Latent Prints for Continued NGI Searching From Pre-2013 Unsolved Cases

On November 5, 2019, a Notice of DFS Policy Change was sent to all law enforcement agencies served by the Department as a result of changes and upgrades in the FBI Next Generation Identification (NGI) System. Due to these changes to the NGI System, formerly the Integrated Automatic Fingerprint Identification System (IAFIS), latent prints originally searched prior to 2013 and retained in the Unsolved Latent File (ULF) for ongoing automatic searches are no longer in a usable format. The Notice recommended that agencies with unsolved crimes from before 2013 with latent print evidence resubmit the lifts, photographs or digital images of the latent prints so they can continue to be searched in NGI. The original evidence, which was processed for latent prints, did not need to be resubmitted.

Revised Procedure for Methamphetamine Purity Determinations

On January 6, 2020, the Department sent a Notice of DFS Policy Change to its user agencies, advising that, effective immediately, in an effort to streamline the analytical process for methamphetamine cases, the weight of any methamphetamine mixture will be reported without a purity determination. When the weight falls within any weight threshold established in the Code, the Certificate of Analysis would clearly indicate that a purity determination was not performed. If quantitation of the purity of the methamphetamine mixture is required, the evidence may be resubmitted with a written request from the Office of the Commonwealth's Attorney, and the case would then be prioritized. If it is anticipated that a purity determination will be required in advance, the

Commonwealth's Attorney may include the written request with the initial submission of the evidence.

Implementation of Semi-Quantitative Method for Cannabis sativa Plant Material and Rescission of DFS Policy Requiring Court Order for Analysis in Simple Possession of Marijuana Cases

On January 24, 2020, the Department sent a Notice of DFS Policy Change to its user agencies, advising that the semi-quantitative method for *Cannabis sativa* plant material had been validated and implemented at all four DFS laboratories. This new method determines whether plant material samples contain greater than 2% tetrahydrocannabinol (THC) by weight, and therefore, exceed the THC statutory threshold that distinguishes industrial hemp from marijuana.

In this Notice, DFS also rescinded its Policy Notice, dated October 22, 2014, which had required a court order for analysis before plant material could be submitted in simple possession of marijuana cases. Accordingly, in light of implementation of the new semi-quantitative method, DFS began accepting *Cannabis sativa* plant material in simple possession cases without a court order.

Reinstitution of the DFS Policy Requiring a Court Order for Analysis in Simple Possession of Marijuana Cases

On June 23, 2020, the Department disseminated a Notice of DFS Policy Change in response to *Chapters 1285 and 1286 of the 2020 Acts of Assembly*, which decriminalized the simple possession of marijuana for adults and set a civil penalty of no more than $25. Under the new law, there is a rebuttable presumption that a person who possesses no more than one ounce of marijuana possesses it for personal use. For simple possession of marijuana cases occurring after July 1, 2020, DFS reinstituted its policy requiring a court order under Code § 19.2-188.1(B) before plant material suspected to be marijuana can be submitted to DFS for analysis. The reinstituted policy does not apply to cases involving juvenile suspects or where the charge is possession with intent to distribute.

Use of Paint Cans for Trace Evidence Submissions (Fire Debris/Ignitable Liquid Analysis)

On June 10, 2020, a Notice of DFS Policy change was disseminated to all law enforcement agencies served by the Department, regarding use of paint cans for trace evidence submissions. DFS encountered gray, epoxy-lined paint cans that contained an aromatic product, which could interfere with the instrumental analysis of items packaged within the cans and could cause incorrect results in ignitable liquid identifications. As a result, effective on the date of the Notice, DFS began requiring the submission of a control can (i.e., empty, unused) of corresponding size from the same lot with each case. The results of the control can(s) will be reported on the Certificate of Analysis along with the corresponding samples. If ignitable liquids are present in the control can(s), any similar product present in any samples would be clearly reported and qualified.

COVID-Related Notices and Information

DFS has maintained all laboratory testing capabilities throughout the pandemic. Staff have been permitted to work staggered schedules to maintain social distancing and allow for child care.

On March 16, 2020, DFS sent a notice to customers, which advised that DFS is continuing to provide forensic laboratory services and shared information on measures taken to assist in protecting the health and safety of staff and customers. These measures include closing Evidence Receiving from 12:00 – 1:00 p.m. each day for in-depth cleaning and allowing forensic scientists and other staff to stagger their work schedules to allow for social distancing in the laboratory. The notice requested that agencies limit the number of officers they send to submit evidence and/or the frequency they submit evidence, and it reminded customers that the Department maintains video conferencing capabilities for the testimony of forensic scientists if the parties and the court are agreeable. The notice also shared a list of staff email addresses. Finally, it advised that Breath Alcohol operator classes and Forensic Training short courses in all locations were being postponed for the next two weeks.

On March 26, 2020, DFS sent a notice to DFS law enforcement users about additional measures to protect DFS customers and staff during the evidence submission/transfer process. In the notice, DFS encouraged agencies to submit evidence via mail when possible, requested agencies to contact their DFS laboratory to set up an appointment for evidence submissions (if the agency does not currently have a scheduled time), and requested that agencies submit Request for Laboratory Examination forms (RFLEs) via facsimile or email to the appropriate Evidence Receiving Section the day prior to the evidence being delivered to reduce the amount of face-to-face time for evidence submissions at the laboratory, when feasible.

On May 28, 2020, DFS sent information to its customers, advising that, effective Friday, May 29, face coverings would be required for all persons entering DFS facilities. The requirement follows Governor Northam's Executive Order 63 and Order of Public Health Emergency Five. Face covering notice signs prepared by DGS were posted at all public entrances to DFS facilities to advise of the new requirement. DFS staff members are also being required to wear face coverings when interacting with customers face-to-face.

Average Case Turnaround Times Posted on DFS Website

The Department posts, on the DFS website, the average case 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 this statute.

Between October 1, 2019, and September 30, 2020, DFS recommended a total of twenty-four compounds to the Board of Pharmacy for consideration. These compounds included: four synthetic opioids (Schedule I), twelve research chemicals (Schedule I), and eight cannabimimetic agents (Schedule I). Eleven of the twenty-four compounds have been placed into Schedule I via Board of Pharmacy regulation; the remaining thirteen will be scheduled effective November 25, 2020.

Conferences and Presentations

The Department encourages its staff to attend meetings and conferences of its user agencies to give presentations on relevant forensic science issues and to be available for feedback and comment on the services that the Department is providing. From October 1 1, 2019 to September 30, 2020, DFS representatives attended statewide conferences for and gave presentations to the Virginia Association of Commonwealth's Attorneys, the Virginia Association of Chiefs of Police, and the Virginia Chapter of the International Association of Forensic Nurses. DFS staff also participated in the Virginia Cybercrime Initiative, the first ever statewide cybercrime conference. Additionally, staff attended and gave presentations at multiple regional and local meetings of DFS user agencies.

Customer Working Group

The Department worked with the Commonwealth's Attorneys' Services Council to create a DFS Customer Working Group (CWG). CWGs typically consist of laboratory customers and laboratory staff who meet to discuss submissions, laboratory capabilities, and the triaging of evidence for analysis. The DFS CWG includes prosecutors and law enforcement representatives from various agencies throughout the Commonwealth, as well as representatives from DFS. The initial meeting of the CWG was held on May 14, 2020. During the meeting, the Department provided, for each program area, an overview of triaging conducted by DFS as part of evidence submission policies and examinations. The CWG discussed the Department's consideration of marijuana analysis in light of the decriminalization legislation. It is anticipated that the CWG will meet annually or, as needed, when the Department seeks feedback on particular submission policies.

Training

Forensic Training Section

Since 2017, the Department's Forensic Training Section has been able to conduct a third Forensic Science Academy (FSA) session, as well as offer additional short courses, with the assistance of a grant-funded part-time instructor. The position was funded by a Byrne Justice Assistance Grant through September 2020. Beginning October 1, 2020, DFS received funding from DCJS, via an MOU, to continue funding the part-time instructor position through September 2021. This funding will also provide for some supply items related to the third FSA session, and will cover travel expenses for the grant-funded instructor to teach courses outside of the Richmond area.

Each nine-week Forensic Science Academy 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 class for the 100th Session of the Academy graduated on March 27, 2020, which was a week early. In light of the coronavirus pandemic, the last three weeks of the curriculum was covered in two weeks.

Due to the pandemic, the second session of the Forensic Science Academy for 2020, which had been scheduled to begin April 27, was cancelled. The final session for the year, the 101st Session of the Academy, began on September 14, and the class is scheduled to graduate on November 13, 2020.

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. As a result of the pandemic, in April, the Training Section began offering courses virtually. In July, the Training Section resumed in person training in both the Richmond and other regional laboratories. However, due to the success and positive feedback given regarding the virtual courses, the Training Section plans to continue offering them along with in-person courses.

Typically, DFS offers law enforcement training updates at each of the four DFS regional laboratories. These programs, entitled "Laboratory Capabilities and Updates," allow 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. In lieu of in-person trainings at each laboratory, this training was offered to law enforcement personnel across the state remotely on June 18, 2020.

The Virginia Forensic Science Academy Alumni Association Annual Retraining Seminar, which is usually a two and a half day training, was offered as a one-day online training. DFS staff and FSA graduates gave presentations at this seminar, which was coordinated by the Forensic Training Section and attended by 79 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, 2019 through September 30, 2020, the Breath Alcohol Section conducted 39 initial breath alcohol instrument operator (three-day) classes and licensed 624 new operators. During this period, the Section continued to utilize the online recertification course, and, as of September 30, 2020, had offered 21 of these courses, relicensing 1,346 operators online. In addition, the Section conducted 15 in-person relicensing (four-hour) sessions and subsequently relicensed 1,579 operators in person.

Due to the COVID-19 pandemic, in-person classes for both initial and recertification breath alcohol courses were cancelled from mid-March through mid-June 2020. When classes resumed, the Breath Alcohol Section ensured adherence to the Governor's Executive Orders regarding COVID-19 by reducing class sizes to accommodate social distancing requirements. Students are also required to maintain appropriate physical distance, wear face coverings, etc. Instructor Recertification, which was scheduled for September 14-16, 2020, was cancelled due to the pandemic. Instructor licenses are valid for two years so DFS anticipates holding the class before any instructor licenses expire in 2021.

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

Forensic Science Training Program for Attorneys and Judges

In 2018, DFS implemented a forensic science training program for criminal attorneys and judges in Virginia. Each subject offered is provided to attorneys and judges in each of the four DFS laboratories. 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 has not charged for the training. Two offerings have been developed:

- a day-long DNA course designed to help attorneys and judges who use and evaluate DNA testing in their cases to have the background to understand the methods and practices of the discipline; and
- a half-day Driving Under the Influence/Driving Under the Influence of Drugs (DUI/DUID) Training provided by the Department's Breath Alcohol and Toxicology Sections.

DFS had planned to offer the DNA and DUI/DUID trainings again in 2020, but they were cancelled as a result of the coronavirus pandemic. Once the trainings can be resumed, DFS anticipates continuing to add trainings for other disciplines.

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 October 17, 2018 meeting, the Board considered and approved proposed amendments for 6 VAC 40-30, the Regulations for the Approval of Field Tests for the Detection of Drugs. In the fall of 2017, the Department had received a request from a law enforcement agency to approve a handheld Raman spectrometer for the detection of drugs as a field test under these regulations. However, as written, the field test regulations only contemplated the approval of presumptive chemical tests as field tests. The proposed amendments to the regulations expand the definition of field test to include presumptive

mobile instruments and set up a process for the approval of presumptive mobile instruments.

Most, if not all, law enforcement agencies in Virginia have discontinued the use of presumptive chemical tests for powders due to safety concerns with the handling of such potentially lethal compounds. Some of the presumptive mobile instruments, such as the handheld Raman spectrometer, permit field testing of suspected controlled substances without destroying any portion of the sample. Some of these instruments are also able to test the sample through clear plastic or glass packaging.

The proposed text of the amendments to the Regulations were submitted and approved by the Governor's Office in September 2019. They were published in the Register of Regulations on October 28, 2019, and a public comment period ensued. A public hearing was held by the Board on the proposed amendments on January 6, 2020.

At its June 29, 2020 meeting, the Board approved the Final Action on the Proposed Amendments. The Governor's Office approved the Final Action on August 6, 2020. The Final Regulations were published on August 26, 2020 in the Virginia Register, and the amendments went into effect on October 1, 2020.

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 July 14, 2020, and October 14, 2020. A list of members of the Scientific Advisory Committee is included as Attachment B.

Scientific Advisory Committee (SAC) Recommendations/Actions in 2020

- The SAC's Controlled Substances Subcommittee met electronically on July 13, 2020, to review and discuss validation documents (provided to the members in advance of the meeting) for four methods, which address the differentiation of hemp and marijuana and sample preparation experiments pertaining to cannabinoid quantitation (Cannabis 4-Aminophenol Chemical Test Method Validation, Semi-Quantitative Analysis of Total Δ9-Tetrahydrocannabinol (THC) using Gas Chromatography-Flame Ionization Detection (GC-FID) Method Validation, Semi-Quantitative Analysis of Total THC in Alternative Matrices using GC-FID Validation Plan, and Cannabis Plant Material Drying and Decarboxylation Study Plan).

  The Controlled Substances Subcommittee also was provided an overview of three methods in development (Quantitative 174 Analysis of THC, THCA, and Cannabidiol (CBD) using High Performance Liquid 175 Chromatography (HPLC); Quantitative Analysis of THC, THCA, and CBD using GC-FID; and 176 Confirmation of THCA using Tandem Mass Spectrometry). After discussing the validation documents and methods in development, the Subcommittee closed its reviews.

- The SAC's Toxicology Subcommittee met electronically on July 13, 2020, to review and discuss validation/verification documents (provided in advance of the meeting) for six methods (Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) by Liquid

Chromatography Tandem Mass Spectrometry (LCMSMS), Gamma-hydroxybutyrate (GHB) by LCMSMS, Automated Liquid Handling System (Hamilton) Verification Plan, Automated Liquid Handling System (Hamilton) Verification Summary, Fentanyl Derivative Quantitation by LCMSMS, and Fentanyl Derivatives Qualitative Analysis by LCMSMS). The Subcommittee approved a recommendation to have the Department experimentally determine the limit of detection of each compound present versus using an administratively determined limit of detection concentration and then closed its review of the validation/verification documentation for the methods.

The Toxicology Subcommittee also was provided an overview of four methods in development (Barbiturates Quantitation by LCMSMS, Cannabinoids Extraction by Automated Liquid Handling System, Miscellaneous Basic Drug Quantitation by LCMSMS, and Flualprazolam Quantitation by LCMSMS). After discussion, the Subcommittee closed its review of the methods in development.

- The SAC's Forensic Biology Subcommittee met electronically on July 13, 2020, prior to the full Scientific Advisory Committee meeting, to review and discuss the validation of Y-STR Half Reactions on the 3500 Genetic Analyzer and Performance Checks from the four laboratories. Documentation related to the validation had been provided to the Subcommittee in advance of the meeting. After discussion, the Subcommittee closed its review of the validation.
- At its meeting on July 14, 2020, the Scientific Advisory Committee accepted the reports of the Controlled Substances, Toxicology, and Forensic Biology Subcommittees. The SAC heard a presentation from the Department regarding the Serology Case Review, including a summary of nine cases with specific observations, including those recommended for notification. The Serology Case Review found no duplication of the issue observed in the case that prompted the review, and no other isolated or systemic issues that would warrant continuing the review. The SAC recommended to the Board that notification be made in five of the nine cases, if conviction information for the suspects is confirmed, and that the Serology Case Review be closed.
- At its meeting on October 14, 2020, the Scientific Advisory Committee discussed two recently validated Toxicology methods (Fentanyl Derivative Quantitation and Confirmation by Solid Phase Extraction and Fentanyl Derivative Qualitative Analysis by Solid Phase Extraction). Validation documentation for the two methods was provided to the Toxicology Subcommittee members for review in advance, and the Subcommittee members advised the Department that they did not believe a Subcommittee meeting was necessary to discuss the documentation. The SAC closed the review of the validations with a recommendation that the Department consider comments made with respect to validation parameters and potential interferents.

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

PERK Tracking System Overview

Code § 19.2-11.13, which went into effect on July 1, 2020, requires DFS to maintain a statewide electronic tracking system for physical evidence recovery kits (PERKs) and mandates that all health care providers, law enforcement agencies, the Division of Consolidated Laboratory Services (DCLS), and the Office of the Chief Medical Examiner (OCME) update the status and location of each kit in the PERK Tracking System whenever such status or location changes. 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.

The PERK Tracking System[3] is able to track each PERK through every step in the process, including its distribution as an uncollected kit to the collection site (e.g., hospitals) through collection, transfer to law enforcement, submission to the laboratory for analysis, and return to the law enforcement agency for storage. All agencies handling kits are granted access to the System in order to update the status and location of each kit, and victims may use the system to check the status of their kits. Agencies do not need to purchase the system; it is web based, and any agency with internet access may use the system at no charge. By tracking the status of kits entered into the system, DFS will be able to notify law enforcement agencies when collected kits have not been submitted for analysis within 60 days of receipt in accordance with Code § 19.2-11.8. Kits are tracked by their unique ID number or barcode; no personally identifying information is captured in the system.

Now that agencies across Virginia are actively using the PERK Tracking System, 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. Despite use of the System being mandatory beginning July 1, 2020, not all actions performed on PERKs ultimately get logged in the PERK Tracking System. For example, not all agencies handling PERKs have been trained and granted System access, which means that not all actions performed on PERKs are being logged into the System and

[3] DFS received funds, as a sub-recipient under the SAKI grant awarded to the Attorney General's Office, to contract with its Laboratory Information Management System (LIMS) vendor to develop PERK tracking software that is integrated with the DFS LIMS.

accounted for within the PERK Tracking System data. This 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 the subsequent entries of agencies downstream.

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 skipped entirely.

PERK System Users

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/survivors 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. The primary actions collection site users log in the System are:

- The receipt of new kits;
- The collection of anonymous[4] and offense reported kits;
- The transfer of anonymous kits to DCLS for storage; and
- The transfer of offense reported kits to the investigating law enforcement agency.

Pursuant to Code § 19.2-11.13, health care providers (i.e., collections sites) are required to provide sexual assault victims with their kit's unique PERK ID number and information regarding the System. DFS created a form, entitled "Information for Victims/Survivors – How to Track Your PERK," that collection sites may use to inform

[4] Code § 19.2-11.5 defines anonymous PERK as a kit collected from a victim of sexual assault through a forensic medical examination where the victim elects, at the time of the examination, not to report the sexual assault offense to a law enforcement agency.

victims about the System, including how to access information about their kit and what their kit's unique PERK ID number is. The form is available in English and Spanish on the collection site user homepage and by using the link below:

https://www.dfs.virginia.gov/wp-content/uploads/2020/03/Forensic-Program-Victim-Portal-Access-Form_revised03122020.pdf

The PERK Tracking System homepage for collection site users also provides kit list screens that generate lists of kits that meet certain criteria. For example, collection site users can view a list of new kits at their agency that are available for collection or a list of collected kits that are pending transfer to either law enforcement or anonymous storage. They can also generate lists that show kits their agency has collected or transferred out. All kit lists can be exported to Excel, which can assist users with their inventory or workflow management. They can also take action on specific kits directly from the kit list screens.

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. The primary actions they log in the System are:

- The receipt of offense reported kits from collection sites, other law enforcement agencies, and DCLS;
- The transfer of kits to DFS for analysis or to other law enforcement agencies when an investigation is transferred;
- The receipt of kits from DFS after analysis;
- The designation of a statutory reason for non-submission when a kit is determined to be exempt from submission to DFS; and
- The granting of victim PINs so that victims/survivors can access the Victim Portal, provided access will not interfere with the investigation or prosecution of the offense.[5]

Law enforcement can also use the PERK Tracking System to manage their PERKs through kit list screens designed specifically for law enforcement users. For instance, law enforcement users can view a list of kits that are pending submission to DFS for analysis or that are past the 60-day deadline for DFS submission. They can also generate a list that shows kits their agency has exempted from submission by statutory reason. From these kit

[5] Virginia Code § 19.2-11.11 provides victims with the right to request and receive information from the law enforcement agency regarding the submission of their PERK for forensic analysis, the status of any analysis, and the results of any analysis, unless disclosing this information would interfere with the investigation or prosecution of the offense. Analysis results are not available in the Victim Portal, but it will show when/if a report has been issued.

lists, law enforcement users can take action on kits they select or they can export the information to an Excel spreadsheet.

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 primary actions that DCLS logs in the System are:

- The receipt of anonymous kits;
- The extension of a destruction due date; and
- The transfer of kits to law enforcement when they become offense reported kits.

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/survivors 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), that information is automatically pushed through to and updates 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. The primary actions entered into the System by DFS are as follows:

- The transfer of new kits to collection sites;
- The receipt of kits for analysis;
- The issuance of a report; and
- The return of kits to law enforcement after completion of analysis.

Victim Portal

The PERK Tracking System includes a Victim Portal, which allows victims/survivors 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. The health care provider performing the forensic examination and collecting the kit is required by Code § 19.2-11.13 to provide sexual assault victims with their kit's unique PERK ID number, as well as information regarding the System.

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. 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, 2020, 53 Victim PINs have been granted by law enforcement. DFS cannot determine whether or not these PINs were actually used to access the Victim Portal.

Once a victim obtains access to the Victim Portal, in addition to viewing the status and location of their kit, the victim can view contact information for victim helplines and other victim resources. There is additional information in the Portal, which varies depending on whether it is an anonymous or reported offense. For anonymous kits, victims will see information about how to report the offense to law enforcement and how to delay the kit's scheduled destruction date. For reported offenses, the System 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 is available.

For victims who do not have their PERK ID and/or victim PIN in order to access the System to view their kit information, 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. There is also a link to a Victim Portal User's Manual and to a list of answers to Victim/Survivor Frequently Asked Questions.

PERK Tracking System Training

Use of the PERK Tracking System became mandatory effective July 1, 2020 pursuant to Code § 19.2-11.13; however, users from law enforcement agencies, collection sites (e.g., the OCME, hospitals, medical centers, clinics, and community-based centers that provide assistance to victims/survivors of sexual and/or domestic violence), and DCLS were provided training and granted access to the System prior to the mandatory start date. DFS began beta testing in June 2019 with the training and registration of beta test users at DCLS, the VCU Health System, the Richmond Police Department, the Henrico County Police

Division, and the Virginia Commonwealth University Police Department. In the fall of 2019, DFS began a statewide rollout of the PERK Tracking System.

During the statewide rollout of the System, DFS offered multiple training method options in order to accommodate the unique needs and schedules of user agencies. Users must complete the PERK Tracking System training before they are granted access to the System.

Collection Sites

Collection sites were primarily provided video training, which required they watch an approximately 30-minute video and review several handouts.[6] They were also given the option of scheduling an interactive web training via Google Meet, if preferred. Training options for collection site users were advertised on the DFS website and at statewide regional conferences. DFS also contacted known collection sites directly to enroll their staff in training.

As of September 30, 2020, DFS identified 25 collection sites which routinely collect PERKs.[7] An initial group of collection sites was identified based on the list of Virginia Forensic Nurse Services provided in the Joint Commission on Health Care's 2019 report entitled "Forensic Nursing in the Commonwealth"[8] and confirmed through additional research and outreach. Other collection sites were identified over time via information from victim advocates, law enforcement, and health care professionals who may provide services across two or more collection sites.

The majority of identified collection sites (72% or 18 collection sites) were trained and given access to the PERK Tracking System prior to the July 1, 2020 mandatory start date, and four collection sites were trained and granted access between July 1, 2020 and September 30, 2020. Two collection sites have yet to respond to multiple invitations for training, and one collection site has recently opened and has not yet started handling PERKs. Of the 22 collection sites that have been trained and granted access to the System, 18 (82%) are active System users.[9]

Law Enforcement

Law enforcement users were provided three options for training:

1. Video training, in which they viewed an approximately 50-minute video and reviewed several handouts;

[6] Each OCME district office was provided either in-person/live web training rather than a training video.
[7] OCME is not included in this count of collection sites.
[8] http://jchc.virginia.gov/Forensic%20Nursing.pdf
[9] An "active System user" is defined as an agency that has initiated at least one action in the System.

2. Agency-specific interactive web training, where the agency could schedule an individualized training through Google Meet; or
3. Attending one of six live webinars that were held throughout May and June 2020.

Training options for law enforcement users were advertised on the DFS website and at statewide regional conferences. Information on training for law enforcement users was also posted on the Department of Criminal Justice Services training web page, listed on flyers posted in the Evidence Receiving Section at each DFS regional laboratory, and sent via email to the Virginia Forensic Science Academy Alumni Association, the Virginia Sheriff's Association, and the Virginia Association of Chiefs of Police.

Prior to the mandatory start date for use of the System, half of all law enforcement agencies who handle PERKs[10] (167 of 316 agencies) were trained and granted System access. An additional 27 law enforcement agencies (9%) completed training and were granted access to the System between July 1, 2020 and September 30, 2020. Four law enforcement agencies are still in the process of completing training, and the remaining 118 law enforcement agencies (37%) have yet to begin training.

DFS has reached out to, and not yet received responses from, 117 of the 118 law enforcement agencies that have yet to receive training. Contact information could not be located for the remaining agency. An additional 51 law enforcement agencies (29 non-primary law enforcement sheriffs[11] and 22 regional jails) were not contacted regarding training prior to the July 1 mandatory start date because they do not (or very rarely) handle PERKs; however, DFS will be contacting these agencies regarding use of the System.

Of the 194 law enforcement agencies that have been trained and granted access to the System, 120 (62%) are active System users. Not all law enforcement agencies with System access may be active users at this point in time because they may not have handled any PERKs since they were granted System access or use of the System became mandatory (whichever came first).

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 their victim advocates with viewer-only access to their agency account. However, without access, being knowledgeable about the

[10] The total count of law enforcement agencies who handle PERKs (316) excludes non-primary law enforcement sheriffs (30) and regional jails (22).
[11] Although there are 30 non-primary law enforcement sheriffs, one has been trained and granted access to the PERK Tracking System. This single non-primary law enforcement sheriff's office is not included in the total count of law enforcement agencies who handle PERKs (316) or the subset of such agencies trained and granted System access (194).

System will assist the advocates in supporting victims/survivors. Accordingly, through statewide conferences and webinar presentations, DFS has provided PERK Tracking System training to victim advocates so they can inform victims/survivors of their right to access the System, as well as what information is available to them through the Victim Portal.

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. 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. 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 by user agencies, and they were not logged into the System by DFS before distribution. Additionally, non-Virginia kits also have unique ID numbers, and user agencies have been provided information on how to enter those kits into the System.

During the training on the System, agencies were advised of the requirement to enter kits they handle into the System effective July 1, 2020, but 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, 2020, 6,664 kits have been entered in the PERK Tracking System. Of these kits, the vast majority (95%, 6,342) are barcoded PERKs (including barcoded OCME PERKs), while the remaining kits are composed of non-barcoded legacy PERKs (5%, 308), and non-Virginia kits (14, <1%).

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, 2020, there were 504

anonymous kits in the System with a post-collection status.[12] This figure includes 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, 2020, there were 2,093 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. Between July 1, 2019 and September 30, 2020, 31 kits in anonymous storage at DCLS became offense reported and were transferred to the investigating law enforcement agency. This is <1% of the 469 kits that were received by DCLS during that same time period.

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 July 1, 2019 through September 30, 2020, a total of 1,031 kits have been logged as collected.[13] Of these kits, a vast majority were logged as collected by Virginia (non-OCME) collection sites (97% or 996 kits). The OCME logged the collection of 32 kits (3%). Less than one percent of all kits logged as collected were collected at Tennessee hospitals[14] (3 kits).

Kits Received by DCLS for Anonymous Storage

Between July 1, 2019 and September 30, 2020, DCLS has logged the receipt of 469

[12] Post-collection status refers to current kit statuses that reflect that the kit has been 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.

[13] 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.

[14] 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 for anonymous storage.

Kits Received by Law Enforcement from Collection Sites or DCLS

Between July 1, 2019 and September 30, 2020, law enforcement users have logged the receipt of 881 kits from various collection sites or DCLS.

Kits Received by DFS for Analysis

From July 1, 2019 through September 30, 2020, DFS has logged the receipt of 1,541 kits from law enforcement for analysis. Since July 2019, DFS has logged the receipt of an average of 103 kits per month for analysis (median: 96 kits).

Counts of Kits Logged as Received for Analysis by the Virginia Department of Forensic Science* *(by month)*	
July 2019	56
August 2019	67
September 2019	89
October 2019	100
November 2019	94
December 2019	88
January 2020	116
February 2020	96
March 2020	109
April 2020	68
May 2020	96
June 2020	112
July 2020	155
August 2020	161
September 2020	134
TOTAL	**1,541**

*Kits logged as received from law enforcement by DFS for analysis; only includes the initial submission of kits that were submitted multiple times.

Kits counted in this table 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, 2020, 3,615 new barcoded victim PERKs (including OCME victim PERKs) have been distributed for collection. Of these distributed barcoded PERKs, 1,306 are still available for collection, 400 barcoded kits are anonymous, 265 barcoded PERKs are offense reported kits pending submission for analysis, 1,532 barcoded kits have been submitted to DFS for analysis, and 82 barcoded PERKs are exempt because they are 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. Twenty-five barcoded kits were removed from the System because they were used for training purposes, and five barcoded kits were destroyed.

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.[15] 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, 2020, 178 kits have been exempted from submission by law enforcement users.[16] Thus far, the most widely designated statutory reason for non-

[15] 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.

[16] 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.

submission is "not connected to crime"; 112 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 (25 of 37 kits) comes from a single metropolitan law enforcement agency that back-entered actions performed on older legacy PERKs.

There are 8 kits that have been designated as exempt from submission as a result of being collected as part of a routine death investigation, 19 kits that have been exempted because the kit was being transferred to another law enforcement agency for investigation, and two 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 the affected 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 October 1, 2020. Of the law enforcement agencies that were notified, 18 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 2.2 kits that did not have the necessary actions taken on it within the mandated 60-day window.

Nine agencies had one or more kits logged as transferred to their agency more than 60 days ago, and no further action had been logged in the System with respect to the kit. Agencies in this category had, on average, about 2.2 kits that required further action.

Conclusion

Although DFS began using the System in June 2019 with a handful of beta test users, statewide use of the System was not mandated until July 1, 2020, and, as of October 1, 2020, there are still agencies that have not been trained and granted access to the System. DFS plans to continue its outreach to identified collection site and law enforcement user agencies that are not on the System to facilitate their training so they can be granted access. By next year, DFS anticipates that more agencies will be accustomed to and regularly using the System, and that there will be more complete data to analyze.

Attachment A

FORENSIC SCIENCE BOARD MEMBERS

(as of October 1, 2020)

- **Colonel Gary T. Settle** – Term: period in office or employment
  Superintendent of the Virginia State Police
- **Shannon Dion** – 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 (Vice Chair)** – Term: period in office or employment
  Executive Director of the Virginia Board of Pharmacy
- **Holli Wood** – Term: period in office or employment
  Designee of Attorney General Mark R. Herring
- **Karl R. Hade** – Term: period in office or employment
  Executive Secretary of the Supreme Court of Virginia
- **The Honorable Charniele L. Herring, Delegate** – Term: period in office or employment
  Chair of the Virginia State Crime Commission
- **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 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** – Term: ending 6/30/2021
  Governor Appointee – Member of Law Enforcement
- **Colette W. McEachin** – Term: ending 6/30/2021
  Governor Appointee – Member of the Virginia Commonwealth's Attorneys Association
- **David R. Lett (Chair)** – Term: ending 6/30/2021
  Governor Appointee – Criminal defense attorney with special knowledge in the area of forensic sciences

Attachment B

SCIENTIFIC ADVISORY COMMITTEE MEMBERS

(as of October 1, 2020)

- **Linda C. Jackson** – Term: period in office or employment
  Director of the Department of Forensic Science
- **Les Edinboro, Ph.D.** – Term: ending 6/30/2023
  Governor Appointee – Director of a private or federal forensic laboratory located in the Commonwealth
- **Jami St. Clair** – 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
- **Robin W. Cotton, Ph.D.** – Term: ending 6/30/2021
  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** – Term: ending 6/30/2023
  Governor Appointee – Forensic Biologist
- **Maureen C. Bottrell (Vice-Chair)** – Term: ending 6/30/2022
  Governor Appointee – Trace Evidence Scientist
- **Vacant**
  Governor Appointee – Toxicologist certified by the American Board of Forensic Toxicologists
- **Kenneth Zercie** – Term: ending 6/30/2023
  Governor Appointee – Member of the Board of the International Association for Identification
- **Travis Spinder** – Term: ending 6/30/2021
  Governor Appointee – Member of the Board of the Association of Firearms and Toolmark Examiners
- **Randall E. Beaty** – Term: ending 6/30/2022
  Governor Appointee – Member of the International Association for Chemical Testing
- **Kathleen Corrado, Ph.D. (Chair)** – Term: ending 6/30/2021
  Governor Appointee – Member of the American Society of Crime Laboratory Directors