



Central (Richmond)



Northern (Manassas)



Eastern (Norfolk)



Western (Roanoke)

DEPARTMENT OF FORENSIC SCIENCE UPDATE

Linda C. Jackson, Director

Presented to the Forensic Science Board

October 9, 2024





Forensic Science Week(s)



CERTIFICATE of RECOGNITION

By virtue of the authority vested by the Constitution in the Governor of the Commonwealth of Virginia, there is hereby officially recognized:

FORENSIC SCIENCE WEEK

WHEREAS, access to state-of-the-art forensic analysis significantly improves the investigation of criminal activity, aiding in the exoneration of the innocent and the prosecution of the guilty; and

WHEREAS, crime scene investigators in law enforcement agencies across the Commonwealth have been trained in the Forensic Science Academy for the past 50 years to locate, recognize, document, collect, preserve, and properly package items of physical evidence for examination; and

WHEREAS, scientists at the Department of Forensic Science provide accurate and reliable analysis of recovered evidence and submitted samples in the Controlled Substances, Digital & Multimedia Evidence, Firearms & Toolmarks, Forensic Biology, including the DNA Data Bank, Latent Prints & Impressions, Toxicology, and Trace Evidence Sections; and

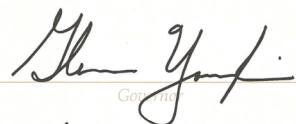
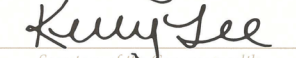
WHEREAS, the Department of Forensic Science advances the understanding of forensic science through its discipline-specific trainings for Virginia attorneys and judges, its scientific research, and its Forensic Training and Breath Alcohol Sections, which offer a variety of training programs for law enforcement in crime scene technology and licensure for breath test operators; and

WHEREAS, professional organizations across the nation recognize and celebrate National Forensic Science Week; and

WHEREAS, the Commonwealth's forensic science community is recognized and appreciated for their hard work, dedication, and commitment to providing quality and unbiased scientific analysis in support of the cause of justice;

NOW, THEREFORE, I, Glenn Youngkin, do hereby recognize September 15-21, 2024, as **FORENSIC SCIENCE WEEK** in the COMMONWEALTH OF VIRGINIA, and I call this observance to the attention of all our citizens.




Governor

Secretary of the Commonwealth

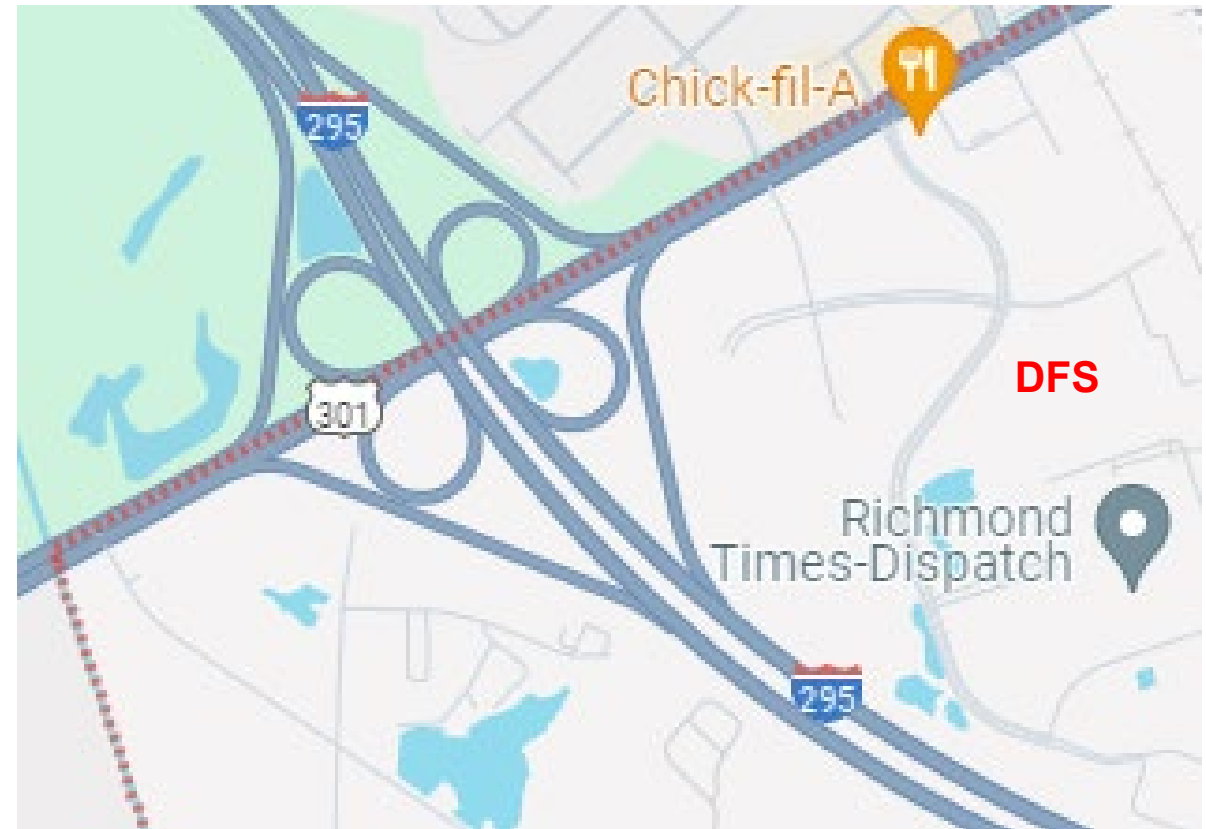
- September 15 – 21, 2024
- Celebrated service milestones of 43 staff members
- Provided tours of Central Lab for state employees
- Held section meetings and trainings for Controlled Substances, Latent Prints & Firearms Sections
- Offered games and recognition activities



Central Laboratory Capital Project

- On schedule for completion in Q4 2025
- Building updates available online

<https://dfs.virginia.gov/regional-labs/new-central-laboratory-facility/>





<https://www.youtube.com/watch?v=Ea7y3VBTEiw>



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

**Virginia Department of Forensic Science
Crime Laboratory System**

Fulfills the requirements of

ISO/IEC 17025:2017

Accreditation Requirements for Forensic Testing and Calibration (2023)

FBI Quality Assurance Standards for Forensic DNA Testing Laboratories:2020

FBI Quality Assurance Standards for DNA Databasing Laboratories:2020

In the field of

Forensic Testing & Calibration

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scopes of accreditation can be verified at www.anab.org.


Pamela L. Sale, Vice President, Forensics



Expiry Date: 30 September 2026
Certificate Numbers:
FT-0051
FT-0052
FT-0053
FT-0054
FC-0004



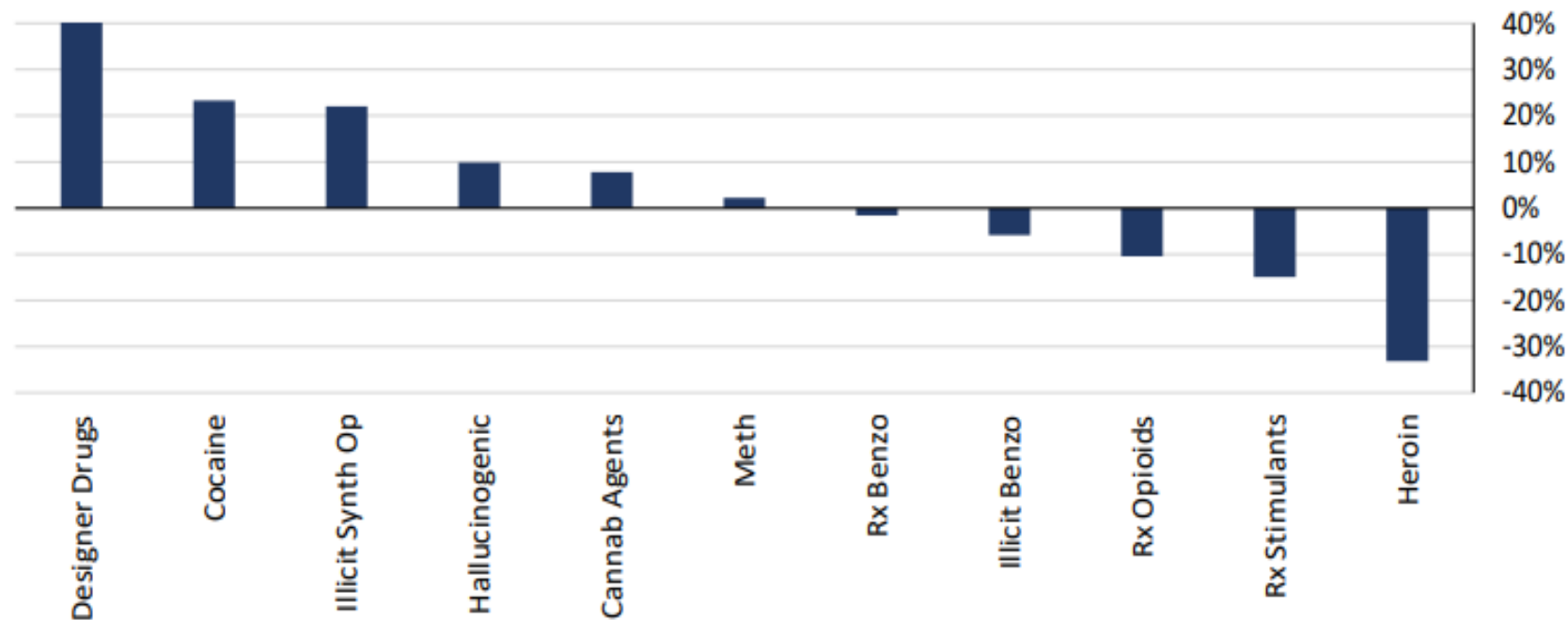
Accreditation

- Notified on September 16 of continuation of accreditation
- Certificates and Scopes are available on the DFS website: <https://www.dfs.virginia.gov/about-dfs/accreditation/accreditation-documentation/>
- Current cycle expires September 30, 2026



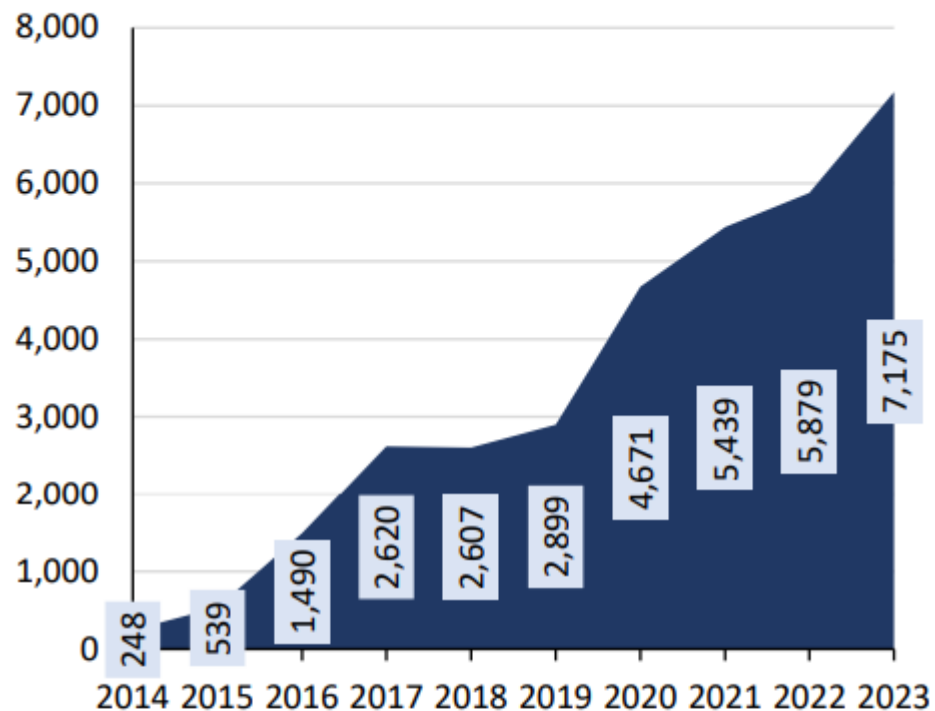
Drugs Submitted in CY 2023 Report

Change in Submissions—CY 2022 to 2023



<https://dfs.virginia.gov/wp-content/uploads/2023DFSDrugReport.pdf>

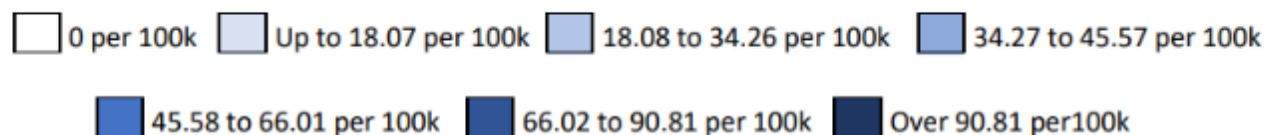
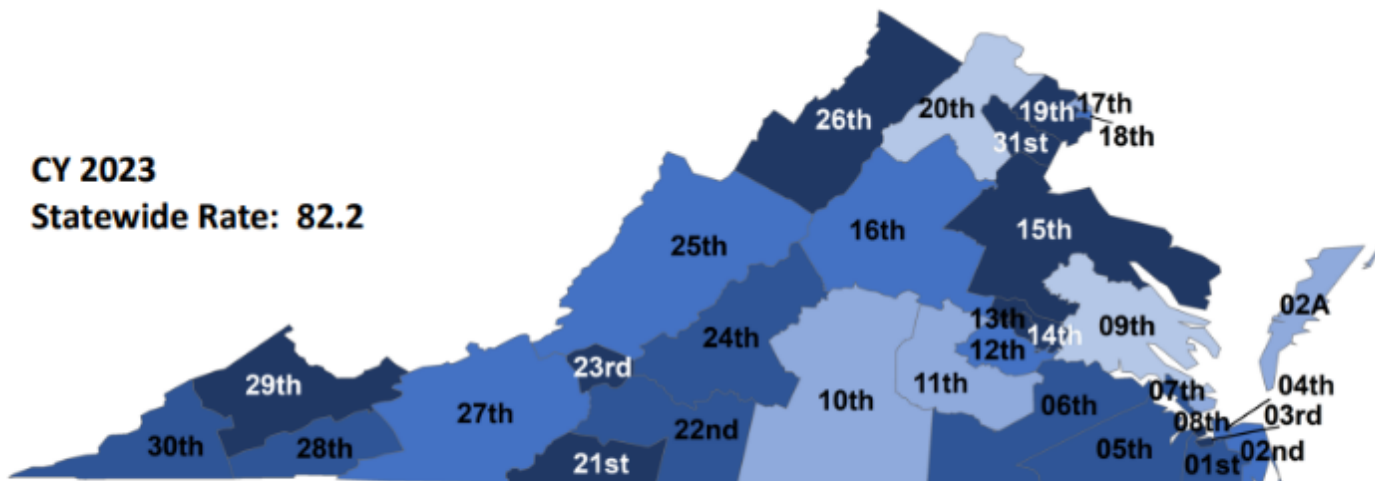
Illicit Synthetic Opioid Submissions CY2014-2023



Illicit Synthetic Opioids Identified*

Substance Identified	CY2015-17	CY2018-20	CY2021-23
Fentanyl	3,309	9,783	18,110
Fentanyl Analogs			
Para-Fluorofentanyl	1	24	1,613
Acetyl Fentanyl	82	514	156
Fluoro-isobutyryl fentanyl	400	223	3
Furanyl Fentanyl	766	25	1
Fentanyl Analog - Other	135	158	32
Other Illicit Synthetic Opioids	370	212	145

CY 2023
Statewide Rate: 82.2



Top Ten

The ten most common substances identified in 2023 were:

1. Methamphetamine
2. Cocaine
3. Fentanyl
4. Marijuana*
5. N,N-dimethylpentylone
6. Buprenorphine
7. Xylazine
8. Naloxone*
9. Heroin
10. Oxycodone

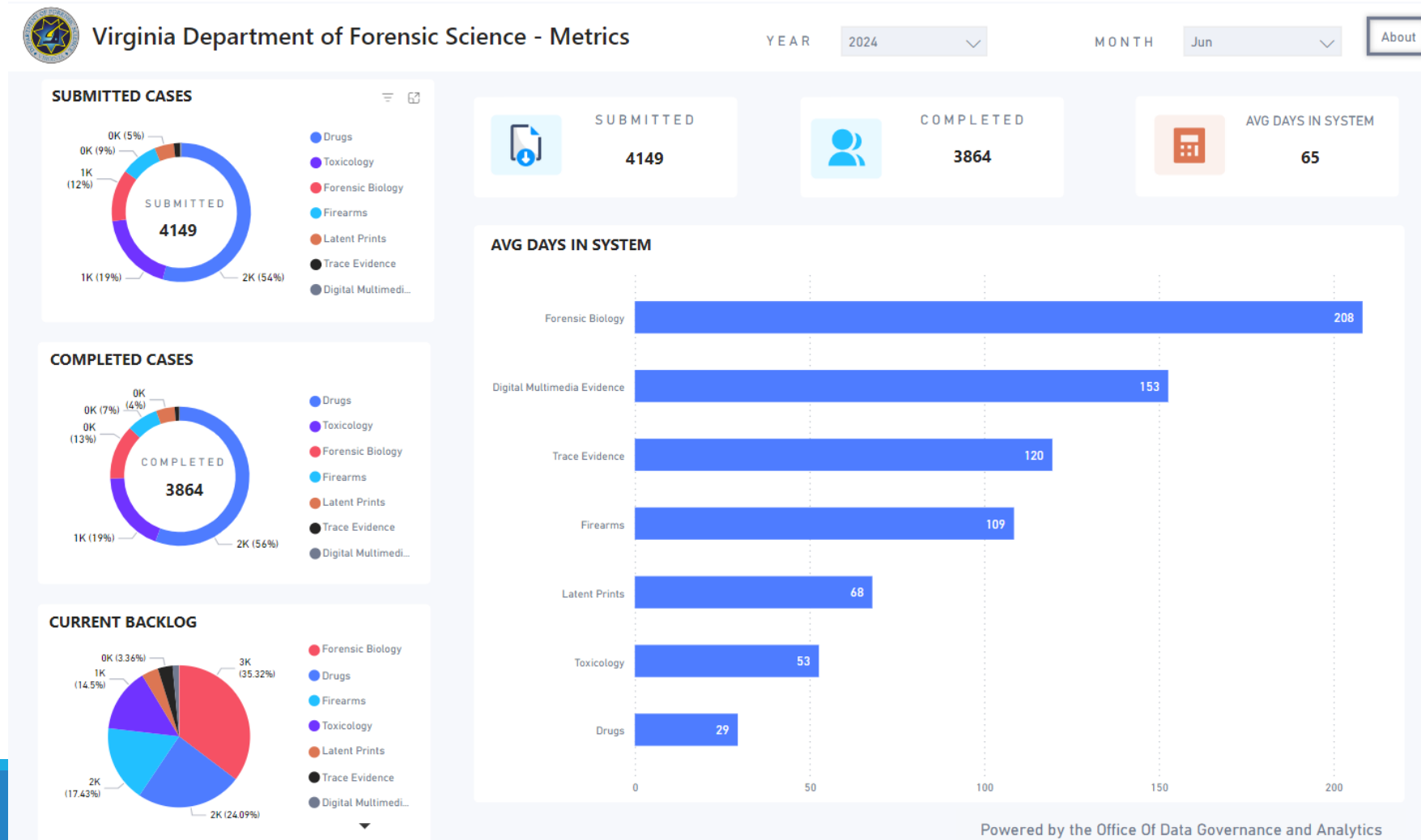
*Marijuana and naloxone are not included in this report



Working on Drug Dashboard

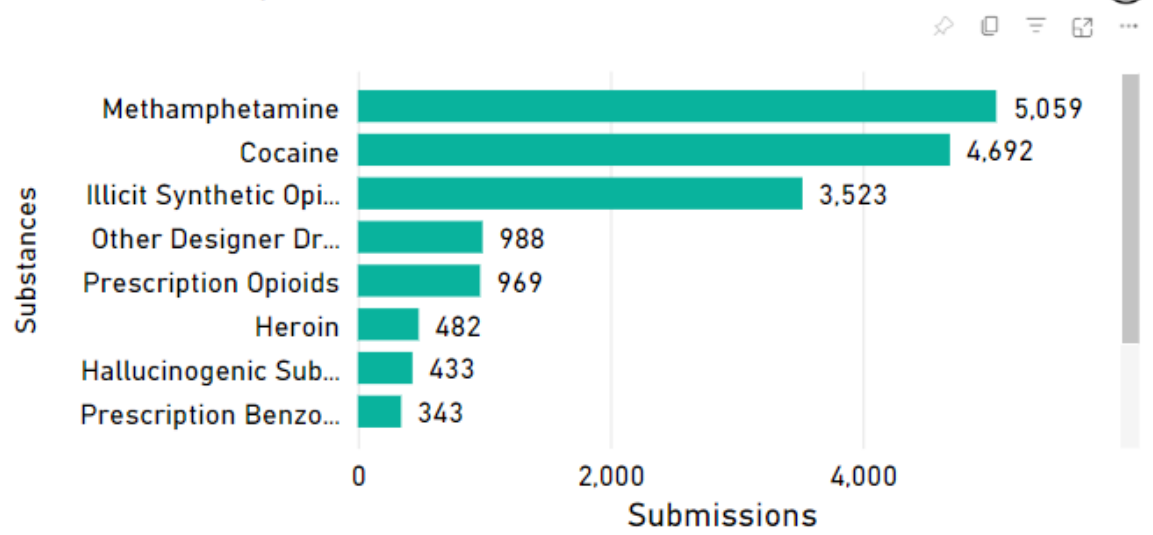
- Project with the Office of Data Governance and Analytics (ODGA)
- Using same data as in annual reports (based on NFLIS data)

<https://dfs.virginia.gov/about-dfs/case-statistics-dashboard/>

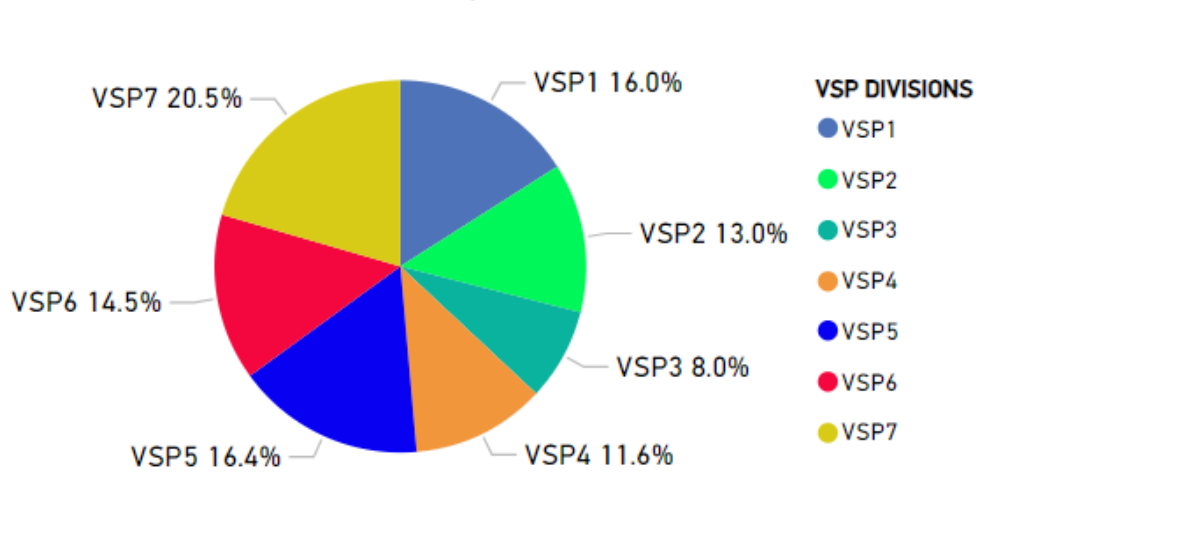




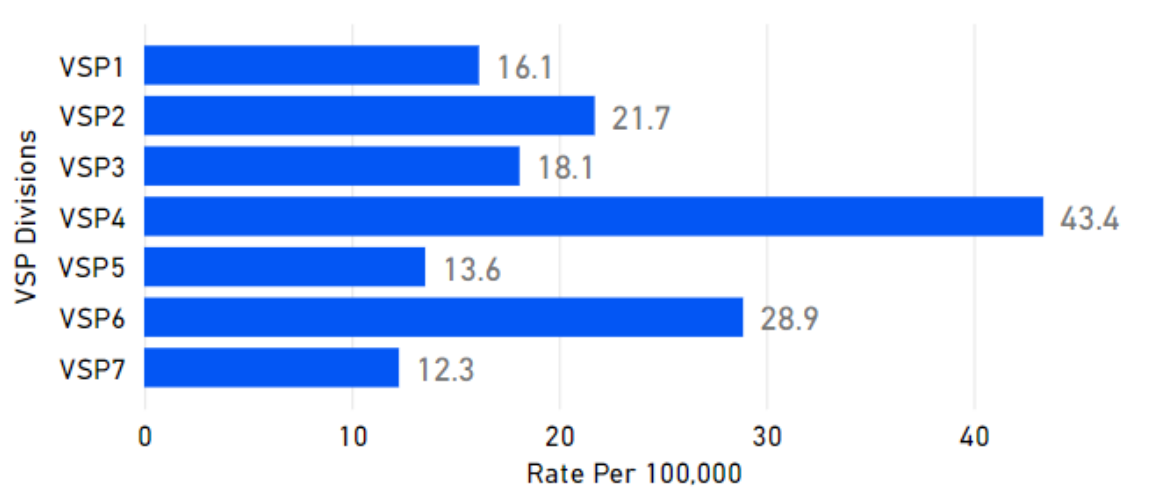
Submissions by Calendar Year



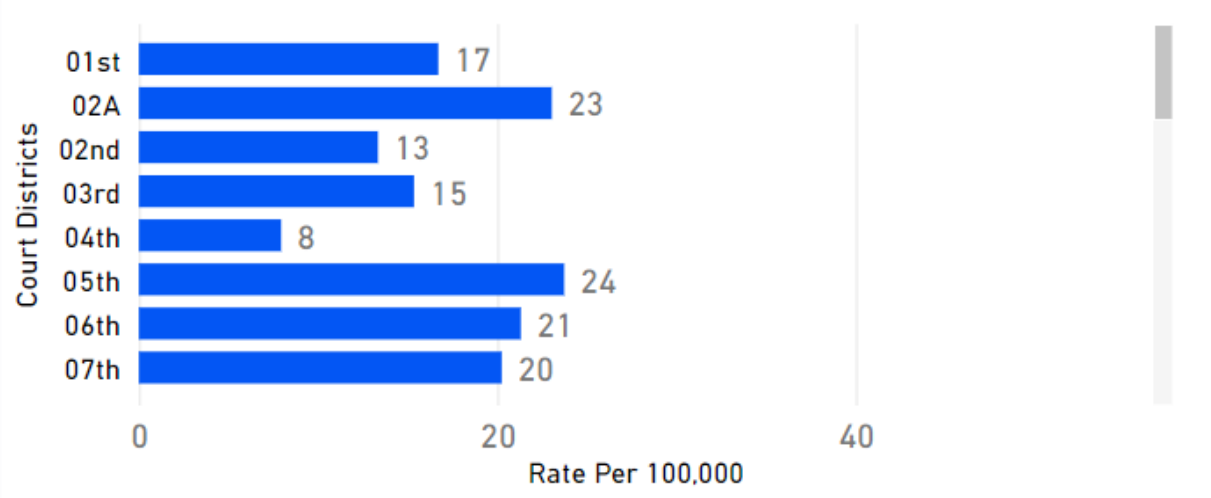
Submissions Breakdown by VSP Divisions



Submissions by VSP Divisions



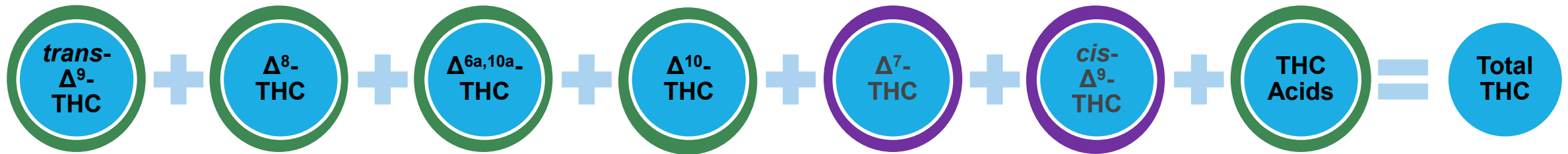
Submissions by Court Districts



*Rate = Distribution*100,000/sum of population

*Rate = Distribution*100,000/sum of population

Total THC includes sum of THC and THC acid for all isomers

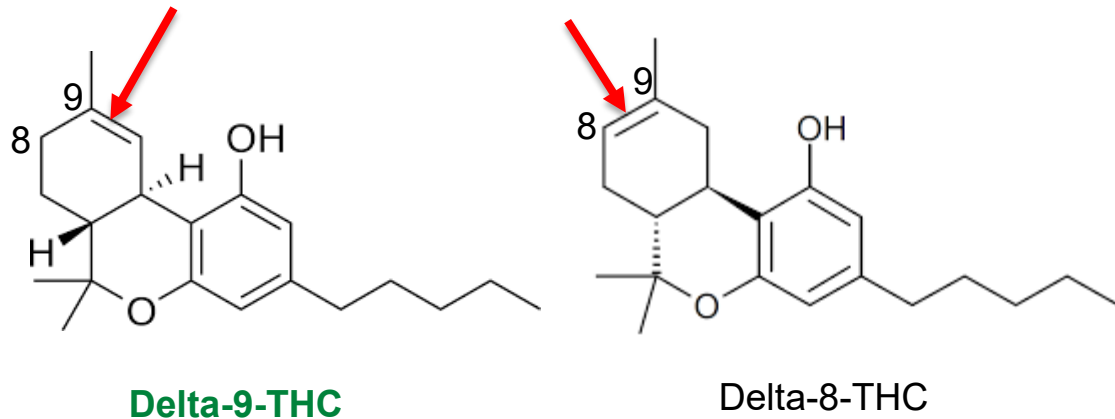


- Total THC greater than 0.3% is marijuana
- DFS expanded semi-quantitative method from *trans*- Δ^9 -THC to include the most common THC isomers and their acids
- Most recent validation will add *cis*- Δ^9 -THC and Δ^7 -THC
 - SAC Controlled Substances Subcommittee completed review

Tetrahydrocannabinols

Isomers

- Something was moved (different version of the same chemical compound)
 - Delta-8-THC, **Delta-9-THC**, Delta-10-THC, Delta-6a,10a-THC



§ 3.2-4112. Definitions.

"Tetrahydrocannabinol" means any naturally occurring or synthetic tetrahydrocannabinol, including its salts, isomers, and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible within the specific chemical designation and any preparation, mixture, or substance containing, or mixed or infused with, any detectable amount of tetrahydrocannabinol. For the purposes of this definition, "isomer" means the optical, position, and geometric isomers.

"Total tetrahydrocannabinol" means the sum, after the application of any necessary conversion factor, of the percentage by weight of tetrahydrocannabinol and the percentage by weight of tetrahydrocannabinolic acid.

Board of Pharmacy Expedited Scheduling



DFS recommended two (2) compounds in July 2024. The compounds were considered at the Board's September 24th meeting and are pending final approval.

Depressant Properties:

- Phenazepam

Cannabimimetic Agent:

- MDMB-5Me-INACA



Toxicology – THC Results

- ~25% of cases with BAC >0.100 % w/v had a quantifiable THC concentration (CY23 = ~23%)
- Reduction in "Inconclusive" results due to new methodology

CY23 DUID and DUI+THC Case Statistics		
	Cases with BAC ≥0.100% w/v	Cases with BAC <0.100% w/v
Average THC Concentration	0.0053 mg/L	0.0082 mg/L
Median THC Concentration	0.0035 mg/L	0.0045 mg/L
First Half CY24 DUID and DUI+THC Statistics		
Average THC Concentration	0.0060 mg/L	0.0079 mg/L
Median THC Concentration	0.0035 mg/L	0.0049 mg/L



Post-Conviction Project

- Batches of evidence identified in case files and dried sample extracts have been returned to 55 law enforcement agencies
 - 12 additional batches are ready for pickup

Forensic Training



- 50th Anniversary of Forensic Science Academy
- 112th FSA Session graduated June 28, 2024
- FSA Annual Retraining Conference was held September 2024
- 113th FSA Session began September 16 (graduation is scheduled on November 15)

Request for Laboratory Examination

FS Lab #

Agency Information

Agency Name *
Jurisdiction of Offense

Officers

Type	Name	Phone	Fax	Email
Investigating	Smith, M. E.			

[Edit](#) / [Delete](#)

Case Information

Agency Case #
Offense Date *
Offense *
Court
Court Date
Return Method

Parties of Interest

Type	First	Middle	Last	DOB	GENDER	RACE	SID
Suspect	John		Doe		Male		

[Edit](#) / [Delete](#)

Business

Type	Name	Address
------	------	---------

(No Businesses)

Evidence

Agency Item #	Prelog Item #	Description	Exam	Comment
2		1 zip lock bag	Drugs	

[Edit](#) / [Delete](#)

Statement of Facts

Found suspected drugs.

Prelog Update



- DFS is moving closer to offering Prelog for evidence submission
- Preliminary beta testing has begun
- New version of FA is scheduled to be released October 10, which will prompt additional testing
- Training will be provided prior to implementation



Mary Jane Burton Case Review

- Notification letters sent to 174 law enforcement agencies and 125 localities
- Information regarding convictions being returned from law enforcement agencies, Commonwealth's Attorneys and Clerks of Court
- DFS has begun notification of defendants, prioritizing those that are currently incarcerated for a Burton case once identified by the Virginia State Crime Commission
 - DFS has been able to verify convictions, with the assistance of CAs' Offices and VSCC, for currently incarcerated individuals in 75 cases (65 individuals).
- DOC pushed general notice to all incarcerated individuals
- DFS will now begin to determine the conviction status on the remaining cases and notify those affected individuals, offering DNA testing if evidence is available and the parties agree or a court order is entered for that testing

Customer Notice – Private Labs for DNA

- For some cases, law enforcement agencies may want to utilize a private laboratory for DNA analysis.
- This most often occurs when law enforcement wishes to utilize emerging technology that is not yet offered by DFS.
- Prior to initiating any testing by a vendor, LEAs should discuss the sought after testing with DFS Forensic Biology supervisory staff.
- Some vendors provide types of DNA analyses that cannot currently be uploaded and searched in CODIS.
- When uploading and searching DNA profiles, DFS must comply with NDIS Operational Procedures.



COMMONWEALTH of VIRGINIA

DEPARTMENT OF FORENSIC SCIENCE

OFFICE OF THE DIRECTOR
A Nationally Accredited Laboratory
dfs.virginia.gov

700 North 5TH Street
Richmond, Virginia 23219-1416
(804) 786-2281 FAX (804) 786-6857

DFS POLICY NOTICE

To: All Agencies Served by DFS
From: Linda C. Jackson, Director
Date: August 1, 2024 *LCJ*
RE: **Utilization of Private Laboratories for DNA Cases**

For some cases, Virginia law enforcement agencies may want to utilize a private laboratory for DNA analysis of evidence. This most often occurs when law enforcement wishes to utilize emerging technology that is not yet offered by the Virginia Department of Forensic Science (DFS). To ensure that the law enforcement agency (LEA) is appropriately informed regarding potential pitfalls in the use of a private laboratory, DFS provides the following caveats below. LEAs seeking to contract with a private laboratory should discuss potential issues with the vendor laboratory before testing is initiated.

- (1) DFS can identify potential private laboratories that may conduct the testing sought by the law enforcement agency, but it will not recommend one vendor over another. Agencies should conduct the appropriate research with fellow LEAs to determine which vendors have provided the best services to others in other cases/investigations.
- (2) Prior to initiating any testing by a vendor, LEAs should discuss the sought after testing with the Forensic Biology Program Manager, the Assistant Forensic Biology Program Manager, or one of the Forensic Biology Section Supervisors from DFS. DFS staff can confirm that the appropriate Memorandum of Understanding (MOU) is in place if needed prior to the contracting for services by the LEA with the selected vendor.
- (3) **The MOU must be in place with the selected vendor BEFORE ANY TESTING IS CONDUCTED to ensure that any DNA profiles developed during the analysis can be uploaded and searched in the Combined DNA Index System (CODIS) by DFS.** This requires that the vendor agree to (a) comply with the accreditation requirements under federal law, (b) comply with the Quality Assurance Standards for Forensic DNA Testing Laboratories, (c) submit to on-site visits either by the DFS Technical Leader or their designee or submit to an on-site visit by a designated FBI employee, and (d) cooperate with DFS on any technical review or verification process DFS may require for DNA data developed.



Forensic Investigative Genetic Genealogy

- DFS does not conduct the ancestry DNA testing needed for FIGG
- DNA data developed using ancestry testing is not suitable for searching in CODIS
- Agencies will need to contract with private laboratory for FIGG testing
- How can DFS help?
 - By reviewing case files previously tested by DFS help determine which samples may most likely yield a useable result
 - By providing quantitation and other technical information regarding the DNA extracts created during the previous testing to the agency or the contracted laboratory



Developments with Rapid DNA

- Rapid DNA instruments are in place in two LE agencies: Virginia State Police and Fairfax PD
 - They each have a different instrument type (ANDE and Thermo Fisher)
 - Both agencies have had several Rapid DNA success stories, including body identifications
- Non-crime laboratory uses of these instruments are currently limited to booking station applications and casework/reference samples that do not need to be searched in a state or national database



Rapid DNA Testing by Partner Agency

The FBI is updating rules to allow for profiles developed using Rapid DNA by law enforcement to be searched in CODIS when:

Laboratory

- Expand Scope of Accreditation to include partner LE site(s)
- Laboratory creates a Laboratory Rapid DNA Administrator that is responsible for administration and security of the Rapid DNA Program
 - Requires validation testing, development of procedures, development of training programs for both laboratory staff and partner agency
 - Requires participation in proficiency testing, conducting data review, and issuing reports

Law Enforcement

- LE creates a Forensic Rapid DNA Lead Operator responsible for routine maintenance and quality control, and must ensure compliance with procedures and laboratory policies
 - Must maintain documentation and an evidence control program that ensures integrity of the evidence
 - Agency will need to sign MOU with laboratory

Case Statistics



Workload Statistics – FY 23 vs FY 24

Sections	Backlog/Caseload			Average Case Turnaround Times (TAT)		
	FY 23	FY 24	% change	FY 23	FY 24	% change
Controlled Substances (CS)	2,103	2,327	10%	33	30	-9%
Digital Evidence (DME)	108	138	22%	84	149	77%
Firearms & Toolmarks (FT)	1,573	1,684	7%	101	104	3%
Forensic Biology (DNA)	2,861	3,416	16%	147	178	21%
Latent Prints & Impressions (LP)	408	370	-10%	65	77	18%
Toxicology (TX)**	1,694	1,402	-21%	53	55	4%
Trace Evidence (TE)	223	324	31%	82	134	63%
TOTAL	8,970	9,661	7%	61	63	3%

**Samples outsourced directly from Office of Chief Medical Examiner (OCME) not included

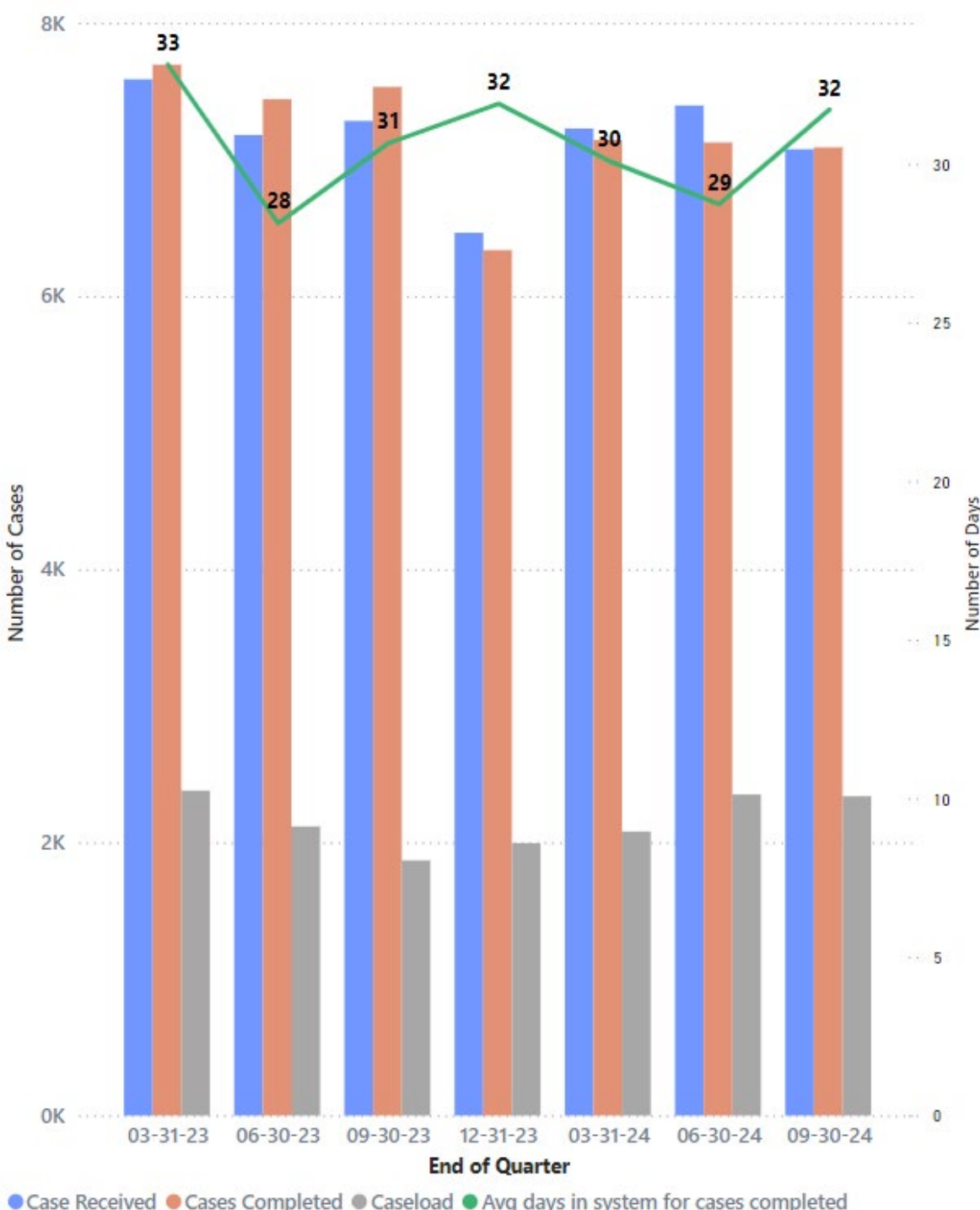


FY24 Court Statistics Summary

Section	Subpoenas	Court Appearances	Times Testified	Hours out of Lab	Days out of Lab	% Testified, if Appeared
Breath Alcohol	71	27	13	161	20	48%
Controlled Substances	5,075	253	93	803	100	37%
Digital & Multimedia Evidence	59	11	5	20	2	45%
Evidence Receiving	14	5	1	11	1	20%
Firearms & Toolmarks	1,374	218	164	611	76	75%
Forensic Biology (DNA)	1,437	190	148	586	73	78%
Latent Prints & Impressions	213	32	27	119	15	84%
Toxicology	5,824	2,889	322	3,459	432	11%
Trace Evidence	197	43	32	168	21	74%
Totals	14,264	3,668	805	5,937	742	22%

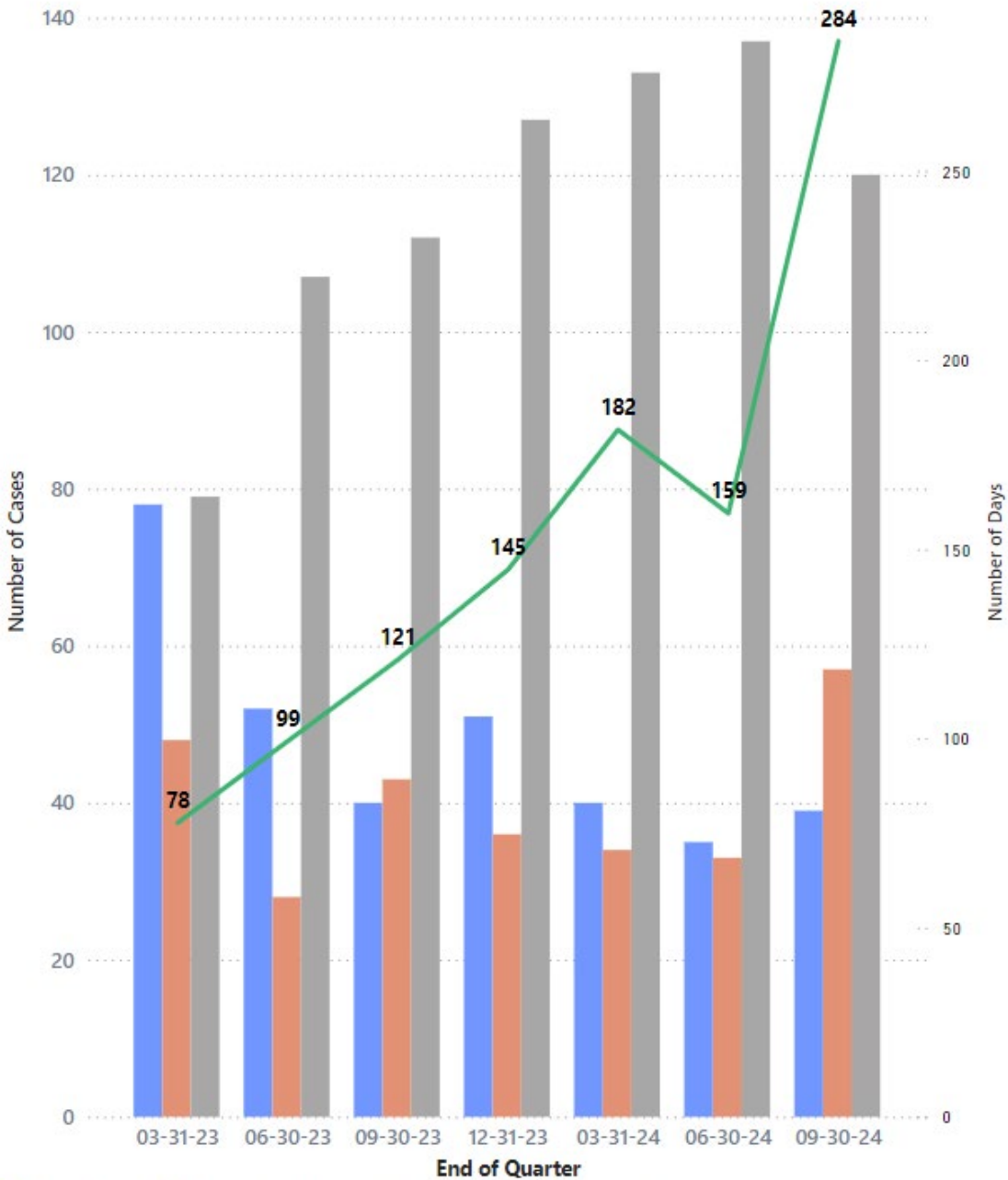


Controlled Substances



End Date	Case Received	Cases Completed	Caseload	Avg days in system for cases completed
03-31-23	7,588	7,695	2,379	33
06-30-23	7,180	7,442	2,117	28
09-30-23	7,283	7,532	1,868	31
12-31-23	6,464	6,337	1,995	32
03-31-24	7,228	7,143	2,080	30
06-30-24	7,396	7,125	2,351	29
09-30-24	7,076	7,089	2,338	32

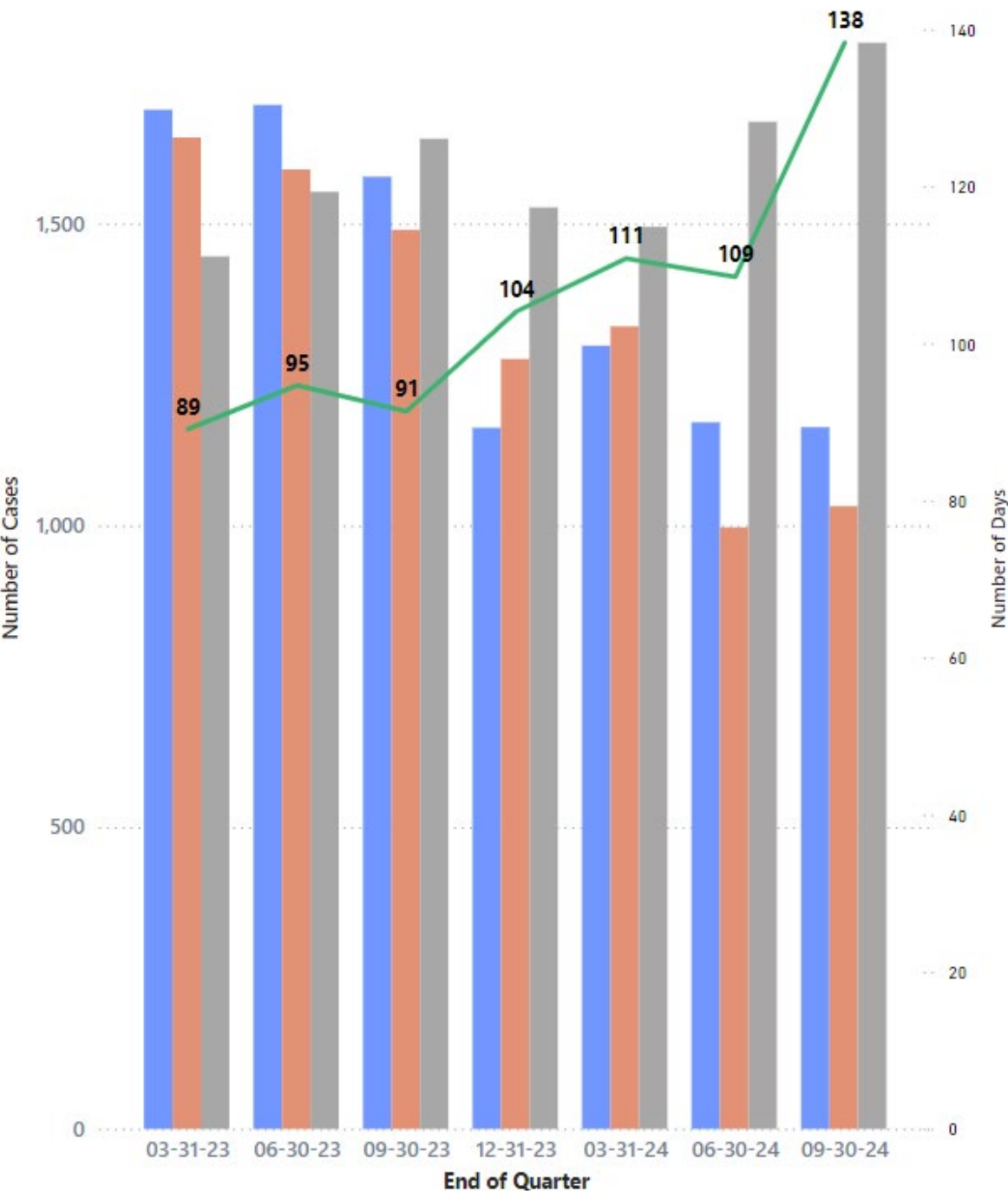
Digital & Multimedia Evidence



End Date	Case Received	Cases Completed	Caseload	Avg days in system for cases completed
03-31-23	78	48	79	78
06-30-23	52	28	107	99
09-30-23	40	43	112	121
12-31-23	51	36	127	145
03-31-24	40	34	133	182
06-30-24	35	33	137	159
09-30-24	39	57	120	284



Firearms & Toolmarks



End Date Case Received Cases Completed Caseload Avg days in system for cases completed

03-31-23	1,689	1,643	1,446	89
06-30-23	1,697	1,590	1,553	95
09-30-23	1,578	1,490	1,641	91
12-31-23	1,162	1,276	1,527	104
03-31-24	1,298	1,330	1,495	111
06-30-24	1,171	997	1,669	109
09-30-24	1,163	1,032	1,800	138

In recruit:

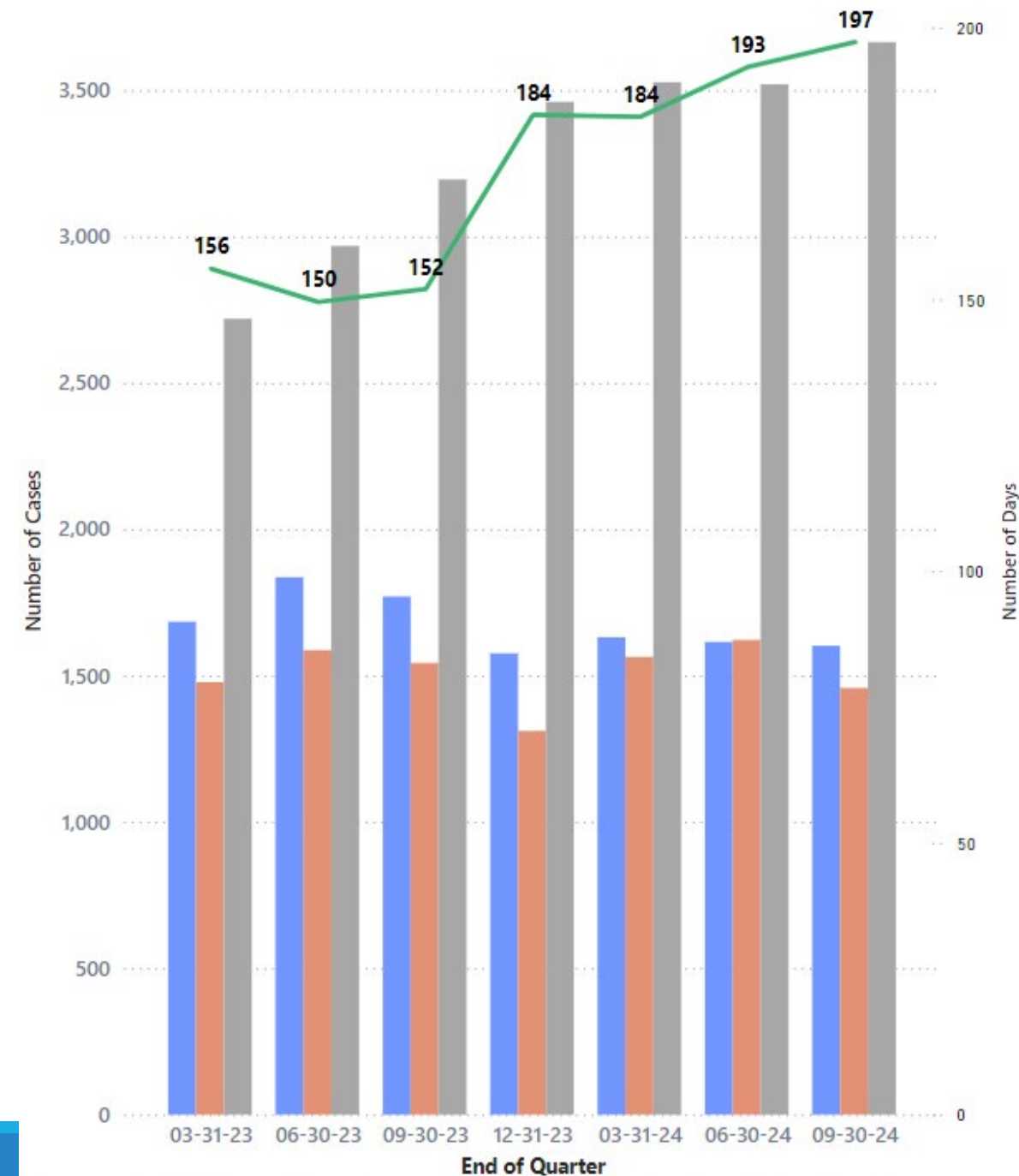
- 3 Forensic Scientist - NIBINs
- 1 Forensic Scientist
- 1 Section Supervisor - Western

In training:

- 5 Forensic Scientists (4 have completed more than half of the 24 month training period)



Forensic Biology (DNA)



End Date	Case Received	Cases Completed	Caseload	Avg days in system for cases completed
03-31-23	1,684	1,478	2,719	156
06-30-23	1,836	1,587	2,968	150
09-30-23	1,770	1,543	3,195	152
12-31-23	1,576	1,311	3,460	184
03-31-24	1,631	1,564	3,527	184
06-30-24	1,615	1,622	3,520	193
09-30-24	1,602	1,458	3,664	197



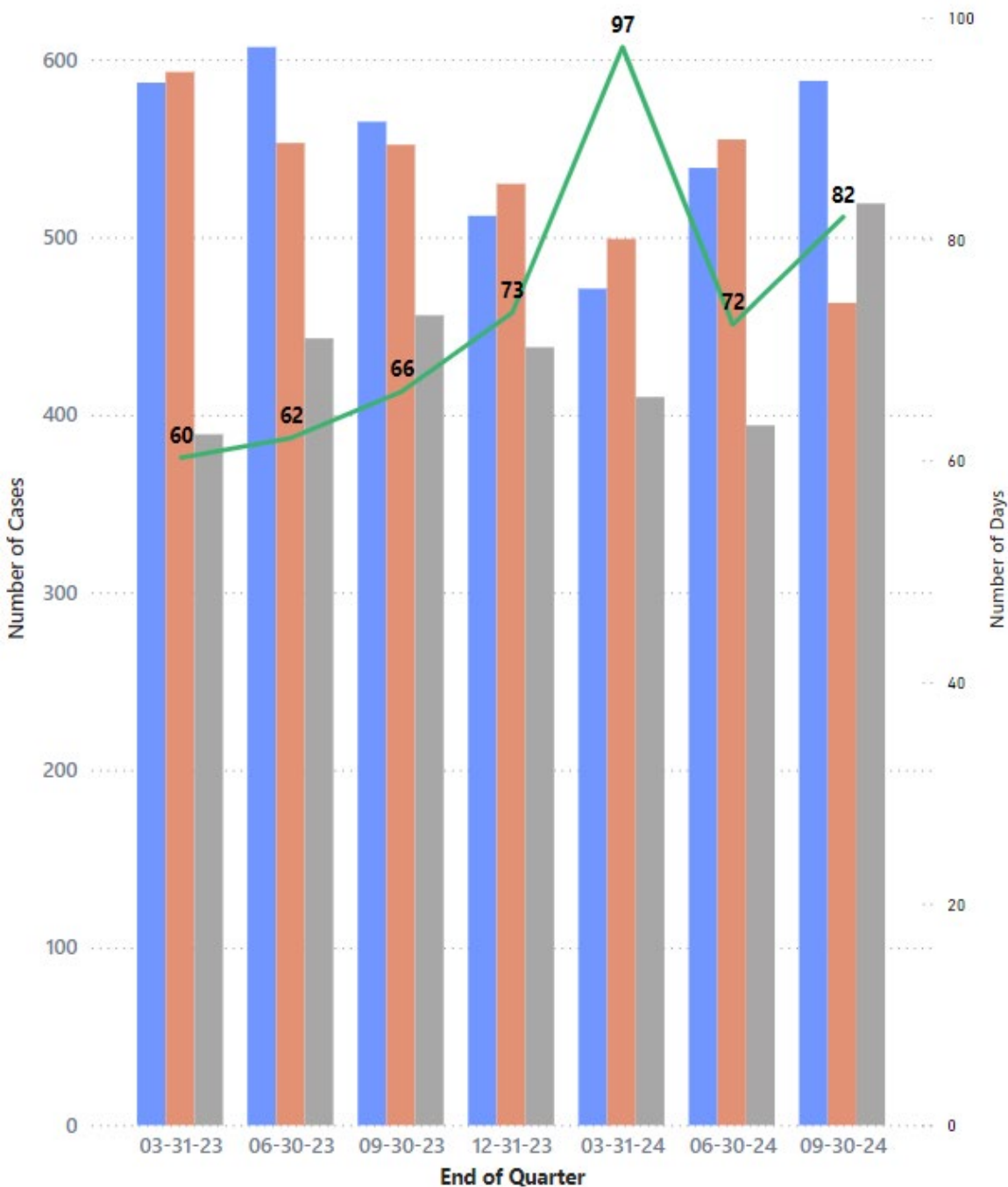
Plans for Additional DNA Capacity

- PERK Processing Unit in Central Laboratory
 - Five Biologist positions will screen Physical Evidence Recovery Kits (PERKs) for male DNA
 - Complex results will be transferred back to originating laboratory for an examiner to interpret and issue the Certificate of Analysis
- Fill and train two Forensic Scientist positions received in FY25 budget (1 in Northern and 1 in Western)
- Plan to outsource “non-persons” cases from all locations to a private laboratory





Latent Prints & Impressions

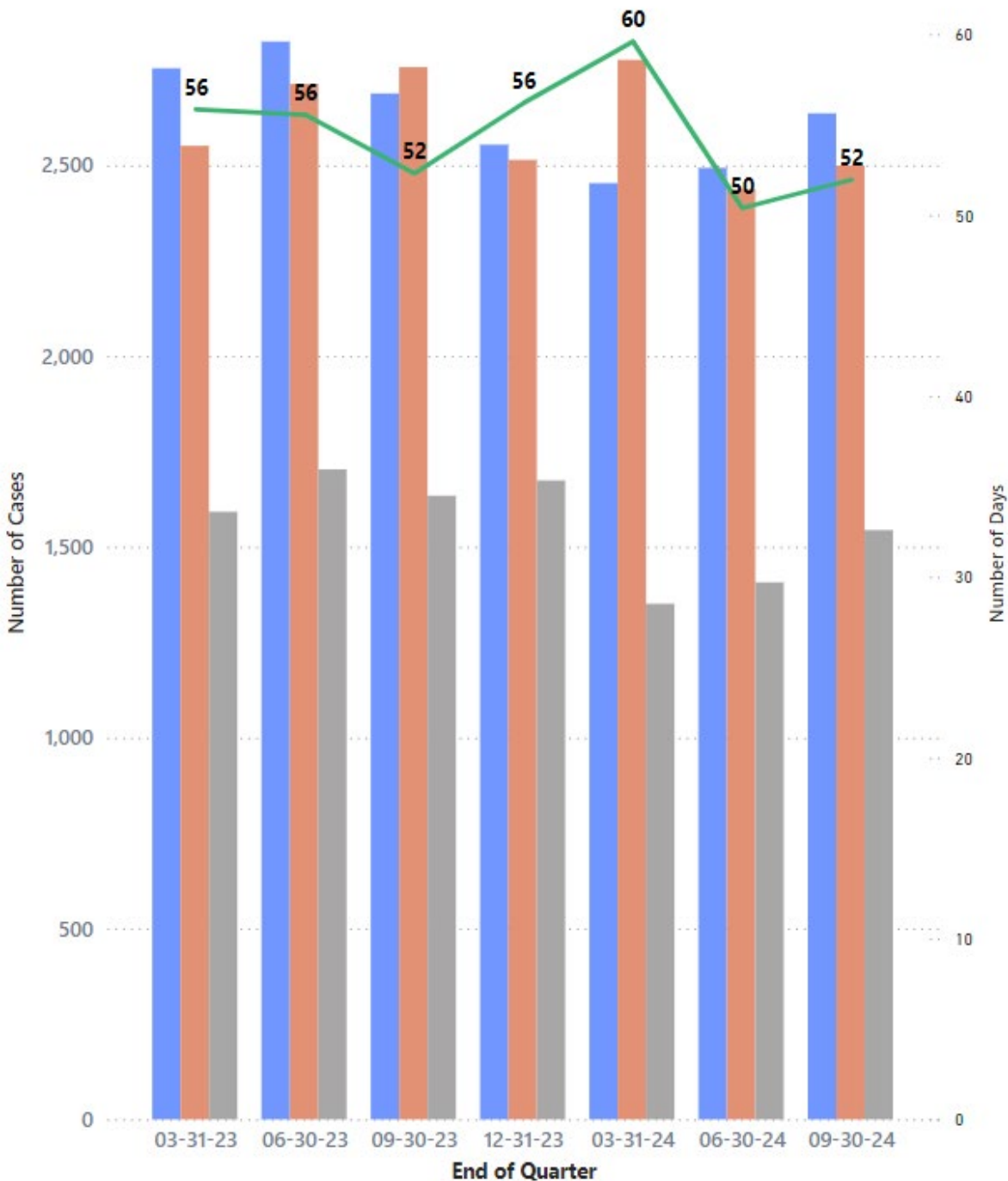


End Date	Case Received	Cases Completed	Caseload	Avg days in system for cases completed
03-31-23	587	593	389	60
06-30-23	607	553	443	62
09-30-23	565	552	456	66
12-31-23	512	530	438	73
03-31-24	471	499	410	97
06-30-24	539	555	394	72
09-30-24	588	463	519	82

● Case Received ● Cases Completed ● Caseload ● Avg days in system for cases completed

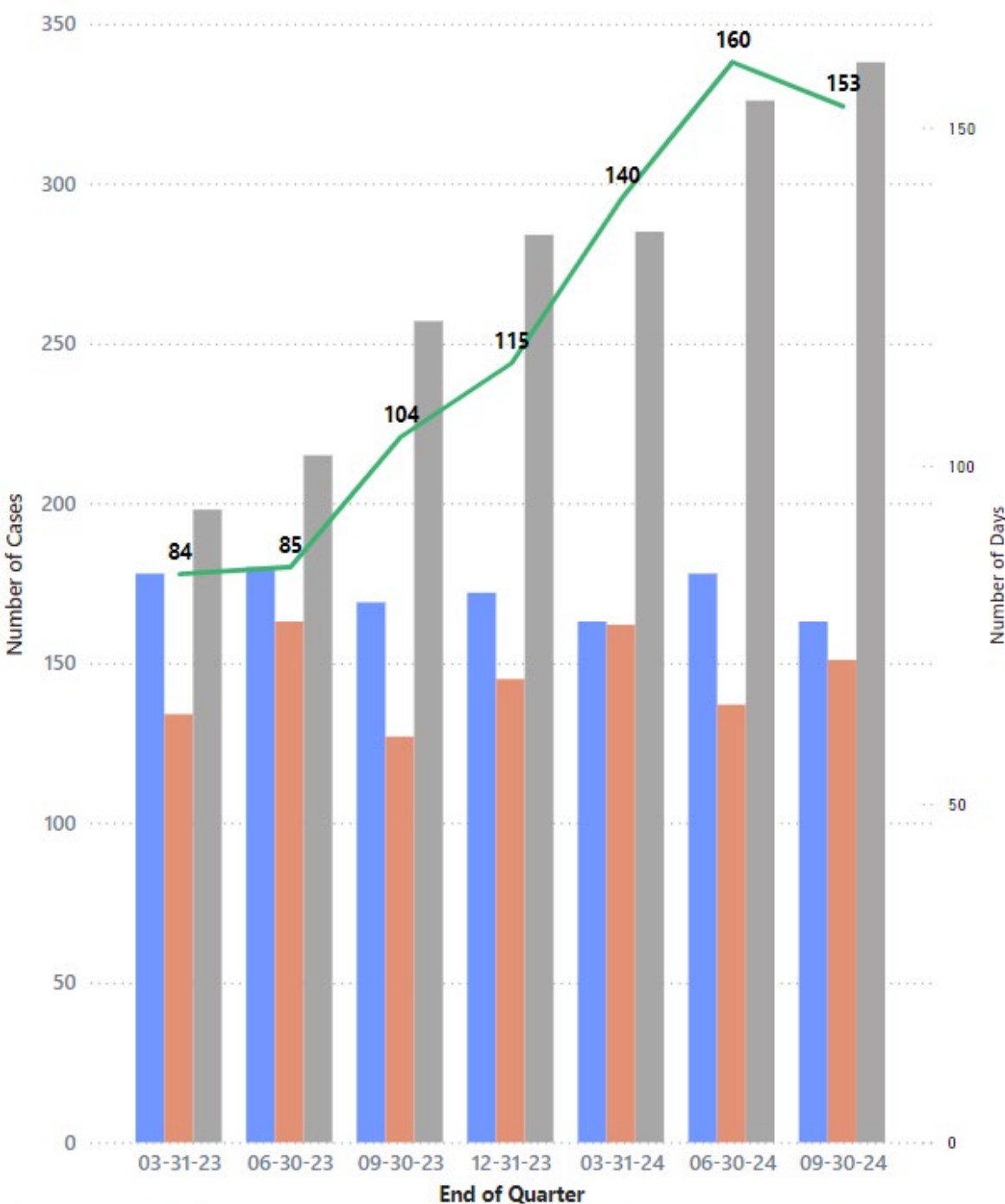


Toxicology



End Date	Case Received	Cases Completed	Caseload	Avg days in system for cases completed
03-31-23	2,754	2,551	1,592	56
06-30-23	2,824	2,713	1,703	56
09-30-23	2,688	2,757	1,634	52
12-31-23	2,554	2,514	1,674	56
03-31-24	2,453	2,776	1,351	60
06-30-24	2,493	2,437	1,407	50
09-30-24	2,636	2,499	1,544	52

Trace Evidence



End Date Case Received Cases Completed Caseload Avg days in system for cases completed

03-31-23	178	134	198	84
06-30-23	180	163	215	85
09-30-23	169	127	257	104
12-31-23	172	145	284	115
03-31-24	163	162	285	140
06-30-24	178	137	326	160
09-30-24	163	151	338	153

● Case Received ● Cases Completed ● Caseload ● Avg days in system for cases completed

Budget and Resources



Biennial Budget for FY25/26

Title	FY25	FY26	GF FTE	NGF FTE
Fund increase in staffing for Forensic Biology (DNA) Section (2 Biologists (in training), 1 Forensic Scientist (in hiring process))	\$ 278,026	\$ 353,976	3	-
Fund increase in staffing and oversight for Evidence Receiving Section	\$ 225,548	\$ 225,548	3	-
Fund tools used to unlock mobile cellular devices	\$ 107,770	\$ 107,770	-	-
Reclassify positions to align with fund source	-	-	-	2
Fund strangulation kits and DNA Forensic Scientist position (in hiring process) (required by HB2150 (2023))	\$ 119,333	\$ 163,442	1	-
Forensic Laboratory Specialist, instrument and supplies for screening high alcohol DUI cases for drugs	\$238,739	\$196,638	1	-



Grant Awards

Virginia Department of Motor Vehicles – Highway Safety Grants

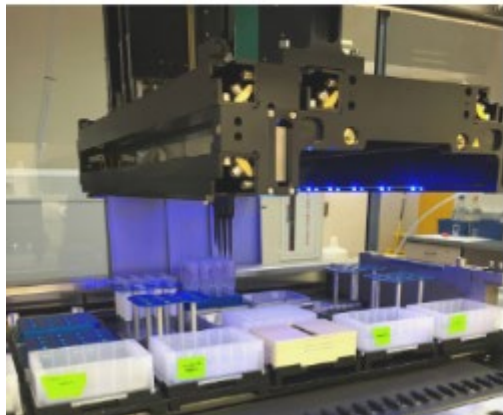
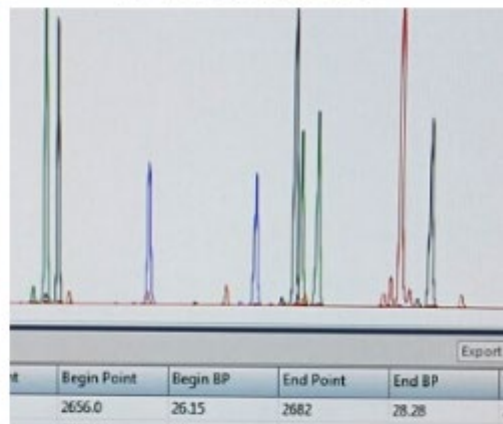
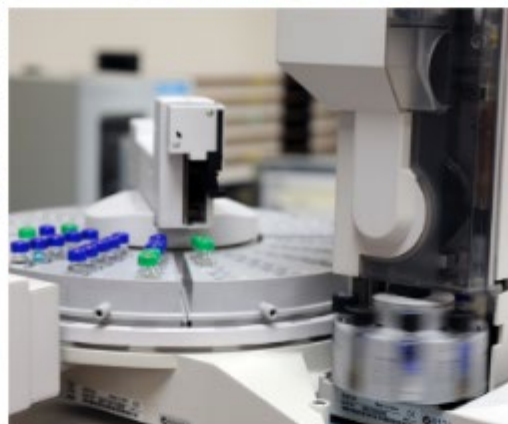
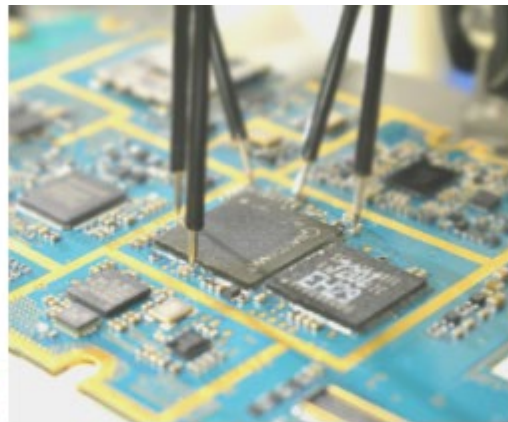
DFS received two awards from DMV under the Highway Safety Grants Program. (October 1, 2024 – September 30, 2025)

Breath Alcohol Training Project – \$311,273 (federal funds) was awarded for travel costs for LEA to attend training, continuing education for BA scientific staff, remote processes for continuity of operations, and classroom supplies.

TREDS Data Project – \$468,760 (federal funds) was awarded for six full-time and two part-time FLS positions in the Toxicology Section statewide.

Bureau of Justice Assistance - FY24 Formula DNA Capacity Enhancement for Backlog Reduction (CEBR) Program

\$2,033,717 was awarded for personnel, equipment, supplies, and continuing education in the Forensic Biology Section statewide. (October 1, 2024 – September 30, 2026)



Thank you!