



# **Department of Forensic Science Report to the Senate Finance Committee**

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Virginia Department of Forensic Science  
September 20, 2018

# Statewide Case Receipt and Completion Statistics



| Section                             | CY16     |           |             | CY17     |           |             |
|-------------------------------------|----------|-----------|-------------|----------|-----------|-------------|
|                                     | Received | Completed | % Completed | Received | Completed | % Completed |
| Controlled Substances               | 29,990   | 27,294    | 91%         | 33,108   | 29,512    | 89%         |
| Toxicology                          | 8,925    | 9,084     | 102%        | 9,256    | 9,460     | 102%        |
| Digital & Multimedia Evidence (DME) | 116      | 76        | 66%         | 81       | 77        | 95%         |
| Forensic Biology (DNA)              | 4,518    | 4,173     | 92%         | 5,195    | 4,567     | 88%         |
| Firearms & Toolmarks                | 7,216    | 5,554     | 77%         | 7,632    | 7,337     | 96%         |
| Latent Prints & Impressions         | 2,730    | 2,886     | 106%        | 2,821    | 2,759     | 98%         |
| Trace Evidence                      | 783      | 840       | 107%        | 738      | 786       | 107%        |

Note: A 100% Completion rate indicates the capacity to complete what is received, but not improve case turnaround times or reduce case backlogs.

# DFS Backlog and Average Turnaround Times (TAT)



| <b>Discipline</b>                                  | <b>Ending Backlog<br/>As of 9/1/18</b> | <b>Average TAT (in days)<br/>August 2018</b> |
|--|--|--|
| <b>Controlled Substances</b>                       | 13,410                                 | 134  |
| <b>Toxicology</b>                                  | 872                                    | 36   |
| <b>Digital &amp; Multimedia<br/>Evidence (DME)</b> | 129                                    | 127  |
| <b>Forensic Biology (DNA)</b>                      | 2,097                                  | 163  |
| <b>Firearms &amp; Toolmarks</b>                    | 2,325                                  | 133  |
| <b>Latent Prints &amp; Impressions</b>             | 514                                    | 60   |
| <b>Trace Evidence</b>                              | 116                                    | 57   |

# FY19/FY20 Biennial Budget



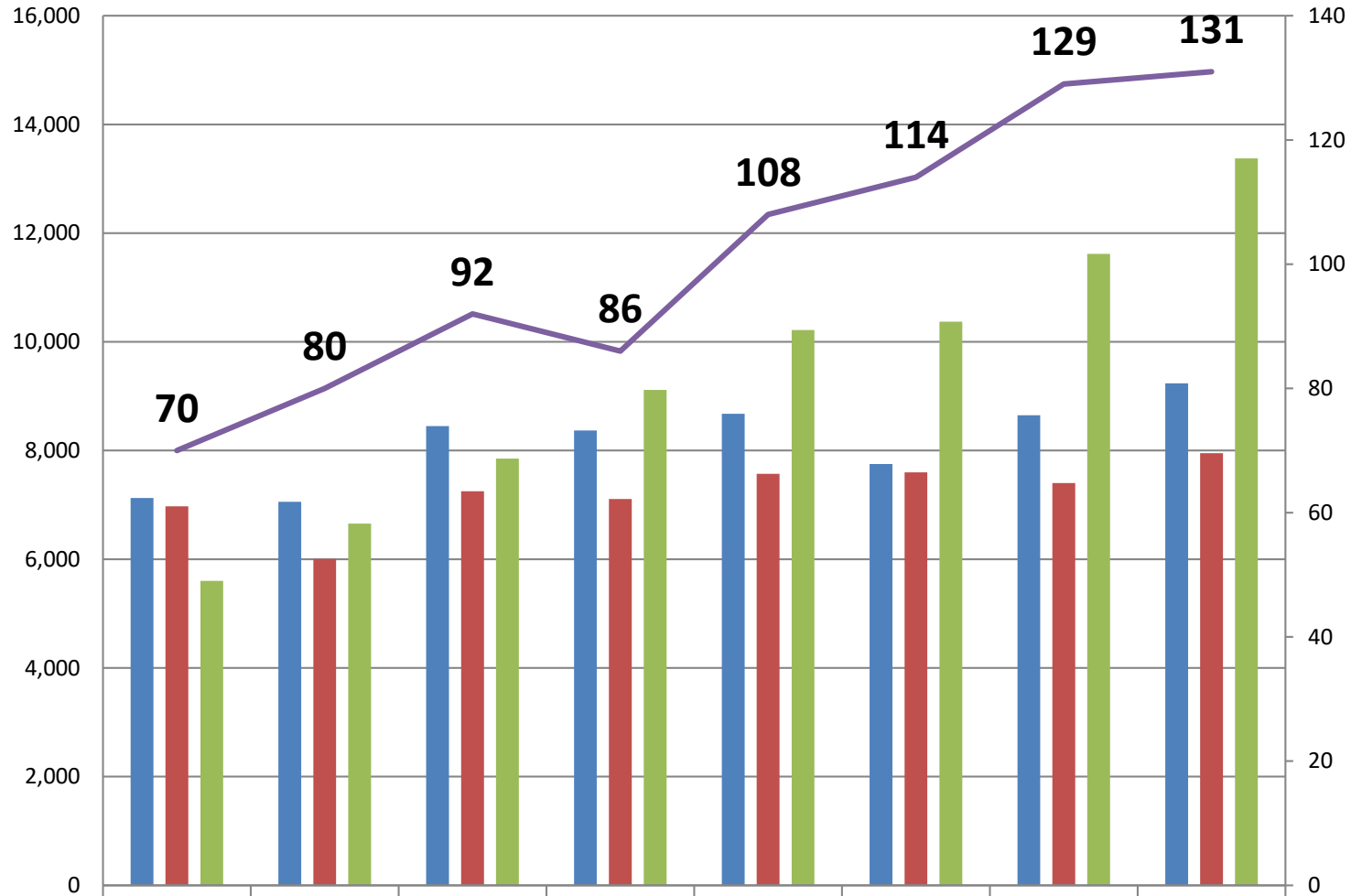
| Item   | FY2019     | FY2020     | FTE |
|--|------------|------------|-----|
| Increase staffing for Controlled Substances Section and provide funding for overtime | \$ 595,000 | \$ 660,000 | 6   |
| Increase staffing for Digital and Multimedia Evidence Section                        | \$ 82,500  | \$ 110,000 | 1   |
| Provide funding for one research scientist for the Forensic Biology Section          | \$ 82,500  | \$ 110,000 | 1   |
| Finance purchase of scientific instruments via MELP                                  | \$ 167,750 | \$ 403,250 | 0   |

Caboose Bill for FY2018 included \$125,000 for examiners in Forensic Biology and Controlled Substances to work mandatory overtime.

# Controlled Substances

Number of Cases

Number of Days

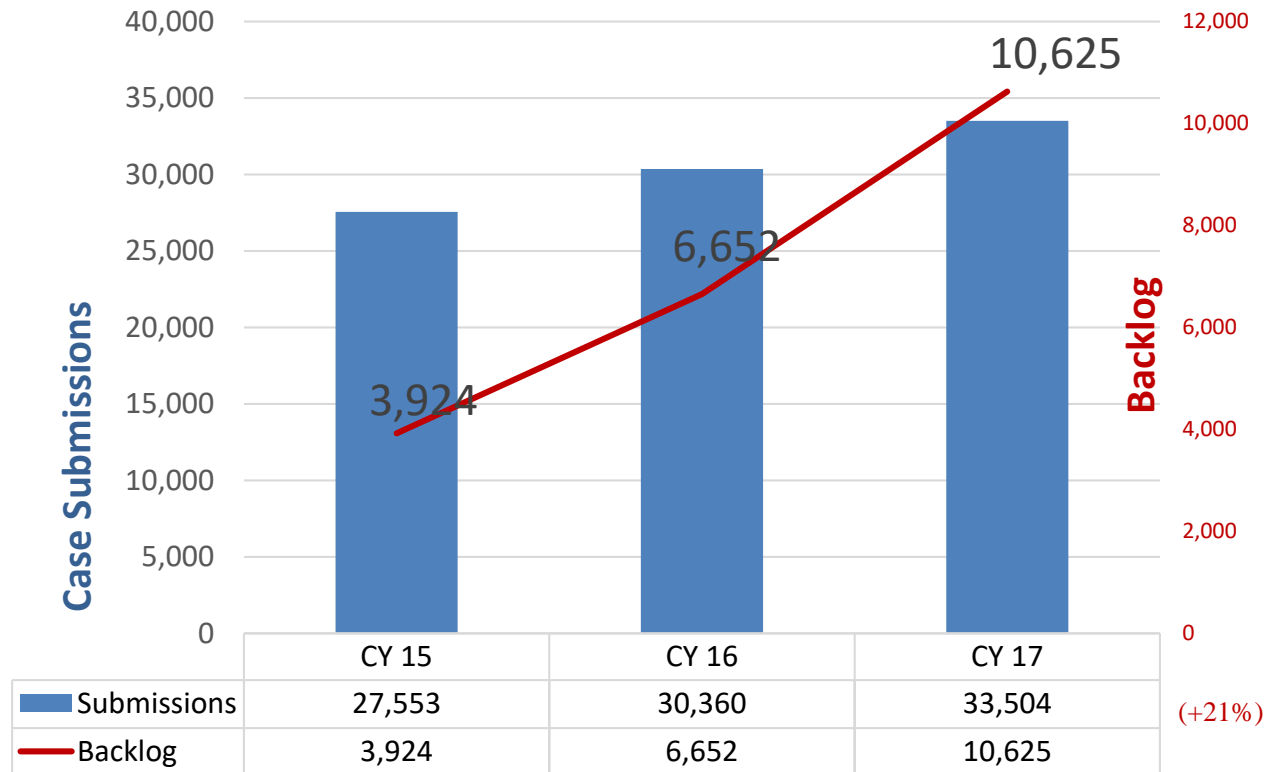


|                        |       |       |       |       |        |        |        |        |
|------------------------|-------|-------|-------|-------|--------|--------|--------|--------|
| Cases Received         | 7,126 | 7,056 | 8,450 | 8,370 | 8,675  | 7,753  | 8,648  | 9,237  |
| Cases Completed        | 6,974 | 6,005 | 7,252 | 7,108 | 7,572  | 7,598  | 7,401  | 7,951  |
| Caseload               | 5,603 | 6,654 | 7,852 | 9,114 | 10,217 | 10,372 | 11,619 | 13,375 |
| Average Days in System | 70    | 80    | 92    | 86    | 108    | 114    | 129    | 131    |

# Controlled Substances Challenges

- Increased submissions
- Increased sample complexity
- Increased safety measures
- Increased reporting requirements

## Increased Drug Case Submissions



|                  |  |               |
|------------------|--|---------------|
| Case Submissions | Jan. - Aug. 2018                         | 22,292        |
|                  | Increase over the same period in 2017    | 8.7%          |
|                  | <b>Estimated for 2018 (Extrapolated)</b> | <b>36,355</b> |



# Actions Taken Prior to FY19

- Issued Policy Notice Dec. 1, 2017
  - Gross weights
  - Limit food products
  - Limit search warrant evidence
- Created 3 new positions effective July 1, 2017
- Created FLS support positions in Eastern and Western
- Received 6 FS positions for FY19 – all will start by 10/25/18
- Performed mandatory and voluntary overtime
- Transferred cases to normalize case turnaround times
- Posted current average case turnaround times online

<http://www.dfs.virginia.gov/about-dfs/current-turnaround-times/>

# Where we could be...



- This scenario projects the current increase trend of 10% to continue through June 2019 and then plateau
- Assumes fully trained staff capacity by June 2019 with 3 positions unable to assist with casework (e.g., extended leave, turnover)

| Calendar Year  | 2018   | 2019   | 2020   | 2021   | 2022   |
|--|--------|--------|--------|--------|--------|
| Projected Annual Receipts  | 36,480 | 38,290 | 38,290 | 38,290 | 38,290 |
| Projected Average Monthly Receipts   | 3,040  | 3,190  | 3,190  | 3,190  | 3,190  |
| Projected Backlog at the end of the Calendar Year if no Additional Action is Taken | 15,980 | 18,880 | 21,430 | 24,640 | 27,860 |



# Controlled Substances



Actions underway:

- RFP to outsource backlogged cases with 1-2 items
- Hire additional staff based on projections
- Implement grant-funded Lean Six Sigma project beginning in January 2019 to increase efficiency and quality of analytical process
- Evaluate potential submission policy changes with customer input

# Additional Funding for FY19

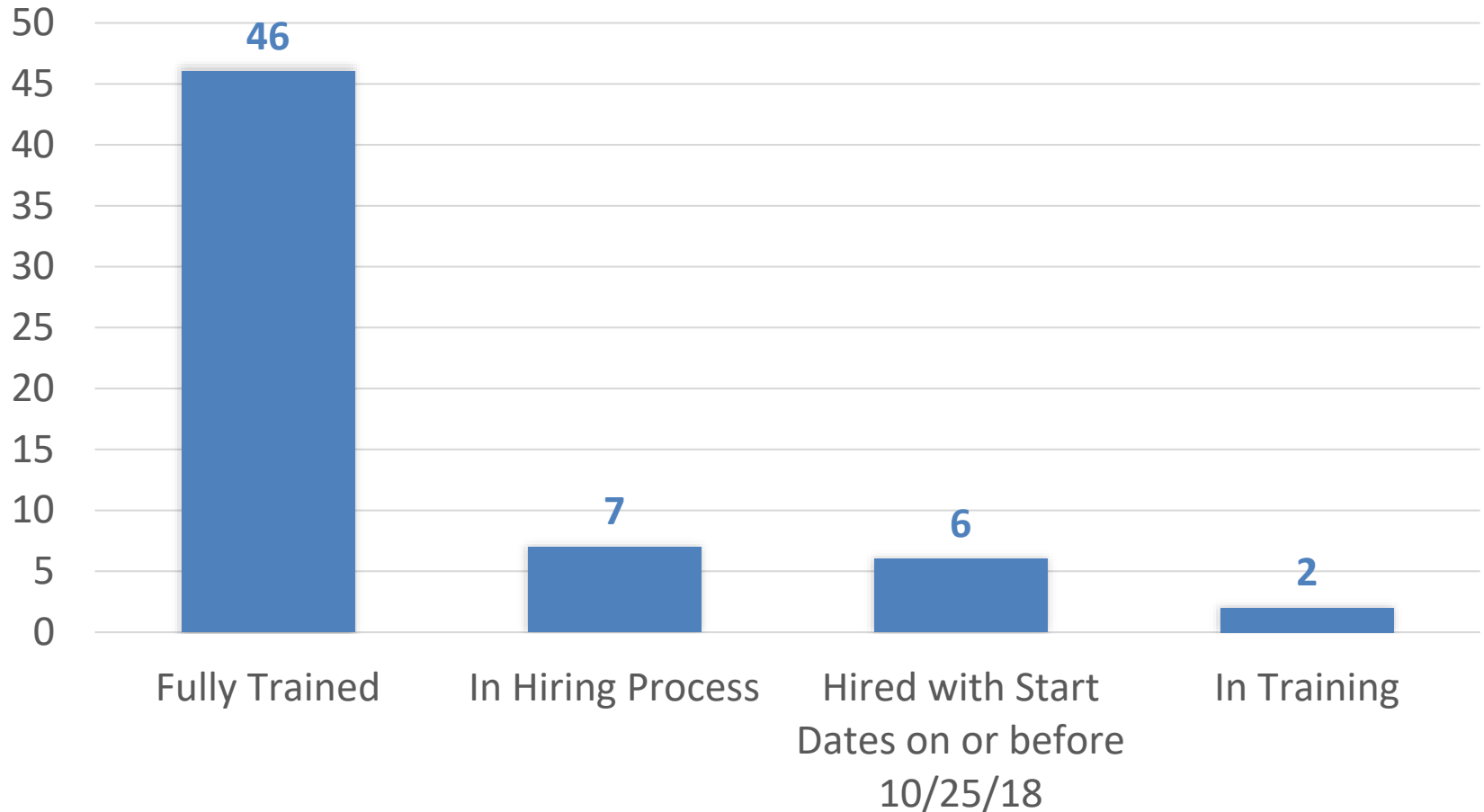


| <b>Develop additional capacity with positions and equipment</b>   | FY19               |
|---|--------------------|
| Beginning in FY19, fill six currently unfunded positions with additional Controlled Substances Forensic Scientists                                      | \$550,000          |
| Obtain additional equipment needed for the increased number of scientists   | \$250,000          |
| <b>Increase support staff capacity</b>  |                    |
| Add two wage administrative specialist positions  | \$40,000           |
| Add two evidence receiving wage personnel   | \$40,000           |
| <b>Outsource a portion of the backlog</b>   |                    |
| Eight thousand cases with one or two items will be sent to a private laboratory over a 27-month period (final payments will be made in FY21 ~\$350,000) | \$750,000          |
| <b>Dedicate two Forensic Scientists to training</b>   |                    |
| To maximize teaching resources, trainees will travel to another laboratory as part of their training  | \$30,000           |
| <b>Total Expenses</b>   | <b>\$1,660,000</b> |

# Controlled Substances Staffing



## STAFFING – 61 FTE



# With all actions taken...



- This scenario projects the current increase trend of 10% to continue through June 2019 and then plateau
- Assumes fully trained staff capacity by June 2019 with 3 positions unable to assist with casework (e.g., extended leave, turnover)

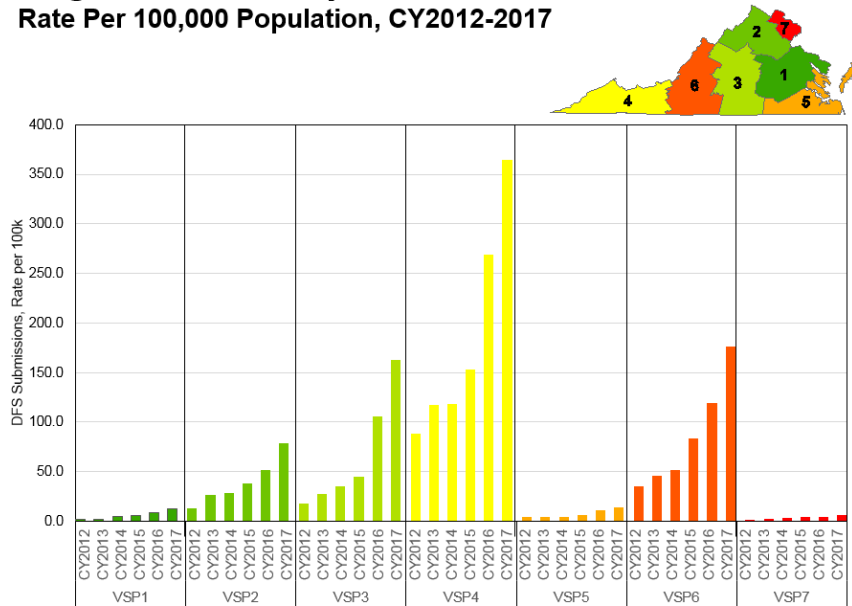
| Calendar Year  | 2018   | 2019   | 2020   | 2021                     | 2022                     |
|--|--------|--------|--------|--------------------------|--------------------------|
| Projected Annual Receipts  | 36,480 | 38,290 | 38,290 | 38,290                   | 38,290                   |
| Projected Average Monthly Receipts   | 3,040  | 3,190  | 3,190  | 3,190                    | 3,190                    |
| Projected Backlog at the end of the Calendar Year with Recommended Actions Taken | 15,000 | 12,890 | 8,010  | 5,890<br>< 60<br>Day TAT | 3,150<br>< 30<br>Day TAT |

# Drug Cases Submitted to VADFS Calendar Year 2017

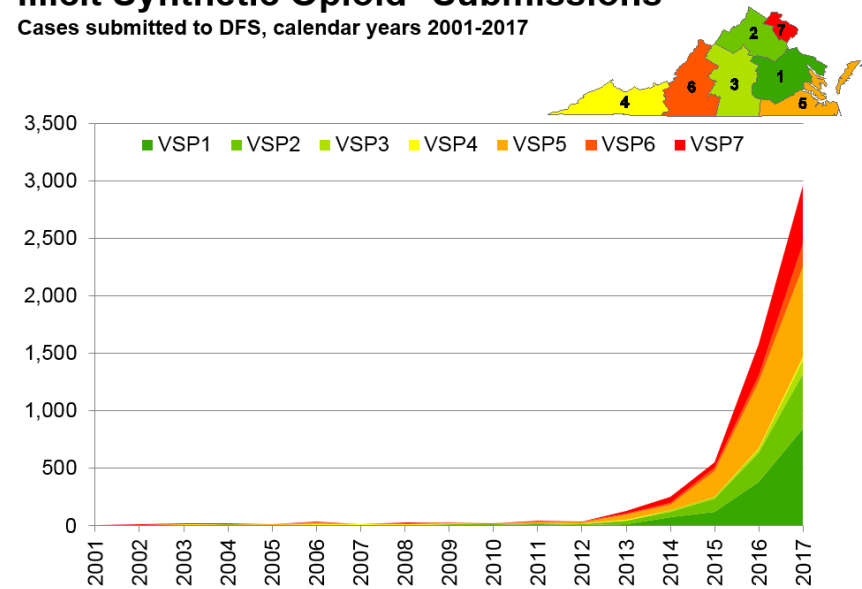


## A Joint Report by the Virginia Departments of Forensic Science and Criminal Justice Services

**Regional Methamphetamine DFS Submissions**  
Rate Per 100,000 Population, CY2012-2017



**Illicit Synthetic Opioid\* Submissions**  
Cases submitted to DFS, calendar years 2001-2017



\*Includes fentanyl cases in which the drug is not in the form of a transdermal patch, all fentanyl derivatives, U-47700, and other illicitly-produced synthetic opioids.  
Data Source: DFS monthly submission to NFLIS

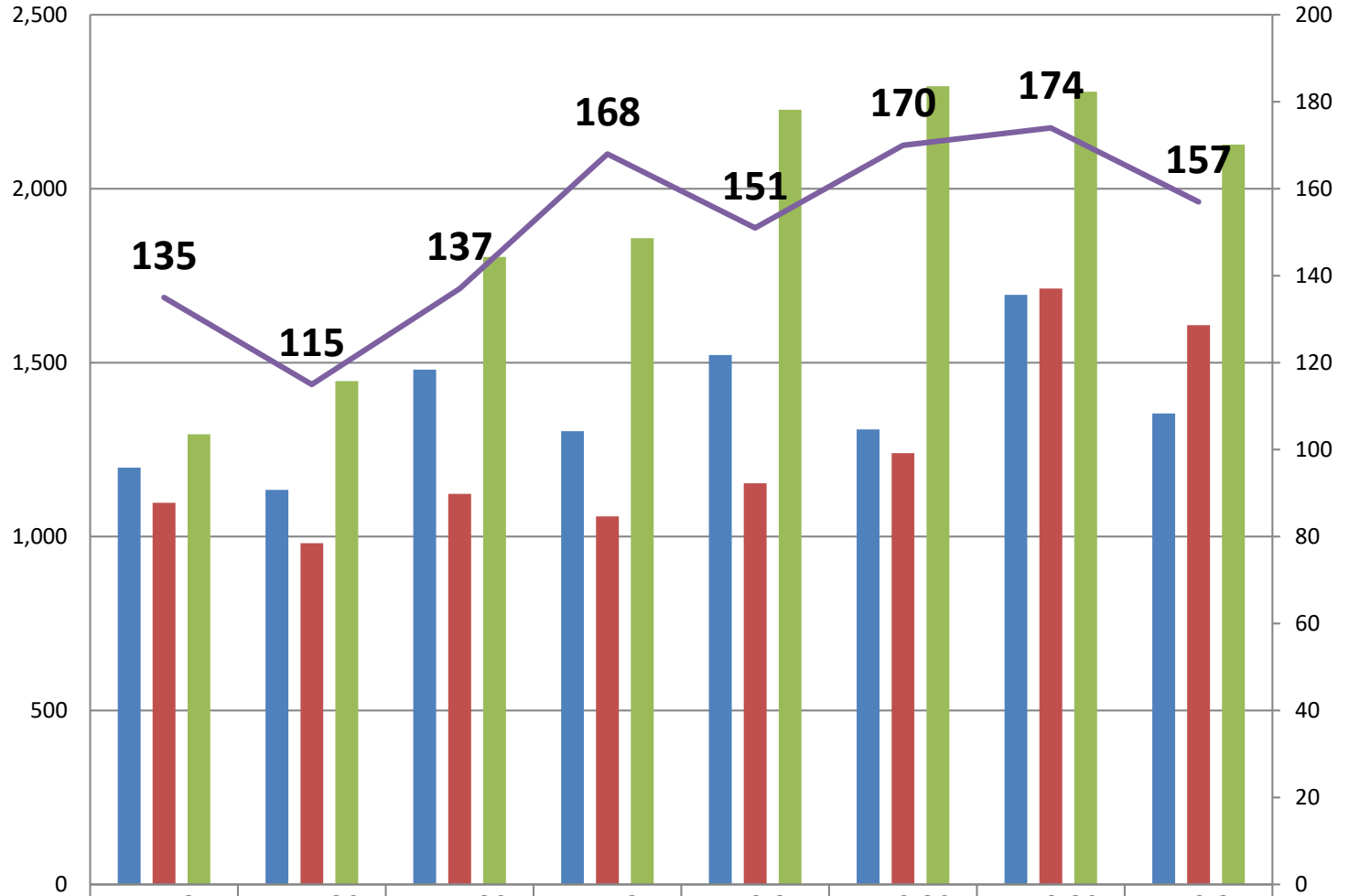
Published on August 10, 2018

<http://www.dfs.virginia.gov/documentation-publications/>

# Forensic Biology (DNA)

Number of Cases

Number of Days



|  |       |       |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| <span style="color: blue;">■</span> Cases Received*          | 1,198 | 1,134 | 1,480 | 1,303 | 1,522 | 1,308 | 1,695 | 1,354 |
| <span style="color: red;">■</span> Cases Completed           | 1,097 | 981   | 1,123 | 1,058 | 1,153 | 1,240 | 1,713 | 1,608 |
| <span style="color: green;">■</span> Caseload                | 1,294 | 1,447 | 1,804 | 1,858 | 2,227 | 2,295 | 2,279 | 2,127 |
| <span style="color: purple;">—</span> Average Days in System | 135   | 115   | 137   | 168   | 151   | 170   | 174   | 157   |

# Forensic Biology



- **Staffing**

- 3 scientists have completed training since May 2018
- 4 scientist positions in training (last year = 12 positions)
- New research/validation position was filled internally
- 1 vacated scientist position in hiring process
- 2 vacated DNA Data Bank positions in hiring process

- **Validation Projects**

- Several research projects are underway to increase automation and productivity
  - Increase use of robotic automation
  - Decrease time for statistical calculations
  - Increase analyses performed on most efficient instrumentation

# PERK Grants



## New York County District Attorney's (DANY) Sexual Assault Kit Backlog Elimination Program

\$123,226

10/1/15 -  
9/30/18

- Testing for kits collected prior to 7/1/14
- 1807 kits were submitted to Bode from 97 jurisdictions
- Testing in process or completed for 54 of those jurisdictions
- Data received from private lab in 1,564 cases as of 9/4/18

## National Sexual Assault Kit Initiative FY 2016 Competitive Grant (SAKI)

\$421,155

10/1/16 -  
9/30/19

- DNA Research Assistant
- PERK Tracking Software – beta test version in development
- 1232 eligible kits as per OAG inventory of kits collected between 7/1/14 – 6/30/16
- Several jurisdictions have sent evidence to the contract laboratory, but testing will not begin until DANY testing is completed



# Toxicology Program Area



## Breath Alcohol

- Intox EC/IR II instruments will be enhanced in FY2019
  - Allow for laser printers
  - Allow for high speed test data transfer
- Deployed new online recertification for Intox EC/IR II Operators

## Toxicology

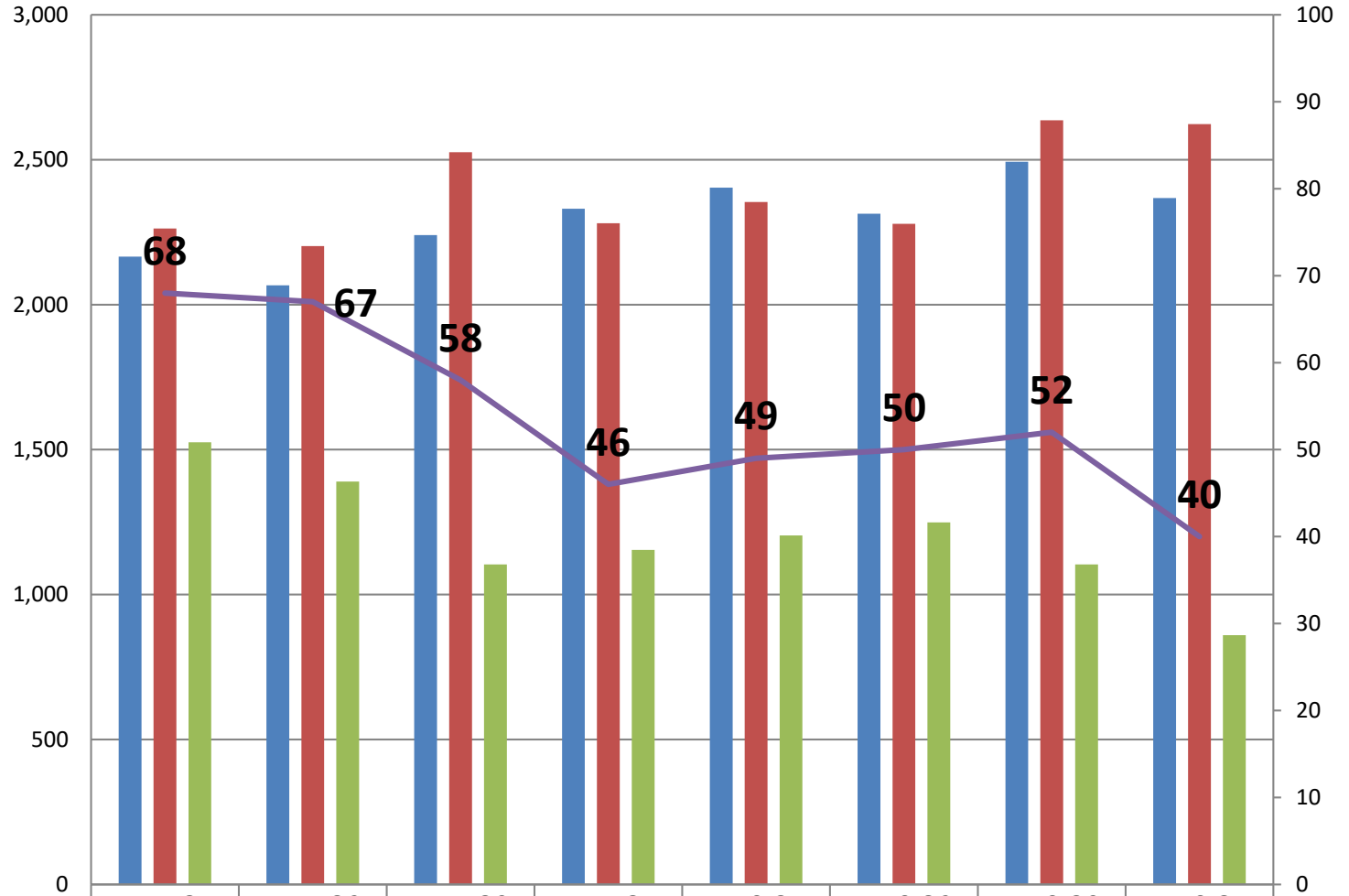
- Expanded methodology to identify over 30 synthetic opioids
- For the past quarter, 100% of OCME cases completed within 90 days



# Toxicology

Number of Cases

Number of Days

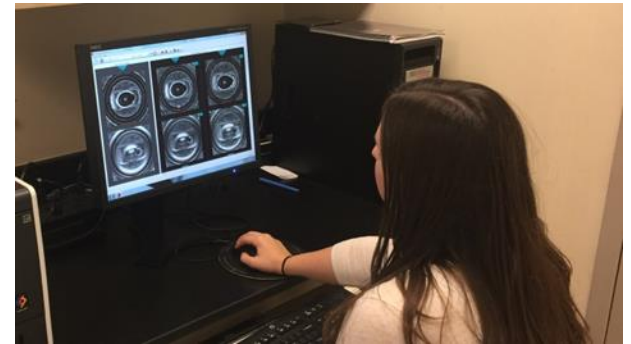


|  |       |       |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| <span style="color: blue;">■</span> Cases Received*          | 2,166 | 2,067 | 2,240 | 2,331 | 2,404 | 2,314 | 2,493 | 2,368 |
| <span style="color: red;">■</span> Cases Completed           | 2,263 | 2,202 | 2,526 | 2,281 | 2,354 | 2,279 | 2,636 | 2,623 |
| <span style="color: green;">■</span> Caseload                | 1,525 | 1,390 | 1,104 | 1,154 | 1,204 | 1,249 | 1,104 | 860   |
| <span style="color: purple;">—</span> Average Days in System | 68    | 67    | 58    | 46    | 49    | 50    | 52    | 40    |

# Firearms & Toolmarks



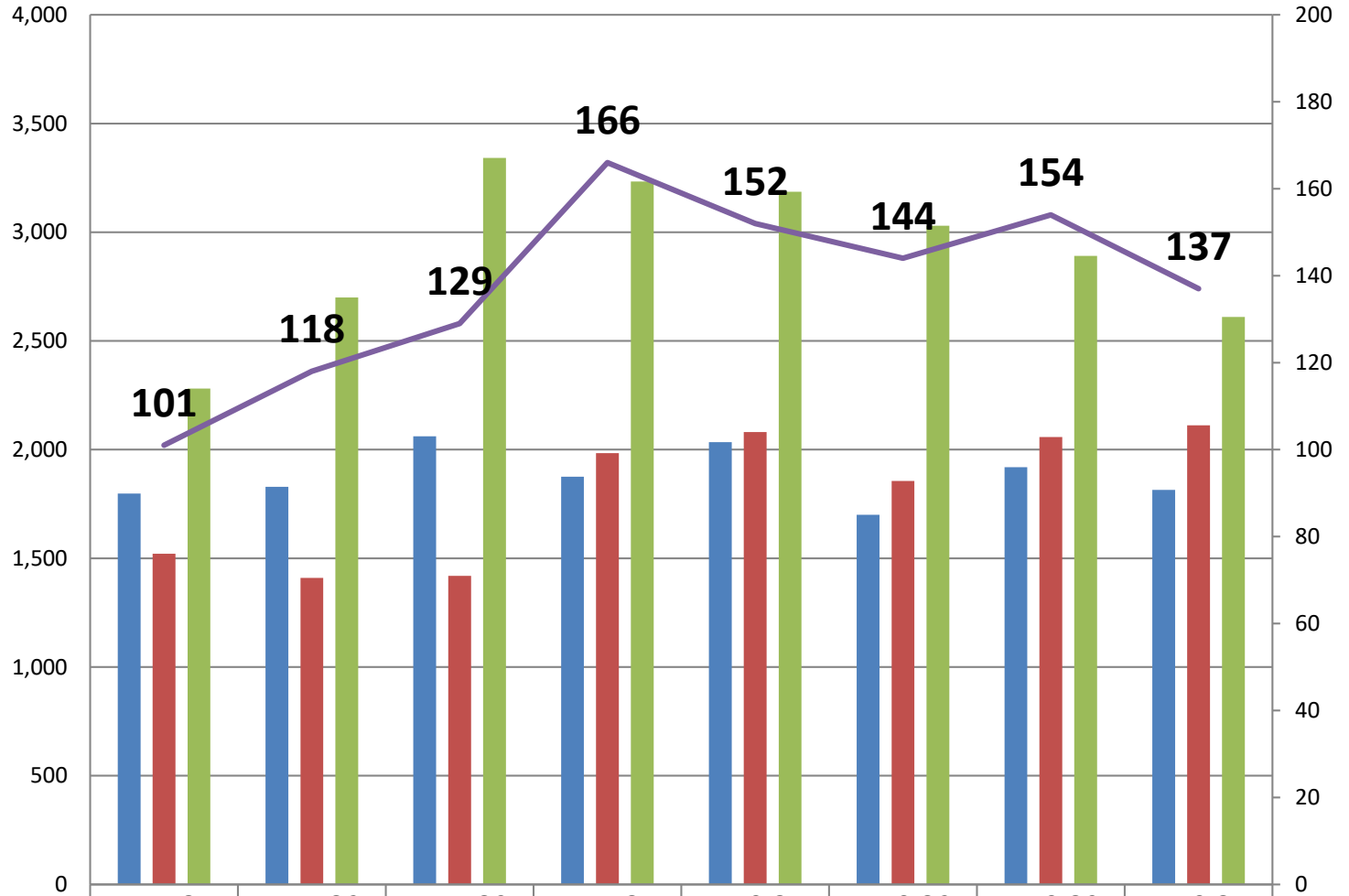
- FY17 budget provided ~\$600,000 in funding for positions and equipment
- Created new Forensic Scientist NIBIN positions
- Purchased equipment to provide full NIBIN capability in all 4 laboratories
- Backlog has decreased for the last 5 quarters



# Firearms & Toolmarks

Number of Cases

Number of Days



|                        |       |       |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cases Received         | 1,798 | 1,829 | 2,061 | 1,875 | 2,034 | 1,700 | 1,919 | 1,815 |
| Cases Completed        | 1,521 | 1,410 | 1,419 | 1,984 | 2,081 | 1,856 | 2,058 | 2,112 |
| Caseload               | 2,281 | 2,700 | 3,342 | 3,233 | 3,186 | 3,030 | 2,891 | 2,610 |
| Average Days in System | 101   | 118   | 129   | 166   | 152   | 144   | 154   | 137   |

# Instrumentation Funding



- Replacement instrumentation in Breath Alcohol, Toxicology, Controlled Substances and DNA will be purchased using MELP in FY19/20
- Seeking Grants
  - Byrne/JAG (DCJS): \$220,000 for 2 GC/MS instruments in Controlled Substances
  - Center for Disease Control (VDH): \$948,000 for 4 robotic sample preparation instruments for toxicology and drug standards (PENDING)

# Central Facility Update



- Biotech 2 houses both DFS and OCME
  - Both DFS and OCME lease additional space
- Project Funded through Detailed Planning
  - 2014 Chapter 2 and 2016 Chapter 759/769
    - Total Approved Budget \$137,954,186
  - Approved Scope
    - 145,700 SF Expansion
    - 134,100 SF Renovation
    - 134,000 Parking Structure (351 Spaces)
- Construction Manager at Risk
  - SFCS selected as Project Architect
  - Skanska selected to provide Construction Management
- Approved Scope was expanded in FY19/FY20 budget



**[WWW.DFS.VIRGINIA.GOV](http://WWW.DFS.VIRGINIA.GOV)**