

1 **Minutes**
2 **Scientific Advisory Committee Meeting**
3 **October 13, 2021**
4 **Department of Forensic Science, Central Laboratory, Classrooms 1 and 2**

5 **Committee Members Present**

6 Randall E. Beaty
7 Maureen C. Bottrell
8 Kathleen Corrado, Ph.D. (participated remotely pursuant to Virginia Code § 2.2-3708.2)
9 William E. Demuth, II
10 Erin P. Forry
11 Linda C. Jackson
12 Marc A. LeBeau, Ph.D. (participated remotely pursuant to Virginia Code § 2.2-3708.2)
13 George C. Maha, Ph.D.
14 Richard P. Meyers
15 Kristin Schelling, *Chair*
16 Peter M. Vallone, Ph.D.
17 Kenneth B. Zercie (participated remotely pursuant to Virginia Code § 2.2-3708.2)

18 **Staff Members Present**

19 Elizabeth Ballard, Forensic Biology Principal Forensic Scientist
20 Jeffrey D. Ban, Central Laboratory Director
21 David A. Barron, Ph.D., Deputy Director
22 Nancy L. Batterson, Forensic Administrative Specialist III, *Secretary*
23 Sabrina S. Cillesen, Physical Evidence Program Manager
24 Katya N. Herndon, Chief Deputy Director
25 James W. Hutchings, Ph.D., Toxicology Program Manager
26 Amy C. Jenkins, Department Counsel
27 Bradford C. Jenkins, Forensic Biology Program Manager
28 Alka B. Lohmann, Director of Technical Services
29 Jessica B. Norton, Legal Assistant
30 Elise Stroble, Grants and Administrative Program Manager
31 Rebecca Wagner, Ph.D., Research Section Supervisor
32 Robyn B. Weimer, Chemistry Program Manager

33 **Call to Order**

34 Ms. Schelling, the Chair of the Scientific Advisory Committee (“Committee” or “SAC”), called
35 the meeting of the Committee to order at 10:02 a.m. Ms. Schelling called on Katya Herndon to
36 address the remote participation of Dr. Corrado, Dr. LeBeau, and Mr. Zercie.

37 Ms. Herndon advised that Dr. Corrado, Dr. LeBeau, and Mr. Zercie would be participating
38 remotely pursuant to the SAC's Policy on Individual Participation in Scientific Advisory
39 Committee Meetings by Electronic Means, and in accordance with Virginia Code §2.2-3708.2.
40 Ms. Herndon noted that Dr. Corrado would be participating by telephone from Syracuse, NY, due
41 to a work commitment, that Dr. LeBeau would be participating by phone from Fairfax, VA, due
42 to a recent COVID exposure, and that Mr. Zercie would be participating from Madison, CT, due
43 to a flight cancellation.

44 Ms. Schelling welcomed three new members to the SAC, Erin Forry, William Demuth, and Peter
45 Vallone, and had members and staff introduce themselves.

46 **Adoption of Agenda**

47 Ms. Schelling advised that the first order of business was the adoption of the draft agenda for the
48 meeting and noted that the agenda was previously shared with the Committee members. Mr. Beaty
49 made a motion to adopt the agenda, which was seconded by Dr. Maha and passed by unanimous
50 vote of the Committee.

51 **Adoption of Minutes of the April 20, 2021 Committee Meeting**

52 Ms. Schelling noted that the draft minutes from the April 20, 2021 meeting were previously shared
53 with the Committee and asked if there were any proposed changes. Being none, Mr. Meyers made
54 a motion that the minutes be approved, which was seconded by Ms. Bottrell. The minutes were
55 approved by unanimous vote of the Committee, with Ms. Forry abstaining.

56 **SAC Chair's Report**

57 Ms. Schelling advised the Committee that she previously had assigned Les Edinboro and Rich
58 Meyers to serve as the two SAC members on the Forensic Science Board. She noted that Dr.
59 Edinboro had recently retired and resigned his position on the SAC, leaving a vacancy for one of
60 the SAC seats on the Board. Ms. Schelling asked any Committee member who was interested in
61 serving as the second SAC representative on the Board to please let her know. Ms. Schelling
62 advised the SAC that Director Linda Jackson would be representing the SAC at the FSB meeting
63 on October 14, 2021.

64 **DFS Director's Report**

65 **Central Laboratory Capital Project**

66 Director Jackson provided an update on the Central Laboratory capital project. Construction
67 (working) drawings are being prepared for submission for final approval from the Division of
68 Engineering and Buildings. Groundbreaking is still anticipated to occur late in the first quarter of
69 2022 with the project scheduled for completion in 2024.

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72 Virginia Forensic Science Week

73 Director Jackson advised that Governor Northam had proclaimed September 19-24 as Virginia
74 Forensic Science Week to coincide with National Forensic Science Week. The celebration is an
75 effort to bring attention to the field to increase interest in possible career paths for high school and
76 college students. Staff recognition activities were held at each of the regional labs. Additionally,
77 DFS presented its annual service awards during Virginia Forensic Science Week. Due to COVID
78 restrictions, there was no ceremony; instead, a narrated PowerPoint presentation that included
79 photographs celebrated the seventy staff members who received awards.

80 Audits and Reviews

81 Director Jackson noted that the Office of the State Inspector General was getting ready to begin a
82 performance audit of DFS. She also shared that the IT Security Audit of DFS was completed by
83 the Virginia Information Technologies Agency (VITA) and that there had been no findings. The
84 National Institute of Justice Desk Audit of the 2018 Toxicology Research Grant was also
85 completed with no findings. Ms. Jackson thanked Elise Stroble, Grants and Administrative
86 Program Manager, for her organized record keeping.

87 Policy Initiatives

88 Every Virginia state agency was required to create a ONE Virginia Plan, a strategic plan for
89 diversity, equity, and inclusion (DEI). Director Jackson discussed several items included in the
90 Department's plan, including providing additional training for staff in the area of DEI, adding DEI
91 language to all employee work profiles (position descriptions), and looking for ways to increase
92 the diversity of applicants applying to the agency. Creating virtual laboratory tour videos that
93 would be accessible to students around the state is a project DFS is pursuing to assist in increasing
94 awareness about careers in forensic science.

95 Director Jackson discussed Executive Order 77 (EO77), which was issued by Governor Northam
96 and addresses reducing solid waste and plastic pollution by state agencies. On September 20, 2021,
97 DFS submitted to the Department of Environmental Quality (DEQ) its plan to work towards
98 reducing the buying, selling, or distribution of all nonmedical single-use plastic and expanded
99 polystyrene objects, which included an inventory of such products regularly used by the agency.
100 DFS did seek a medical exemption for certain items. Director Jackson noted how disposable plastic
101 laboratory consumables are used by DFS to significantly reduce the potential for cross
102 contamination between samples and that they are also part of validated methods. She also
103 explained that current laboratory recycling programs are being evaluated.

104 Laboratory Information Management System (LIMS) Projects

105 Director Jackson discussed the status of various Laboratory Information Management System
106 (LIMS) projects, including the DNA Data Bank Sample Tracking System, Prelog for evidence
107 submission, the Expungement Module, and Power BI for data presentation. The software vendor
108 for these projects was recently purchased, which has delayed implementation.

109

110 Forensic Training for Attorneys and Judges

111 Director Jackson reminded the SAC that DFS began its forensic training program for attorneys
112 and judges in 2018. DNA was the first subject offered, and Driving Under the Influence training
113 (Toxicology and Breath Alcohol) was added in 2019. DFS did not offer any trainings in 2020 due
114 to the pandemic. This year, the Department began offering a Controlled Substances training that
115 is being held virtually. This training consists of pre-recorded presentations, followed by live
116 question and answer periods. It was first offered on October 1 with approximately 60 participants
117 attending. A second session will be held on November 12, 2021, and has approximately 100
118 individuals scheduled to attend.

119 Workloads Statistics

120 Director Jackson shared statistics comparing case submissions for each discipline for fiscal years
121 2019, 2020 and 2021. In addition, she shared the backlogs and average case turnaround times for
122 September 2021, by discipline. She reminded members that DFS defines the backlog to include all
123 cases available to be worked.

124 Director Jackson discussed the continued downward trend of Controlled Substances case
125 submissions. There was a 22% reduction in submitted controlled substances cases between FY19
126 and FY21. Potential explanations for these reductions include reduced drug enforcement due to
127 the pandemic and new criminal justice reform legislation, including legalization of marijuana.
128 While submissions are low, several Controlled Substances examiners are assisting in other sections
129 of the laboratory, such as Firearms, Toxicology and Forensic Biology, but they are maintaining
130 their proficiency in Controlled Substances for when submissions rise.

131 Although FY21 case submissions in Digital & Multimedia Evidence are still below those seen in
132 FY19, FY21 submissions were higher than in FY20. During this same time period, there has been
133 a significant increase in Firearms & Toolmarks (+23%) and Toxicology (+18%) case submissions.

134 Director Jackson also presented case statistics from the past five quarters reflecting case
135 submissions and completions, backlog and turnaround times for each discipline.

136 Turnaround times in Controlled Substances are below the target of a 30-day average, but the
137 average times in Firearms & Toolmarks continue to increase. DNA turnaround times have
138 increased due to the necessity to switch to manual extractions due to the national pipette tip supply
139 shortage. Turnaround times for Digital & Multimedia Evidence have improved significantly due
140 to the fact that all examiners have completed their training and are fully qualified. Latent Prints'
141 turnaround times have also improved. The Trace Evidence Section has seen an increase in
142 turnaround times due to examiners still in training; however, the Section is correctly staffed.

143 PERK Tracking

144 Director Jackson provided information on the Department’s PERK Tracking System. All agencies
145 handling PERKs are required, as of July 1, 2020, to update the status and location of each kit in
146 the PERK Tracking System whenever such status or location changes. While the majority of law
147 enforcement agencies are using the System, there are some smaller agencies that infrequently or
148 do not handle PERKs that have not yet been trained on the System. DFS is continuing to reach out
149 to those agencies. Additionally, on a monthly basis, the Department contacts any law enforcement
150 agency that has received a kit and not submitted it to DFS within 60 days (or designated it for non-
151 submission under a statutory exception). Information on use of the PERK Tracking System will
152 be included in the Forensic Science Board’s annual report, which is due to the legislature by
153 November 1st.

154 Budget

155 Director Jackson shared information on the Department’s FY2022 budget, which runs from July
156 1, 2021 to June 30, 2022.

157 Grants

158 Director Jackson gave an overview of three grants awarded to the agency:

- 159 ● FY 2022 Highway Safety (DMV) Grant for the Breath Alcohol Section
- 160 ● FY 2022 Highway Safety (DMV TREDs Office) Grant for Toxicology Section
- 161 ● DCJS Byrne Justice Assistance Grant Funding for the Forensic Training Section

162 Director Jackson advised the Committee of two grant awards that were pending: the FY 2021 DNA
163 Capacity Enhancement and Backlog Reduction (CEBR) Grant and the FY 2021 Paul Coverdell
164 Forensic Science Improvement Grant.

165 Director Jackson also advised that the Department received funding for the Firearms Section to
166 purchase additional equipment through the American Rescue Plan Act.

167 **Controlled Substances Subcommittee Report**

168 Rich Meyers, the Controlled Substances Subcommittee Chair, provided the Subcommittee Report.
169 The Controlled Substances Subcommittee met on October 12, 2021, to discuss the following
170 materials, which were provided to the members in advance:

171 Method Development Summary

- 172 ● Plant Material Desiccation and Cannabinoid Decarboxylation Study

173 Method Validation Summaries

- 174 ● Dextromethorphan Enantiomer Determination via Derivatization with (-)- Menthyl
175 Chloroformate
- 176 ● Evaluation of Alternative Cannabis Matrices using Semi-quantitative Gas
177 Chromatography-Flame Ionization Detection/Mass Spectrometry (GC-FID/MS)

- 178 ● Quantitative Analysis of Tetrahydrocannabinol (THC) in Cannabis using Gas
179 Chromatography-Mass Spectrometry (GC-MS)

180 Mr. Meyers advised that the Controlled Substances Subcommittee reviewed and discussed the one
181 method development summary and the three method validation summaries with DFS staff and then
182 closed its review of all four.

183 Ms. Schelling asked for a motion to accept the Controlled Substances Subcommittee Report. Mr.
184 Beaty made a motion to accept the Controlled Substances Subcommittee Report, which was
185 seconded by Dr. Maha and passed by unanimous vote of the Committee.

186 **Forensic Biology Subcommittee Report**

187 Ms. Schelling provided the Forensic Biology Subcommittee Report to the Committee. The
188 Subcommittee met on October 12, 2021, to discuss the STRmix Validation Summary, which was
189 provided to the Subcommittee members in advance of the meeting. After discussing the Summary
190 and making minor editorial suggestions, the Subcommittee closed its review of the STRmix
191 Validation Summary.

192 Mr. Meyers made a motion to accept the Forensic Biology Subcommittee Report, which was
193 seconded by Dr. Vallone and passed by unanimous vote of the Committee.

194 **Toxicology Subcommittee Report**

195 Randall Beaty, the Toxicology Subcommittee Chair, provided the Subcommittee Report.

196 The Toxicology Subcommittee met on October 13, 2021, at 8 a.m. Mr. Beaty advised that the
197 Subcommittee met to discuss the following materials, which were provided to the members in
198 advance:

199 Validation Plans

- 200 ● Cannabinoid Quantitation and Confirmation by Liquid-Liquid Extraction Using
201 LCMSMS
202 ● Validation Plan for the Qualitative Analysis of Ephedrine using LCMSMS
203 ● Etizolam Quantitation and Confirmation by Liquid-Liquid Extraction Using
204 LCMSMS

205 Validation Summaries

- 206 ● Barbiturate Quantitation and Confirmation by Liquid-Liquid
207 ● Miscellaneous Basic Drugs Quantitation and Confirmation by LCMSMS

208 Limit of Detection (LOD) Experiments

- 209 ● Fentanyl Derivative Quantitation and Confirmation by LCMSMS
210 ● GHB, GBL, and 1,4-Butanediol Quantitation and Confirmation by LCMSMS
211 ● NSAID Quantitation and Confirmation by LCMSMS

212 After discussing the materials with DFS staff, the Toxicology Subcommittee closed its review of
213 the validation plans, validation summaries, and LOD experiments.

214 Ms. Bottrell made a motion to accept the Toxicology Subcommittee Report, which was seconded
215 by Dr. Maha and passed by unanimous vote of the Committee.

216 **Division of Technical Services Updates**

217 Department of Technical Services (DTS) Staffing Update

218 Alka Lohmann, Director of Technical Services, provided a DTS staffing update, which included
219 information on the new position for a Forensic Compliance and Safety Specialist that has been
220 filled, the Forensic Specialist (Proficiency Testing) position that was recently vacated and will be
221 in recruit shortly and the status of positions in the Research Section.

222 Accreditation

223 Ms. Lohmann advised the Committee that in December 2020 DFS completed the external audit to
224 the 2020 FBI Quality Assurance Standards for Forensic DNA Testing and Databasing
225 Laboratories. For the ANAB Accreditation, the Document Surveillance was successfully
226 completed in May of 2021, and the current full Accreditation expires September 30, 2022.

227 Forensic Training Section

228 Ms. Lohmann reminded the Committee that the Forensic Training Section is statutorily required
229 to conduct the Forensic Science Academy (FSA), which is a nine-week intensive course where 12
230 officers from law enforcement agencies throughout the Commonwealth learn about the capabilities
231 of the laboratory and proper collection, preservation and submission of crime scene evidence. She
232 discussed the graduation of the 103rd FSA, the 104th FSA currently in session, and the 105th FSA
233 to begin in January.

234 Ms. Lohmann updated the Committee on the DCJS Byrne Justice Assistance Grant, which
235 provides continued funding for the 3rd part-time instructor (forensic trainer), which allows the
236 section to offer three FSA sessions annually while maintaining short course offerings. Online short
237 courses provided during the pandemic proved to be beneficial and continue to be interspersed with
238 in-person training.

239 Ms. Lohmann provided an update on two grants, Paradigm Shift in Forensic Toxicology
240 Screening: The Development and Validation of Two Automated Sample Preparation Techniques
241 for the Comprehensive Screening of Biological Matrices Using High Resolution Mass
242 Spectrometry, and Expanded Quantitative Cannabinoid Testing in Biological Specimens to
243 Combat the Ever-Changing Cannabis Landscape.

244

245 Chemistry Program Update

246 Robyn Weimer, Chemistry Program Manager, provided an update on the Trace Evidence and
247 Controlled Substances Sections. Trace Evidence has one trainee expected to complete their
248 training soon. Controlled Substances presently has no trainees.

249 Ms. Weimer discussed the various trainings attended by staff from the Trace Evidence and
250 Controlled Substances Sections. Two Department examiners also provided presentations at
251 different meetings of professional organizations.

252 Ms. Weimer advised the Committee that DFS recommended three compounds to the Board of
253 Pharmacy (BoP) in April 2021 for expedited scheduling and, following BoP approval, the
254 compounds were scheduled as of September 15, 2021.

255 Ms. Weimer shared information on the report of *Drug Cases Submitted to the Virginia Department*
256 *of Forensic Science CY 2020*, which DFS issues jointly with the Virginia Department of Criminal
257 Justice Services and is used by a number of agencies across the state. Changes in the report include
258 the removal of marijuana and the shift in some drug classifications. She shared a graph that
259 illustrated the large increases seen in submissions for illicit benzodiazepines and synthetic opioids
260 and the decreases in submissions for heroin, prescription opioids, and prescription
261 benzodiazepines.

262 Ms. Weimer discussed the Cannabis legislative changes effective July 1, 2021, for possession by
263 those 21 years of age or older. The regulated commercial market for marijuana sales in Virginia is
264 scheduled to begin in 2024.

265 Ms. Weimer advised the Committee of the Policy Notice, released on August 19, 2021, that
266 announced the implementation of the new quantitative method for *Cannabis sativa* plant material
267 and *Cannabis* evidence submission guidelines.

268 Ms. Weimer discussed the Controlled Substances trainings offered to attorneys and judges, which
269 are being offered virtually through pre-recorded presentations with live question and answer
270 sessions. One session was held on October 1 with approximately 60 attendees and another session
271 is scheduled for November 12, with approximately 100 individuals scheduled to attend. A survey
272 is being sent to all attendees seeking feedback on the session for future trainings.

273 Forensic Biology Program Update

274 Brad Jenkins, Forensic Biology Program Manager, presented an update on the Forensic Biology
275 Program Area. He stated there is one Data Bank examiner in training, one casework examiner in
276 recruit, and all other positions are fully staffed.

277 Mr. Jenkins welcomed Lisa Schiermeier-Wood to DTS. In her new role, she oversees probabilistic
278 modeling for DFS.

279 Mr. Jenkins discussed the virtual training of staff using the STRmix software.

280 Mr. Jenkins advised the Committee that the pipette tip shortage led to an increase in the backlog
281 due to having to switch to manual extractions and away from use of robotics. The supply change
282 has improved, but he advised there is still uncertainty for future supplies.

283 Mr. Jenkins discussed the project the Data Bank is working on with the Department of Corrections,
284 which will allow for use of an electronic data submission form, in lieu of a paper form, which will
285 be more efficient. This new DFS system will also allow user agencies to search to see whether an
286 individual is already in the Data Bank before collecting their sample. Beta testing by some user
287 agencies is scheduled to begin in November.

288 The Data Bank achieved its 15,000th DNA Data bank hit. The Data Bank processes between 1,000
289 and 1,500 offender/arrestee samples each month.

290 Physical Evidence Program Update

291 Sabrina Cillessen, Physical Evidence Program Manager, advised the Committee that the Latent
292 Prints Section has two staff members in training and one vacant position in recruit.

293 She discussed the continuing education teach back provided by Latent Print examiners that
294 attended the International Association for Identification Conference.

295 The Firearms & Toolmarks Section has two positions in recruit which may be filled by qualified
296 candidates, cutting the onboarding process to 3 to 4 months as opposed to the typical 18-month
297 training period. The Section currently has three examiners in training.

298 Ms. Cillessen discussed the continuing education teach back provided by Firearms examiners that
299 attended the 2021 Association of Firearm and Tool Mark Examiners Conference.

300 Ms. Cillessen advised the Committee of two Firearms policy changes implemented. The first
301 policy change involves not accepting firearms evidence that was collected more than one year
302 prior to potential submission and the second requires that cartridges and firearms be packaged
303 separately due to safety concerns.

304 Ms. Cillessen advised the Committee that funds received from the American Rescue Plan Act will
305 allow the Firearms Section to purchase equipment for three additional examiners, as well as
306 additional NIBIN equipment.

307 The Digital & Multimedia (DME) Section is fully staffed and trained. Ms. Cillessen discussed a
308 DME policy change that allows for providing security measure identification/bypass and enhanced
309 data extraction services for Android devices.

310 Toxicology Program Updates

311 James Hutchings, Ph.D., Toxicology Program Manager, updated the Committee on the Toxicology
312 Program Area. He discussed the 2021 Society of Forensic Toxicologists (SOFT) Conference
313 attended by Toxicology staff, noting Dr. Wagner presented a poster on the QTOF methodology,
314 as well as a workshop on grant funding for forensics.

315 Dr. Hutchings briefly discussed the methods reviewed by the Toxicology Subcommittee.

316 Dr. Hutchings provided an overview of the paperless install and removal process instituted in the
317 Breath Alcohol Section, which allows staff to conduct installation or removal of an instrument
318 without the need for another employee in the lab.

319 Dr. Hutchings provided a staffing update for the Toxicology and Breath Alcohol Sections, noting
320 various vacancies that are in recruit, as well as personnel in training. He explained that staffing
321 issues have impacted Toxicology turnaround times. As a result, DFS has been providing funding
322 to allow the Office of the Chief Medical Examiner to outsource Toxicology cases directly to a
323 private laboratory to ensure that the OCME is able to continue to meet their accreditation
324 requirement of completing 90% of autopsies within 90 days.

325 Dr. Hutchings shared how the funds received from three grants would be utilized, the DMV
326 Highway Safety grants to Breath Alcohol and Toxicology and the CDC Overdose to Action grant.

327 Dr. Hutchings discussed the overall increase of about 20% in the OCME and Driving Under the
328 Influence of Drugs (DUID) case submissions in Toxicology from 2019 to 2020. During the same
329 period, there was an approximate 8% reduction in Driving Under the Influence (high alcohol) cases
330 submitted to Toxicology. Comparing 2021 to 2019, breath tests for alcohol impaired driving are
331 down approximately 25%.

332 **New Business**

333 Sabrina Cillessen, Physical Evidence Program Manager, provided an overview of the following
334 materials, which were provided to the SAC Firearms Subcommittee for review in advance of the
335 SAC meeting:

- 336 ● Verification of the Cadre 3D scanner equipment
- 337 ● Verification of Virtual Comparison Microscopy (VCM) for Comparison
- 338 ● Verification of Virtual Comparison Microscopy (VCM) for Screening/Grouping

339 After reviewing the materials, the Subcommittee had indicated that a meeting to discuss them was
340 not necessary. Ms. Cillessen discussed the verification of the equipment and the identification of
341 variability in the measurements obtained, which does not impact the analysis of the images. Ms.
342 Cillessen also discussed the verification of the Virtual Comparison Microscopy software to
343 compare images.

344 Ms. Schelling asked for a motion to close the review of the Firearms verification summary
345 documentation. Mr. Demuth made a motion to close the review, which was seconded by Ms.
346 Bottrell and passed unanimously.

347 **Public Comment**

348 No member of the public was present to provide comment.

349 **Select 2022 Meeting Dates**

350 The Committee selected April 19, 2022, and October 18, 2022 as its meeting dates for 2022.

351 **Adjournment**

352 Ms. Schelling asked for a motion to adjourn. Dr. Vallone made a motion to adjourn the meeting
353 of the Scientific Advisory Committee, which was seconded by Ms. Bottrell and passed
354 unanimously.

355 The meeting adjourned at 11:48 a.m.

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