



NORTH CAROLINA STATE CRIME LABORATORY UPDATE

North Carolina Superior Court Judges
Fall Conference
October 20, 2020

AGENDA

Background

Lab Achievements

Technical Operations Update

Court Coordination

Administrative Operations Update

Sexual Assault Evidence Collection Kit Tracking and Inventory
Management System (STIMS)

SURVIVOR Act and SAECK Testing

North Carolina State Crime Laboratory Mission:

Conduct the highest quality, technically proficient forensic analysis in a timely manner and provide impartial expert witness testimony.

DIRECTOR VANESSA MARTINUCCI

- Appointed August 26, 2019 upon retirement of Director Byrd
- 15 Years in Forensics—Forensic Biology, DNA, CODIS; Supervisor and DNA Technical Leader
- Miami-Dade Police Department (FL), DuPage County Forensic Science Center (IL), Houston Forensic Science Center (TX)
- Prior experience in Computer Programming and Consulting

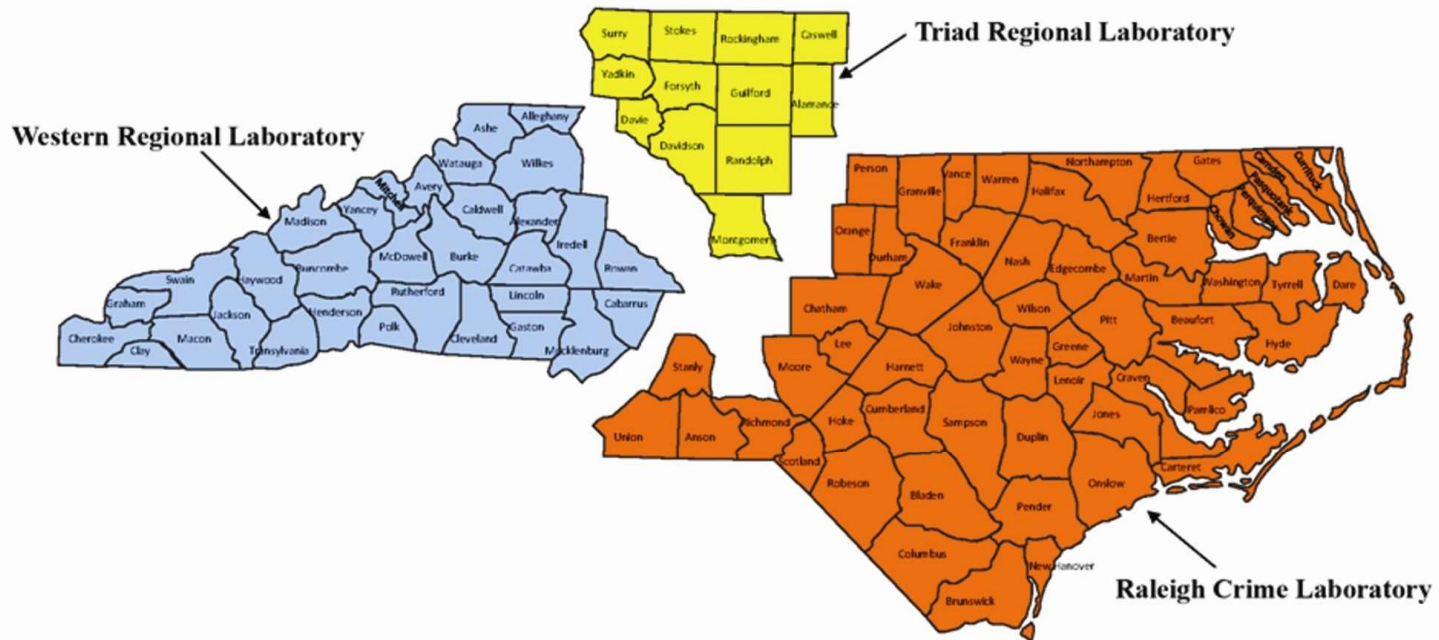
We are the NC State Crime Lab

Not the SBI Crime Lab

(Separated by the Legislature in 2013)

- Independent of Law Enforcement
- Neutral to the Courts: Truth through Science
- We discuss cases with Prosecution and Defense

North Carolina State Crime Laboratory



FORENSIC ANALYSES CONDUCTED BY NCSCCL

- Digital Evidence (R)
 - computers, cellphones, audio, video, encryption bypass, vehicle forensics
- DNA Database (R)
 - Process and Upload of Convicted Offender and Arrestee Samples; maintenance of State DNA Database
- Drug Chemistry (R, T, W)
 - controlled substances
- Firearms (R, W)
 - weapons, ammunition, serial number restoration, IBIS/NIBIN entry
- Forensic Biology (R, W)
 - body fluids, DNA testing, YSTR, CODIS entry, familial searching, kinship analysis
- Latent Evidence (R, T, W)
 - fingerprints, palm prints, footprints, footwear, tire impressions, SAFIS entry, SICAR entry
- Toxicology (R, T, W)
 - controlled substances; alcohol/drugs in blood/urine
- Trace Evidence (R)
 - hair, fiber, glass, paint and PDQ, headlight filaments, gunshot residue, fire debris, physical match, tape

Crime Lab Achievements

Quality Assurance

- Laboratory Director with science background
- ISO/IEC 17025 Accreditation – 32 years (1988-present)
- DNA Quality Assurance Audit
- Each analyst individually certified, when deemed eligible by certifying body
- Forensic Science Advisory Board
- Lab Legal Counsel
 - Jason Caccamo 919-582-8734
 - Available to assist with Motions, Hearings, Defense Experts
 - Assists in explaining the science and the lab procedures to the court
- Ombudsman

Crime Lab Achievements

Transparency & Outreach

- Forensic Advantage (Lab Information Management System) enhances transparency for users
- Tours of Laboratory Facilities for stakeholders and citizens
- Open House for the public during National Forensic Science Week
- Community outreach through presentations in schools and universities
- Customer Feedback through formalized court reports & annual survey
- Employees serve as members of several NIST Organization of Scientific Area Committees (OSAC)
- Training for Conference of District Attorneys, Defense Attorneys, Judges

Crime Lab Achievements

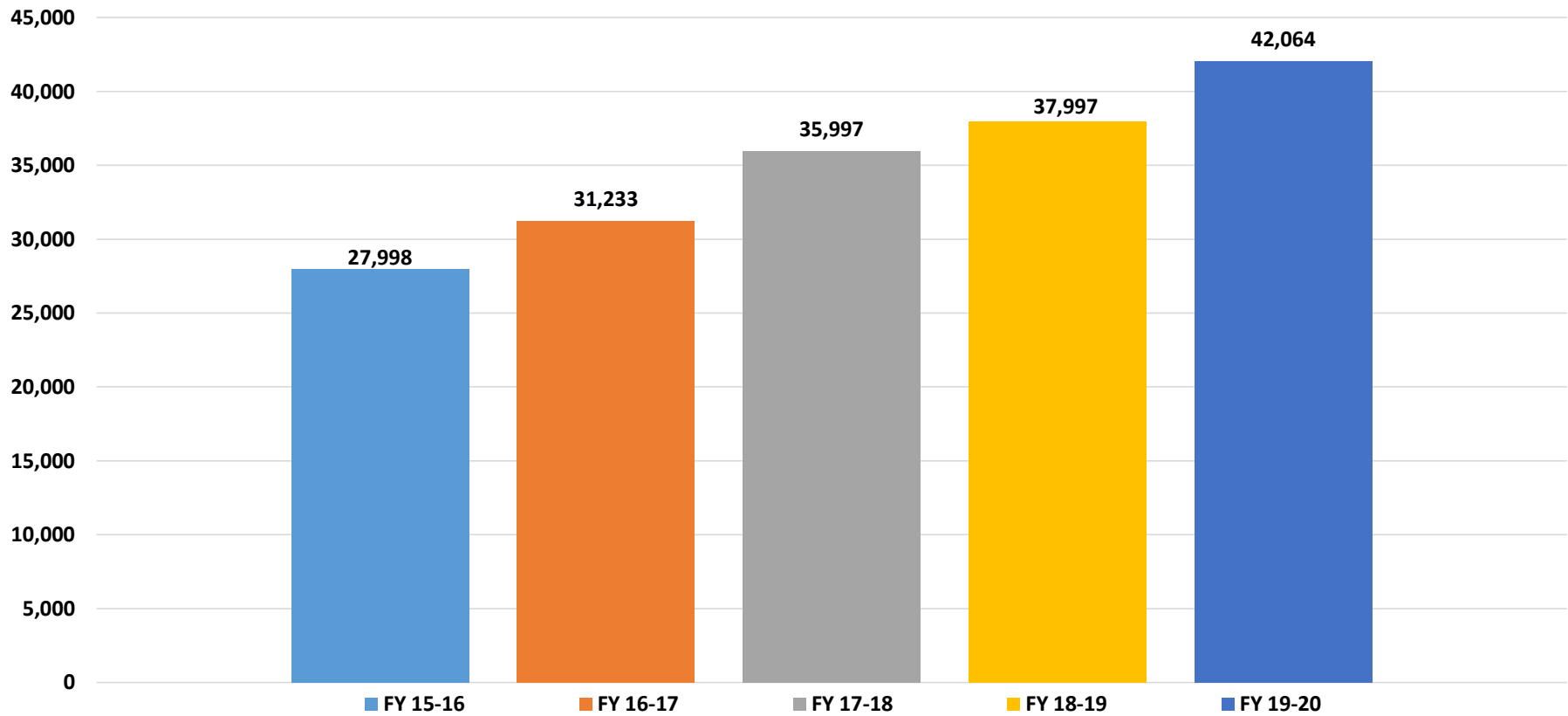
Efficiency

- Lean Six Sigma Methodology
 - Process improvements, minimize waste, utilize automation
- Case management guidelines
- STOP-WORK CASES
 - Identification of resolved cases and analysis to be discontinued via Forensic Advantage
- Blood destruction project
 - Lists sent to you once a month for confirmation to destroy

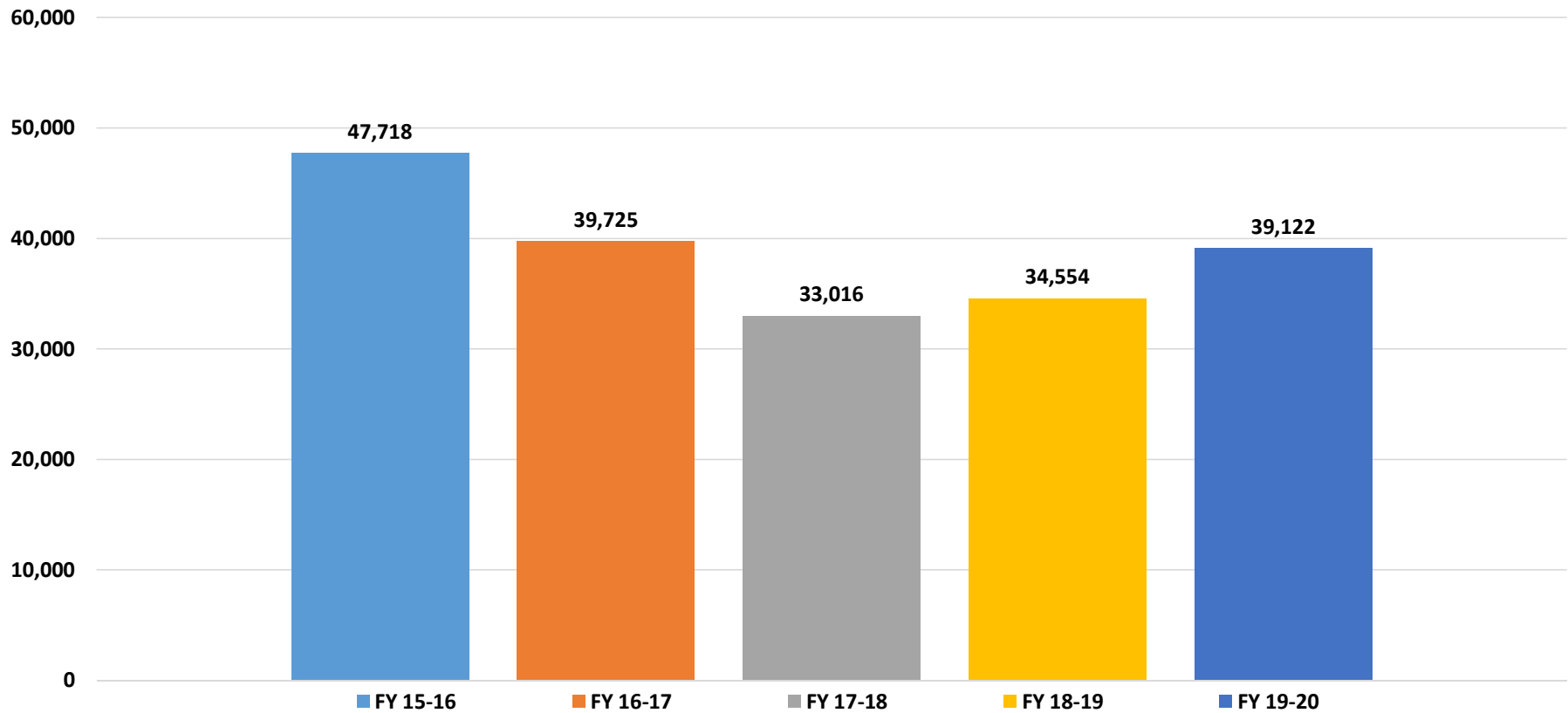
Technical Operations Update



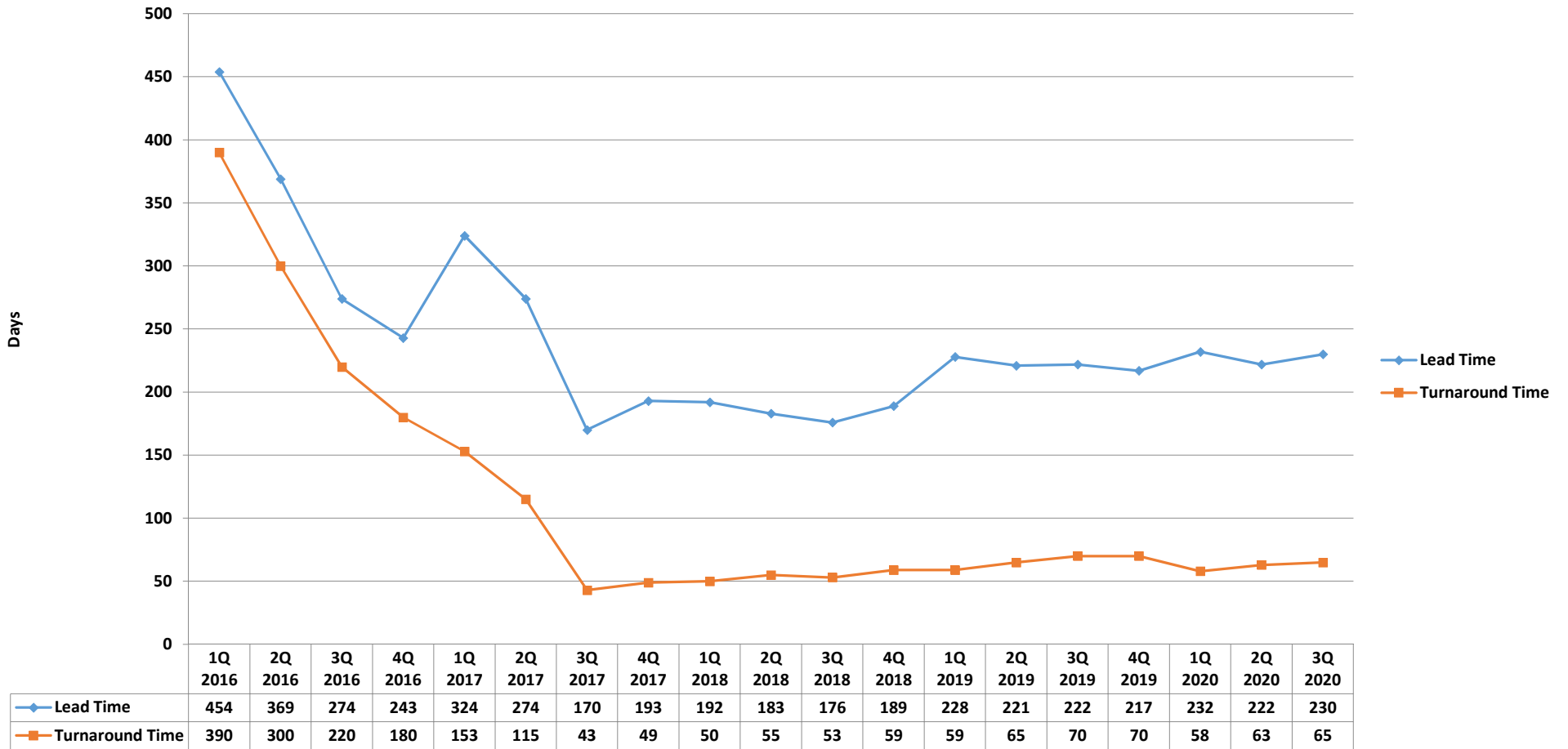
Annual Case Submissions



Annual Case Record Completions



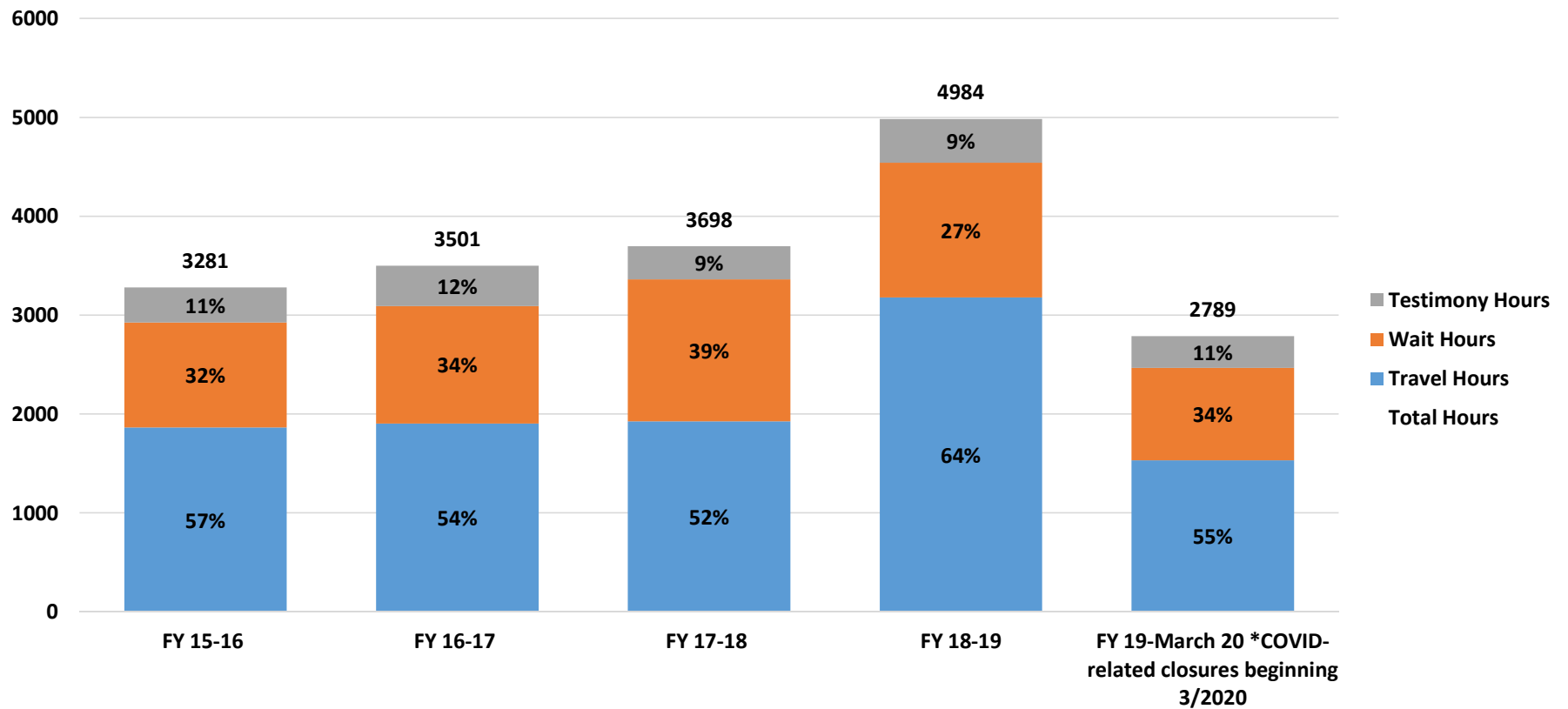
Lead Time versus Turnaround Time 230 days – submission to report



Crime Laboratory Highlights

- **Digital** – new employee in training, recruiting new FSS, two other vacancies, additional abilities to bypass security features of mobile devices
- **DNA Database** - record 905 CODIS hits in FY 19-20, up from 799 the previous year; over 375,000 profiles, will continue to expand with SAECK testing
- **Drug Chemistry** - Smokeable Hemp: *currently do not have the resources or staff to test for THC concentrations in cannabis sativa*; Top five controlled substances are methamphetamine, cocaine, heroin, fentanyl, plant material containing THC but not CBD; streamlining cases
- **Firearms** – section with highest lead time – working to streamline comparison examinations, re-working evidence from local labs in state, IBIS/NIBIN entries increasing, entry time average of 14 days
- **Forensic Biology** – Familial searching - Joint request from the DA and Agency Head to the Crime Lab with the Commitment to follow through on investigative leads, STRMix online, Increased submissions of SAECK's
- **Latents** – increased CODIS hit verifications
- **Toxicology** - QTOF online: ability to identify hundreds of drugs in one analysis; samples with drugs average 2.3 different ones; cannabinoids, benzodiazepines, opioids, methamphetamine, and cocaine most prevalent
- **Trace** – 35% increase in hair examination requests due to SAECK submissions,

Court Testimony Hours 2015-2020



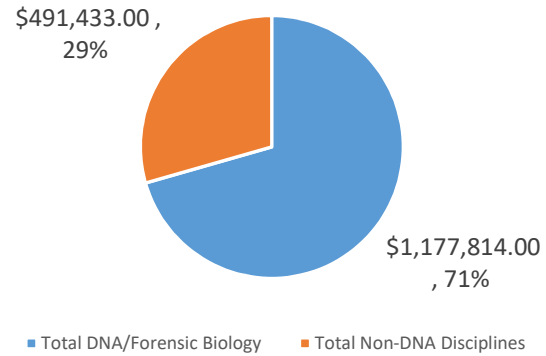
Administrative Operations Update



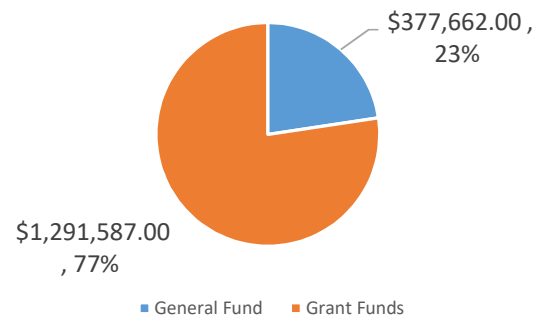
Project FORESIGHT Annual Report, 2018-2019
Cost per Case by Investigative Area

Area of Investigation	25th percentile	Median	75th percentile	State Crime Laboratory
Toxicology ante mortem (excluding BAC)	\$580	\$719	\$917	\$989
Blood Alcohol	\$102	\$150	\$249	\$94
Digital evidence	\$2,474	\$4,270	\$6,446	\$3,873
DNA Casework	\$1,073	\$1,364	\$2,152	\$1,123
DNA Database	\$37	\$56	\$97	\$124
Drugs - Controlled Substances	\$242	\$318	\$393	\$307
Fingerprints	\$595	\$808	\$1,089	\$1,434
Fire analysis	\$1,612	\$2,397	\$3,424	\$673
Firearms and Ballistics	\$1,096	\$1,682	\$2,630	\$848
Gun Shot Residue (GSR)	\$2,156	\$2,863	\$3,696	\$316
Marks and Impressions (Shoe prints/tire tracks)	\$4,736	\$6,158	\$8,413	\$3,147
Serology/Biology	\$779	\$940	\$1,350	\$484
Trace Evidence	\$3,300	\$6,288	\$6,701	\$3,299

FY 2019-2020
Scientific Supply Costs
DNA vs Non-DNA Disciplines
Total: \$1.67M



FY 2019-2020
Scientific Supply Costs
General Appropriation Fund vs Grant Funds
Total: \$1.67M



State Crime Laboratory Grants

Grants: \$12M

\$213k 2021 GHSP Toxicology

\$518k 2020 Coverdell Formula

\$1.7M 2020 DNA CEBR

\$329k 2020 Forensic Biology Equipment

\$475k 2020 GHSP Toxicology

\$2M 2019 VOCA

\$456k 2019 GHSP Tox

\$534k 2019 Coverdell Formula

\$1.6M 2019 DNA CEBR

\$480k 2018 GHSP Toxicology

\$2M 2018 SAKI

\$1.7M 2018 DNA CEBR

Sexual Assault Evidence Collection Kit Tracking and Inventory Management System (STIMS)

Mandated by S.L. 2018-70





Web Portal

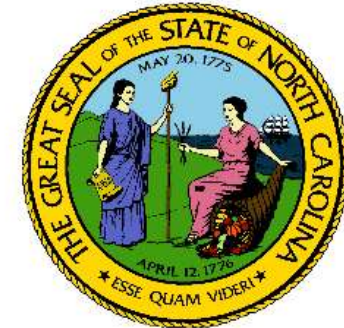
North Carolina Sexual Assault Evidence Collection Kit Tracking and Information Management System (STIMS)



This website enables tracking of sexual assault evidence collection kits in the State of North Carolina in compliance with [N.C. Gen. Stat. § 114-65](#), which was enacted into law through Session Law 2018-70 (HB 945).

"Sexual assault evidence collection kit" means a set of materials, such as swabs and tools for collecting blood samples, used to gather forensic evidence from a victim of reported sexual assault and the evidence obtained with such materials.

[Resources for Survivors and System Users](#)



Instructions

Victims of sexual assault can view the history and current status of their sexual assault evidence collection kit by entering the sexual assault evidence kit tracking # in the "serial number" box above and clicking the adjacent search button with the magnifying glass icon (Q)

Authorized medical providers, law enforcement agencies, prosecutors, and lab personnel should select "Login" and enter their unique Username and Password to manage the status of sexual assault evidence kits under the jurisdiction of their agency.

<https://www.sexualassaultkittracking.ncdoj.gov/SexualAssaultKitTracking/>

STIMS is MANDATORY - (Live on October 1, 2018)

- STIMS <https://www.sexualassaultkittracking.ncdoj.gov/SexualAssaultKitTracking/>
- 2,206 STIMS Registered Users: 1,409 LEOs, 721 medical personnel and 76 DA's Office users
- 2,014 kits in custody of SCL in STIMS
- 19,673 Named kits in STIMS
- 1,816 Anonymous kits in STIMS

*As of 10/12/2020

SAECK Kit Testing

- Outsourcing previously untested SAECKs per the Survivor Act (as of 10/1/2020)
 - 16,115 inventoried (1,315 anonymous)
 - 7,705 designated that MDT determined testing is required
 - 6,234 SAECKs pending testing
 - 1,802 completed testing
 - 231 CODIS Hits
 - 6 arrests reported
- SCL is testing current cases in-house
 - FY 18-19: 821 SAECKs submitted
 - FY 19-20: 1,853 SAECKs submitted

Questions?

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