# NORTH CAROLINA
# STATE CRIME LABORATORY
# FY2016/2017 Annual Report

North Carolina Criminal Justice Information Network Governing Board

Thursday, March 29, 2018

Raleigh, NC

# Agenda

Quality & Transparency
Case Submissions and Completions
Process Improvements
Expansion Requirements
Fiscal Resource Needs Identification

***Our Mission:***

Conduct the highest quality, technically proficient forensic analysis in a timely manner and provide unbiased expert witness testimony for the Criminal Justice Community.

**Our Purpose**

Truth through Science so Justice is served.

# FY 16/17 Highlights

- Case inventory and Turnaround Times (TAT) continues to drop
  - *FY 16-17  11.5% increase in submissions*
- Toxicology Outsourcing contract is complete
- New Western Lab completed and move in complete
- Transparency and Accountability

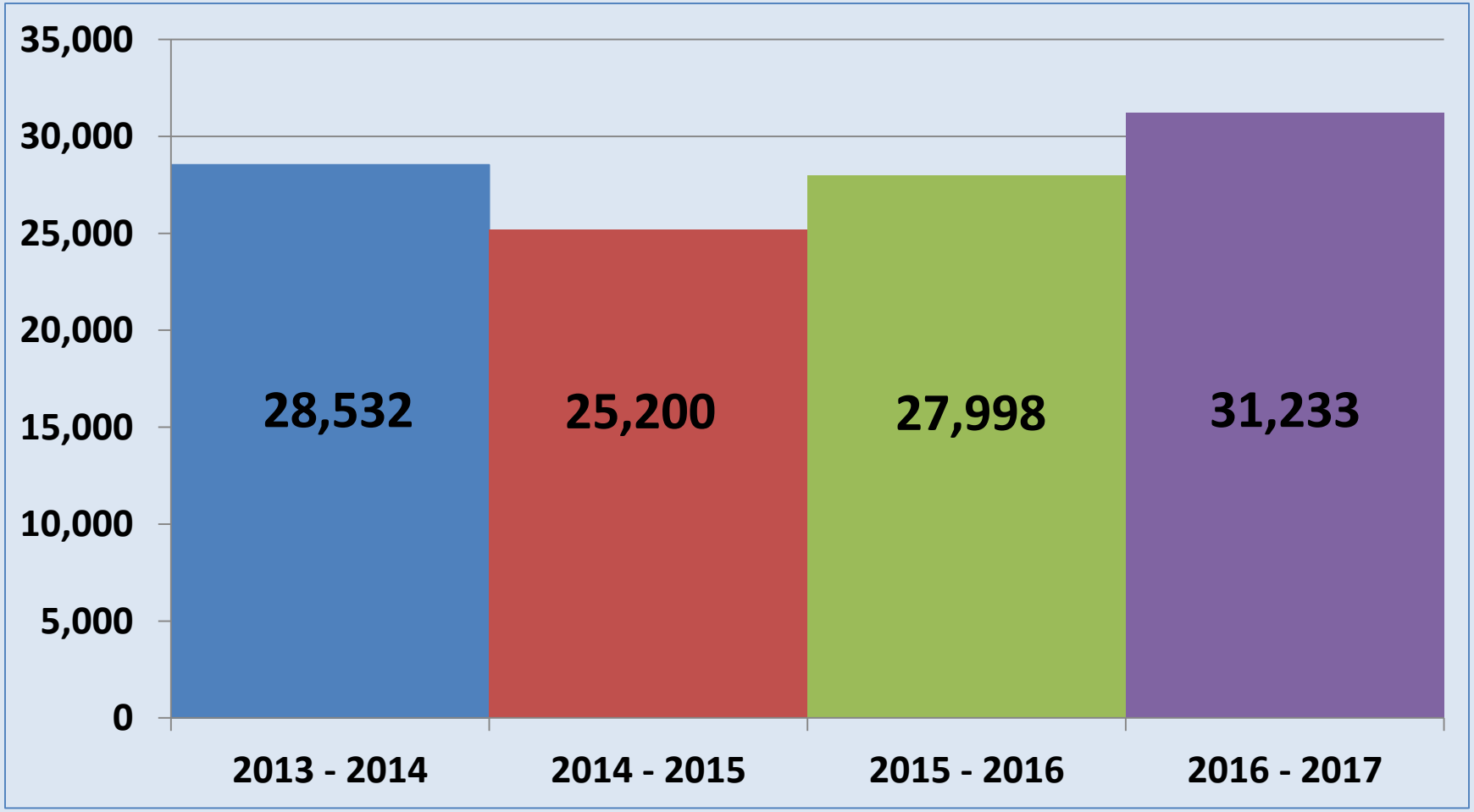
# Highest Forensic Science Quality Standards

Laboratory Accreditation

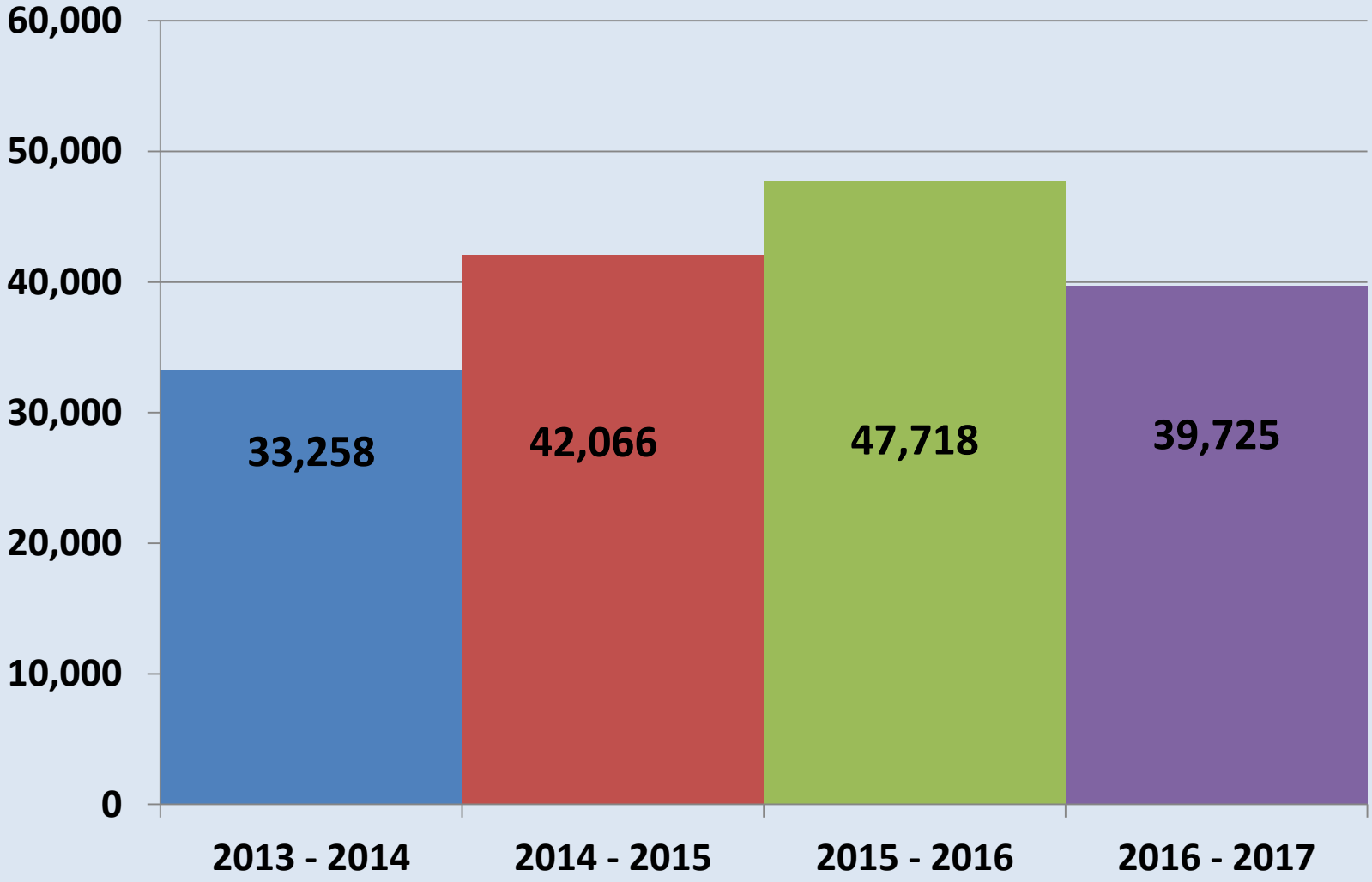
Forensic Scientist Certification

Submissions
Completions
Latent Evidence Trends
Drug Chemistry Trends
DNA Database
Toxicology Trends

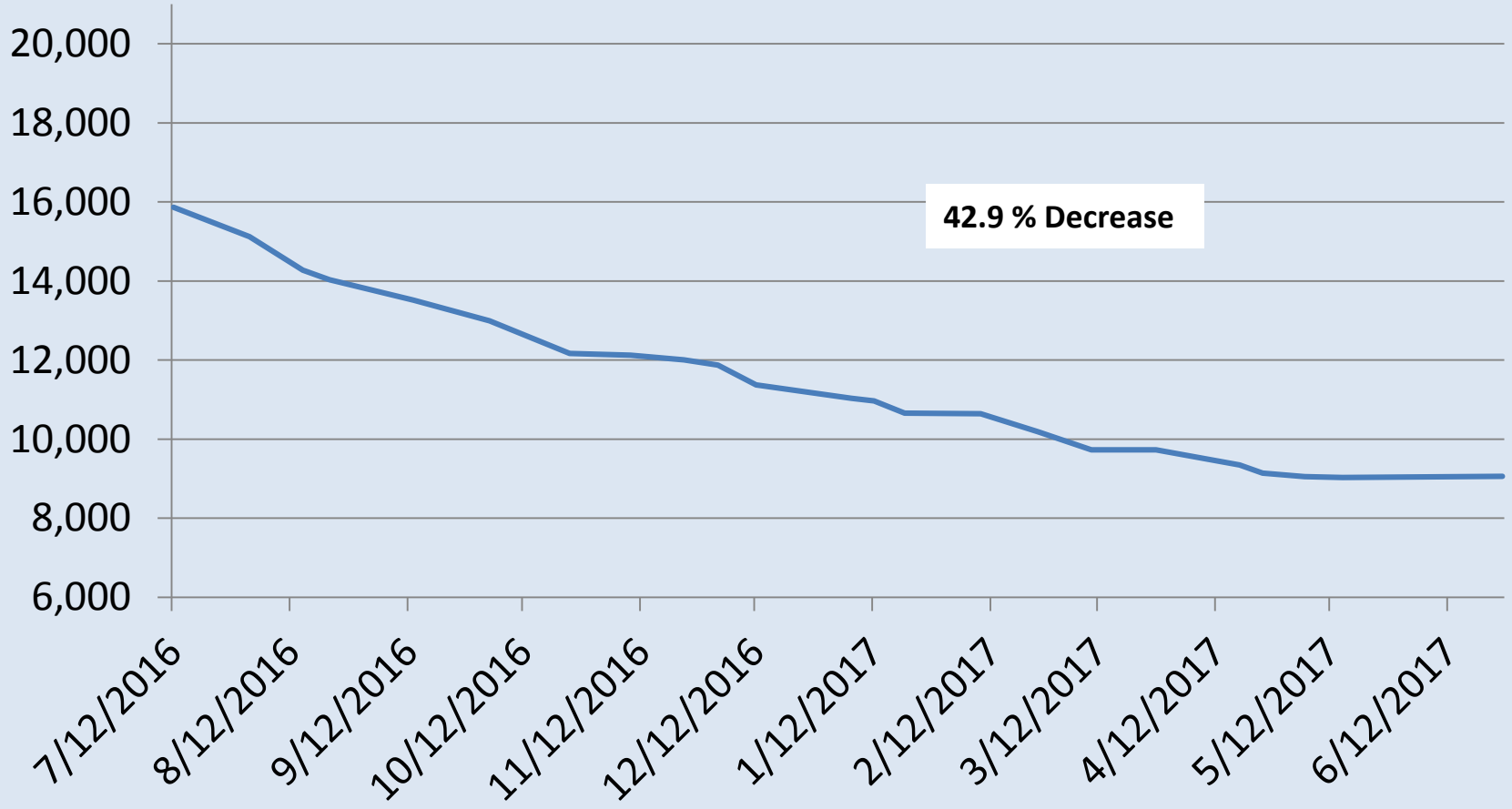
# Annual Case Record Submissions



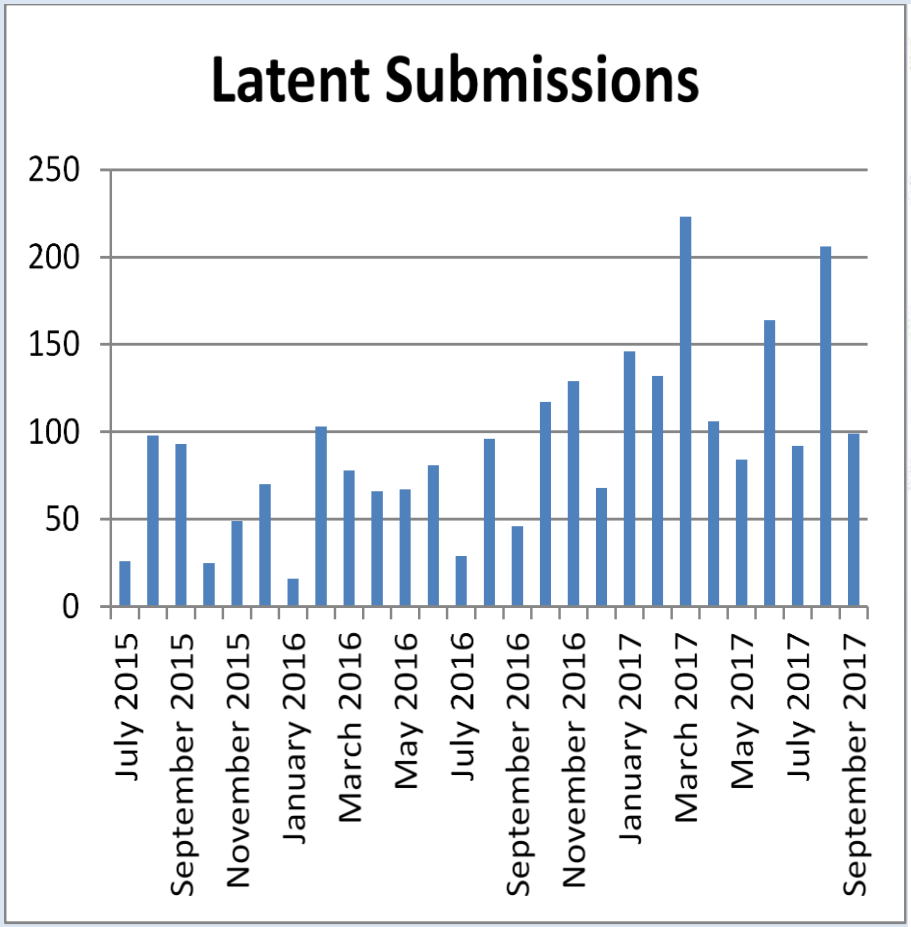
# Annual Case Records Completed

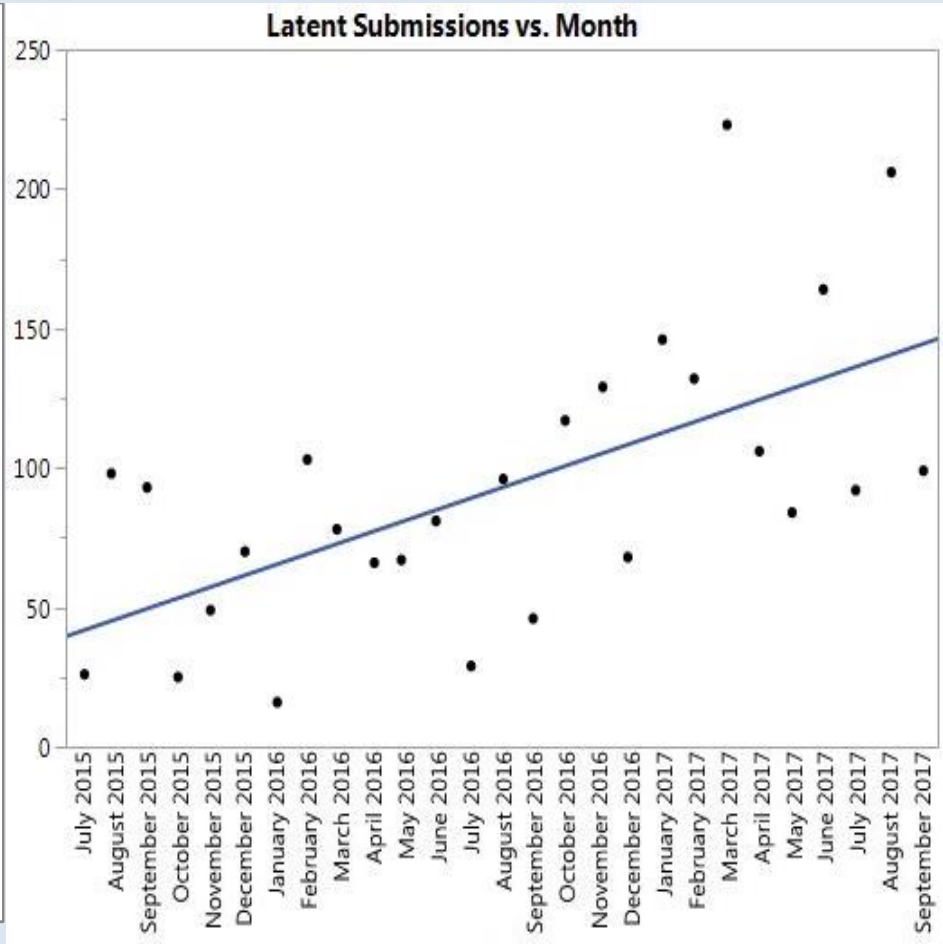


# Technical Operations- Overall Case FY 2016-2017

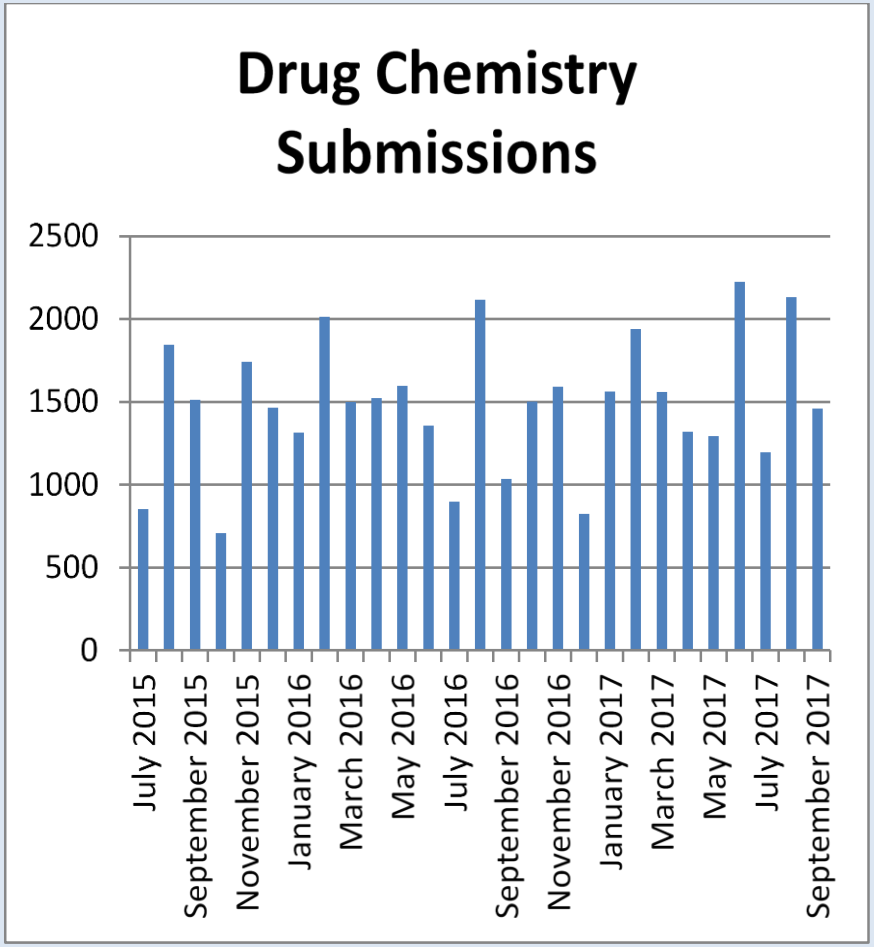


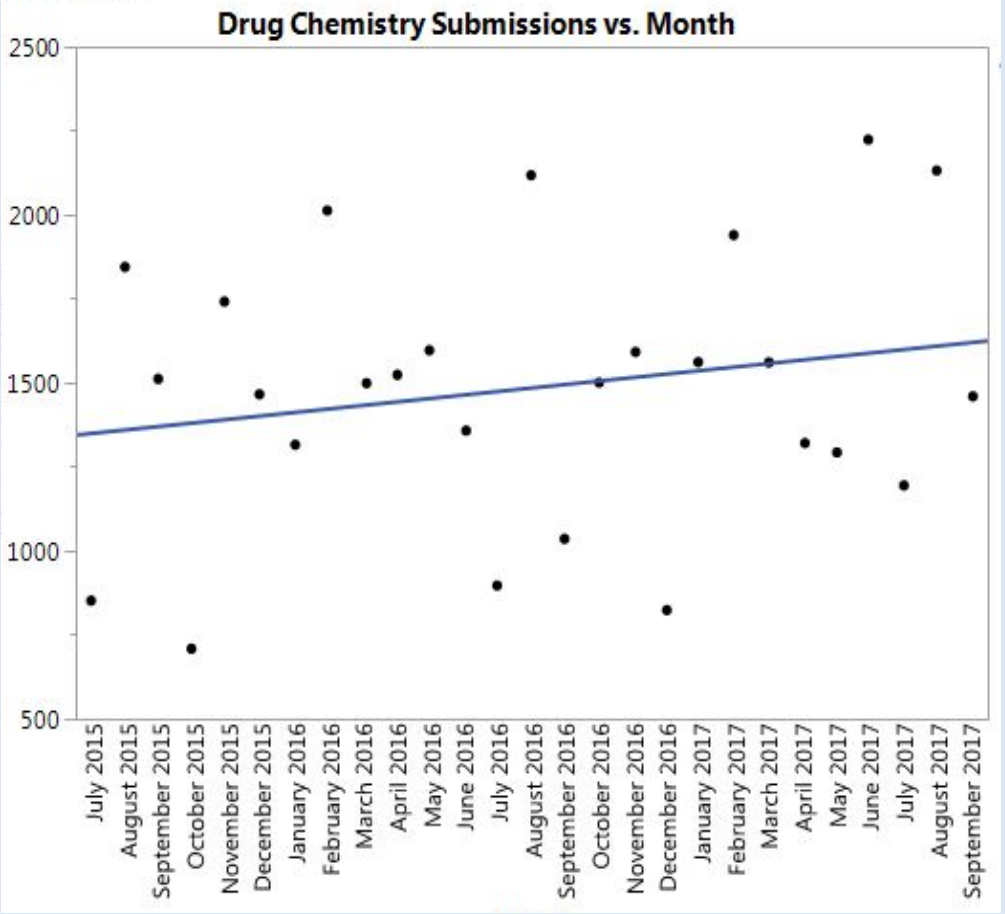
# Latent Evidence Submissions and Trend Line Graph



# Drug Chemistry Submissions and Trend Line Graph



# Drug Chemistry Trends

- Fentanyl and Fentanyl analogs
  - 116 in first six months; 300 in second six months
  - 10 fentanyl analogs added to N.C.G.S. effective 12/1/2017
  - Additional safety measures added for lab employees (e.g. no solo work; *Naloxone* available, etc.)
  - Added *Suspicious overdose cases* and rush status
  - New deadly synthetic opioid called *U-47700*, or *"pink"*
    - 3 in first six months; 30 in second six months

# Toxicology Outsourcing Update

- Time-limited outsourcing ended in January 2017
- Some completed cases awaiting final court disposition
- Remaining funds are being used to assist law enforcement agencies with their untested sexual assault evidence collection kits that are viable for testing.

**Totals:**

- Outsourced 5,019 cases
- Testing Total for FY 2014 through FY 2017: > $1.8M
- > $116K for testimony
- Total Outsourcing anticipated amount: ~$2.1M.

**The State Crime Lab acknowledges the *N.C. Conference of District Attorneys* for their strong partnership and willingness to participate on this project.**

| FY 2016-2017 State Crime Lab Toxicology Statistics<br>11,157 cases completed |
| --- |
| **Blood Alcohol Concentration (BAC)** |
| o Average Blood Alcohol Concentration = 0.1561. |
| o Highest Blood Alcohol Concentration observed = 0.4513 |
| o Four cases had a Blood Alcohol Concentration of 0.40 or greater, which is considered capable of causing coma or death. |
| **Blood Drug** |
| o The average blood sample contained 2-3 unrelated drugs |
| o 55% contain Benzodiazepines (e.g. Valium, Xanax, Klono – 11,157pin) |
| o 44% contain Marijuana related drugs |
| o 33% contain opiate drugs (e.g. Fentanyl, Oxycodone, Hydrocodone, Morphine/Heroin) |
| o 13% contain Cocaine and related drugs |

# DNA Database

- **Record 478 hits** to the DNA Database FY 16-17
  - (AG Initiative)CODIS Hit Follow up
- Over 320,000 DNA profiles
- G.S. 15A-266.3A authorized the collection of DNA profiles from those arrested for 35 additional offenses to include all violent felonies.
- 26,000 submissions
  - 5,200 Duplicate sample submissions @ $5.00/kit
    = $26,000
  - Training in efficient collection procedures available on the NCJA website

# Process Improvements
# Stop Works
# Court Testimony

June 2009 Impact of

Melendez-Diaz v. Massachusetts

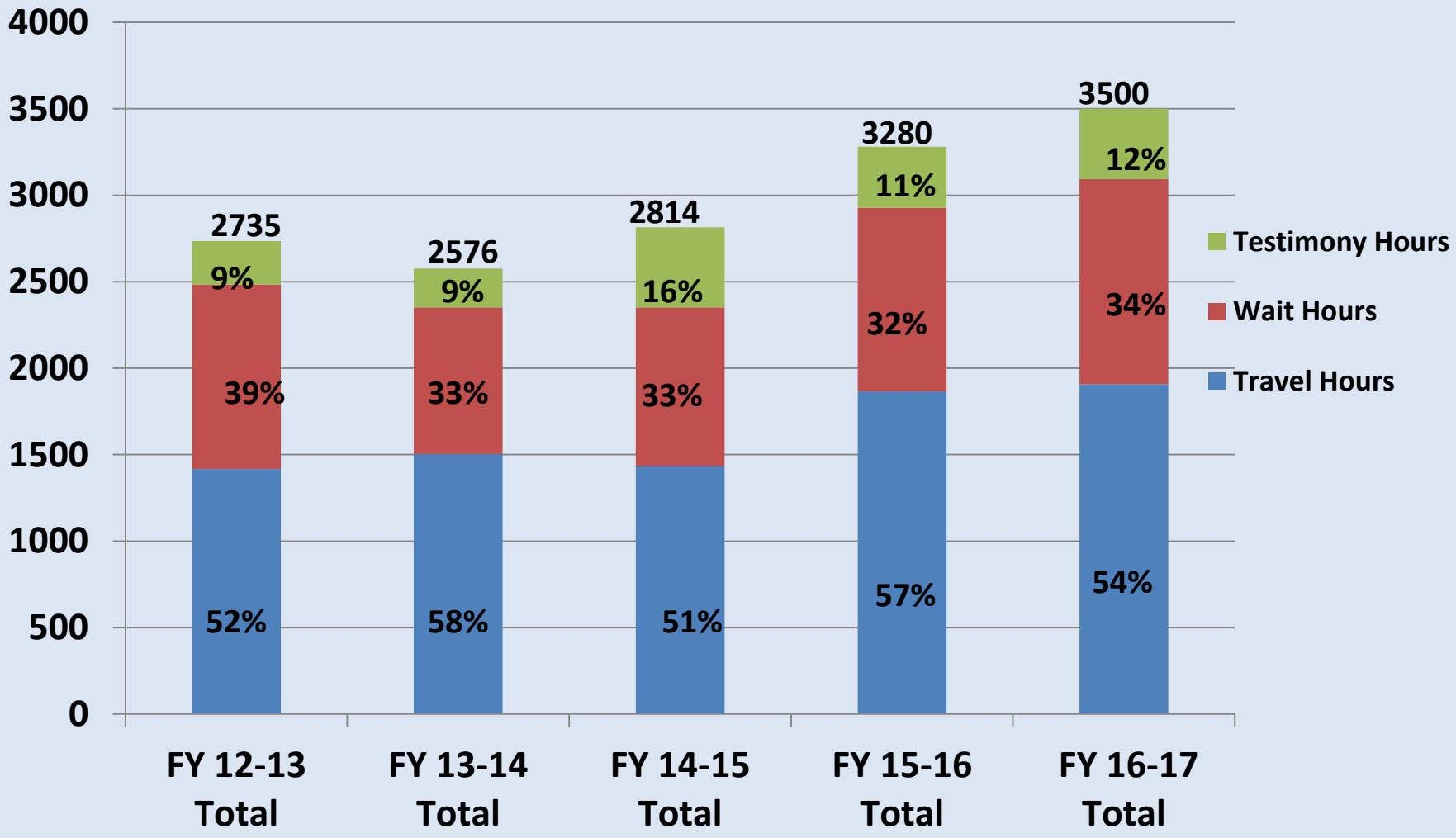
# Stop Works

- **FY 15-16: 13,046 -vs- FY 16-17: 4,933.**

- The State Crime Lab partnership to automate the stop work process for all partners with the Laboratory Information Management System.
  - NC DOJ Information Technology Division (ITD),
  - NC Government Data Analytics Center (GDAC),
  - NC Conference of District Attorneys,
  - NC Administrative Office of the Courts (AOC)
  - Statistical Analysis System (SAS) Institute, Inc.

**District Attorneys will be able to access and update case dispositions through the State Crime Lab's web-based laboratory information management system without the Lab providing lists.**

# Court Testimony Hours 2012-2017



# Expansion

**Completed**

Western Regional Laboratory

Renovate Raleigh Drugs & Toxicology

Statewide SAECK Inventory & Tracking Management System

# Raleigh Drug & Toxicology Renovation*

- Designed in the 1980s
- Not set up for collaborative and team approached work
- **Recommendation originates from Lean Six Sigma efficiency study**
- **Forensic biology section underwent a similar renovation in 2015 and reported a 600% increase in case completions within six months of completion**

**Preliminary analysis of this capital renovation by a State Construction Office approved architect is **approximately $4 M**. Includes upgrading HVAC and addressing ongoing humidity issues in the building.*

# Fiscal Resources

# Scientific Equipment

- $14.5 million scientific equipment inventory
- $64,680 annual replacement budget
- Industry standard - replace scientific equipment every five years
- FY17/18 Appropriations $1.7 M (nr) for purchase or lease of scientific equipment

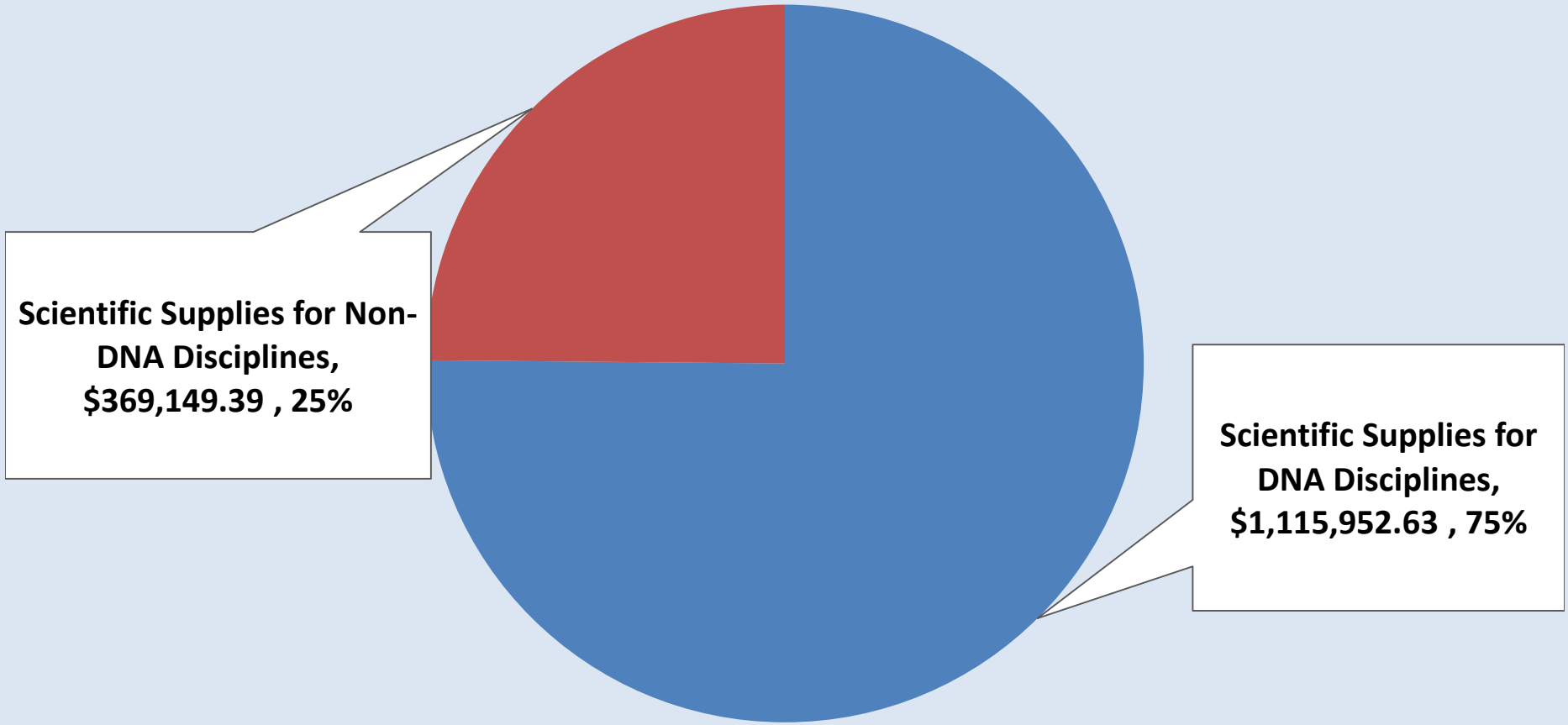
**The State Crime Laboratory wishes to acknowledge the members of the Joint Legislative Oversight Committee on Justice and Public Safety for their support.**

# Foresight vs NCSCL Cost per Item

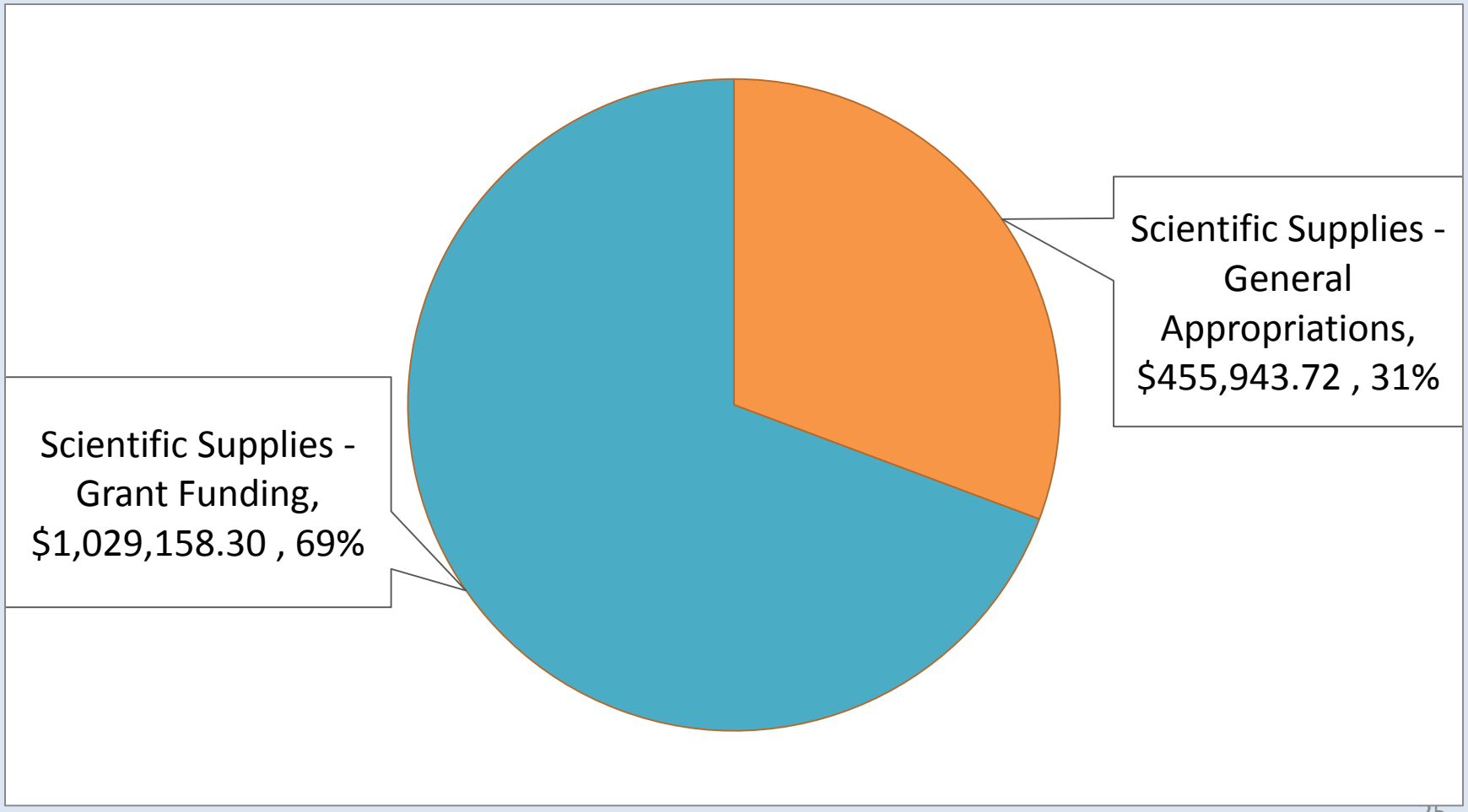
| Investigation area | FORESIGHT 75th National Percentile 2015-2016 | NCSCL Cost per Item 2016-2017 |
|---|---|---|
| Toxicology ante mortem (excluding BAC) | $644 | $902 |
| Blood Alcohol (BAC) | $229 | $80 |
| Digital evidence - Audio & Video | $3,946 | $5,267 |
| DNA Casework | $730 | $379 |
| Drugs - Controlled Substances | $232 | $184 |
| Fingerprints | $471 | $675 |
| Fire analysis | $1,043 | $268 |
| Firearms and Ballistics | $1,042 | $353 |
| Gun Shot Residue (GSR) | $1,516 | $353 |
| Marks and Impressions | $3,213 | $339 |
| Serology/Biology | $692 | $166 |
| Trace Evidence | $3,058 | $856 |

| Project FORESIGHT Annual Report, 2015-2016<br>Cost per Item by Investigative Area | | | |
|---|---|---|---|
| **Area of Investigation** | **25th percentile** | **Median** | **75th percentile** |
| Toxicology ante mortem (excluding BAC) | $366 | $446 | $644 |
| Blood Alcohol | $86 | $115 | $229 |
| Digital evidence -Audio & Video | $348 | $1,268 | $3,946 |
| DNA Casework | $316 | $434 | $730 |
| Drugs -Controlled Substances | $124 | $181 | $232 |
| Fingerprints | $227 | $303 | $471 |
| Fire analysis | $401 | $596 | $1,043 |
| Firearms and Ballistics | $391 | $634 | $1,042 |
| Gun Shot Residue (GSR) | $858 | $1,065 | $1,516 |
| Marks and Impressions | $972 | $2,268 | $3,213 |
| Serology/Biology | $205 | $420 | $692 |
| Trace Evidence | $966 | $1,589 | $3,058 |

# FY 2016-2017 Scientific Supplies DNA vs Non-DNA Disciplines Total = $1,485,102.00



# Appropriation –vs- Grants
# Total =$1,485,102.00



# Backlog vs Turnaround Time

The State Crime Lab continues to battle inaccurate public perceptions of turnaround times, often due to evidence not being submitted to the Lab until weeks or months after the crime was committed. Unfortunately, public perception of turnaround time is directly tied to the date of the crime rather than the date when it was submitted to the Lab.

# Western Regional Lab

Ribbon Cutting Ceremony

December 4, 2017

# Western Regional Crime Lab

**NORTH CAROLINA**

## DEPARTMENT OF JUSTICE

**Larry T. Justus Western Justice Academy, Edneyville, NC**

***Tuesday, March 31, 2015***

# Western Regional Crime Laboratory

A new 36,000 square foot facility to house the Western Regional Crime Laboratory has been completed on the campus of the North Carolina Justice Academy in Edneyville, North Carolina. The Laboratory includes the following disciplines: Drug Chemistry, Toxicology, Latent Evidence, Firearm and Tool Marks, and Forensic Biology/ DNA.

NORTH CAROLINA
STATE CRIME LABORATORY
LABORATORY SERVICES
WELCOME

POLICE

NORTH CAROLINA DEPT OF JUS
STATE CRIME LABORATORY
WESTERN REGIONAL LAB
DEPARTMENT OF JUSTICE
N★C
CRIME LABORATORY
GOVERNOR ROY COOP
ATTORNEY GENERAL JOSI
DIRECTOR JOHN BYI
COMPLETED 2017

NORTH CAROLINA DEPT OF JUSTICE
STATE CRIME LABORATORY
WESTERN REGIONAL LAB

NORTH CAROLINA DEPT OF JUSTICE
STATE CRIME LABORATORY
WESTERN REGIONAL LAB
DEPARTMENT OF JUSTICE
N★C
CRIME LABORATORY
GOVERNOR ROY COOPER
ATTORNEY GENERAL JOSH STEIN
DIRECTOR JOHN BYRD
COMPLETED 2017
RND ARCHITECTS, PA
ARCHITECTS
DURHAM, NORTH CAROLINA
H&M CONSTRUCTORS
GENERAL CONTRACTOR
ASHEVILLE, NORTH CAROLINA

EXIT

EXIT

Fisher
CAUTION
hp

FLAMMABLE
INFLAMABLE
INFLAMMABLE

WESTERN REGIONAL
CRIME LABORATORY
STOP

# North Carolina Department of Justice

# *2017 Sexual Assault Evidence Collection Kit Law Enforcement Inventory Report*

**March 1, 2018**

# Primer on “Rape kits”

- Sexual Assault Evidence Collection Kit (SAECK) is the name used for kits to collect forensic evidence by a sexual assault nurse examiner (SANE).
- Two groups of SAECKs
  1. Older cases retained for various reasons (e.g. prosecution declined, unfounded, victim refuses to cooperate, etc.) by law enforcement agencies and not previously submitted for forensic testing. [Focus of the State-wide audit.]
  2. **Identified 15,160 previously untested SAECKs**
  3. Cases currently being submitted to the SCL (Less than one year old)[Kits in the SCL]
     - Turnaround time: 7-9 months
     - New Western Regional Laboratory (Forensic Biology)
- Note: SCL is focused on completing current work and reducing turnaround time. Vendor labs are essential for short term reduction of audit identified SAECKs.

# Timeline for Sexual Assault Evidence Collection Kit Initiative

- May 1, 2016 – State Crime Lab Sexual Assault Kit Testing Initiative (voluntary)
  - Information sheet, Submission Protocol, Flow Chart, Letter of Instruction and Submission Form
- March 21, 2017 – June 2, 2017 (~70 days) – State Bid process to acquire two vendor labs
- March 23, 2017 – SCL presentation to NC Conference of District Attorneys Meeting (voluntary)
- May 4, 2017 – Email from the Executive Director of NC Conference of DAs with example letter and spreadsheet addressed to all 44 Elected DAs (voluntary)
- July 1, 2017 – Effective date for *Current Operations Appropriations Act of 2017* with SAECK inventory provision (involuntary)
- July 19, 2017 – SCL Letter sent to all Chiefs and Sheriffs (involuntary)
- December 6, 2017 – SCL Reminder email (involuntary)
- December 15, 2017 – *SCL Forensic Update* sent to all CJ Stakeholders (involuntary)
- January 16, 2018 – SCL Letter sent to all non-responding Chiefs and Sheriffs (involuntary)
- January 17 – February 28, 2018– SCL contacting via phone and/or email to follow up with non responders.

# Outsourcing Pricing

(SCL has approved two vendor Labs)

***Note: Testing is voluntary and offered on a first-come, first serve basis.***

- ***<u>Average Cost per kit ~$700</u>***
- Vendor Turnaround Time ~ 60 days
- Additional Known DNA Standards(s) ~$400
- Expert Witness Costs (***Not paid by the SCL***)

Audit Report recommendations:

1. Test all reported kits currently in law enforcement custody ($10.6 million to outsource 15,160 kits);

2. Institute a statewide SAECK tracking system;

3. Develop a protocol to test all kits reported to law enforcement going forward.

# Conclusion

http://ncdoj.gov/crime-lab.aspx

Director John Byrd jbyrd@ncdoj.gov

North Carolina State Crime Laboratory