



# Utilizing CODIS for Unsubmitted Sexual Assault Kits

Amy Jeanguenat  
Principal Consultant



*This project was supported by Grant No. 2015-AK-BX-K021 awarded by the Bureau of Justice Assistance. The Bureau of Justice Assistance is a component of the Department of Justice's Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the Office for Victims of Crime, and the SMART Office. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice*

# Outline

- CODIS Basics:
  - Structure, function, data & communication flow
- Eligibility Requirements:
  - Documentation, data quality
- Project Considerations:
  - Non-stranger rapes, expired statute of limitations
- Case Scenarios:
  - Participate in determining if cases outlined are suitable or unsuitable for CODIS entry

# CODIS Basics

Combined DNA Index System



The software management program and hardware used to link DNA databases at the local, state, and national level

# CODIS Basics

Recommendations for the creation and oversight of a national database was incorporated into the DNA Identification Act of 1994 to **provide investigative leads in unsolved cases.**

42 U.S. Code § 14132

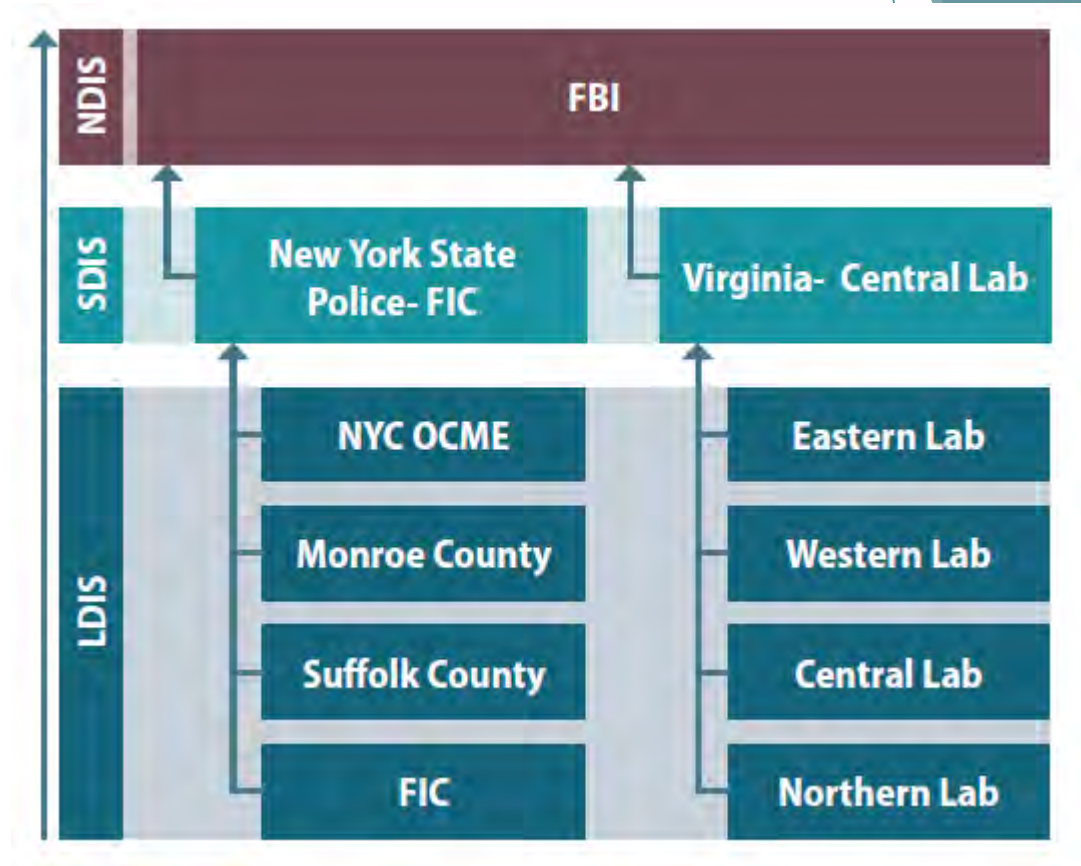
Index to facilitate law enforcement  
exchange of DNA identification information



# CODIS Basics

Tiered architectural approach

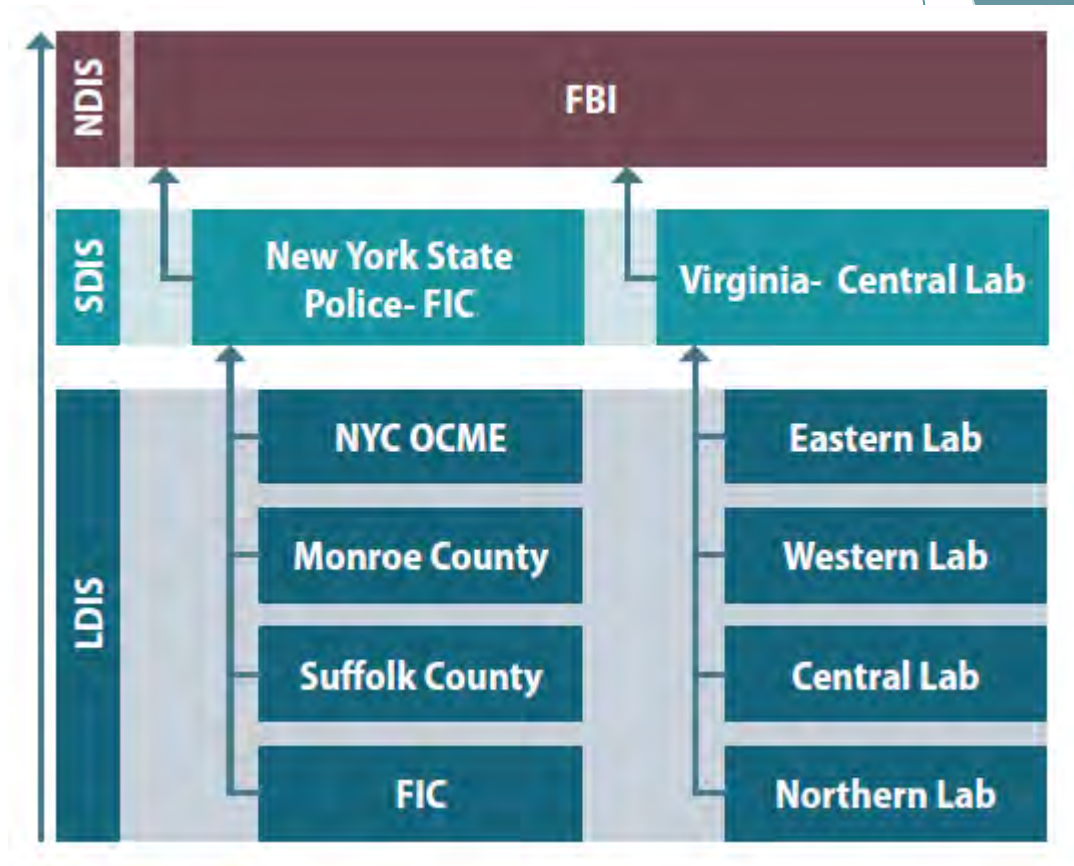
- Effective data sharing
- Local ownership



# CODIS Basics

## Local Ownership

- Jurisdictions have varying laws regarding DNA databasing
- Must comply at minimum with federal provisions to participate in NDIS
- Federal DNA Act supersedes State Law



# CODIS Basics

Data is arranged into searchable categories:

Offender

DNA profiles from individuals convicted of crimes

Forensic

Foreign DNA profiles from crimes scene:  
Mixtures, Partials, Unknowns

Arrestee

Based on state law, DNA profiles taken from individuals at the time of arrest

Additional

Detainee, Legal, Juvenile, Unidentified human remains, Missing persons, Relatives of missing persons

# CODIS Basics

Forensic Index is searched against Offender Index at high stringency with one allowable mismatch.



Requires all alleles to match between two DNA profiles

Forensic Partial and Forensic Mixture are searched at moderate stringency



Requires all alleles to match but allows a different number of alleles between the two DNA profiles



# CODIS Basics

## Investigations Aided

### Offender Hit

Link between 'reference category' and a 'forensic category' that identifies a possible perpetrator

### Forensic Hit

Link between crimes within 'forensic category'



# CODIS Basics

## Investigations Aided

### Cold Hit

A hit made without any prior investigative leads

### Warm Hit

Some prior investigative knowledge also links the CODIS hit



# CODIS Basics

Limited information is stored in CODIS regarding personal identifiers associated with profiles:

- 1) DNA Profile
- 2) Agency ID Submitting Profile
- 3) Random Specimen ID Number
- 4) Lab personnel

# CODIS Basics

Hits are reviewed:

- Verification
- Eligibility
- Qualification
- Samples may be pulled and reanalyzed.



Once hit is verified, written notification of the investigation aided will be maintained for records and provided to the investigator.

# CODIS Basics

Some SDIS-level profiles are never searched at the NDIS level

Request can be conducted to search a specific SDIS database

The CODIS administrator can provide specific instructions for requesting information and searches outside of jurisdiction



**ASK  
FOR IT**

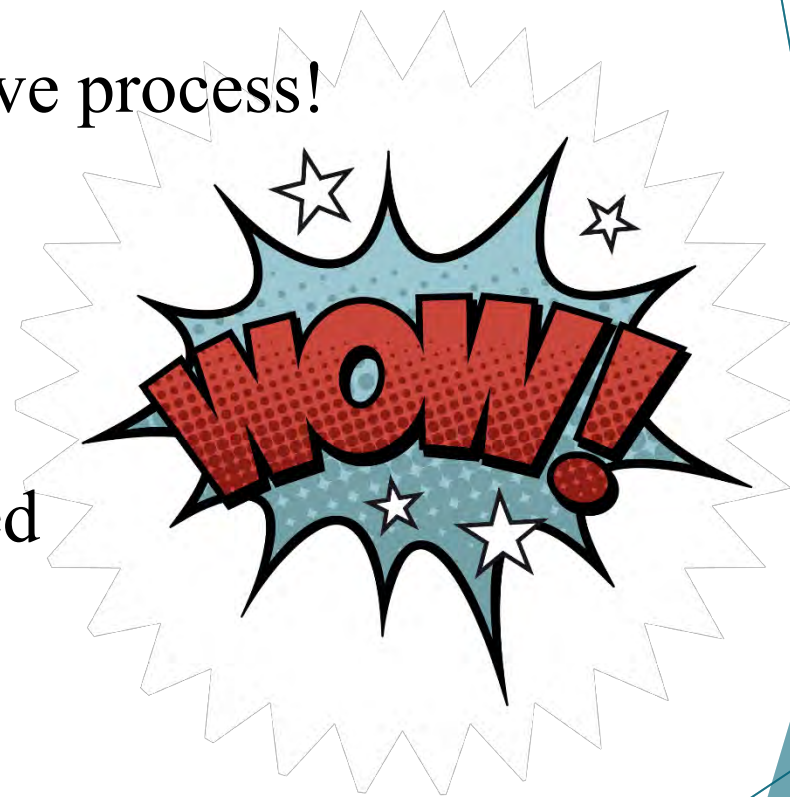
# CODIS Basics

CODIS adds value to the investigative process!

From Nov 2016:

>355 thousand hits

>340 thousand investigations assisted





# Eligibility Requirements

## #2 Forensic Categories:

- DNA originated from and/or is associated with a crime scene
- The DNA source must be attributable to a putative perpetrator



Vladimir Kremlev for RT



# Eligibility Requirements



## #3 Data Quality:

- Accredited lab following FBI Quality Assurance Standards and is externally audited every 2 years
- Data must be generated with approved chemistry
- Lab must have an expungement procedure in accordance with federal law
- Data must belong to an approved searchable category (i.e. offender, forensic)

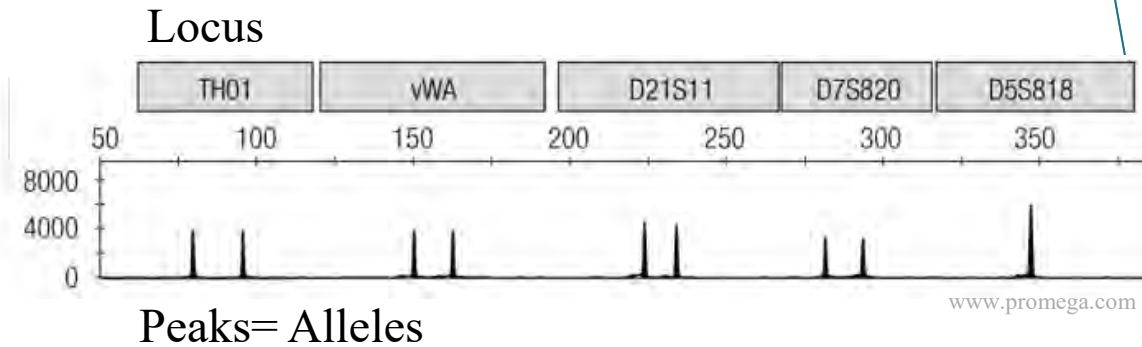
# Eligibility Requirements

## #3 Data Quality (cont.)

Original 13 CODIS core:

CSF1PO, D3S1358, D5S818, D7S820, D8S1179, D13S317, D16S539, D18S51, D21S11, FGA, TH01, TPOX, and vWA

New additional CODIS core:  
D1S1656, D2S441, D2S1338, D10S1248, D12S391, D19S433, and D22S1045

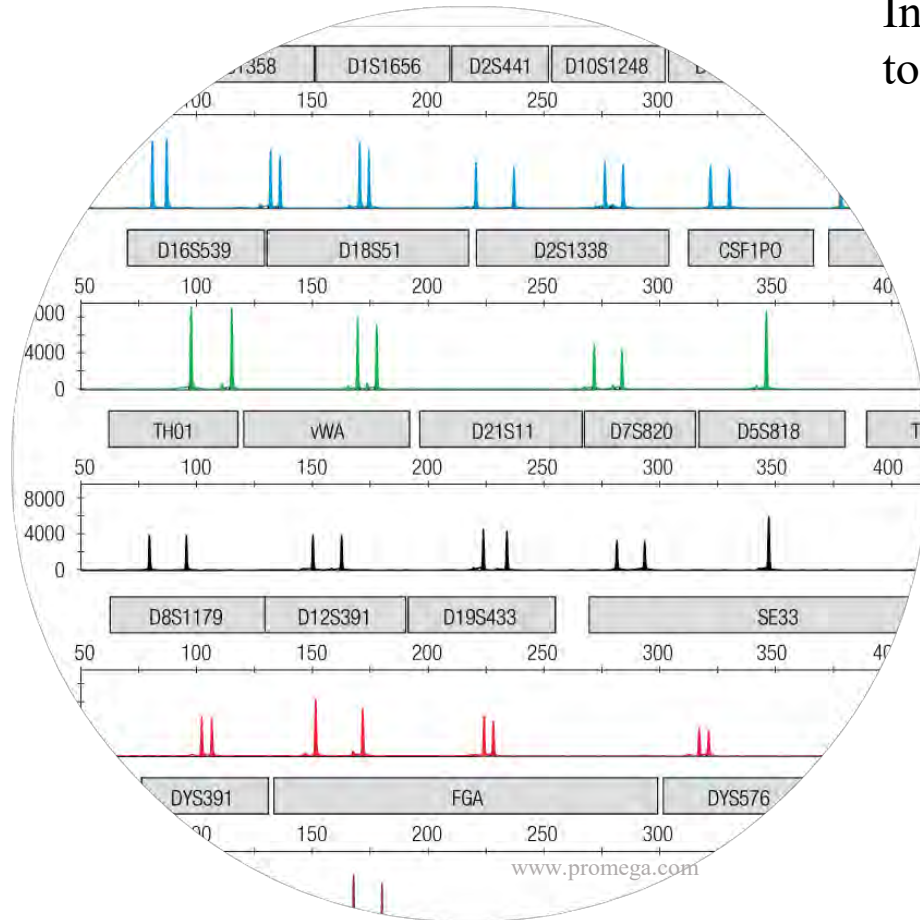


Consider:

- Single source
- Mixtures
- Partial

# Eligibility Requirements

## #3 Data Quality (cont.):



Interpretable, accurate, & attempt to type CODIS core loci

Forensic unknown/partial: no more than 3 alleles at one locus; up to 2 at remaining loci

Forensic mixture: no more than 4 alleles at any locus

Forensic mixture and partials: minimum of 8 original CODIS core loci; match rarity of 1 in 10 million at moderate stringency

# Eligibility Requirements



#4 Request and document consent for collection of ‘elimination samples’

- Foreign DNA can still be uploaded; if later the DNA is found to match an elimination sample, the forensic profile should be removed

# Eligibility Requirements

## Not Suitable

- Elimination Samples
- Suspect Standards\*
- Crime unfounded
- Items not used in the commission of crime
- Non-foreign DNA



\*in general, certain permissions can be obtained to include in legal index

# Project Considerations

## **Non-Stranger/ 'Consent' Cases**

A possible suspect has been identified, knows the victim or admits consensual sexual contact with the victim

## **Why Process for DNA?**

- Corroborate events
- Upload to CODIS to ID trends:
  - Criminal sexual patterns
  - Link crimes together

# Project Considerations

## Testing Non-Stranger Cases- Lessons from Detroit

894 Untested SAK

- 60% ‘stranger rapes’ and 40% ‘non-stranger rapes’
- CODIS entry and HIT rates equivalent between the two groups
- ‘Stranger’ group resulted in more serial HITs but investigations resulted from testing ‘Non-stranger’ cases

Campbell, R et al. Should Rape Kit Testing Be Prioritized by Victim-Offender Relationship? *Criminology and Public Policy*. 2016. 15(2): 555-583.

# Project Considerations

## Linked Case Example

October 2008: Victim A reports being sexual assaulted by a friend/associate. A SAK is collected but never processed.

October 2009: Victim B reports being sexually assaulted by a stranger. A SAK is collected and a foreign profile is uploaded to CODIS resulting in no HITS.

June 2013: Victim A's SAK get processed as part of an 'unsubmitted kit' research project and a foreign profile is uploaded to CODIS

**DNA from SAK A and B link, identifying a perpetrator for the 'stranger rape'**

Campbell, R et al. (2016). Tested at Last: How DNA Evidence in Untested Rape Kits Can Identify Offenders and Serial Sexual Assaults. J of Interpersonal Violence. 1-23.



# Project Considerations

## **Statute of Limitations (SOL)**

Context is within legal community

- An expired SOL may prevent prosecution
- Understand SOL at time of crime, if legislation has changed, and if there are exceptions
- John Doe warrant may help if a foreign DNA profile is obtained but the SOL is approaching

# Project Considerations

## Expired SOL

Statue of limitations has expired thus a criminal charge cannot be filed.



## Why Process for DNA?

- Provide answers to victim
- Legal 'issue' does not affect ability to upload to CODIS
- Upload to CODIS to ID trends:
  - Criminal sexual patterns
  - Link crimes together
  - Solve future crimes

# Case Scenario # 1

## **Is the DNA profile suitable for CODIS?**

In 1997, a woman brought her 18 yo. daughter to the hospital following a sexual assault incident in the home. A sexual assault kit was collected. The daughter told the police in private that she engaging in consensual sex but did not want to tell her mother. In 2015 the sexual assault kit was tested and a male DNA profile was obtained from the oral swab.

# Case Scenario # 1

**Is the DNA profile suitable for CODIS?**



No documentation a crime was committed



# Case Scenario # 2

## **Is the DNA profile suitable for CODIS?**

In 2016, a police report was filed and a SAK was collected from a 24 yo. woman who says she was sexually assaulted by her 30 yo. male neighbor. He says they hang out all the time and that they had consensual sex. The woman does not have any recent consensual partners. A male DNA profile was obtained from the vaginal swab in the kit.

# Case Scenario # 2

**Is the DNA profile suitable for CODIS?**



Documentation a crime was committed



No consensual partners to collect from



A DNA profile foreign to the victim was produced



# Case Scenario # 3

## **Is the DNA profile suitable for CODIS?**

In 2002, a police report was filed and a SAK was collected from a 24 yo. woman who says she was sexually assaulted by her 30 yo. male neighbor. He says they hang out all the time and that they had consensual sex. The woman reports she did not have any recent consensual partners.

In 2003, a grand jury determined there was not enough information to proceed with a trial.

In 2017, A male DNA profile was obtained from the vaginal swab in the kit during a forklift approach method to test all unsubmitted SAKs.

# Case Scenario # 3

**Is the DNA profile suitable for CODIS?**



Documentation a crime was committed



No consensual partners to collect from



A DNA profile foreign to the victim was produced





# Case Scenario # 4

## **Is the DNA profile suitable for CODIS?**

In 1995, a police report was filed by a 24 yo woman who says she was sexually assaulted by a stranger who entered a house she shared with her boyfriend. A sexual assault kit was collected but never processed. The statute of limitations has expired for the crime but the kit was processed in 2016 in efforts to test all unsubmitted kits. A profile foreign to the victim was obtained from the cervical swab.

# Case Scenario # 4

**Is the DNA profile suitable for CODIS?**



Documentation a crime was committed



A DNA profile foreign to the victim was produced



Need more information on live in boyfriend/sexual history; document attempt to obtain information/consensual profile



Can add profile to CODIS with documentation of attempt to obtain elimination samples.

If a sample is collected and the profile does match 'the boyfriend' then the profile should be removed from CODIS

# Case Scenario # 5

## **Is the DNA profile suitable for CODIS?**

In 2009, a police report was filed and a kit was collected from a 45 yo. woman who says she was stopped at a red light when 4 men dragged her from her car and sexually assaulted her in the back of a van. The woman reports she has not engaged in recent consensual sex. The kit went unprocessed until 2016 but a mixture profile of at least three individuals was obtained from the anal swab.

# Case Scenario # 5

Is the DNA profile suitable for CODIS?



Documentation a crime was committed



No consensual partners to collect from



DNA does not meet data quality standards for upload



# Summary

## Cases can be uploaded to CODIS if:



Documentation a crime was committed



Documented request to collect consensual partners/elimination samples



A DNA profile foreign to the victim was produced from an item connected to the crime scene



The DNA profile meets data quality requirements

# Summary

Don't let these 'issues' confuse the ability to upload to CODIS:

- 'He said' / 'she said' scenarios
- Expired statute of limitations
- Requested elimination samples but do not have the results
- Grand jury will not proceed with trial

Possible limitations:

- Communication
- Laboratory resources
- Labs are audited to their policies