



Presidential Task Force on Missing and Murdered American Indians and Alaska Natives

Operation Lady Justice



Data and Communication Flow in CODIS

The Combined DNA Index System (CODIS) is a dynamic database that aids investigations through a tiered architectural approach: Local indexes flow into their respective state index, whereby eligible profiles flow into the National DNA Index System (NDIS). These architectural indexes further comprise searchable indexes, such as the following:¹

- **Offender**—DNA profiles from individuals convicted of crimes
- **Arrestee**—DNA profiles taken from individuals at the time of arrest (this is dependent on state law)
- **Forensic**—Foreign DNA profiles from crime scenes that cannot be matched to a victim, suspect, or elimination samples

Several indexes—including Unidentified Human Remains, Missing Persons, Biological Relatives of Missing Persons, and Pedigree Tree—support the National Missing Persons Program.¹

Each state has a local laboratory that maintains and operates the State Database Index System (SDIS) and is designated as the SDIS laboratory. Other public and federal participating laboratories in the state are designated as Local Database Index System (LDIS) laboratories, which transmit data to share with the SDIS indexes. LDIS data communicate with other LDIS data through SDIS.

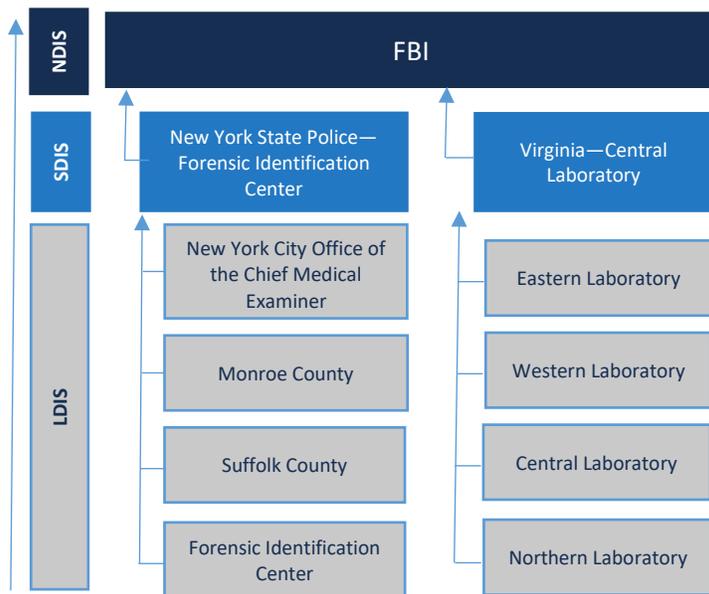
The FBI maintains the NDIS. If profiles in SDIS meet the NDIS eligibility requirements, the profiles will be searched against eligible profiles from other states (see Figure 1).²

This tiered communication in CODIS encourages effective data sharing while allowing agencies to operate their local and state databases according to applicable federal, state, and local legislation. Participating agencies have collaborative agreements with other agencies for data sharing and searching assistance.



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Figure 1. Tiered Approach of Communication in CODIS



Note: Partial example of architectural indexes and communication flow within CODIS; a tiered approach allows for each laboratory to participate in CODIS according to applicable federal, state, and local legislation while allowing the FBI to operate NDIS.

SDIS requirements can vary because they are based on jurisdiction-specific legislation or upload policies; therefore, some SDIS-level profiles are never searched at the NDIS level.³ However, requests can be made to search a specific SDIS database. Each laboratory will have a CODIS administrator who can provide specific instructions, sometimes based on state codes, for requesting information and searches outside a jurisdiction.

Searches at the LDIS and SDIS levels occur as needed—upon upload, as requested, or according to a schedule outlined by standard operating procedures. Searching and transmitting data to NDIS occur on a predetermined schedule for each state.² This schedule helps control the volume of data input and prevents bottlenecks that may slow down data transmission and search algorithms.

When CODIS aids an investigation, that means there was a “hit” (1) in the forensic index that established a possible link between crimes or (2) between the forensic index and a reference index (e.g., offender, arrestee), identifying a suspected perpetrator.⁴

CODIS investigation “hits”:

- **Forensic index**—link between crimes
- **Forensic and reference indexes**—link between indexes that identifies a possible perpetrator

All hits will be reviewed to verify the match or consistency between linked profiles and the eligibility and qualification of the samples. In some situations, samples may be pulled and reanalyzed. After verification, a written notification of the investigation aided will be maintained for records and provided to the investigator, usually in the form of a CODIS hit report.⁴ As of January 2021, CODIS has produced over 548,757 hits, which have assisted in more than 535,822 investigations and demonstrated the CODIS program’s success.⁵

References

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4. Federal Bureau of investigation (FBI). Frequently Asked Questions on CODIS and NDIS. Retrieved from <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet>
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