

In Brief:

Utilizing CODIS for Unsubmitted Sexual Assault Kits

One of the main goals of the testing of unsubmitted sexual assault kits (SAKs) is to enter foreign DNA profiles into the Combined DNA Index System (CODIS) in an attempt to identify the potential perpetrator(s). Maximizing the use of CODIS has been found to have other advantages, such as linking crimes together, helping refute claims, identifying criminal patterns, and decreasing concerns regarding public safety.

CODIS Defined

CODIS is the software management program and hardware used to link DNA databases at the local, state, and national levels. Recommendations for the creation and oversight of a national database were incorporated into the DNA Identification Act of 1994 to provide investigative leads in unsolved cases. The database continues to be supported, based on the number of investigations aided and the number of hits. As of August 2016, CODIS has assisted in more than 329,000 investigations and produced over 343,000 hits.¹

Types of Hits

By testing unsubmitted SAKs, both forensic hits and offender hits will be generated in CODIS. A forensic hit occurs when a DNA profile from the SAK/crime scene matches a DNA profile from another SAK/crime scene, thus linking two crimes together. An offender hit occurs when a known reference sample (offender or arrestee) matches a DNA profile entered from a SAK/crime scene, thus identifying a possible perpetrator.

Provisions for Uploading

A laboratory entering DNA profiles into CODIS must abide by the National DNA Index System (NDIS) handbook, although each laboratory may have unique provisions based on local and state legislation. Therefore, agencies around the United States may have different qualifying elements for uploading a DNA profile. At the NDIS level, considerations for uploading a DNA profile include the following²:

1. The evidence has originated from or can be associated with the crime scene. Examples include a sexual assault kit collected from the victim, the victim's clothing at the time the crime occurred, and items such as bedding collected from the crime scene.

2. Any DNA profile, foreign to the victim, which is obtained from the items above must be believed to be attributable to an alleged perpetrator.
3. To have confidence in the foreign DNA profile that will be submitted to CODIS, an attempt to collect and process elimination samples, such as consensual partners, should be completed and documented. The DNA profiles generated from elimination samples will not be entered into CODIS but will be used to verify any alleged foreign DNA.
4. The FBI sets standards for the acceptance of DNA profiles to reduce the chance of a false hit being generated. For example, a DNA mixture or partial profile submitted to NDIS shall have at least eight CODIS Core Loci (locations in the DNA) and have a statistical match rarity of 1 in 10 million at moderate stringency. Local and state databases may have lower stringencies or qualifications established by protocol, based on the population size of their database.

Items taken directly from a possible suspect, such as a suspect kit, is not considered a forensic sample and, in general, will not be uploaded into CODIS. As the database grows and statistical evaluations are updated, acceptance criteria may change over time. For example, in 2017, the core CODIS locations that are required for submittal to NDIS will expand from 13 locations to 20 locations.³

Processing Non-Stranger Cases

Non-stranger cases, where the suspect has been identified or admits consensual sexual contact with the victim, still should be processed for DNA. In these instances, the primary purpose of DNA testing is to corroborate events of the sexual contact and, when entered into CODIS, can determine whether cases can be linked.

Linking cases together can be extremely important for the investigation and prosecution of the case. Entering profiles from non-stranger cases into CODIS may develop trends such as identifying criminal sexual patterns, identifying a suspect to stranger cases already in CODIS, and helping solve future crimes. All of these trends can be critical for successful prosecution. One non-stranger case alone may prove difficult to prosecute, but linking several cases may lead to a conviction.

Processing ‘Expired’ SOL Cases

In some jurisdictions, statute of limitations (SOL) exist for sex crimes, which can limit the time in which a criminal charge can be filed. If the SOL has expired for a SAK, the sexual assault kit may be viewed as no longer prosecutable as a crime and in some jurisdictions, may not be processed for DNA or uploaded into CODIS. However, uploading foreign DNA profiles generated from expired SOL cases can help connect crimes, identify patterns of criminal behavior, and even solve future crimes. An analysis of data from SAKs tested in Detroit, for example, determined that DNA was obtained with equal success from both expired and non-expired sexual assault kits. Upon CODIS upload, both categories of cases also produced equivalent CODIS hit rates.⁴

CODIS hits generated from expired SOL cases may identify a possible perpetrator that is in prison for other crimes or has been determined to be deceased, which can reduce concerns of a possible threat to public safety. In addition, these cases can provide investigative leads in other crimes for which the perpetrator is unknown.

When a SOL is approaching, some agencies also have been successful in issuing “John Doe” warrants or indictments, when a unique DNA profile is obtained from a SAK, but the perpetrator is not immediately identified.⁵ This type of warrant makes the case active and, in some jurisdictions, disqualifies the time limit on a statute of limitations.

Conclusions

As of January 2017, 32 jurisdictions, including 14 state-wide sites, have been funded under the National Sexual Assault Kit Initiative to submit, test, and investigate unsubmitted SAKs, trends in best approaches will start to become apparent. In Detroit, a sampling of data from completed SAKs determined that DNA produced from cases where the victim did not know the perpetrator had an equivalent likelihood of producing CODIS hits as cases where the victim knew the perpetrator. This trend demonstrates that non-stranger rapes added value in populating the CODIS database.⁶

Multidisciplinary teams must understand any jurisdiction-specific limitations for CODIS use. However, reviewing current procedures and verifying foreign profiles developed from unsubmitted SAKs are critical to having the best opportunity of being uploaded into CODIS. Whereas a prioritization scheme may need to be written to utilize resources, excluding certain type of cases—such as non-stranger and expired SOL kits—could limit the impact of the entire project and decrease chances of solving future crimes.

Maximizing the use of CODIS can link sexual assault and other violent crimes, identify serial offenders, identify stranger rapes based on acquaintance rapes, exonerate the wrongly convicted and prevent further victimization.

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