



DNA MONITORING EXPERT GROUP

Best Practice Principles:

Recommendations for the Establishment of a National DNA Database

This document was written by the INTERPOL DNA Monitoring Expert Group and is designed to convey key considerations and recommendations for INTERPOL member countries wishing to establish a national DNA database.

The intended audience for this document is:

- Heads of forensic laboratories
- Heads of law enforcement agencies
- Legal and policy-making authorities
- Other criminal justice authorities.

Summary

The following document provides an overview of considerations to be addressed when establishing a national DNA database capability. It is important to consider what outcomes the country is trying to achieve in areas of criminal justice; what types of DNA profiles will be included in the database; how the information contained in the database will be used and by whom; and a mechanism for communicating these decisions.

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Purpose of a DNA Database

Establishing a national DNA database can contribute to positive outcomes for criminal justice by increasing the capacity to solve and prevent crime. The ability to evaluate a DNA profile against a large data set of other DNA profiles can have several advantages for law enforcement in:

- Combating serious crime, e.g. homicides, sexual assaults, assaults;
- Combating volume crime, e.g. burglaries, vehicle theft;
- Identifying potential perpetrators of crime as well as connecting crime scenes as part of a series;
- Eliminating individuals from an enquiry and exonerating the wrongly convicted;
- Assisting in the identification of missing persons and unidentified human remains;
- Combating specific transnational crime, e.g. people smuggling, terrorism, drug trafficking;
- Establishing a powerful and cost effective tool in combating crime.

Contents of a DNA Database

A DNA database typically contains profiles from individuals and profiles from crime scenes.

Samples should be obtained from individuals who are active offenders, and especially those with high recidivist tendencies. Those compelled to provide samples may include:

- Individuals convicted of serious or violent crimes;
- Individuals convicted of property crimes;
- Individuals sampled upon "suspicion" or "arrest".

Other categories of individuals that may also be included in a national DNA database are volunteers, missing persons and unknown deceased persons.

The crime scenes database should include samples from all types of biological material. It is important to select DNA profiles from items that have probative value in order to maximise investigative outcomes.

In order to make it easier to search, assess and retrieve a DNA profile in the database, a number of conditions must be met:

- DNA profiles must be linked to unique identifiers;
- DNA profiles should be of the highest possible quality and a high number of loci should be included;
- Standards should be established for uploading partial profiles, such as a minimum number of loci;
- Stringency for matching and reporting matches should be defined;
- Standards should be established regarding the inclusion of other information, including personal information.

A DNA database with a sound legal framework creates an opportunity to link crime scenes with other crime scenes to identify patterns for intelligence-led policing, link individuals to crimes scenes to identify potential perpetrators, and link an individual to another individual when no previous connection was known (Figure 1).

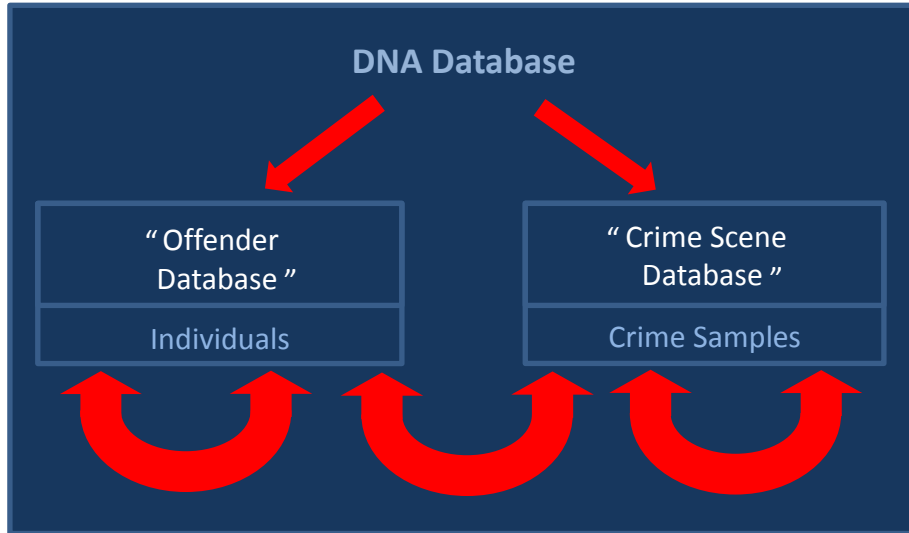


Figure 1. Opportunities when searching in a DNA Database

Considerations

Legislation

All activities associated with the establishment and use of a DNA database should have a solid foundation in legislation and policy. Depending on a country's system of government, this may require the creation of new legislation or amendments to existing legislation as differences in legal models across the various tiers of government could prevent data from being shared on the national level. Laws should govern the collection and use of DNA profiles in the database and also provide guidance on the legal definitions of terminology (e.g., crime scene, suspect, serious offender), procedures for collection of samples, the retention/destruction requirements for a DNA profile, and the security of information in the database. Search laws should also define which searches are permissible (e.g., whether a volunteered DNA profile can be searched against the crime scene DNA database).

Quality Management

Quality management is a key factor in building and maintaining an effective national DNA database and should be applied to the entire process, including sample collection, analysis of DNA profiles, and chain of custody. Laboratory accreditation is becoming the accepted benchmark of forensic DNA facilities and is typically based on the International Standards Organization (ISO) Standard 17025. Laboratory accreditation should be a requirement for participation in national DNA database regimes. At the database-management level, quality management should extend to data-entry processes to ensure accuracy of information, e.g. employing an automated system to upload DNA profiles and utilising consistent nomenclature.

International Sharing

In developing a national DNA database capability it is important to consider the benefits of international DNA profile sharing such as is available through INTERPOL. The ability to share and search across DNA profiles internationally has the potential to enhance law enforcement actions across the globe. Further details on sharing DNA information can be found in the *INTERPOL Charter – International DNA Gateway and Best Practice Principles – Recommendations for international DNA database search and exchange*.

DNA profiles that meet the standards as outlined in this document would fulfil the accepted requirements for international data exchange, including the INTERPOL DNA Gateway.

Resources

INTERPOL member countries intending to establish a national DNA database capability should consider the financial costs. There will be requirements for human resources, training, and IT infrastructure including systems which need to be purchased and maintained. In addition, database operations will require the development or acquisition of a suitable data-management and matching system. The most widely applied system for this purpose is the Combined DNA Index System (CODIS) which may be obtained upon agreement from the US Federal Bureau of Investigation (FBI).

Ethics

DNA databases have undeniable potential to assist law enforcement more effectively to prevent and combat crime, and to enhance a community's protection from crime. In the relevant legislation these factors should be explicitly balanced against an individual's right to privacy and other associated human rights, and the presumption of innocence.

Governance

To enhance public confidence there should be a mechanism for strategic oversight and governance. Oversight should include the day-to-day management of the database and maintenance of public accountability and transparency. Governance documents should be developed to provide boundaries around the function and use of the DNA database as guided by the legislation.

Further information

INTERPOL	http://www.interpol.int/INTERPOL-expertise/Forensics/DNA
ENFSI	http://www.enfsi.eu/about-enfsi/structure/working-groups/dna
CODIS	http://www.fbi.gov/about-us/lab/biometric-analysis/codis
ISO	http://www.iso.org