



Home Office



Forensic Information Databases Strategy Board Annual Report 2020 - 2021

Forensic Information Databases Strategy Board Annual Report 2020-2021

Presented to Parliament pursuant to Section 63AB(8) of the Police and Criminal Evidence Act 1984

April 2022



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Chair of the Strategy Board's Foreword

I am delighted to be able to present this report as Chair of the Forensic Information Databases (FIND) Strategy Board for 2020/21.

During this reporting period we have continued to align the governance and oversight of the Fingerprint and DNA databases in support of the Government's strategy for forensic science through clear and transparent governance.

Key developments in this reporting period include the successful delivery by the Home Office Biometrics (HOB) Programme of a replacement IT system, with enhanced capability, for the National DNA Database. This project involved a significant amount of collaborative work between HOB and FINDS. The new IT platform, referred to as NDNAD2, went live on 23 November 2020. There have also been further significant developments by the HOB Programme in relation to fingerprint matching and identification services. I am pleased that the transition of the IDENT1 service to a new supplier was successfully completed without any interruption to service. This report contains further information on other key changes.

During 20/21 Prüm international DNA exchanges between the UK and EU Member States continued to grow. The UK is now connected to 13 EU Member States: Austria, Germany, France, the Netherlands, Spain, Romania, Poland, the Czech Republic, the Republic of Ireland, Latvia, Sweden, Belgium and Malta. The UK's connection to Prüm DNA has produced positive results for both the UK and the EU partners connected so far. Progress has also been made with regard to fingerprint exchange, with the UK beginning international fingerprint exchange via Prüm in October 2020 through its connection to Germany.

The overall match rate following the loading of a crime scene profile remained at 66% in 20/21. This continues to demonstrate the effectiveness of the national DNA database as a vital and effective tool for policing in solving crime, bringing offenders to justice and preventing harm to future victims.



Ben Snuggs

Deputy Chief Constable

NPCC Chair of the Forensic Information Databases Strategy Board

The Forensic Information Databases Strategy Board

Governance and oversight of the National DNA Database¹ is provided by the Forensic Information Databases (FIND) Strategy Board, established in statute² as the National DNA Database Strategy Board. Following the publication of the government's Forensic Science Strategy, the decision was taken to expand the governance role of the Strategy Board to also cover the National Fingerprint Database, during 2016/2017 and the new name was adopted to reflect this wider strategic role.

The strategic aim of the Strategy Board is to provide governance and oversight for the operation of the National DNA and Fingerprint Databases:

- it may issue guidance about the destruction of DNA profiles under the Protection of Freedoms Act 2012 (PoFA)³;
- it may issue guidance about the circumstances under which applications for retention under PoFA⁴ may be made to the Commissioner for the Use and Retention of Biometric Material ('The Biometrics Commissioner')^{5 6};
- it must publish governance rules which must be laid before Parliament⁷; and
- it must make an annual report to the Home Secretary about the exercise of its functions⁸.

The governance rules^{9,10} set out in more detail the way in which the Board operates, and include its objectives¹¹ which are to implement strategy and policy to ensure:

- the most effective and efficient use of DNA and fingerprint databases to support the purposes laid down in the legislation (and no other), these are;
 - the interests of national security;
 - terrorist investigations;
 - the prevention and detection of crime;
 - the investigation of an offence or the conduct of a prosecution; and
 - the identification of a deceased person.
- the public is aware of the governance, capability and limitations of the NDNAD and fingerprint databases so that confidence is maintained in its use across all communities;

¹ As set out under section 3 of the governance rules.

² Section 63AB of the Police and Criminal Evidence Act 1984 (PACE)

³ Section 63AB(2), Police and Criminal Evidence Act 1984.

⁴ Ibid 2, section 63G.

⁵ Ibid 2, section 63AB(4).

⁶ The Biometrics Commissioner's latest annual report is available at: [Biometrics Commissioner: annual report 2020 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/biometrics-commissioner-annual-report-2020)

⁷ Ibid 2, section 63AB(6).

⁸ Ibid 2, section 63AB(7).

⁹ The governance rules are published at: <https://www.gov.uk/government/publications/national-dna-database-strategy-board-governance-rules>.

¹⁰ Reviewed and updated by the FIND Strategy Board in September 2021. We will seek ministerial approval for them to be published.,

¹¹ As set out under section 4 of the governance rules.

- That the future use of the NDNAD and fingerprint databases takes account of developments in science and technology and delivers improvements in efficiency and effectiveness across the Criminal Justice System.
- The most proportionate, ethical and transparent use of the NDNAD and fingerprint databases across the Criminal Justice Service.
- The most ethical and effective use of international searching of UK DNA profiles and fingerprints.

The core members of the Board are:

- a representative of the National Police Chiefs' Council
- a representative of the Home Office;
- a representative of the Association of Police and Crime Commissioners;

Additional members¹² include:

- the Chair of the Biometrics and Forensics Ethics Group ¹³
- the Information Commissioner (or representative);
- the Forensic Science Regulator¹⁴ (or representative);
- the Biometrics Commissioner (or representative);
- the Scottish Biometrics Commissioner (or representative);
- representatives from the police and devolved administrations of Scotland and Northern Ireland; and
- such other members as may be invited.

The rules go on to specify:

- the responsibilities of the Board;
- the appointment of the Chair;
- rules around audits;
- the delegation of functions; and
- the proceedings of the Board.

They may be added to, repealed or amended with the agreement in writing of the Home Secretary.

¹² As set out under section 5 of the governance rules.

¹³ The Biometrics and Forensics Ethics group annual report is available at The report is available at: [Biometrics and Forensics Ethics Group: annual report 2020 to 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/biometrics-and-forensics-ethics-group-annual-report-2020-to-2021)

¹⁴ The Regulator's latest annual report is available at: <https://www.gov.uk/government/publications/forensic-science-regulator-annual-report-2019>

The Biometrics and Forensics Ethics Group

The Biometrics and Forensics Ethics Group (BFEG)¹⁵, which replaced the National DNA Database Ethics group in 2017, provides independent expert advice to Home Office ministers on ethical issues related to the use of biometrics, forensics, and large data sets.

The remit of the group includes consideration of the ethical impact on society, groups and individuals, of the capture, retention and use of human samples and biometric identifiers. This includes DNA and fingerprints, as well as facial recognition and other biometric identifiers.

Current work streams for the BFEG include:

- Support for the Home Office Biometrics programme.
- Advice on forensic information database policy and projects.
- Provision of advice on Home Office projects using advanced data processing techniques and/or large and complex datasets.
- Advice on Policy relating to the collection, use, retention and deletion of biometrics and digital forensics material.
- Advice on Policy relating to the digitisation of the services in the border, immigration, and citizenship system.

The group also provides support and advice on ethical matters to other stakeholders such as the Biometrics and Surveillance Camera Commissioner and the Forensic Science Regulator.

In addition, the Chair of BFEG sits on the Forensic Information Databases Strategy Board and provides advice in areas such as:

- Policy regarding the retention of biometrics from convicted individuals;
- Governance and ethical operation of police databases containing biometric information;
- Policy on access to and use of the Forensic Information Databases and other matters relating to the management, operation and use of biometric or forensic data;
- The ethical application and operation of technologies which produce biometric and forensic data and identifiers;
- Ethical issues relating to scientific services provided to the police service and other public bodies within the criminal justice system;
- Review of applications for research involving access to biometric or forensic data;
- Review of the annual report from the FIND Strategy Board and other policy and consultation documents prepared by the Home Office.

¹⁵ <https://www.gov.uk/government/organisations/biometrics-and-forensics-ethics-group>

1. The National DNA Database (NDNAD)

1.1 About NDNAD

1.1.1 Introduction

NDNAD was established in 1995. It holds electronic records of deoxyribonucleic acid (DNA), known as profile records, taken from individuals and crime scenes, and provides the police with matches linking an individual to a crime scene or a crime scene to another crime scene. Between April 2001 and March 2021 it produced **752,959** matches to unsolved crimes.

1.1.2 DNA profile records

NDNAD holds two types of DNA profile:

i. Individuals

The police can take a 'DNA sample' from every individual that they arrest. This consists of their entire genome (the genetic material that every individual has in each of the cells of their body) and is usually taken by swabbing the inside of the cheek to collect some cells. The sample is then sent to an accredited laboratory, known as a 'forensic service provider' (FSP), which looks at discrete areas of the genome (which represent only a tiny fraction of that individual's DNA) plus the sex chromosomes (XX for women and XY for men¹⁶) and use these to produce a 'subject' profile consisting of 16 pairs of numbers (which correspond to the 16 areas analysed) and a sex marker derived from the sex chromosomes. The profile is almost unique in unrelated individuals; the chance of two unrelated people having identical profile records is less than one in a billion¹⁷.

An example profile would be:

X,Y; 14,19; 9.3,9.3; 12,15; 22,23; 28,30; 11,14; 19,20; 9,12; 13,15; 18,18; 15,15; 10,13; 14,16; 18,21; 15,16; 24,29

The DNA profile is loaded to NDNAD where it can be searched against DNA profile records recovered from crime scenes.

ii. Crime scenes

DNA is recovered from crime scenes by police crime scene investigators (CSIs). Nearly every cell in an individual's body contains a complete copy of their DNA so

¹⁶ An individual's DNA is contained within discrete structures within a cell known as chromosomes. Men have a copy of an X and Y chromosome whereas women have two copies of the X chromosome.

¹⁷ As agreed with the Forensic Science Regulator and the Crown Prosecution Service, in order to give a conservative figure, routine statistical reporting of DNA evidence in court continues to be reported as 'one in a billion'. Certain cases might be reported with a more precise probability; this is assessed on a case-by-case basis.

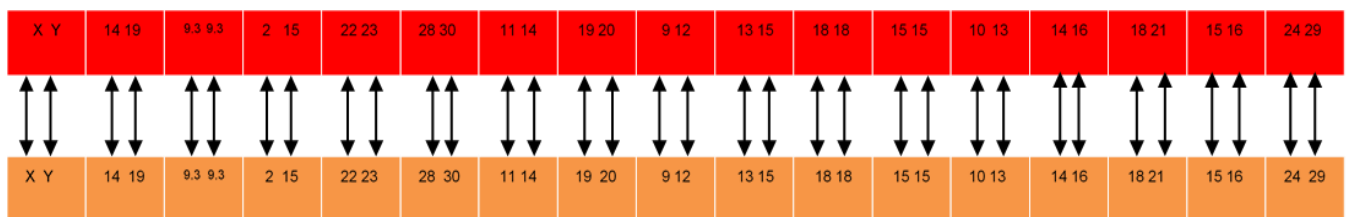
there are many ways in which an offender may leave their DNA behind at a crime scene (for example, in blood or skin cells left on clothing or surfaces) even just by touching something. CSIs examine places where the perpetrator of the crime is most likely to have left traces of their DNA behind. Items likely to contain traces of DNA are sent to an accredited laboratory for analysis. If the laboratory recovers any DNA, it is likely to produce a crime DNA profile which can be loaded to NDNAD.

1.1.3 Matches

NDNAD searches the DNA profile records from crime scenes against the DNA profile records from individuals or other crime scenes. A full match occurs when the 16 pairs of numbers (and sex marker) representing an individual's DNA are an exact match to those in the DNA left at the crime scene or when a crime scene profile matches another crime scene profile.

i. Full Match

The diagram below illustrates a match between a subject profile (Top row) and a crime scene profile (Bottom row).

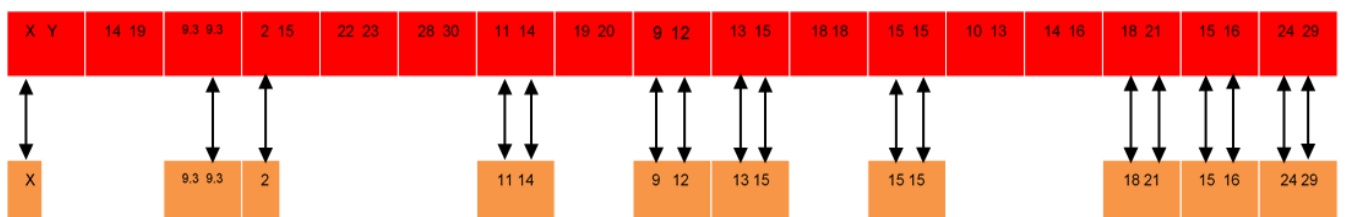


Where a match is made, this indicates that the individual may be a suspect in the police's investigation of the crime. It may also help to identify a witness or eliminate other people from the police investigation.

ii. Partial Match

Sometimes it is not possible to recover a complete DNA profile from the crime scene; for instance where the perpetrator has tried to remove the evidence or because it has become degraded. In these circumstances, a partial crime profile is obtained, and searched against individuals on NDNAD, producing a partial match.

The diagram below illustrates a partial match between a subject profile (Top row) and a crime scene profile (Bottom row).



Partial matches provide valuable leads for the police but, depending on how much of the information is missing, the result is likely to have lower evidential weight than a full match.

1.1.4 Familial searches

One half of an individual's DNA profile is inherited from their father and the other half from their mother. As a result, the DNA profile records of a parent and child, or two siblings, will share a significant proportion of the 16 pairs of numbers. This means that, in cases where the police have found the perpetrator's DNA at the crime scene, but they do not have a profile on NDNAD, a search of the database, known as a 'familial search', can be carried out to look for possible close relatives (parents, children, or siblings) of the perpetrator. Such a search may produce a list of possible relatives of the offender. The police use other intelligence, such as age and geography, to narrow down the list before investigating further. The search is computerised and involves only the DNA profile records on NDNAD.

Due to the cost and staffing needed to carry out familial searches, they are used only for the most serious of crimes. All such searches require the approval of the FIND Strategy Board chair or their nominee. A total of **7** familial searches were carried out in 2020/21.

1.1.5 Identical siblings

The inherited nature of DNA means that identical siblings will share the same DNA profile, and the DNA profiling system currently used for NDNAD purposes cannot differentiate between identical siblings. However, even identical siblings have different fingerprints so these can be used to differentiate them. Fingerprints may be taken by the police electronically from any individual that they arrest. They are then scanned into IDENT1, the national fingerprint database. Unlike DNA (where samples have to be sent to a laboratory for processing) fingerprints can be loaded instantly allowing police to verify a person's identity at the police station, thereby ensuring that their DNA profile and arrest details are stored against the correct record.

1.1.6 Who runs NDNAD?

Since 1st October 2012, NDNAD has been run by the Home Office on behalf of UK police forces. 24¹⁸ vetted Home Office staff have access to it and there are 8 accounts which do not have direct access to the NDNAD but are used to facilitate report sending.

Police forces own the DNA profile records on the database, and receive notification of any matches, but they do not have access to it.

¹⁸ This is as at 17/11/21.

1.2 Who is on NDNAD?

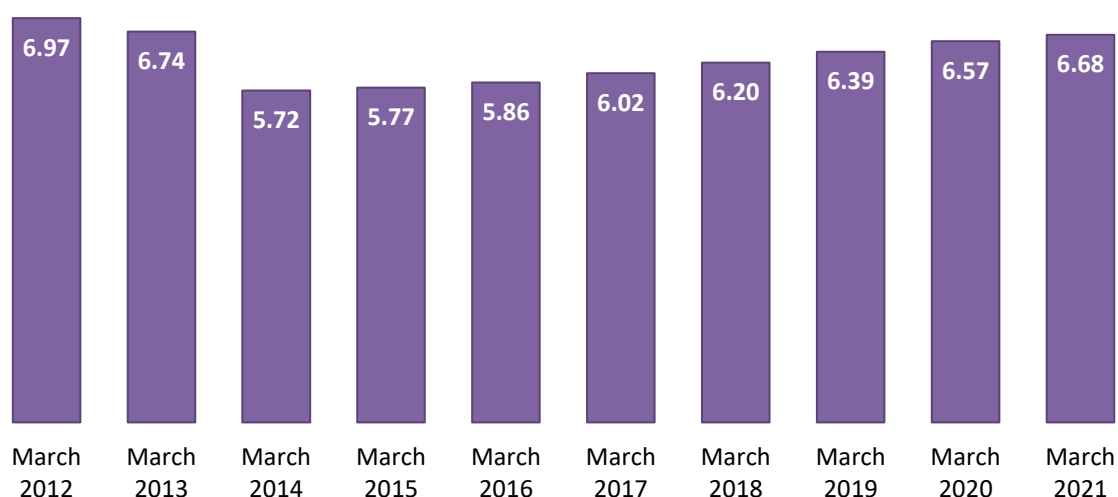
1.2.1 Number of profile records held on and deleted from NDNAD

As at 31st March 2021, NDNAD held **6,682,131** subject profile records and **665,969** crime scene profile records. The number of subject records held on the NDNAD is shown in figure 1. In 2020/21, **242,117** new subject profile records were loaded to NDNAD, together with **25,020** new crime scene profile records. Figures 2a & 2b show the number of profile records loaded to the NDNAD per year. Table 1 shows the breakdown of crime scene records loaded in 2020/21 by offence type.

Some individuals have more than one profile on NDNAD. This can occur where the force chooses to load another record or where they are sampled twice under different names. Approximately **15.1%**¹⁹ of the profile records on NDNAD are duplicates of an individual already sampled. Allowing for these duplicates, the estimated number of individuals on NDNAD as at 31st March 2021 was **5,671,965**.

In 2020/21 **127,794** subject profile records were deleted from NDNAD. This includes **368** under the 'Deletion of Records from National Police Systems guidance ('the Record Deletion Guidance'); see '3.3 Early Deletion. Additionally, **6,348** crime scene profile records were deleted.

Figure 1: Number of subject profile records held on NDNAD (in millions) (2011/12 to 2020/21)^{20 21}



¹⁹ This figure is based on the assumption that a subject profile record that matches a further subject profile record(s) is sourced from just one individual

²⁰ Source: NDNAD management information.

²¹ The deletion of profiles which did not meet the retention criteria for profile records brought in by PoFA was completed by 30th September 2013 hence the drop in the number of profile records.

Figure 2a: Number of subject profile records loaded onto NDNAD per year (in thousands) (2011/12 – 2020/21)^{22 23 24}

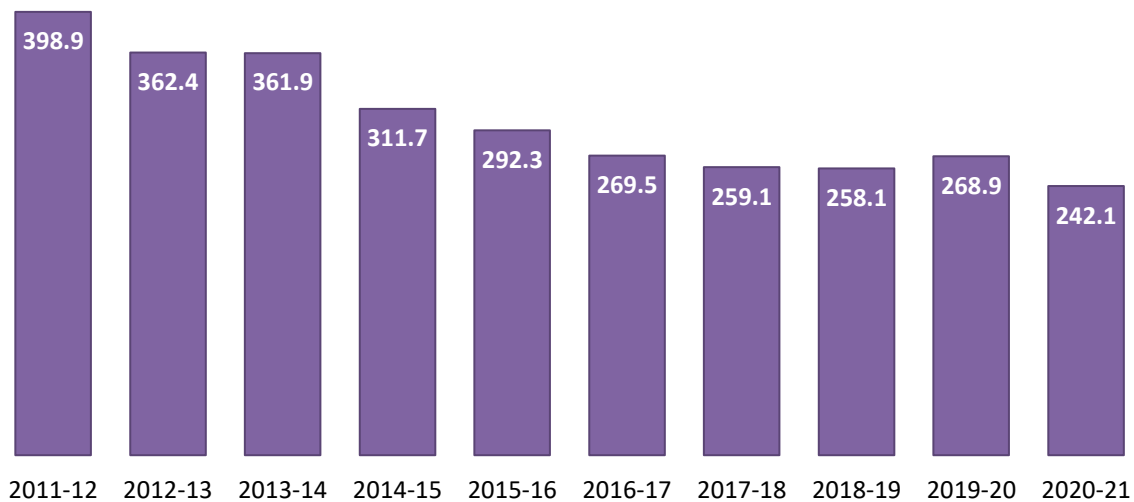
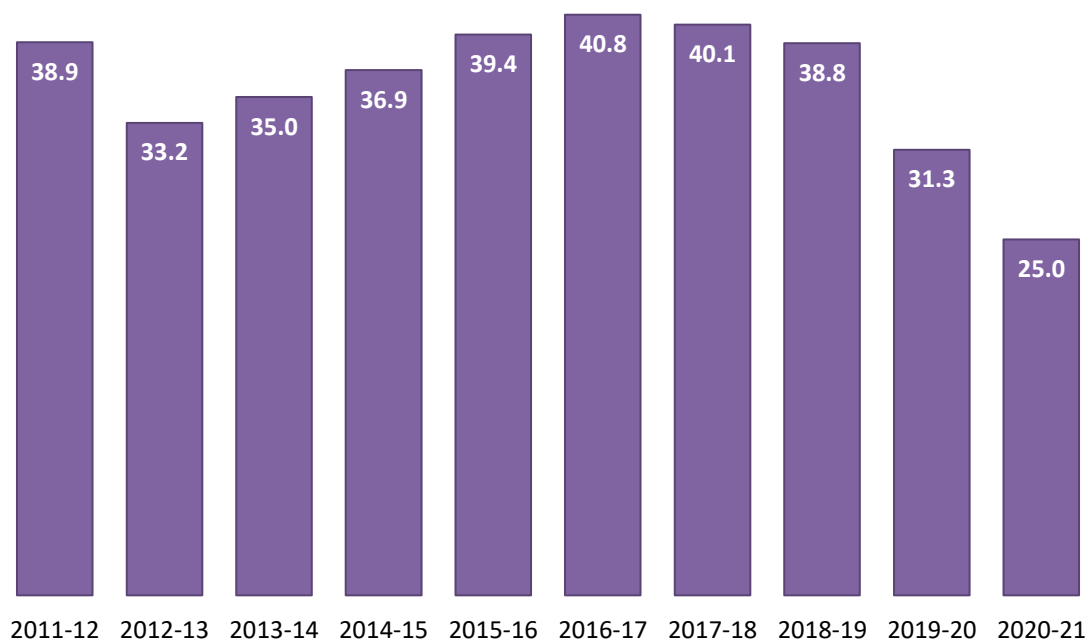


Figure 2b: Number of crime scene profile records loaded onto NDNAD per year (in thousands) (2011/12 – 2020/21)^{25 26}



²² Due to technical difficulties accessing the management information system used to record data on NDNAD, the figures for 2014/15, onwards have been calculated using a different methodology from previous years.

²³ There are some NDNAD profile records held for which the load date is unknown; these are not included in these figures.

²⁴ Source: NDNAD management information.

²⁵ Source: NDNAD management information.

²⁶ Due to technical difficulties accessing the management information system used to record data on NDNAD, the figures for 2014/15, onwards have been calculated using a different methodology from previous years and are not directly comparable with the figures used in Table 1

Table 1: Number of crime scene profile records loaded by crime type (2020/21)^{27 28 29}

Crime type	Number of crime scene profile records loaded	Proportion of total number of crime scene profile records loaded (%)
Burglary (including aggravated)	9,396	39%
Vehicle Crime	3,096	13%
Criminal Damage	1,303	5%
Violent Crime	1,651	7%
Drugs	2,771	12%
Robbery	1,129	5%
Theft	391	2
Rape	502	2%
Homicide (including attempted) and manslaughter	729	3%
Traffic (including fatal)	517	2%
Firearms	575	2%
Other sexual offences ²⁷	168	1%
Arson and fire investigations	192	1%
Fraud	65	0%
Public Order	147	1%
Abduction and kidnapping	159	1%
Blackmail	7	0%
Explosives	2	0%
Other	1,270	5%
TOTAL	24,070	100%

²⁷ Source: NDNAD management information.

²⁸ Offence types are recorded by forensic staff processing the DNA sample and do not correspond to police recorded crime codes.

²⁹ Due to technical difficulties accessing the management information system used to record data on NDNAD, these figures have been calculated using a different method to the methodology used prior to 2014/15 and are not directly comparable to the figures used in Figures 2b.

1.2.2 Geographical origin of subject profile records on NDNAD

NDNAD holds profile records from all UK police forces (as well as the Channel Islands and the Isle of Man) but only profile records belonging to England and Wales forces are subject to PoFA³⁰. Scotland and Northern Ireland also maintain separate DNA databases; however, due to the likelihood of offenders moving between UK nations, profile records loaded to these databases are also loaded to NDNAD.

Table 2: Number of subject and crime scene profile records retained on NDNAD by nation (as at 31st March 2021)³¹

Nation	Subject profile records	Crime scene profile records	TOTAL
England ³²	5,704,795	609,737	6,314,532
Scotland	375,450	19,321	394,771
Wales	374,934	26,845	401,779
Northern Ireland	182,751	7,636	190,387
Other ³³	44,201	2,430	46,631
TOTAL	6,682,131	665,969	7,348,100

1.2.3 Sex, age and ethnicity of individuals on NDNAD

The subject profile records held on NDNAD all come from people who have been arrested for an offence, so the composition is different from that of the general population. For example, only half the UK population is male but the majority of DNA profile records belong to men, because the majority of those arrested are male.

³⁰ Scotland and Northern Ireland have their own retention regime.

³¹ Source NDNAD management information

³² Includes the British Transport Police

³³ Includes Isle of Man, Guernsey, Jersey, Channel Islands, Ministry of Defence police forces, Criminal Records Office, National Crime Agency, Her Majesty's Revenue and Customs, Criminal Cases Review Commission and the Prisoner Sampling Programme

Figure 3a: Proportion of subject profile records on NDNAD by sex (as at 31st March 2021)^{34 35}

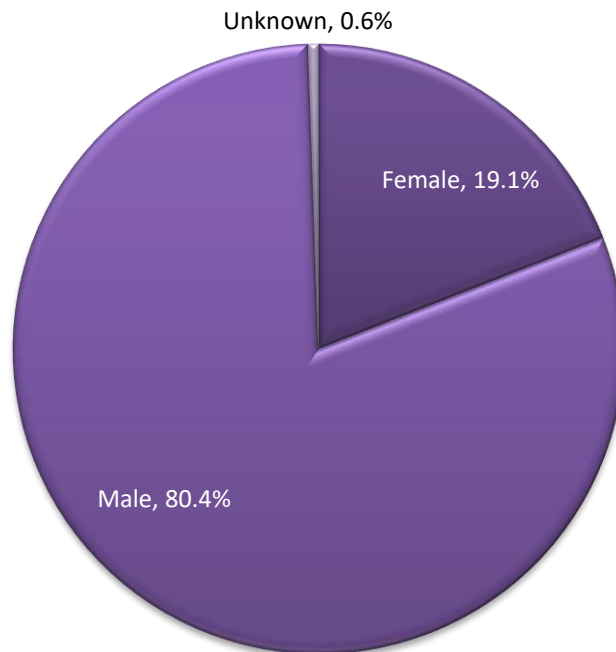
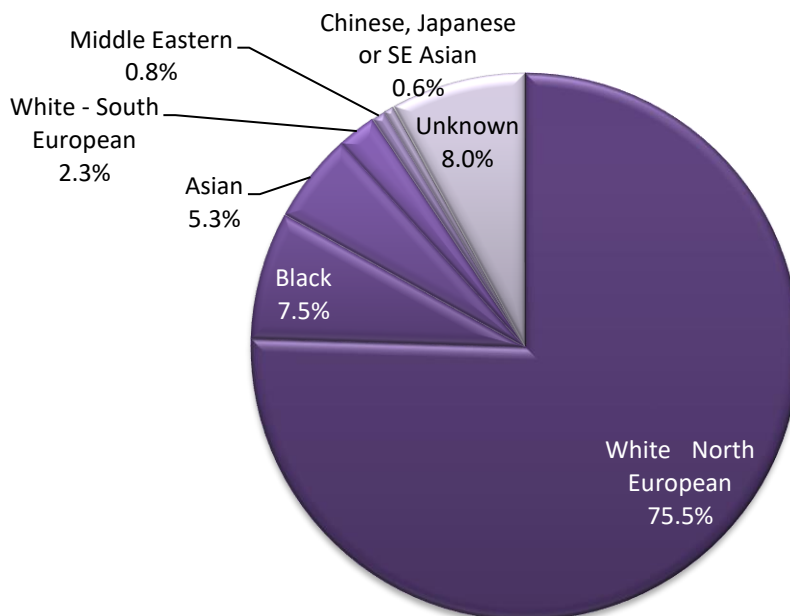


Figure 3b: Number of subject profile records on NDNAD by ethnicity, as determined by the sampling officer (as at 31st March 2021)³⁶

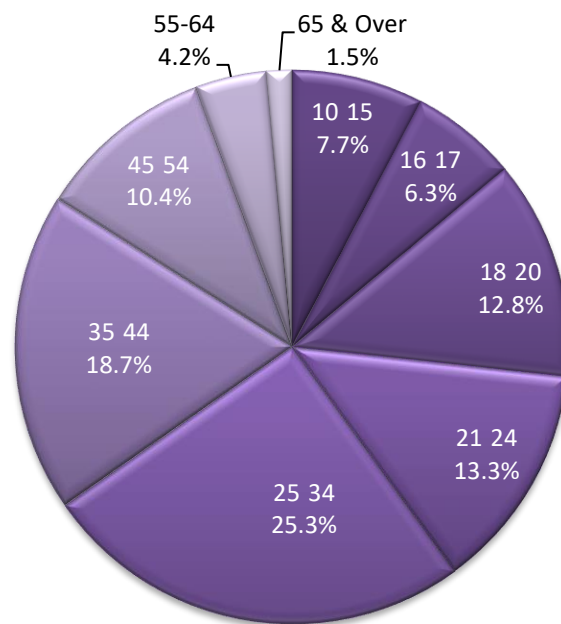


³⁴ Source: NDNAD management information.

³⁵ Due to rounding, the figures do not equal 100%

³⁶ Source: NDNAD management information.

Figure 3c: Number of subject profile records by age at time of loading onto NDNAD (as at 31st March 2021)^{37 38}



These data are published quarterly on NDNAD web page on www.gov.uk³⁹. The age of criminal responsibility in England and Wales is 10; there were 11 profiles from children aged under 10 on NDNAD. These were all Scottish Samples which were taken from 'Vulnerable persons' (an individual who was believed to have the potential to come to harm and / or go missing) and were loaded with appropriate consent and authorisation for retention and searching on the NDNAD⁴⁰.

³⁷ Source: NDNAD management information

³⁸ This is calculated from the date of birth provided by the individual to the police officer at the time of arrest.

³⁹ The data is available at: www.gov.uk/government/organisations/home-office/series/dna-database-documents

⁴⁰ The age of criminal responsibility in Scotland is 12 years of age [Age of Criminal Responsibility \(Scotland\) Act 2019 \(legislation.gov.uk\)](http://legislation.gov.uk)

1.3 How many crimes does NDNAD help solve?

1.3.1 Introduction

NDNAD matches crime scene profile records against subject profile records and other crime scene profile records, providing the police with invaluable information that helps them to identify possible suspects and solve crimes (albeit that a DNA match in itself is not usually sufficient to secure a conviction so not every match will lead to a crime being solved).

1.3.2 Types of searches

i. Routine loading and searching

As described at paragraph 1.1.2, samples are usually profiled and the profile records are then loaded to NDNAD for routine searching. Routine matches made from profile records loaded to NDNAD are shown in table 3a below.

ii. Non-Routine and urgent searches

In order for a profile to be uploaded to NDNAD, it must consist of a minimum of four pairs of numbers and a sex marker (for crime scene profile records) and a full profile⁴¹ (for subject profile records). Where this criterion is not met, for crime scene records, it is nonetheless possible to carry out a non-routine search of NDNAD. For the most serious crimes, NDNAD has provided an urgent non-routine search service which was available 24 hours a day. With the update of the NDNAD as of December 2020 the NDNAD time to carry out standard searches from loading and standard speculative searching has decreased so the urgent non-routine search facility is no longer needed.

Matches made following non-routine searches are shown in tables 3b and those made following urgent searches in tables 3c.

1.3.3 Match rate

i. Overall match rates

In 2020/21, the chance that a crime scene profile, once loaded onto NDNAD, matched against a subject profile stored on NDNAD was **65.9%**⁴². Figure 5 shows the yearly match rate on loading a crime scene profile to the NDNAD.

These do not include crime scenes that match another crime scene on loading, or where a profile was deleted in the same month as it was loaded.

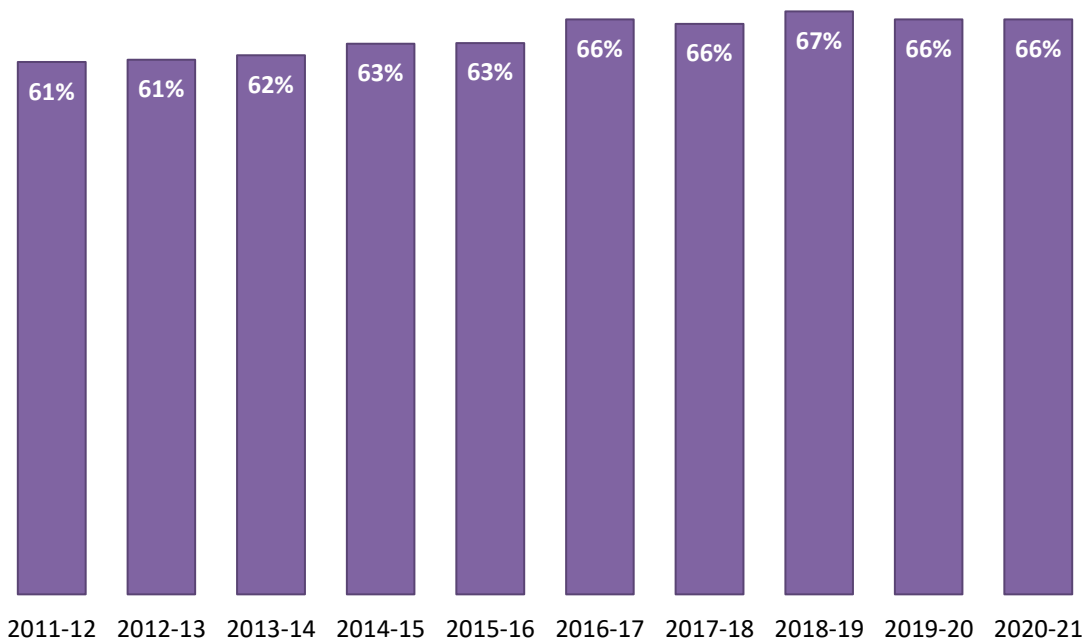
Further matches will occur when a new subject profile is added to NDNAD and matches to a crime scene profile already on it. As at 31st March 2021, there were

⁴¹ The profile record may either be from DNA-17 (i.e. 16 numbers plus a sex marker) or from the previous system SGMPlus (i.e. 10 numbers plus a sex marker).

⁴² Excludes crime scene to crime scene matches

217,037 crime scene profile records on NDNAD that had not yet been matched. The crimes relating to these crime scenes might be solved if the perpetrator’s DNA was taken and added to NDNAD. Every individual who is arrested will have their DNA searched against existing crimes on NDNAD, even if their profile is subsequently deleted.

Figure 4: Match rate on loading a crime scene profile (2011/12 to 2020/21)⁴³



ii. Number of matches⁴⁴

In 2020/21 ⁴⁵NDNAD produced **111** subject to crime scene matches following on from an urgent search of NDNAD, including to **28** homicides and attempted murders⁴⁶ and **26** rapes; the offence breakdown of these matches is shown in Table 6c. It also produced **20,985** routine subject to crime scene matches, including to **560** homicides and **465** rapes; the offence breakdown of these routine matches is shown in Table 6a. It provided **814** crime scene to crime scene matches (this information is useful in helping to identify serial offenders). It also provided **2,905** matches following a non-routine search. A large number of the non-routine searches will produce a partial match, although a partial match has less evidential value than a full match, it can

⁴³ Source: NDNAD management information.

⁴⁴ Due to issues with the NDNAD Management Information system in 2014/15, since then matches have been counted at sample rather than case level.

⁴⁵ Figure up to November 18th 2020, following the introduction of NDNAD 2 the NDNAD’s speed to carry out speculative searches was increased so there is no longer the need to differentiate urgent spec searches as all spec searches are now carried out immediately when received.

⁴⁶ This includes murder and manslaughter.

nonetheless provide the police with useful intelligence about a crime. The offence breakdown of these non-routine searches can be seen in Table 3b.

Table 3a: Number of routine subject to crime scene matches made by crime type (2020/21)

Crime	Matches
Burglary (including aggravated)	7,969
Vehicle crime	2,980
Criminal damage	1,351
Violent crime	1,484
Drugs	2,095
Robbery	967
Theft	393
Rape	465
Homicide (including attempted) and manslaughter	560
Traffic (including fatal)	502
Firearms	490
Other sexual offences	142
Arson and fire investigations	165
Fraud	60
Public order	114
Abduction and kidnapping	133
Blackmail	4
Explosives	10
Other ⁴⁷	1,101
TOTAL	20,985

Table 3b: Number of non-routine search matches made by crime type (2020/21)

Crime	Searches	Matches	Matches (%)
Burglary (including aggravated)	1,181	786	67%
Vehicle crime	350	260	74%
Criminal damage	55	43	78%
Violent crime	215	166	77%
Drugs	441	333	76%
Robbery	309	215	70%
Theft	53	41	77%
Rape	320	182	57%
Homicide (including attempted) and manslaughter	224	128	57%

⁴⁷ Includes other volume, serious and terrorism offences.

Traffic (including fatal)	26	21	81%
Firearms	291	211	73%
Other sexual offences	84	53	63%
Arson and fire investigations	35	21	60%
Fraud	14	11	79%
Public Order	12	6	50%
Abduction and kidnapping	43	29	67%
Blackmail	1	1	100%
Explosives	0	0	0%
Other ⁴⁸	1,093	398	36%
TOTAL	4,747	2,905	61%

Table 3c: Number of urgent non-routine search matches by crime type (2020/21)⁴⁹

Crime	Searches	Matches	Matches (%)
Burglary (including aggravated)	8	7	88%
Vehicle Crime	2	1	0%
Criminal Damage	0	0	0%
Violent Crime	10	8	80%
Drugs	5	3	60%
Robbery	8	5	63%
Theft	0	0	0%
Rape	47	26	55%
Homicide (including attempted) and manslaughter	54	28	52%
Traffic (including fatal)	0	0	0%
Firearms	8	5	63%
Other sexual offences	12	6	50%
Arson and fire investigations	4	2	50%
Fraud	0	0	0%
Public Order	0	0	0%
Abduction and kidnapping	10	7	70%
Blackmail	0	0	0%
Explosives	0	0	0%
Other ⁵⁰	68	13	19%
TOTAL	236	111	47%

⁴⁸ Includes other volume, serious and terrorism offences.

⁴⁹ Source: NDNAD management information.

⁵⁰ Includes other volume, serious and terrorism offences.

1.3.4 Outcomes

The number of offenders convicted with the help of DNA evidence is not recorded. However, DNA evidence is instrumental⁵¹ in the conviction of the perpetrators of many serious crimes. For example:

Case 1

On 20th April 2018 an importation from Netherlands to Dover found concealed in a car six firearms ranging from revolvers to automatic weapons with ammunition individually wrapped in brown tape as 'ready to go' killing packages. On the 1st September 2018 an importation concealed in a HGV from Holland to Immingham led to the seizure of ten Heckler and Koch P2000 semi-automatic firearms and approximately 250 rounds of live compatible ammunition. Analysis of DNA taken from the weapons and packaging led to the identification of two brothers; Daniel Burdett present at both scenes and Richard Burdett at one. Both were in Holland, with Daniel being on the run for 5 years. European Arrest Warrants were issued; Richard Burdett was arrested and returned to the UK, as was Daniel Burdett who was arrested as he sat down for Christmas dinner at a five star restaurant in The Hague with his girlfriend and young daughter. Both were found guilty after trial in September 2021 resulting in Daniel Burdett receiving a 25 year sentence and Richard Burdett 18 years. Further DNA links were made via Prüm DNA exchange to France and the Netherlands.

⁵¹ Prosecutions are very rarely based on DNA evidence alone.

1.4 Missing and Vulnerable Persons Databases

NDNAD holds DNA profile records generated from DNA samples taken from arrested individuals and crime scenes. Previously, it also held profile records relating to missing persons, and from individuals at risk of harm, for the purposes of identifying a body should one be found. In order to separate DNA profile records for individuals who have been arrested, from records for missing people and vulnerable people (which are given with consent), there are now separate databases for missing and vulnerable persons.

1.4.1 Missing Persons DNA Database (MPDD)

The MPDD holds DNA profile records obtained from the belongings of people who have gone missing or from their close relatives (who will have similar DNA). If an unidentified body is found that matches the description of a missing person, DNA can be taken from the body and compared to the relevant record on the MPDD to see if there is a match. This assists with police investigations and helps to bring closure for the family of the missing person. Profile records on the MPDD are not held on NDNAD.

As at 31st March 2021, there were **1,983** records on the MPDD. In 2020/21, the MPDD produced **13** matches⁵².

1.4.2 MPDD Cases

Below are some examples of cases involving the MPDD.

Case 1

In May 2020, partial skeletonised human remains were recovered on a cliff side on the outskirts of Weston-super-Mare, Somerset. Due to the nature of the remains recovered, there was no other means of identifying the individual other than through DNA. A DNA profile was uploaded to the MPDD and a match was identified between the remains and a long-term missing person, who had been missing from Weston-super-Mare since 2015. The DNA match identified on the MPDD and subsequently confirmed as the missing person has brought closure after 6 years.

Case 2

A male was recovered from the sea at Bexhill on Sea, Sussex. DNA obtained from the unidentified male was searched against the MPDD, and a match was confirmed

⁵² During 18/19 the MPDD changed their procedures so they no longer require matches to be confirmed by the Forensic Service Providers – the number of matches reported in previous annual reports has been the number of confirmed matches.

with a male who had been reported missing from his fishing vessel on 21/11/2020. The DNA match gave valuable closure to the family.

Case 3

In March 2011 a male went missing, the circumstances of which were suspicious. In December 2020 a body was recovered. The remains were believed to be that of the missing male from 2011. DNA from the body was loaded to the MPDD in December 2020 and a match was immediately found and confirmed the body was that of the missing male from 2011.

1.4.3 Vulnerable Persons DNA Database (VPDD)

The VPDD holds the DNA profile records of people who are at risk (or who consider themselves at risk) of harm (for instance due to child sexual exploitation or honour based assault) and have asked for their profile to be added. If the person subsequently goes missing, their profile can be checked against NDNAD to see if they match to any biological material (such as blood or an unidentified body found at a crime scene) helping the police to investigate their disappearance. Profile records on the VPDD are not held on NDNAD.

As at 31st March 2021, there were **6,195** records on the VPDD. In 2020/21, there were **no** requests to compare records held on the VPDD with records held on NDNAD.

1.5 Contamination Elimination Database

The Police Elimination Database (PED) contains DNA profile records taken from police officers and staff known as “elimination profile records”. Where a police force suspects that a crime scene sample may have been contaminated with DNA from a police officer, or a member of police staff, they can request that a direct comparison is made of DNA obtained from the crime scene against the Police Elimination profile. Each incident must be reported separately; FINDS (DNA) are not permitted to carry out full searches of the PED. In February 2018 changes were made to cease loading new records to the PED.

FINDS (DNA) is leading a project in developing a Contamination Elimination Database (CED) which carries out regular, national, searches⁵³ of crime stain profile records submitted to the NDNAD against elimination profile records. This allows highlighting of those crime stain records with potential to relate to contamination (rather than the crime scene material actually sampled) for further integrity investigation to establish whether the DNA profile should be deleted from the NDNAD.

⁵³ This change was brought in via [The Police \(Amendment\) Regulations 2015](#) and [The Special Constables \(Amendment\) Regulations 2015](#). The regulations were signed off on 1st April 2015.

On load to the CED, a check is made for matches against all newly submitted crime scene profile records added to the NDNAD. Following any necessary quality assurance checks by the FSP which processed the crime scene DNA sample, matches are investigated by police forces and any crime scene DNA profile records concluded to originate from contamination by, for example, police officers or staff are then deleted from NDNAD. As at 1st April 2021, 2,516 potential contamination events had been identified for investigation. Forces have been investigating these matches and 1,786 have been concluded. This has resulted in the removal of 1,585 crime stain profile records from the NDNAD⁵⁴. As Law Enforcement Agencies (LEAs) conclude their investigations the number of crime stain records deleted from the NDNAD will increase.

DNA profile records taken from serving police officers and special constables are able to be retained for elimination purposes for up to 12 months after they leave a police force (except where they transfer to another force)⁵⁵. In line with the Police and Criminal Evidence Act 1984 (PACE), DNA samples will be destroyed within 6 months of the sample being taken.

From July 2018, the aforementioned standard retention, search, and reporting aspects have been integrated into the FINDS 'business as usual' activities. During 2018-20, project activities have continued with expansion of the CED to include the DNA profile records of staff where there is potential for contamination of crime scene DNA samples through the environment within which DNA sampling occurs, or consumables used within the DNA sampling and processing - there is now representation on the CED for manufacturers of products used in the DNA process, and ongoing activities to incorporate Sexual Assault Referral Centre staff.

⁵⁴ Forces deemed that following investigation the remaining 201 crime stain records could remain on the NDNAD.

⁵⁵ This change was brought in via [The Police \(Amendment\) Regulations 2015](#) and [The Special Constables \(Amendment\) Regulations 2015](#). The regulations were signed off on 1st April 2015.

1.6 Technology and business process developments on the NDNAD in 2020/2021

NDNAD is constantly being adapted to incorporate new developments in technology. This involves significant work in developing and testing these changes to ensure they meet the necessary standards. The Home Office also responds to any developments that could impact on its effectiveness.

1.6.1 Home Office Biometrics Programme

The Home Office Biometrics Programme (HOB) is a programme in the Government Major Projects Portfolio. HOB is delivering biometrics matching and identification services for the UK. HOB's focus is on three biometric modes: fingerprints, DNA and facial matching. These services enable the capture, authentication, verification, and searching and matching of individuals' biometrics and forensics for the purposes of solving crime, protecting the border, and preventing terrorism.

The HOB Strategic DNA Project with FINDS support, successfully delivered a replacement IT platform (termed 'NDNAD2') in 2020. Live submissions were processed on the new platform from 23rd November 2020 onwards; there was simultaneous delivery of the platform upgrade for the Vulnerable Persons' DNA Database (VPDD).

The HOB Strategic DNA Project is now focused on developing international connectivity to create better links with similar national forensic databases in other countries. The Project will also deliver a replacement IT platform for the current Contamination Elimination Database.

1.6.2 DNA Futures

The 'DNA Futures' project is led by the Forensic Capability Network (FCN) and FINDS and brings together key stakeholders from across police forces, forensic service providers, and criminal justice partners for the purposes of prioritising areas of work and develop a strategic plan for delivery.

Initial developments have started for the creation of a Y-STR database and £140,000 in funding was secured as a Home Office's Science, Technology, Analysis and Research (STAR) grant to enable the phased approach of the Project to start in 2021. The first step involves the kits design, production and collection of 10,000 buccal swabs; further funding will be then sought to finalise the database.

1.7 Security and Quality Control

1.7.1 Access to NDNAD

Day-to-day operation of NDNAD is the responsibility of FINDS (DNA). Data held on NDNAD are kept securely and the laboratories that provide DNA profile records to NDNAD are subject to regular assessment.

FINDS (DNA) is responsible for ensuring that operational activity meets the standards for quality and integrity established by the NDNAD Strategy Board. There were 24 vetted staff who had access to the NDNAD at the time of writing and there were 8 accounts which do not have direct access to the NDNAD but are used to facilitate report sending⁵⁶. No police officer or police force has direct access to the data held on NDNAD but they are informed of any matches it produces. Similarly, forensic service providers who undertake DNA profiling under contract to the police service, and submit the resulting crime scene and subject profile records for loading, do not have direct access to NDNAD.

1.7.2 Compliance to international quality standards

The Forensic Science Regulator's Codes of Practice and Conduct (version 5) states that the NDNAD is to be certificated to the IT standard, TickIT*plus*, that its operation should be certificated to the management standard ISO 9001 and its proficiency testing scheme to the technical standard ISO 17043. The Strategy Board has been informed that the hosting and maintenance of the IT systems do not currently hold the required certification to TickIT*plus*, however, FINDS does hold certification to ISO 9001 and accreditation to ISO 17043.

1.7.3 Error rates

Police forces and FSPs have put in place a number of safeguards to minimise the occurrence of errors in the sampling and processing of DNA samples and the interpretation of generated DNA profiles; FINDS (DNA) carry out daily integrity checks for the DNA profile records loaded to the NDNAD. Despite these safeguards, errors do sometimes occur for samples taken from individuals and from crime scenes. The Contamination Elimination Database, which contains the profile records of police officers and staff and people in the wider DNA process, helps to reduce errors by highlighting DNA profiles that are potentially sourced from contamination. FINDS (DNA) continues to lead a project to incorporate the profile records of other professionals who might have come into contact with crime scene DNA (see section 1.5).

There are four types of errors which may occur; these are explained below:

⁵⁶ As at 17/11/21.

i. Force sample or record handling error:

This occurs where the DNA profile is associated with the wrong information, the source of the error in these cases could be either a physical DNA sample swap in the custody suite or the DNA record being attached to the incorrect Police National Computer (PNC) record. For example, if person A and person B are sampled at the same time, and the samples are put in the wrong bags with incorrect forms, person A's sample would be attached to information (PNC ID number, name etc.) about person B, and vice versa. Similarly, crime scene sample A could have information associated with it which relates to crime scene sample B and vice versa. These are all errors which have occurred during police force process. They could also relate to instances where a sample has been taken contravening PoFA.

ii. Forensic service provider sample or record handling error:

As above, this occurs where the DNA profile is associated with the wrong information during forensic service provider process. Sources of this error include samples being mixed up as described above, or contaminating DNA being introduced during processing.

iii. Forensic service provider interpretation error:

This occurs where the forensic service provider has made an error during the analysis/interpretation of the DNA profile.

iv. FINDS (DNA) transcription or amendment error:

This occurs where FINDS (DNA) has introduced inaccurate information to the record on the NDNAD.

Tables 4 shows the error rate for subject and crime scene profile records loaded to the NDNAD for each type of organisation in 20/21. These errors have been identified through FINDS integrity checks. No known miscarriage of justice arose from these errors; they were detected by the routine integrity checks in place. However, had they remained undetected, they could have affected the integrity of the NDNAD.

Table 4: Error rates 2020/2021

Organisation	Error types	Sample Type	April to June 2020	July to September 2020	October to December 2020	January to March 2021
Profile records loaded		Subject	52,459	63,541	65,203	60,914
		Crime scene	6,224	6,332	6,533	5,931
Police Forces	Sample or record handling	Subject	24	34	57	39
		Subject (%)	0.046%	0.054%	0.087%	0.064%
Forensic Service Providers	Sample or record handling	Subject	1	2	1	0
		Subject (%)	0.002%	0.003%	0.002%	0.000%
		Crime scene	0	3	3	1
		Crime scene (%)	0.000%	0.047%	0.046%	0.017%
	Interpretation ⁵⁷	Subject	2	2	0	3
		Subject (%)	0.004%	0.003%	0.000%	0.005%
		Crime scene	8	13	10	7
		Crime scene (%)	0.129%	0.205%	0.153%	0.118%
FINDS (DNA)	Transcription or amendment	Subject	1	1	0	1
		Subject (%)	0.002%	0.002%	0.000%	0.002%
		Crime scene	0	0	1	0
		Crime scene (%)	0.000%	0.000%	0.015%	0.000%

1.7.4 FSP accreditation

Any FSP carrying out DNA profiling work for loading to NDNAD must be approved by FINDS (DNA) and the FIND Strategy Board and must hold accreditation to ISO17025

⁵⁷ It should be noted that the percentage error rates for record/sample handling are not directly equivalent to those for interpretation: a record/sample handling error will affect a complete DNA profile while an interpretation error will affect (generally) one area of the DNA analysed by the Forensic Service Provider (i.e. a single allele or locus).

as defined in the Forensic Science Regulator's Codes of Practice and Conduct. This involves regular monitoring of standards. As at 31st March 2021, **16** laboratories were authorised to load profile records to NDNAD from standard processing.

1.7.5 Forensic Science Regulator

The post of Forensic Science Regulator was established in 2007⁵⁸ under the Royal prerogative to set and ensure compliance with quality standards in forensic science. The current Regulator is Gary Pugh OBE who commenced his appointment on 16th May 2021.

The Regulator published a Codes of Practice and Conduct⁵⁹ that sets out the standards that apply to forensic science and includes the accreditation requirements for services delivered by Forensic Science Providers (FSP) and the Forensic Information Database Service (FINDS).

In April 2021 the Forensic Science Regulator Act 2021 gained Royal Assent⁶⁰ putting the role of the Regulator on a statutory basis. The Act requires the Regulator to prepare and publish a code of practice on forensic science activities carried out in England and Wales and gives the Regulator freedom to determine what forensic science activities are covered by the Act. This statutory code will be admissible in evidence in criminal proceedings in England and Wales and a court may take into account a failure by a person to act in accordance with the code in resolving a question in any such proceedings. In addition, the Act gives the Regulator powers to carry out investigations into quality failures, to issue Compliance Notices where significant risk to the judicial system has been identified and to issue Completion Certificates when agreed corrective actions have been carried out.

The Act also contains wider provisions including the preparation and publishing of guidance or reports on any matter relating to forensic science activities carried and providing advice or assistance relating to forensic science activities carried on in England and Wales to any person. The Regulator is also required to prepare and publish an annual report about the exercise of the Regulator's functions and provide a copy of the report to the Secretary of State.

1.8 Finance 2020 - 2021

In 2020/21, the Home Office and policing spent **£2.04m**⁶¹ running NDNAD on behalf of the criminal justice system.

⁵⁸ Written Ministerial Statement by Meg Hillier MP 12 July 2007

⁵⁹ [Forensic science providers: codes of practice and conduct - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444444/forensic-science-providers-codes-of-practice-and-conduct-2017.pdf)

⁶⁰ www.legislation.gov.uk/ukpga/2021/14/contents/enacted

⁶¹ This does not include IT costs.

2. National Fingerprint Database

2.1 Introduction

The National Fingerprint Database and National Automated Fingerprint Identification System (NAFIS), now collectively referred to as IDENT1, was established in 1999 and holds fingerprint images obtained from persons and crime scenes by Law enforcement agencies of the United Kingdom. It provides the ability to electronically store and search fingerprint images to manage person identity and compare fingerprints from individuals with fingermarks from unsolved crimes.

2.1.1 Fingerprint records

The skin surface found on the underside of the fingers, palms of the hands and soles of the feet is different to skin on any other part of the body. It is made up of a series of lines known as ridges and furrows and this is called friction ridge detail.⁶²

The ridges and furrows are created during foetal development in the womb and even in identical siblings (twins, triplets) the friction ridge development is different. It is generally accepted that friction ridge detail is unique to each individual, although this cannot be definitively proved.⁶³

Located at intervals along the top of the ridges are pores which secrete sweat. When an area of friction ridge detail comes into contact with a receptive surface, an impression of the friction ridge detail, formed by sweat residue, may be deposited on that surface⁶⁴.

These impressions are often not visible in their natural form and require the application of an appropriate powder or chemical treatment to allow the impression to be developed (made visible) and subsequently lifted and/or photographed for fingerprint examination.⁶⁵

Visible impressions may also be made by contact of friction ridge skin with contaminants such as paint, blood, ink or grease.⁶⁶

The analysis of friction ridge detail is commonly known as fingerprint examination.⁶⁷

⁶² Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.4.1

⁶³ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.4.2

⁶⁴ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.4.3

⁶⁵ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.4.4

⁶⁶ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 24.5.6

⁶⁷ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 24.5.6

Friction ridge detail persists throughout the life of the individual without change, unless affected by an injury causing permanent damage to the regenerative layer of the skin (dermis) for example, a scar. The high degree of variability between individuals coupled with the persistence of the friction ridge detail throughout life allows it to be used for identification purposes and provides a basis for fingerprint comparison as evidence⁶⁸

The national fingerprint database holds two types of fingerprint record:

i. Individuals.

UK Law Enforcement Agencies routinely take a set of fingerprints from all persons they arrest.

Fingerprints are usually obtained electronically on a fingerprint scanning device but are occasionally obtained by applying a black ink to the friction ridge skin and an impression recorded on a paper fingerprint form.

A set of fingerprints is known as a Tenprint and comprises:

- Impressions of the fingertips taken by rolling each finger from edge to edge.
- An impression of all 4 fingers taken simultaneously for each hand and both thumbs
- Impressions of the ridge detail present on both palms.

ii. Crime scenes

Police Crime Scene Investigators (CSIs) examine surfaces which the perpetrator of the crime is most likely to have touched and use a range of techniques to develop latent fingermarks to make them visible. Fingermarks developed and recovered from crime scenes are searched against the Tenprints obtained from arrested persons to identify who touched the surface the fingermarks were recovered from. Latent marks can also be developed by subjecting items potentially touched by the perpetrator (exhibits) through a series of chemical processes in an accredited laboratory by sufficiently trained and competent laboratory staff.

⁶⁸ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.5.1

2.1.2 Fingerprint Matches

Fingerprint examination is a long established forensic discipline and has been used within the Criminal Justice System in Britain since 1902. It is based on the comparison of friction ridge detail of the skin from fingers and palms⁶⁹.

The comparison of fingerprints is a cognitive process that relies on the competence of the practitioners to perform examinations and form conclusions based on their observations and findings. The results following an examination are communicated in the form of opinion and not a statement of fact⁷⁰

i. Fingerprint Examination

The purpose of fingerprint examination is to compare two areas of friction ridge detail to determine whether they were made by the same person or not.⁷¹

The comparison process is subjective in nature and the declared outcomes rely on the observations and evaluation of a competent fingerprint practitioner. The practitioner gives an opinion based on their observations, it is not a statement of fact, nor is it dependent upon the number of matching ridge characteristics.⁷²

The fingerprint examination process consists of stages referred to as analysis, comparison and evaluation, known as ACE. These stages are descriptors of the process undertaken by the practitioners in determining their conclusions. Although the process sets out the stages sequentially, it is not a strictly linear process. ACE can be followed by a verification stage. Verification is conducted by another practitioner (independent examiner) using the ACE examination process to review the original conclusion and the examination records made by a previous examiner.⁷³

There are four possible outcomes that will be reported from a fingerprint examination *Insufficient, Identified, Excluded or Inconclusive*.⁷⁴

⁶⁹ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.3.1

⁷⁰ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.3.2

⁷¹ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.6.1

⁷² Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.6.4

⁷³ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.7.1

⁷⁴ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.7.2

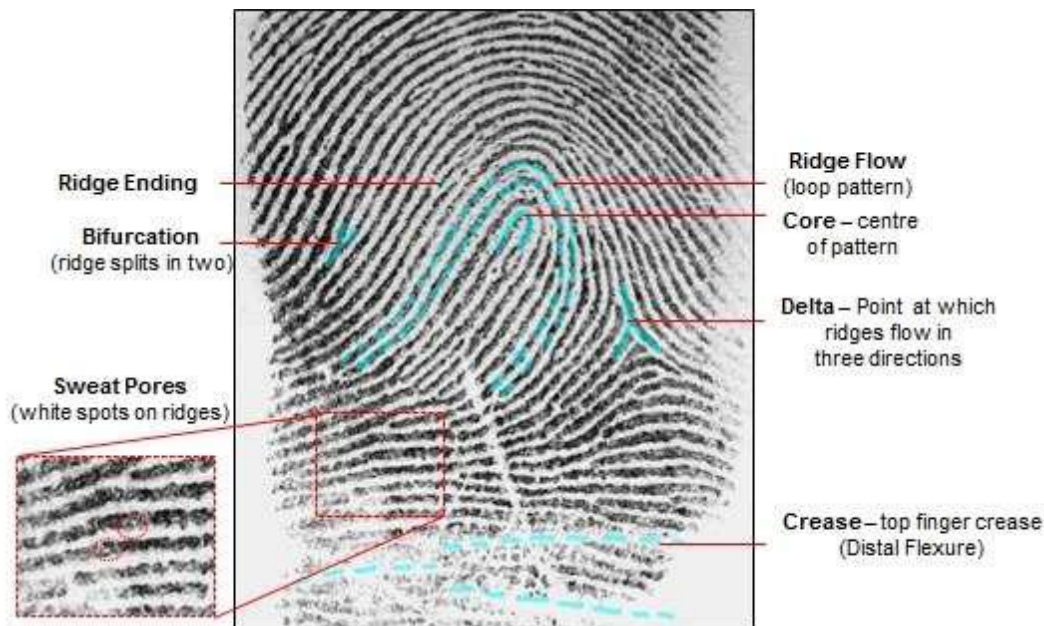


Image courtesy of Lisa J Hall, Metropolitan Police Forensic Science Services; permission to reproduce granted.

Figure 5: Friction ridge detail observable at the top of a finger. The black lines are the ridges and the white spaces are the furrows. The ridges flow to form shapes or patterns. This is an example of a loop pattern exiting to the left. There are natural deviations within the ridge flow known as characteristics such as ridge endings or forks/bifurcation. There are white spots along the tops of the ridges known as pores and there are other features present for example creases, which are normally observed as white lines.⁷⁵

a) Analysis

The practitioner conducts an examination of the general ridge flow of an impression and the shapes or patterns formed by the ridges. They observe the location of the naturally occurring deviations within the ridge flow which form features or characteristics, such as ridge endings and bifurcations. The practitioner evaluates the quality and quantity of the ridge flow together with the features and the specificity of the characteristics to determine its suitability for further examination. Using a holistic approach to review the detail observed within the mark and other external variables for example, the surface on which the mark was left or any apparent distortion, the practitioner establishes whether they can progress the examination and comparison process.⁷⁶

b) Comparison

The practitioner will systematically compare two areas of friction ridge detail, for example one area from a mark against one from a print. This process generally consists of a side-by-side comparison to determine whether there is agreement or disagreement between the ridge flow, features and characteristics. The practitioner compares the type, specificity, sequence and spatial relationship of all the observed ridge characteristics, whilst considering the tolerance(s) they have allowed for any issues relating to clarity or distortion of the ridge detail. The practitioner will establish

⁷⁵ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.7.3

⁷⁶ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.8.1

an opinion as to the level of agreement or disagreement between the sequences of ridge characteristics and features visible in both.⁷⁷

c) Evaluation

The practitioner will review all of their previous observations and come to a final opinion and conclusion about the outcome of the examination process undertaken.⁷⁸

The outcomes determined from the examination will be one of the following:⁷⁹

Identified : A practitioner term used to describe the mark as being attributed to a particular individual.

Excluded There are sufficient features in disagreement to conclude that two areas of friction ridge detail did not originate from the same person

Inconclusive: The practitioner determines that the level of agreement and / or disagreement is such that, it is not possible to conclude that the areas of friction ridge detail originated from the same donor, or exclude that particular individual as a source for the unknown friction ridge detail.

Insufficient. The ridge flow and / or ridge characteristics revealed in the area of friction ridge detail are of such low quantity and/or poor quality that a reliable comparison cannot be made.

d) Verification

Is the process to demonstrate whether the same outcome is obtained by another competent practitioner or practitioners who conduct an independent analysis, comparison and evaluation, thereby confirming the original outcome.⁸⁰

2.1.3 Outcomes using Fingerprints.

The number of offenders convicted with the help of Fingerprint evidence is not recorded.

Within IDENT1 it is possible to search tenprints and marks to investigate links between a person and unidentified scene of crime marks.

During the period 2020/21 there were 457,875 scene of crime mark to tenprint searches resulting in 19,995 matches.

⁷⁷ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.9.1

⁷⁸ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.10.1

⁷⁹ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.11

⁸⁰ Cited from Forensic Science Regulator Codes – Fingerprint Comparison FSR-C-128 25.12.1

For all Tenprint records obtained from persons arrested in the UK there is a search of the arrestee tenprint collection to confirm whether a person has a previously obtained print set on the database. This search confirms a person's identity and is linked to the person's arrest event and biometrically validating a person's arrest history.

2.1.4 Who runs the National Fingerprint Database?

Since 2012 the National Fingerprint Database has been operated by the Home Office. Law enforcement agencies have direct access to the system and they own the data they enrol within it.

The Home Office is responsible for assuring the quality and integrity of policing data held on the National Fingerprint Database (IDENT1) and other Forensic Information Databases as described in the FIND Strategy Board rules. To discharge this function on the National Fingerprint Database, FINDS - National Fingerprint and PNC Office identify and correct data errors and unexpected results on the National Fingerprint Database. The activities of the agencies that provide the inputs to the fingerprint database and its supply chain are monitored by FINDS and included in the FINDS performance monitoring framework and data assurance strategy.

2.1.5 Access to National Fingerprint database

The number of IDENT1 active users was 898 at the time of writing. Fingerprints are captured electronically on a device called Livescan and electronically transmitted to the fingerprint database for search and the number of active Livescan accounts was 2,858 as at 22/11/2021.

2.2 Who is on IDENT1?

2.2.1 Number of profile records held on IDENT1 System⁸¹

As at 31st March 2021, IDENT1 held **26,651,175** fingerprint forms relating to **8,468,335** individuals. Figure 6 shows the yearly number of individuals on IDENT 1.

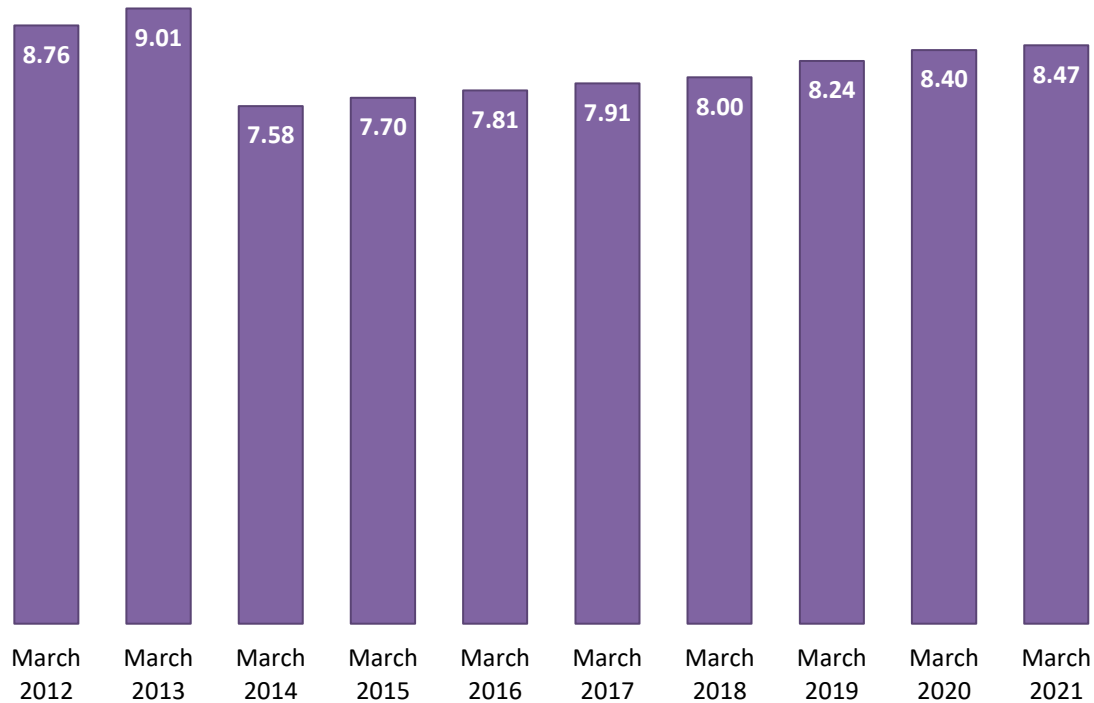
As at 31st March 2021, IDENT1 held **2,060,567** unidentified crime scene marks. Figure 8 shows the yearly number of unique unidentified mark submissions held on IDENT 1.

Table 5. Records held on IDENT 1

Month End and Year	Number of Individuals on IDENT1	Number of Fingerprint Identification Forms held on IDENT 1	Number of unidentified crime scene marks held on IDENT1
March 2011	8,471,960	19,906,978	1,896,885
March 2012	8,759,820	21,303,201	1,971,938
March 2013	9,006,957	22,508,260	2,029,028
March 2014	7,578,717	21,702,050	2,110,962
March 2015	7,695,129	22,571,529	2,303,565
March 2016	7,814,041	23,364,390	2,318,576
March 2017	7,905,419	24,059,907	2,285,669
March 2018	8,012,521	24,822,939	2,259,139
March 2019	8,240,881	25,477,499	2,240,580
March 2020	8,397,761	26,298,205	2,203,279
March 2021	8,468,335	26,651,175	2,060,567

⁸¹ Source: FINDS - National Fingerprint and PNC Office in consultation with the IDENT1 supplier

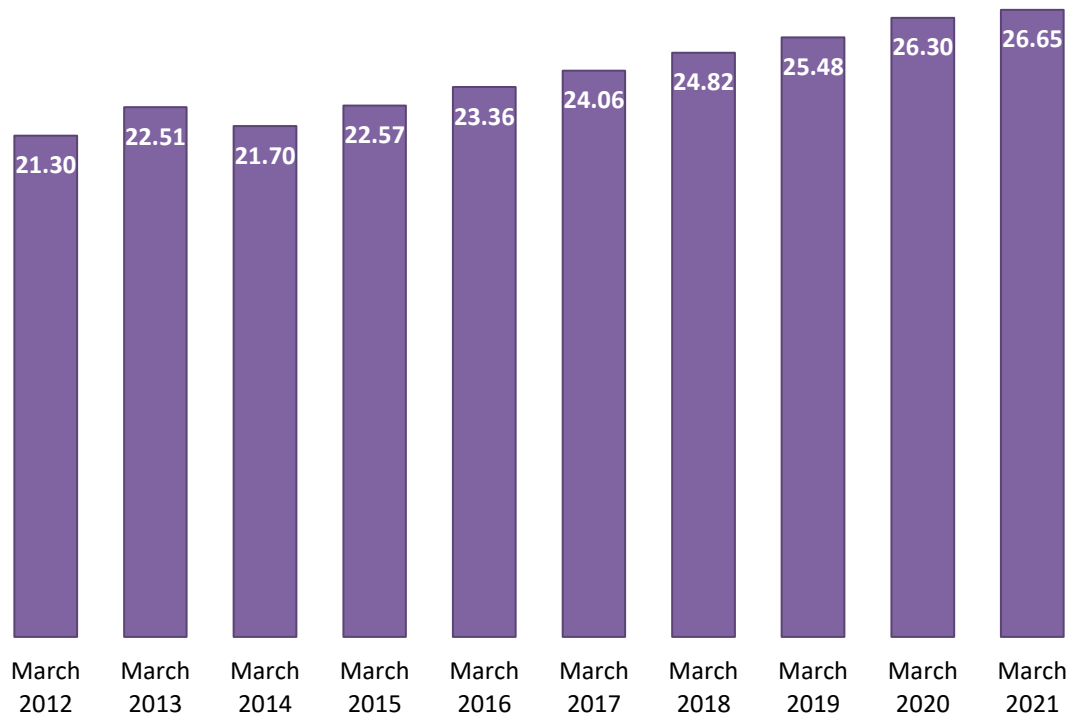
Figure 5: Number of individuals on IDENT 1 (in millions) (March 2012 to March 2021)^{82 83}



⁸² Source: FINDS - National Fingerprint and PNC Office in consultation with the IDENT1 supplier

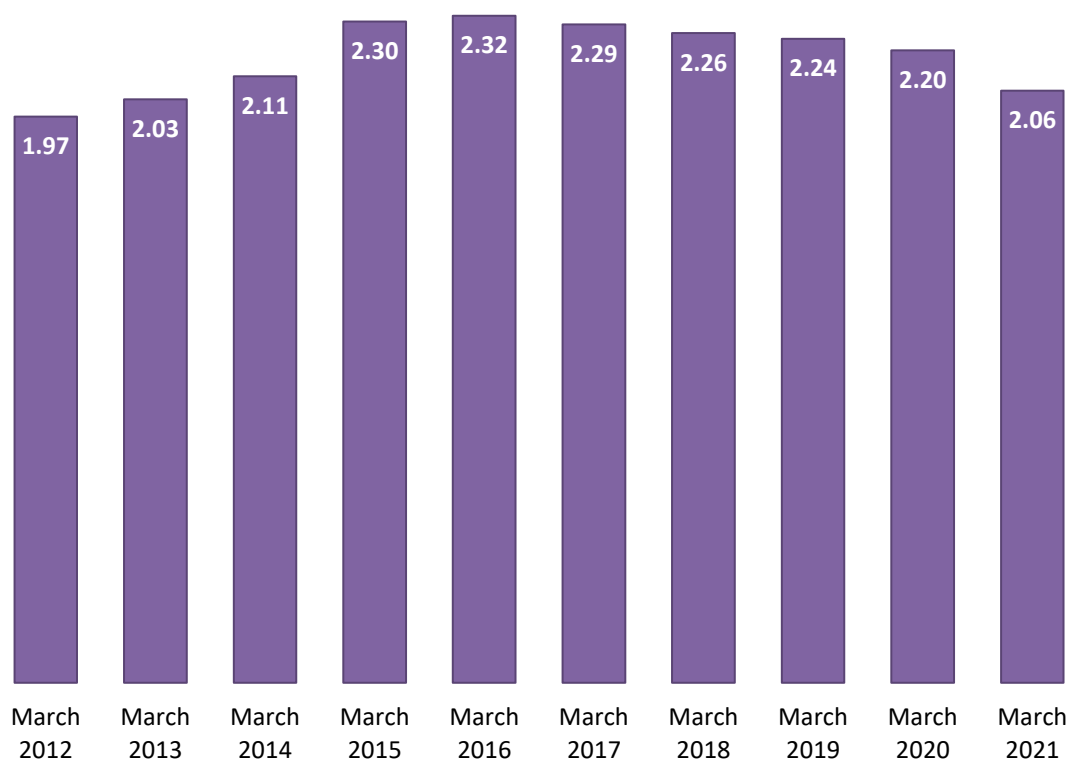
⁸³ The deletion of records which did not meet the retention criteria for records brought in by PoFA was completed during 13/14 hence the drop in the number of criminal records held for subjects on IDENT 1.

Figure 6: Number of Fingerprint Forms Held for all Subjects on IDENT1 (in millions) (March 2012 to March 2021)⁸⁴



⁸⁴ Source: FINDS - National Fingerprint and PNC Office in consultation with the IDENT1 supplier

Figure 7: Number of unique unidentified mark submissions held on IDENT 1 (in millions) (March 2012 to March 2021) ⁸⁵



2.3 Vulnerable persons

The National Fingerprint Database contains fingerprints obtained with consent from vulnerable persons, specifically those defined at risk of honour based assault, forced marriage or female genital mutilation. The taking of fingerprints and DNA samples is a key protective measure advised by the NPCC guidance to practitioners. This is a two-fold measure, aimed at addressing identification issues in potential investigations and to protect potential victims from serious acts of violence, abduction and homicide.⁸⁶ Fingerprints donated by vulnerable persons are stored on the national fingerprint database and as such provide means to identify a vulnerable person when they come to police notice.

There were 7,581 ⁸⁷ sets of fingerprints relating to vulnerable people held on the database as at 31st March 2021.

⁸⁵ Source: FINDS - National Fingerprint and PNC Office in consultation with the IDENT1 supplier

⁸⁶ 1.5 – ACPO Guidance on Taking of Fingerprints, DNA & Photographs of Victims / Potential Victims of Forced Marriage – Handling Procedures

⁸⁷ FABrIC Service Performance Monitoring Report (April 2017 Service Period)

2.4 Missing persons

Fingerprints relating to unidentified bodies, and unidentified or missing persons investigations are searched on the National Fingerprint Database in an attempt to establish identity or locate a missing person. Where the investigation allows the fingerprints obtained are stored in the Missing Persons Fingerprint Collection and as such are only searchable by request. Fingerprints obtained from the belongings of a missing person are also searched against both the National Fingerprint Collection and the Missing Persons Fingerprint Collection to assist with police investigations and to help to bring closure for the family of the missing person.

There were 71 print sets relating to missing persons held on the database as at 31st March 2021. There was 1 Fingerprint identification for MPU cases during 20/21

2.5 Technology and business process developments on the National Fingerprint Database in 2020/21

As discussed in section 1.6.1, HOB is delivering biometrics matching and identification services for the UK.

Programme highlights in relation to fingerprints over the last year include:

- The transition of the IDENT1 service to a new supplier without interruption to service. As well as movement of the IDENT1 hardware and test beds to new premises, a new user test bed was set up in the UK to allow for more UK based user testing activities. One of the central data centres was also migrated to Crown Hosting and the new supplier has taken over the security patching and defect fixing. Preparation for the transition of IDENT1 to a cloud-based system has begun.
- HOB have continued to roll out the replacement strategic mobile biometric capability (rapid search) to police forces across England and Wales as mentioned in the 2018/19 & 2019/20 biennial report. A further 2 forces have joined the service.
- In October 2020 the UK began exchanging fingerprint data through the Prüm treaty with Germany. The UK is planning to make further country connections following a recent evaluation of the UK's access to the data sharing mechanism following EU Exit and the enactment of the European Union (Future Relationship) Act 2020.
- HOB have supported a number of police organisations to move their IDENT1 equipment or assisted configuring IDENT1 hardware to allow police organisations to collaborate when processing fingerprint data.

Future developments

- The first major software release under the new supplier shall be the Image Request capability to support the Transforming Forensics platform as mentioned in the 2018/19 & 2019/20 biennial report.
- Also as mentioned in the 2018/19 & 2019/20 biennial report, a new fingerprint matching algorithm will improve performance of the IDENT1 automated fingerprint identification system and continues to be developed by the Home Office Biometrics Programme. The new fingerprint matcher platform is being developed and expected to be operational during 2022/23.
- A Proof of Concept for an upgrade to IDENT1 bureau desktop is underway which is a short-term deliverable whilst longer-term there will be a move to Cloud-based system which may enable a move off dedicated IDENT1 desktops to Force supplied ones.

Work to deliver a mobile biometric enrolment capability has commenced. This will work with Force mobile applications and allow fingerprint data to be captured digitally (removing the need for wet ink printing) and more flexibly including outside of the police custody environment and enrolled into IDENT1. The same mobile biometric capture capability will also be available for use by Immigration Enforcement with an ability to enrol digital prints (removing the need for wet ink prints) into the Immigration and Asylum Biometric System (IABS) as permitted and provide greater flexibility in enrolment location.

An individual's biometric information is very sensitive personal information and is handled in accordance to the Data Protection Act 2018. To ensure transparency, HOB completes Data Protection Impact Assessments for all areas of the Programme, these are subject to independent ethical review by the BFEG and it continues to review the assessments already published on GOV.UK.⁸⁸

⁸⁸ <https://www.gov.uk/government/publications/home-office-biometrics-hob-programme-privacy-impact-assessments>

3. International Data exchange

3.1 Overview

DNA and fingerprints are exchanged with other countries to aid criminal investigations and in connection with missing person or unidentified body investigations. All exchanges must abide by national and international law and all exchanges of DNA and Fingerprint data are made via National Crime Agency (NCA) UK International Crime Bureau.

3.2 International requests for DNA & Fingerprint exchange excluding Prüm exchange.

DNA

FINDS – DNA Unit recorded 446 requests from other countries for DNA profiles from their jurisdictions to be searched against the NDNAD during 20/21. Of these 226 were in connection with a criminal investigation and 220 were in connection with missing person or unidentified body part(s) investigations.

Fingerprints

The FINDS – Fingerprints Unit does not release Tenprints or fingermarks for international exchange with other countries.

FINDS - Fingerprints has recorded 106 requests from other countries for search of fingerprints from their jurisdictions during 2020/21. All of these requests were in connection with missing person or identification/unidentified body investigations.

3.3 Prüm

Title III of the UK-EU Trade and Cooperation Agreement (TCA) provides for the continued exchange of biometric data with EU Member States to improve cross-border cooperation between law enforcement agencies to combat terrorism and cross-border crime. Cooperation prior to EU exit was governed by the Prüm Council Decisions and the biometric exchange mechanisms and governance framework continue to be referred to as 'Prüm'.

Prüm allows the sharing of biometric data (DNA profiles and fingerprints) with EU Member States on a reciprocal basis through a two-step process. Step one is an anonymised search of biometric data against national databases providing a 'hit/no hit' result. Step two involves the sharing of demographic data (e.g. name, date of birth) and policing intelligence where there has been a verified match against the anonymised data.

DNA Profile Exchange

The UK began sharing DNA profiles in July 2019 and we are now connected to 13 EU Member States: Austria, Germany, France, the Netherlands, Spain, Romania, Poland, the Czech Republic, the Republic of Ireland, Latvia, Sweden, Belgium and Malta. The UK's connection to Prüm DNA has produced positive results for both the UK and the EU partners connected to so far. From searches of historical data held on the UK's national DNA database, as well as searches of current profiles, the UK has received over 13,000 initial 'hits' from its Prüm DNA connections, including over 2,000 relating to particularly serious crimes. In turn, EU Member States have received approximately 47,000 initial hits from their connections with the UK.⁸⁹ The UK will continue to connect to EU Member States for DNA exchange throughout 2022.

Fingerprint Exchange

The UK began exchanging fingerprints in October 2020 and is currently connected to Germany. The UK has made over 15,000 searches⁹⁰ against Germany and has received significant hits for serious crimes. The UK will continue to connect to EU Member States throughout 2022.

⁸⁹ Figures provided are between going live and November 2021.

⁹⁰ Figures provided are between going live and November 2021

4. Legislation governing DNA and Fingerprint retention

4.1 Overview

For England & Wales the Protection of Freedoms Act 2012 (PoFA) and the Anti-Social Behaviour, Crime and Policing Act 2014 (ASBCPA) amended Police and Criminal Evidence Act 1984 (PACE) to establish the current retention framework for DNA and fingerprints. The NDNAD also contains profiles from Scotland and Northern Ireland.

The enabling legislation for Scotland is:-

- Part 2 of the Criminal Procedure (Scotland) Act 1995
- Section 56 of the Criminal Justice (Scotland) Act 2003 [voluntary samples]
- Chapter 4 of Part 4 of the Age of Criminal Responsibility (Scotland) Act 2019

The enabling legislation for Northern Ireland is:-

- Police and Criminal Evidence (Northern Ireland) Order 1989 (PACE NI)

4.2 Protection of Freedoms Act 2012

4.2.1 Introduction

PoFA includes detailed rules on how long the police may retain an individual's DNA sample, profile and fingerprints.

4.2.2 DNA profile records and fingerprints

Depending on the circumstances, a DNA profile and fingerprint record may be retained indefinitely, held for three to five years and then destroyed, or destroyed immediately.

4.2.3 DNA samples

PoFA requires all DNA samples taken from individuals to be destroyed as soon as a profile has been obtained from them (or in any case within 6 months) unless it is retained under the Criminal Procedure and Investigations Act 1996 (CPIA)⁹¹. This allows sufficient time for the sample to be analysed and a DNA profile to be produced and uploaded to NDNAD.

For DNA samples which are taken with informed consent, but not in connection with the investigation of an offence, such as DNA samples taken from vulnerable

⁹¹ Under the Criminal Procedure and Investigations Act 1996 (CPIA) (and its associated code of practice) evidence can be retained where it may be needed for disclosure to the defence. This means that, in complex cases, a DNA sample may be retained for longer. This sample can only be used only in relation to that particular offence and must be destroyed once its potential need for use as evidence has ended.

volunteers or from relatives of missing persons (who are not suspected to be the victims of offences), there is no legal requirement for destruction. For vulnerable persons the sample must be reviewed by the police force every 2 years and must be destroyed if it becomes apparent that there is no good reason for them to be retained. For missing persons the DNA sample can be retained until any investigation into the missing person has concluded.

4.2.4 Biometrics Commissioner

PoFA also established the position of Commissioner for the Retention and Use of Biometric Material ('the 'Biometrics Commissioner')⁹². The position is independent of Government. The current Biometrics Commissioner is Professor Fraser Sampson.

As indicated in Table 6b, one of the Biometrics Commissioner's functions is to decide whether or not the police may retain DNA profile records and fingerprints obtained from individuals arrested but not charged with a qualifying offence. He also has a general responsibility to keep the retention and use of DNA and fingerprints, and retention on national security grounds, under review.

4.2.5 Scottish Biometric Commissioner

The Scottish Biometrics Commissioner Act 2020 established the office of the Scottish Biometric Commissioner and the role of the Scottish Biometrics Commissioner in exercising independent oversight of biometric data used for policing and criminal justice purposes in Scotland.⁹³

4.2.6 Extensions

Where an individual has been arrested for, or charged with, a qualifying offence and an initial, three year period, of retention, has been granted, PoFA allows a chief constable to apply to a district judge for a two year extension of the retention period if the victim is under 18, a vulnerable adult, is associated with the person to whom the retained material relates or if they consider retention to be necessary for the prevention or detection of crime.

4.2.7 Speculative searches

PoFA allows the DNA profile and fingerprints taken from arrested individuals to be searched against NDNAD and IDENT1, to see if they match any subject or crime scene profile already stored. Unless a match is found, or PoFA provides another power to retain them (for example because the person has a previous conviction) the DNA and fingerprints are deleted once the 'speculative search' has been completed. If there is a match the police will decide whether to investigate the individual or not.

⁹² For more information on the work of the Biometrics Commissioner see <https://www.gov.uk/government/organisations/biometrics-commissioner>.

⁹³ [Scottish Biometrics Commissioner Act 2020 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/2020/12/section-1)

Table 6a: Retention periods for convicted individuals

Situation	Fingerprint & DNA Retention Period
Any age convicted (including given a caution or youth caution) of a qualifying offence	Indefinite
Adult convicted (including given a caution) of a minor offence	Indefinite
Under 18 convicted (including given a youth caution) of a minor offence	<p>1st conviction: five years (plus length of any prison sentence), or indefinite if the prison sentence is for five years or more.</p> <p>2nd conviction: indefinite</p>

Table 6b: Retention periods for unconvicted individuals

Situation	Fingerprint & DNA Retention Period
Any age charged with but not convicted of a qualifying ⁹⁴ offence	Three years plus a two year extension if granted by a District Judge (or indefinite if the individual has a previous conviction for a recordable ⁹⁵ offence which is not excluded)
Any age arrested for but not charged with a qualifying offence	Three years if granted by the Biometrics Commissioner plus a two year extension if granted by a District Judge (or indefinite if the individual has a previous conviction ⁹⁶ for a recordable offence which is not excluded ⁹⁷)

⁹⁴ A 'qualifying' offence is one listed under section 65A of the Police and Criminal Evidence Act 1984 (the list includes sexual, violent, terrorism and burglary offences).

⁹⁵ A 'recordable' offence is one for which the police are required to keep a record. Generally speaking, these are imprisonable offences; however, it also includes a number of non-imprisonable offences such as begging and taxi touting. The police are not able to take or retain the DNA or fingerprints of an individual who is arrested for an offence which is not recordable.

⁹⁶ Convictions include cautions, reprimands and final warnings.

⁹⁷ An 'excluded' offence is a recordable offence which is minor, was committed when the individual was under 18, for which they received a sentence of fewer than 5 years imprisonment and is the only recordable offence for which the individual has been convicted.

Any age arrested for or charged with a minor ⁹⁸ offence	None (or indefinite if the individual has a previous conviction for a recordable offence which is not excluded)
Over 18 given a Penalty Notice for Disorder	Two years

⁹⁸ A minor offence is a 'recordable' offence which is not also a 'qualifying' offence.

4.3 Early Deletion

PoFA requires the FIND Strategy Board to issue guidance about the destruction of DNA profile records⁹⁹. This guidance, known as the 'Deletion of Records from National Police Systems', covers DNA profile records and samples, fingerprints and PNC records and it was first published in May 2015¹⁰⁰. The guidance is only statutory in relation to DNA profile records and only applies to those:

- with no prior convictions, whose biometric material is held because they have been given a Penalty Notice for Disorder;
- who have been charged with, but not convicted of, a qualifying offence; or
- who receive a simple or conditional caution.

The guidance states that Chief Officers may wish to consider early deletion if applied for on specified grounds. These include:

- a recordable offence has not taken place (e.g. where an individual died but it has been established that they died of natural causes);
- the investigation was based on a malicious or false allegation;
- the arrested individual has a proven alibi;
- the status of the individual (e.g. as victim, offender or witness) is not clear at the time of arrest;
- a magistrate or judge recommends it;
- another individual is convicted of the offence; and
- where it is in the public interest to do so.

The Record Deletion Process provides an application form and specifies the evidence that the Chief Officer should consider; this application form is available on GOV.uk.¹⁰¹

⁹⁹ As set out under section 63AB(4) of the Police and Criminal Evidence act 1984 (PACE) as inserted by section 24 of PoFA.

¹⁰⁰ Deletion of Records from National Police Systems guidance is available at

<https://www.gov.uk/government/publications/dna-early-deletion-guidance-and-application-form>

¹⁰¹ The Record Deletion Process is available at <https://www.gov.uk/government/publications/dna-early-deletion-guidance-and-application-form>.

Glossary

Accreditation: This is the independent assessment of the services that an organisation delivers, to determine whether they meet defined standards.

All Forensic Service Providers and laboratories which process DNA samples and fingerprints are required to be accredited to ISO/IEC 17025; a standard set out by the International Standard Organization which requires that samples are processed under appropriate laboratory conditions and that contamination is avoided.

Anti-Social Behaviour Crime and Policing Act 2014 (ASBCPA): ASBCPA amended PACE to make three changes in the operation of PoFA, namely in relation to retention of samples under the Criminal Procedures and investigations act (CPIA), retention of profile records not linked to the offence for which a DNA sample was taken and resampling. See 'Protection of Freedoms Act 2012'.

Biometrics and Forensics Ethics Group¹⁰²: The DNA Ethics Group was established in 2007 and in July 2017 it was replaced by the Biometrics and Forensics Ethics Group; the Ethics Group is an independent group which provides advice to ministers and the Strategy Board on ethical issues associated with all forensic identification techniques.

Contamination Elimination Database: A database containing profile records from police officers, police staff, manufacturers and others who come into regular contact with crime scenes or evidence, so that any DNA inadvertently left at a crime scene can be eliminated from the investigation.

Commissioner for the Retention and Use of Biometric Material ('the Biometrics Commissioner'): The Biometrics Commissioner is responsible for keeping under review the retention and use by the police of DNA samples, DNA profile records and fingerprints; and for agreeing or rejecting applications by the police to retain DNA profile records and fingerprints from persons arrested for qualifying offences but not charged or convicted for up to three years.

Crime scene investigator (CSI): A member of police staff employed to collect samples which may contain DNA and other forensic evidence left at a crime scene.

Deoxyribonucleic Acid (DNA): Genetic material contained within most of the cells of the human body which determines an individual's characteristics such as sex, eye colour, hair colour etc.

DNA-17: The current method used to process a DNA sample which analyses a sample of DNA at 16 different areas plus a sex marker.

DNA profile: A series of pairs of numbers (16 pairs where the DNA-17 method is used) plus a sex marker which are derived following the processing of a DNA sample. There are two types of DNA profile records:

- **crime scene profile:** this is a profile derived from a crime scene sample
- **subject profile:** this is a profile derived from a subject sample

¹⁰² <https://www.gov.uk/government/organisations/biometrics-and-forensics-ethics-group>

Once derived, profile records are usually loaded onto the National DNA Database. See 'DNA sample'.

DNA sample: There are two main types of DNA sample:

- **crime scene sample:** this is a sample of DNA taken from a crime scene e.g. from a surface, clothing or bodily fluid (such as blood) left at a crime scene.
- **subject sample:** this is a sample of DNA taken from an individual, often from their cheek, by way of a 'buccal swab' though it can be taken from hair or a bodily fluid such as blood, urine or semen.

In the case of missing persons, DNA samples may also be taken from the belongings of that person or their family for the purposes of identifying a body should one be found.

Early deletion: The Record Deletion Guidance sets out certain, limited, circumstances under which an individual whose DNA profile is being retained by the police can apply to have it destroyed sooner than normal.

Excluded offence: Under the retention framework for DNA and fingerprints, an 'excluded' offence is a recordable offence which is minor, was committed when the individual was under 18, for which they received a sentence of fewer than five years imprisonment and is the only recordable offence for which the individual has been convicted.

Familial search: A search of NDNAD to look for relatives of the perpetrator carried out where DNA is found at a crime scene but there is no subject profile on NDNAD. Such a search may produce a list of possible relatives of the offender. The police use other intelligence, such as age and geography, to narrow down the list before investigating further.

Because of the privacy issues, cost and staffing involved in familial searches, they are only used for the most serious crimes. All such searches require the approval by the Chair of the FIND Strategy Board (or a nominee of the Chair).

FINDS transcription or amendment error: This occurs where FINDS have introduced inaccurate information.

Force sample or record handling error: This occurs where the DNA profile is associated with the wrong information. For example, if person A and person B are sampled at the same time, and the samples are put in the wrong kits, so person A's sample is attached to information (PNC ID number, name etc.) about person B, and vice versa. Similarly, crime scene sample A could have information associated with it which relates to crime scene sample B.

Forensic Archive Ltd. (FAL): A company established following the closure of the Forensic Science Service (FSS), to manage case files from investigation work which it had carried out. See 'Forensic Science Service'.

Forensic Information Database Service (FINDS): The Home Office unit responsible for administering NDNAD, Fingerprint Database and Footwear database.

Forensic Information Database (FIND) Strategy Board: The FIND Strategy Board provides governance and oversight over NDNAD and the Fingerprint Database. It has a number of statutory functions including issuing guidance on the destruction of profile records and producing an annual report.

Forensic service provider (FSP): An organisation which provides forensic analysis services to police forces.

FSP interpretation error: This occurs where the FSP has made an error during the processing of the sample.

FSP sample and/or record handling error: As above, this occurs where the DNA profile is associated with the wrong information. It could involve samples being mixed up as described above or contaminating DNA being introduced during processing.

Forensic Science Regulator¹⁰³: The Regulator is responsible for ensuring that the provision of forensic science services across the criminal justice system is subject to an appropriate regime of scientific quality standards. Although his remit applies only to England and Wales, the Scottish and Northern Irish authorities collaborate with him in the setting of quality standards.

Forensic Science Service (FSS): The FSS was the body which used to have responsibility for most forensic science testing in relation to forensic evidence. In March 2012, the FSS closed and its work was transferred to private forensic service providers and in-house police laboratories.

Match: There are three types of matches:

- **crime scene to subject:** Where a crime scene profile matches a subject profile
- **crime scene to crime scene:** Where a crime scene profile matches another crime scene profile (i.e. indicating that the same individual was present at both crime scenes).
- **subject to subject:** Where a subject profile matches a subject profile already held on NDNAD (i.e. indicating that the individual already has a profile on NDNAD).

Match rate: The percentage of crime scene profile records which, once loaded onto NDNAD, match against a subject profile (or subject profile records which match to crime scene profile records).

Minor offence: Under the retention framework for DNA and fingerprints, a minor offence is a 'recordable' offence which is not a 'qualifying' offence.

¹⁰³ <https://www.gov.uk/government/organisations/forensic-science-regulator>

Missing Persons DNA Database (MPDD): The MPDD holds DNA profile records obtained from the belongings of people who have gone missing or from their close relatives (who will have similar DNA). If an unidentified body is found DNA can be taken from it and run against that on the MPDD to see if there is a match. This assists with police investigations and helps to bring closure for the family of the missing person. Profile records on the MPDD are not held on NDNAD.

National DNA Database (NDNAD): A database containing both subject and crime scene profile records connected with crimes committed throughout the United Kingdom. (Subject profile records retained on the Scottish and Northern Irish DNA Databases are copied to NDNAD; crime scene profile records retained on those databases are copied to NDNAD if a match is not found).

Non-Routine search: A search made against a DNA profile which has not been uploaded onto NDNAD.

Partial match: Where, for instance, the perpetrator has tried to remove the evidence, or DNA has been partially destroyed by environmental conditions, it may not be possible to obtain a complete DNA profile from a crime scene. A partial DNA profile can still be used to obtain a partial match against profile records on NDNAD. Partial matches provide valuable leads for the police but, depending on how much of the information is missing, the result is likely to be interpreted with lower evidential weight than a full match. See 'Match'.

Police and Criminal Evidence Act 1984 (PACE): PACE makes a number of provisions to do with police powers, including in relation to the taking and retention of DNA and fingerprints.

Protection of Freedoms Act 2012 (PoFA): Prior to the coming into force of the DNA and fingerprint sections of PoFA on 31st October 2013, DNA and fingerprints from all individuals arrested for, charged with or convicted of a recordable offence were held indefinitely. PoFA amended PACE to introduce a much more restricted retention schedule under which the majority of profile records belonging to innocent people were destroyed. See 'Police and Criminal Evidence Act 1984 (PACE)'.

Qualifying offence: Under the retention framework for DNA and fingerprints, a 'qualifying' offence is one listed under section 65A of the Police and Criminal Evidence Act 1984 (the list comprises sexual, violent, terrorism and burglary offences).

Recordable offence: A 'recordable' offence is one for which the police are required to keep a record. Generally speaking, these are imprisonable offences; however, it also includes a number of non-imprisonable offences such as begging and taxi touting. The police are not able to take or retain the DNA or fingerprints of an individual who is arrested for an offence which is not recordable.

Routine search: A search made against a DNA profile uploaded onto NDNAD.

SGMPlus: The previous method used to process a DNA sample which analysed a sample of DNA at ten different areas plus a sex marker. In July 2014, SGMPlus was upgraded to DNA-17.

Urgent match: A search made using FINDS's urgent speculative search service which is available 24 hours a day. This service is reserved for the most serious of crimes.

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