



Home Office



**Forensic Information
Databases
Strategy Board
Annual Report
April 2023 - March 2024**

**Forensic Information
Databases
Strategy Board
Annual Report
April 2023 - March 2024**

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

October 2024



© Crown copyright **2024**

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at www.gov.uk/official-documents.

Any enquiries regarding this publication should be sent to us at public.enquiries@homeoffice.gov.uk

ISBN 978-1-5286-5152-3

E03188121 10/2024

Printed on paper containing 40% recycled fibre content minimum.

Printed in the UK by HH Associates Ltd. on behalf of the Controller of His Majesty's Stationery Office.

Contents

1. The National DNA Database (NDNAD)	2
1.1 About NDNAD	3
1.1.1 Introduction	3
1.2 Who is on NDNAD?	3
1.2.1 Number of profile records held on and deleted from NDNAD	3
1.2.2 Geographical origin of subject profile records on NDNAD	7
1.2.3 Sex, age, and ethnicity of individuals on NDNAD	7
1.3 How many crimes does NDNAD help solve?	9
1.3.1 Introduction	9
1.3.2 Types of searches	12
1.3.3 Match rate	12
1.3.4 Timing of first subject match to a crime scene DNA profile	15
1.4 Missing and Vulnerable Persons Databases	18
1.4.1 Missing Persons DNA Database (MPDD)	18
1.4.3 Vulnerable Persons DNA Database (VPDD)	18
1.5 Contamination Elimination Database	20
1.6 Technology and business process developments on National DNA Databases in 2023/24	21
1.6.1 Home Office Biometrics Programme	21
1.6.2 NDNAD enhancements 2023/24	21
1.6.3 MPDD enhancements 2023/24	22
1.6.4 DNA Futures	22
1.7 Error Rates	23
1.8 FSP accreditation	24
2. National Fingerprint Database	25
2.1 Introduction	26
2.1.1 Outcomes using Fingerprints	26
2.2 Who is on IDENT1?	26
2.2.1 Number of profile records held on IDENT1 System	26
2.3 Missing persons	29
2.4 Vulnerable persons	29
2.5 Technology and business process developments on the National Fingerprint Database in 2023/24	30
3. International Data exchange	32

3.1 Overview	32
3.2 International requests for DNA & Fingerprint exchange	32
i. DNA	32
ii. Fingerprints	32
3.3 Exchanges under Title II of Part 3 of the Trade and Cooperation Agreement (Prüm exchange)	32
3.3.1 DNA Profile Exchange.....	33
3.3.2 Fingerprint Exchange	33
4. Finance 2023/24	33

Chair of the Strategy Board's Foreword

I am very pleased to be able to present this report as Chair of the Forensic Information Databases (FIND) Strategy Board for the period 1st April 2023 - 31st March 2024.

The fundamental importance of fingerprints and DNA in solving crimes is illustrated within the report, with the key role that these biometrics have in bringing offenders to justice, keeping the public safe and preventing harm to potential future victims.

The overall DNA match rate, following the loading of a crime scene profile to the National DNA Database (NDNAD), was 64.8% in 2023/24, demonstrating the continuing effectiveness of the NDNAD as a vital and effective tool in policing investigations. In this year's report there is also useful data presented for this match rate within the context of all recorded crime.

I am delighted that further connections have been made between the UK and EU Member States for the international exchange of biometrics under the Trade and Cooperation Agreement (formerly the Prüm exchange) in 2023/24; there are now live connections to 21 countries for fingerprints and 25 countries for DNA. Case examples within the report demonstrate the real value of matches generated from this exchange in aiding criminal investigations internationally.

There have been enhancements to missing persons services this year, with the introduction of the retention of DNA profiles from those buried at sea and linking missing persons' profiles internationally on the Interpol I-Familia database, a global database for identifying missing persons through DNA kinship matching. This will assist in future missing person and unidentified body investigations. There was also guidance released to enable families, who believe they have lost family members in the War in Ukraine, to work with the International Commission on Missing Persons, who facilitate DNA sampling to help identify a missing relative through relationship testing.

FINDS has also continued to work with the Forensic Capability Network (FCN) on the development of a UK Y-chromosome (male specific) reference database. This database will enhance the UK's capability to investigate sexual and other serious offences where male DNA is often masked, thus supporting the national strategy on investigating rape and serious sexual offences and reducing violence against women and girls.



B D Snuggs KPM
Deputy Chief Constable
National Police Chiefs' Council (NPCC) Chair of the Forensic Information Databases
Strategy Board

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 2024, it produced 821,794 matches to unsolved crimes, an average of 35,730 per year.

1.2 Who is on NDNAD?

1.2.1 Number of profile records held on and deleted from NDNAD

As at 31st March 2024, NDNAD held **7,226,795** subject profile records and **688,054** crime scene profile records. The number of subject records held on the NDNAD is shown in Figure 1. In the Financial Year 2023/24, **327,709** new subject DNA profile records were loaded to NDNAD, together with **24,240** new crime scene DNA profile records. Figures 2a and 2b show the number of profile records loaded to the NDNAD per year. Table 1 shows the breakdown of crime scene records loaded in 2023/24 by offence type.

Some individuals have more than one profile on NDNAD. This can occur where the police force chooses to load another record or where an individual is sampled twice under different names. Approximately 17%¹ of the DNA profile records on NDNAD are duplicates of an individual already sampled. Allowing for these duplicates, the number of individuals on NDNAD as at 31st March 2024 was **6,031,139**.

In 2023/24 **146,080** subject DNA profile records were deleted from NDNAD. This includes **410** under the [Deletion of Records from National Police Systems' guidance](#). Additionally, **7,004** crime scene DNA profile records were deleted; with the [Strategy Board 'Access and Use' policy](#) defining criteria for removal - including records from detected crimes or records that have been sourced to victims of offences.

¹ 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.

Figure 1: Number of subject profile DNA records held on NDNAD (in millions) (2014/15 to 2023/24)

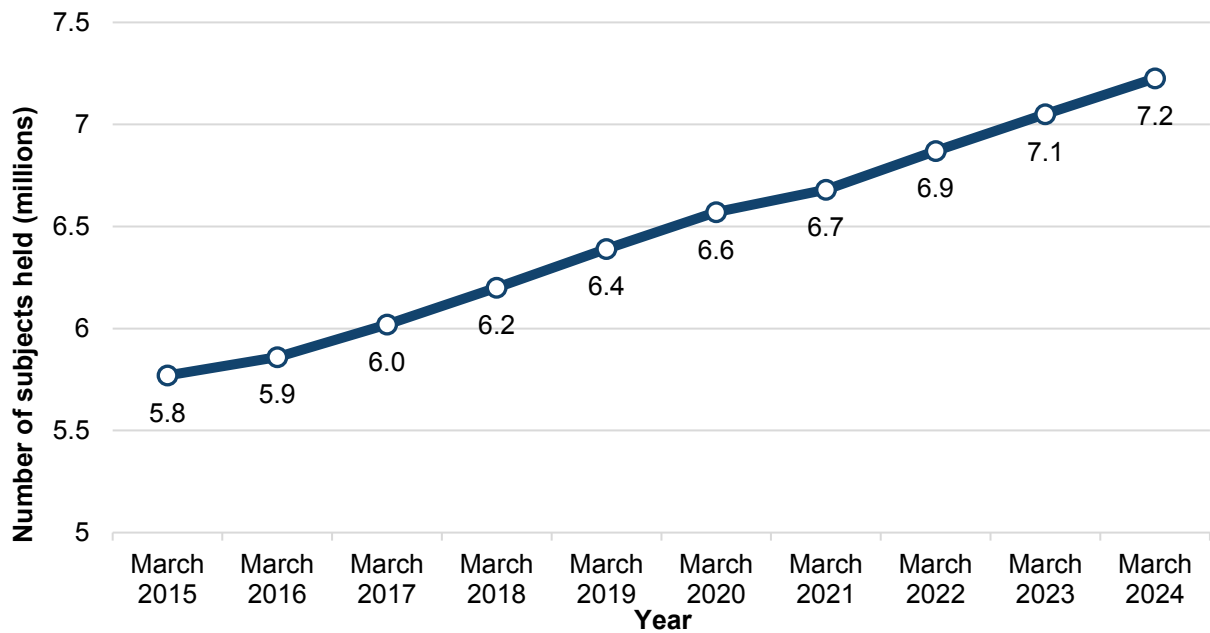
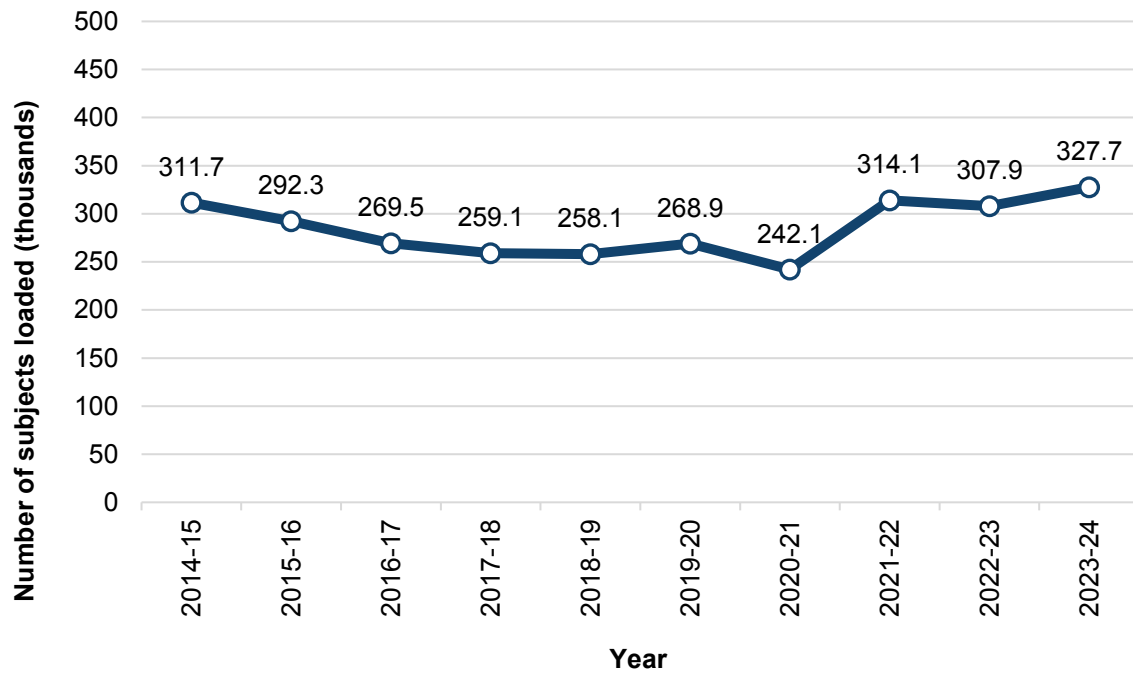


Figure 2a: Number of subject profile DNA records loaded onto NDNAD per year (in thousands) (2014/15 – 2023/24) ^{2 3}



² All data in section 1 is obtained from NDNAD management information, unless otherwise stated.

³ A new management information tool was implemented in 2021/22 which allowed counting for subject records that were loaded and deleted within the same month.

Figure 2b: Number of crime scene DNA profile records loaded onto NDNAD per year (in thousands) (2014/15 – 2023/24)

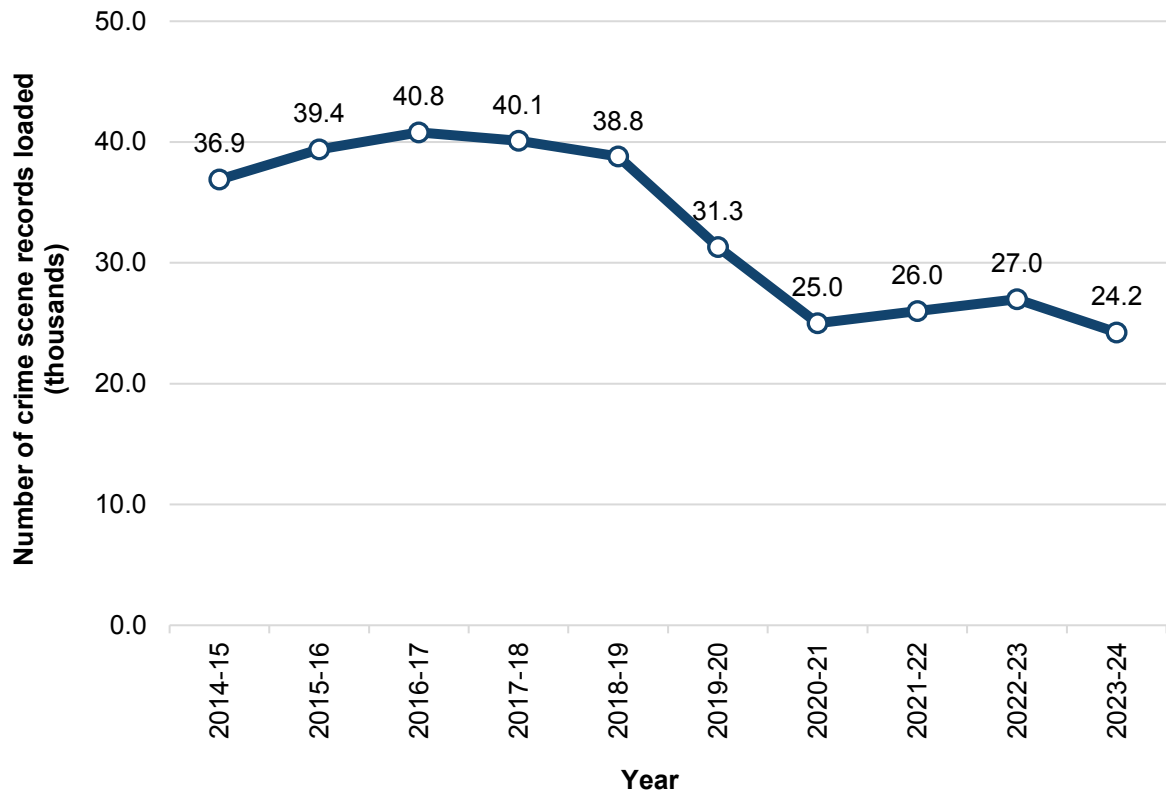


Table 1: Number of crime scene DNA profile records loaded by crime type (2023/24) ⁴

Crime type	Number of crime scene profile records loaded	Proportion of total number of crime scene profile records loaded (%)
Burglary (including aggravated)	10,833	44.7%
Vehicle Crime	4,117	17.0%
Drugs	1,748	7.2%
Violent Crime	1,231	5.1%
Criminal Damage	1,192	4.9%
Robbery	869	3.6%
Rape	585	2.4%
Murder, manslaughter, and attempted murder	534	2.2%
Firearms	527	2.2%
Traffic (including fatal)	503	2.1%
Theft	371	1.5%
Abduction and Kidnapping	150	0.6%
Other sexual offences	138	0.6%
Arson / fire investigations	134	0.6%
Public Order	59	0.2%
Fraud	36	0.2%
Blackmail	5	0.0%
Explosives	5	0.0%
Other	1,203	5.0%
TOTAL	24,240	100.0%

⁴ NDNAD offence type classification

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 the Protection of Freedoms Act 2012 (PoFA)⁵. 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 DNA profile records retained on NDNAD by nation (as at 31st March 2024) ⁶

Nation	Subject profile records	Crime scene profile records	TOTAL
England ⁷	6,156,004	627,573	6,783,577
Scotland	397,911	20,726	418,637
Wales	406,067	28,577	434,644
Northern Ireland	218,868	8,369	227,237
Other ⁸	47,945	2,809	50,754
TOTAL	7,226,795	688,054	7,914,849

1.2.3 Sex, age, and ethnicity of individuals on NDNAD

The vast majority of subject profile records held on NDNAD 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 were male⁹.

⁵ Scotland and Northern Ireland have their own retention regime.

⁶ NDNAD does not hold individuals' addresses. The geographical information provided is based on the location of the police force that submitted the profile record.

⁷ Includes the British Transport Police

⁸ 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, and the Prisoner Sampling Programme.

⁹ 51.0% women and 49.0% men in England and Wales) - Census 2021 [Population and household estimates, England and Wales - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/population-and-household-estimates)

Figure 3a: Proportion of subject DNA profile records on NDNAD by sex (as at 31st March 2024) ^{10 11}

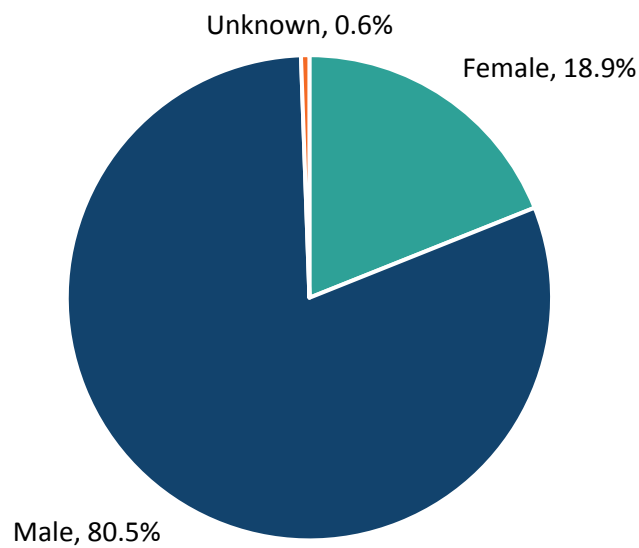
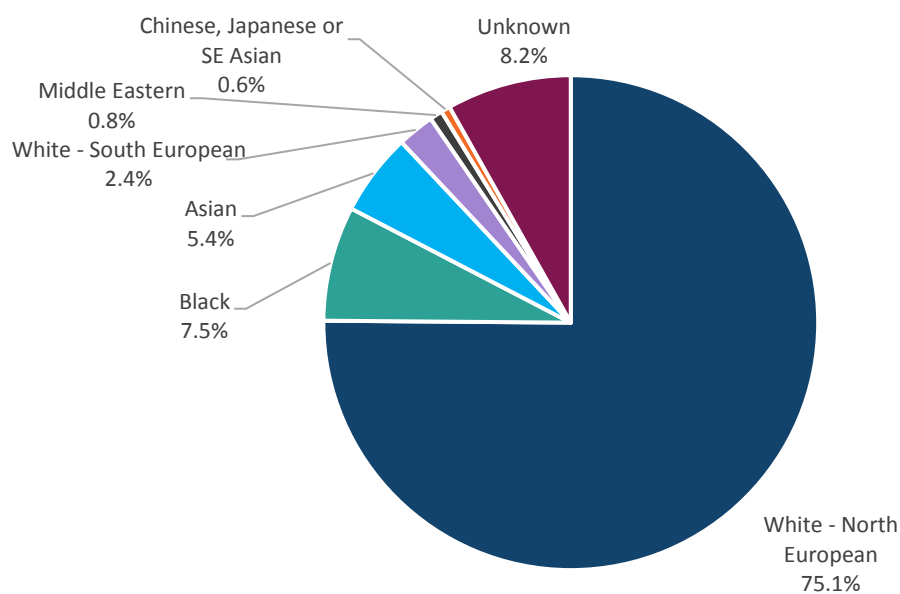


Figure 3b: Number of subject DNA profile records on NDNAD by ethnicity, as determined by the sampling officer (as at 31st March 2024) ¹²

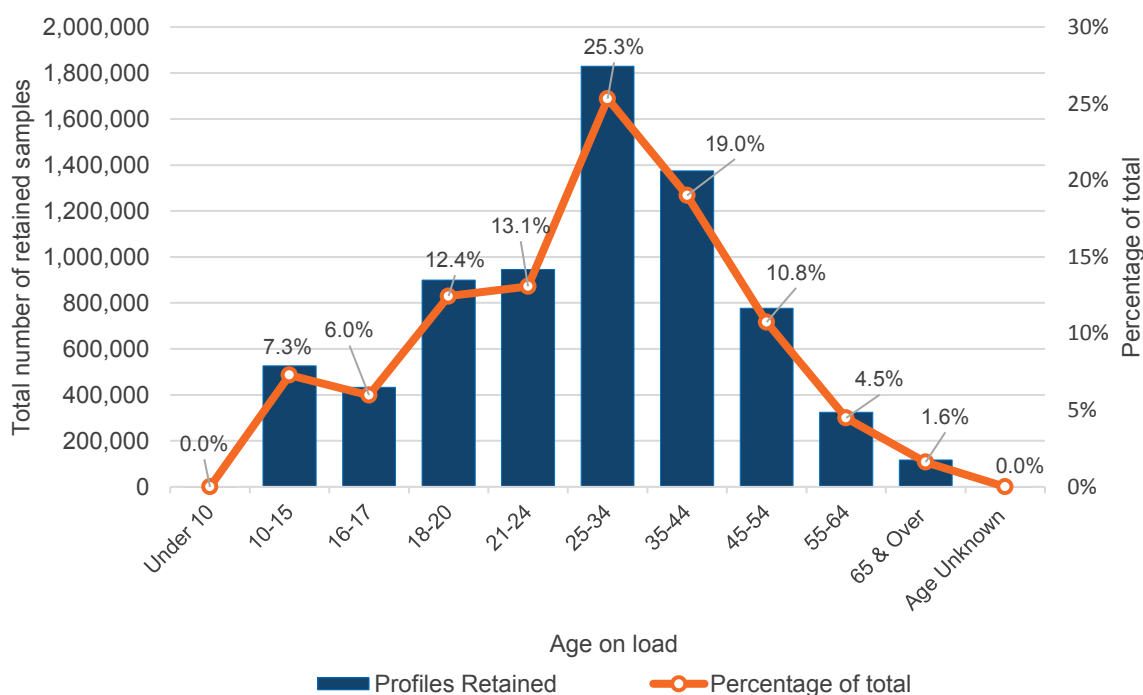


¹⁰ Unknown is where the sex was recorded as 'unknown' on the Police National Computer (PNC) or on the sampling DNA kit card.

¹¹ Where data in section 1 is shown as a %, the figures may not equal 100%, due to rounding.

¹² The ethnicity of the individual is determined by the police officer who took the DNA sample. Unknown profile records refer to those where the officer either selected 'ethnicity unknown' on the recording form or where there was no ethnicity data accompanying the profile record.

Figure 3c: Number of subject DNA profile records by age at time of loading onto NDNAD (as at 31st March 2024) ¹³



This data is published quarterly on NDNAD web page on www.gov.uk¹⁴. The age of criminal responsibility in England and Wales is 10. There were 37 profiles retained from subjects aged under 10 on NDNAD, all of these being generated from samples 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 NDNAD¹⁵.

1.3 How many crimes does NDNAD help solve?

1.3.1 Introduction

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

Considering the contribution of the NDNAD in the wider context of all recorded crime, figure 4 and table 3 below gives the percentage of NDNAD matches generated through the routine searching of crime scene profiles against the full set of recorded crime data from 2023/24¹⁶.

¹³ This is calculated from the date of birth provided by the individual to the police officer at the time of arrest.

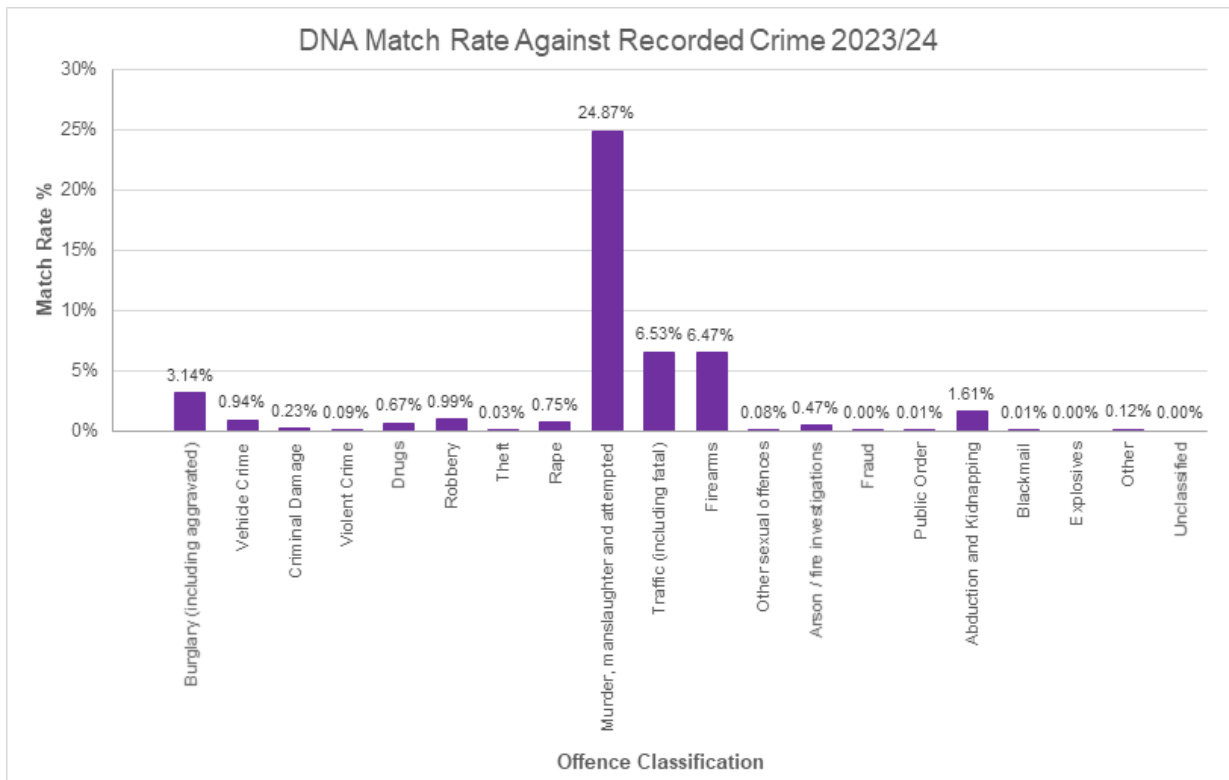
¹⁴ www.gov.uk/government/organisations/home-office/series/dna-database-documents

¹⁵ 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)

¹⁶ Recorded crime data for [England & Wales](#), [Scotland](#), and [Northern Ireland](#)

It must be noted that actual offence categories do differ between those available on the NDNAD and the recorded crime figures, with FINDS aligning these as closely as possible for the purposes of comparison. Also noted is the incomplete geographical alignment between the NDNAD and recorded crime datasets, with the NDNAD figures relating to all Law Enforcement Agencies (LEAs), and recorded crime figures being solely England & Wales, Scotland, and Northern Ireland (i.e. excluding non-territorial forces¹⁷).

Figure 4: Number of NDNAD matches for crime scenes loaded in 2023/24 as a percentage of all recorded crime



¹⁷ As defined within the [Strategy Board 'Access and Use' policy](#)

Table 3: Number of NDNAD matches for crime scenes loaded in 2023/24 as a percentage of all recorded crime

Crime type	All recorded crime	NDNAD matches	% all crime with NDNAD match
Violent Crime	1,369,489	1,199	0.10%
Fraud	1,282,689	27	0.00%
Theft	1,192,376	350	0.00%
Other	833,208	1,030	0.10%
Public Order	560,192	49	0.00%
Criminal Damage	559,094	1,261	0.20%
Vehicle Crime	390,073	3,669	0.90%
Burglary (including aggravated)	279,061	8,764	3.10%
Drugs	215,637	1,441	0.70%
Other sexual offences	136,253	115	0.10%
Robbery	83,473	824	1.00%
Rape	71,631	536	0.80%
Blackmail	39,058	3	0.00%
Arson / fire investigations	27,221	128	0.50%
Abduction and Kidnapping	8,569	138	1.60%
Traffic (including fatal)	7,193	470	6.50%
Firearms	6,599	427	6.50%
Unclassified	3,457 ¹⁸	N/A	N/A
Murder, manslaughter, and attempted murder	1,769	440	24.90%
Explosives	N/A	10 ¹⁹	N/A
Total	7,067,042	20,881	0.3%

¹⁸ Scottish records recorded as 'serious assault and attempted murder' as a specific category, which does not align to the NDNAD classifications where these offence types are split between two defined categories.

¹⁹ No equivalent category available within recorded crime classifications.

1.3.2 Types of searches

i. Routine loading and searching

Samples are usually profiled, and the DNA profile records are then loaded to NDNAD for routine searching. Routine matches are made from DNA profile records loaded to NDNAD; the breakdown for these matches shown in Table 5 below.

ii. Non-routine searches

In order for a DNA profile to be uploaded to NDNAD, it must consist of a minimum of four pairs of numbers and a sex marker (for crime scene DNA profile records) and a full profile²⁰ (for subject profile records). Where this criterion is not met, for crime scene DNA records, it is nonetheless possible to carry out a non-routine search of NDNAD; the breakdown for these matches shown in Table 5 below.

iii. Familial searches

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. All such searches require the approval of the FIND Strategy Board chair or their nominee. A total of 22 familial searches were carried out in 2023/24,

1.3.3 Match rate

i. Overall match rates

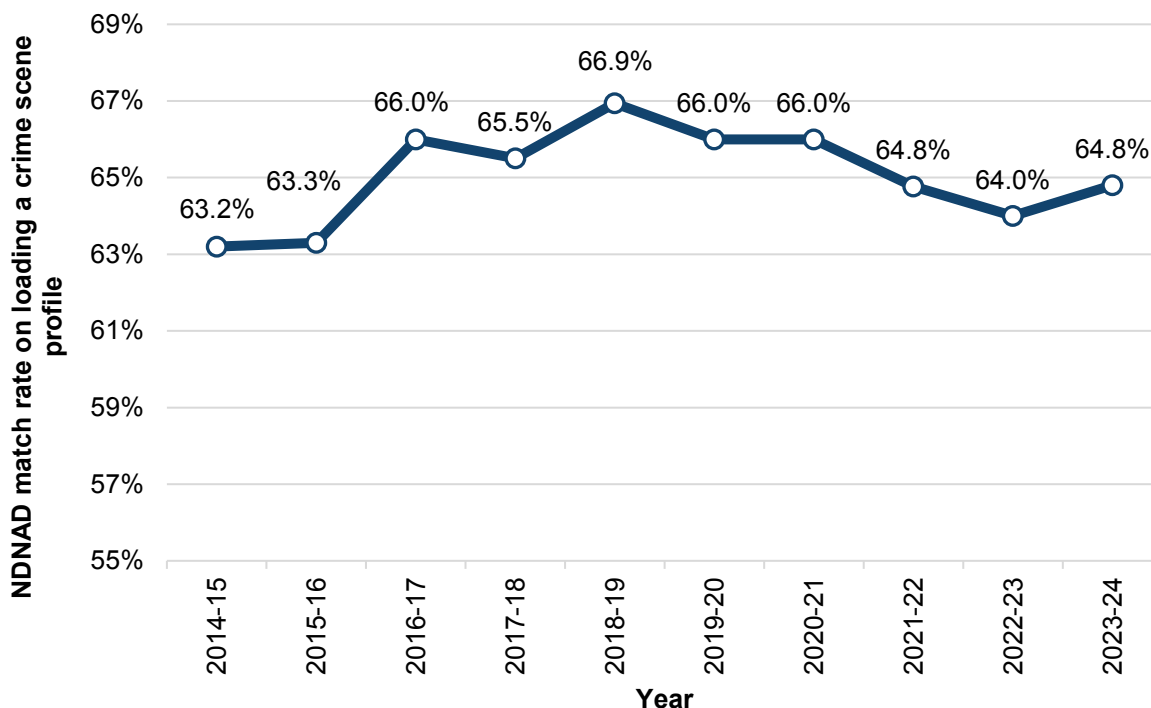
In 2023/24, the chance that a crime scene DNA profile, once loaded onto NDNAD, matched against a subject DNA profile stored on the NDNAD was **64.8%**. Figure 5 shows the yearly match rate on loading a crime scene DNA profile to the NDNAD.

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

Further DNA profile matches will occur when a new subject DNA profile is added to NDNAD and matches to a crime scene DNA profile already on the database. As at 31st March 2024, there were **220,690** crime scene DNA 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 their DNA profile added to NDNAD. Every individual who is arrested will have their DNA profile searched against existing crime scene DNA profiles on NDNAD, even if their profile is subsequently deleted.

²⁰ 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).

Figure 5: Match rate on loading a crime scene profile (2014/15 to 2023/24)²¹



ii. Number of matches

In 2023/24, NDNAD produced **20,881** routine crime scene to subject DNA profile matches, including to **440** homicides²² and **536** rapes; the percentage breakdown of matches is shown in Figure 6 and the offence breakdown of these matches is shown in Table 4. It provided **1,187** crime scene to crime scene matches (this information is useful in helping to identify serial offenders). It also provided **4,356** 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 nonetheless provide the police with useful intelligence about a crime. The offence breakdown of these non-routine searches can be seen in Table 5.

²¹Excludes crime scene to crime scene matches. This figure has increased slightly (0.8%) on the previous reporting year.

²² This includes murder, manslaughter, and attempted murder.

Figure 6: Crime Scene to Subject Matches by Crime Type (2023/24)

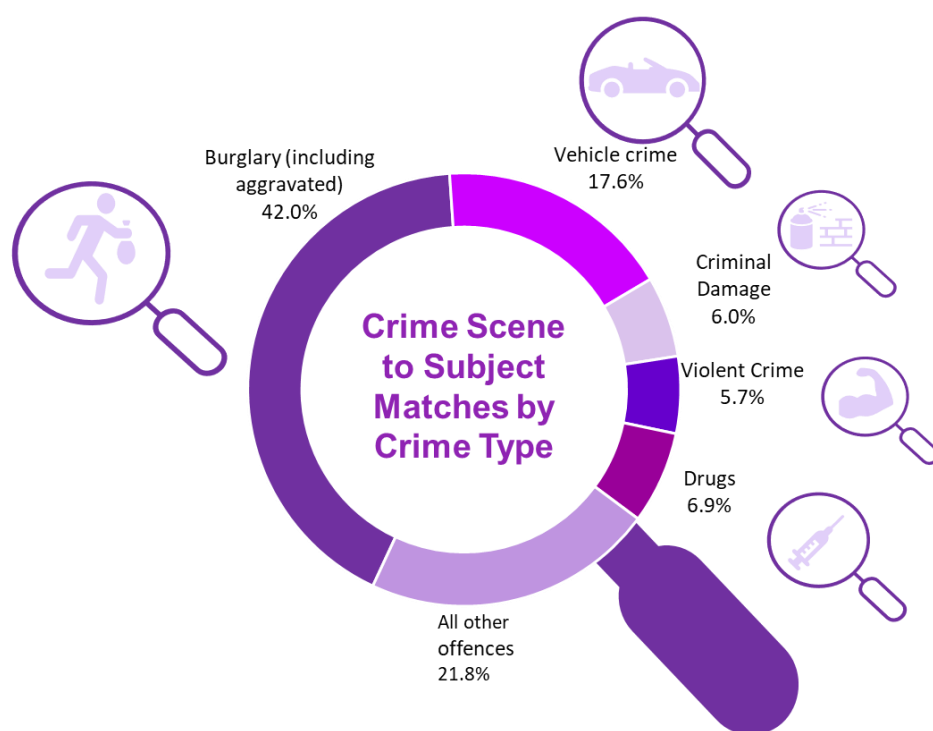


Table 4: Number of routine crime scene to subject matches made by crime type (2023/24) ^{23 24}

Crime	Matches
Burglary (including aggravated)	8,764
Vehicle Crime	3,669
Drugs	1,441
Criminal Damage	1,261
Violent Crime	1,199
Robbery	824
Rape	536
Traffic (including fatal)	470
Murder, manslaughter, and attempted murder	440
Firearms	427
Theft	350
Abduction and Kidnapping	138
Arson / fire investigations	128
Other sexual offences	115
Public Order	49
Fraud	27
Explosives	10
Blackmail	3
Other	1,030
TOTAL	20,881

²³ NDNAD offence type classification

²⁴ Because of the way in which the data is recorded and because all profiles loaded to the NDNAD are routinely searched against all profiles held on the NDNAD it is not possible to provide figures for the number of searches or the match rate for the data in this table. This data has been provided in table 5.

Table 5: Number of non-routine search matches made by crime type (2023/24)

Crime	Searches	Matches	Matches (%)
Fraud	3	3	100.0%
Public Order	14	14	100.0%
Blackmail	1	1	100.0%
Explosives	1	1	100.0%
Abduction and Kidnapping	35	33	94.3%
Robbery	241	226	93.8%
Violent Crime	213	197	92.5%
Criminal Damage	77	71	92.2%
Traffic (including fatal)	38	35	92.1%
Burglary (including aggravated)	1,449	1,330	91.8%
Vehicle Crime	417	378	90.7%
Other sexual offences	123	110	89.4%
Drugs	408	364	89.2%
Theft	40	35	87.5%
Firearms	225	194	86.2%
Arson / fire investigations	36	31	86.1%
Rape	465	390	83.9%
Murder, manslaughter and attempted murder	326	208	63.8%
Other	1,821	735	40.4%
TOTAL	5,933	4,356	73.4%

1.3.4 Timing of first subject match to a crime scene DNA profile

The time interval between the first subject match to an existing NDNAD retained crime scene can potentially be indicative of the status of the match type, for example:

- An ‘investigation match’ – where the subject is under active investigation, or a person of interest, for the offence and where the time interval between the crime scene to subject DNA profile leads to the NDNAD may be minimal; and
- A ‘cold hit’, where the subject to crime scene linkage is first made by a NDNAD match (i.e. in the absence of any prior investigative leads), where the time interval could stretch to many years.

An initial analysis of the time intervals for the NDNAD matches generated in 2023-24 was undertaken. The only matches eligible for inclusion were those for which the crime scene first matched to a subject record in 2023-24 and had not been deleted or eliminated through scientific checks when the analysis took place²⁵. The results are below in Figures 7 and 8.

²⁵ May 2024

Figure 7: Timing for match to a crime scene profile (on loading subject profiles between 1st April 2023 and 31st March 2024) – serious crime

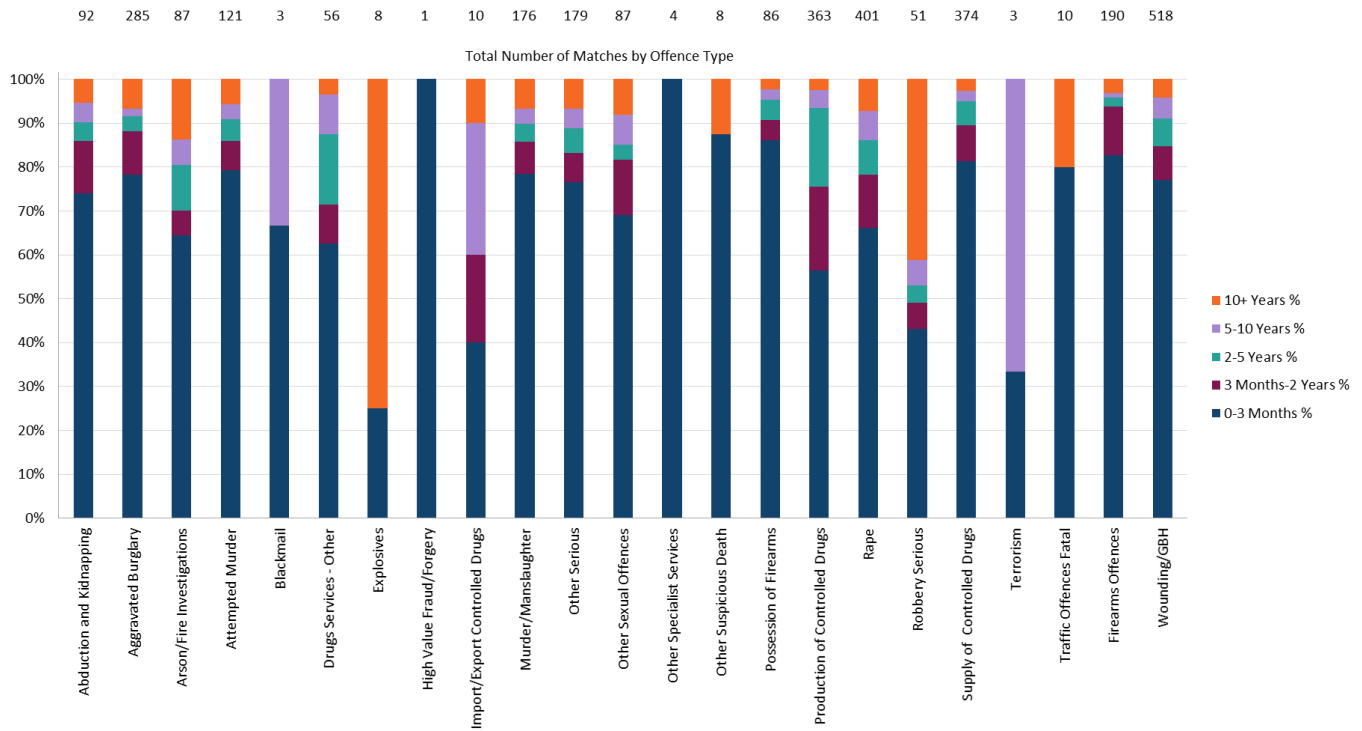
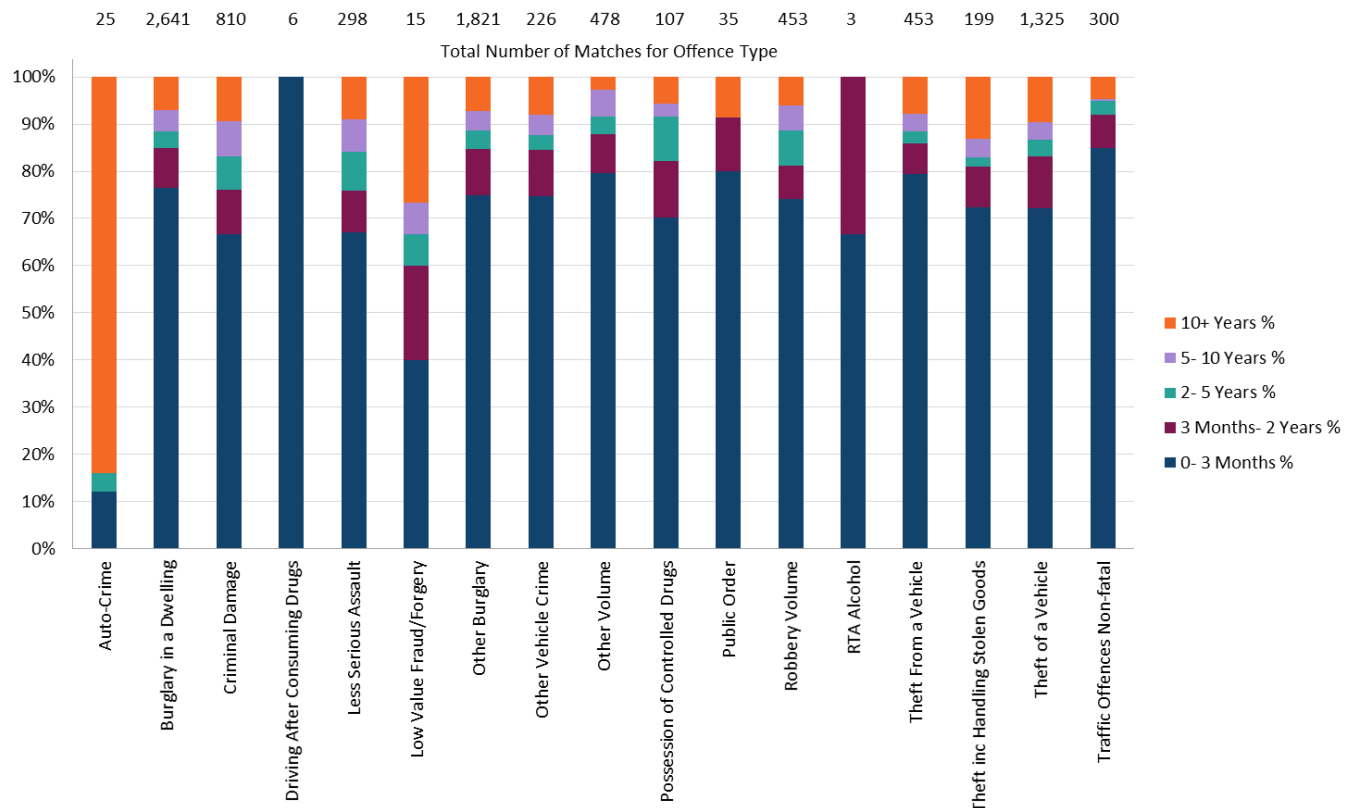


Figure 8: Timing for match to a crime scene profile (on loading subject profiles between 1st April 2023 and 31st March 2024) – volume crime



1.3.5 Outcomes

The number of offenders convicted with the help of DNA evidence is not recorded; however, DNA evidence has been found to be significant²⁶ in the conviction of the perpetrators of many serious crimes. There is well-established domestic positive impact of NDNAD matches yielding viable intelligence to police forces, such as the following case example:

Case 1 – Derbyshire Constabulary: A career burglar was jailed after his DNA was found on a jewellery box from a Derby home. The suspect initially denied burgling several properties within a two-week period in September 2023; items stolen included jewellery, cash and bank cards, a brand-new iPhone, a wedding ring, and Apple AirPods. Following his arrest, initially the suspect refused to enter a plea, but after the DNA match put him at the scene of one of the crimes, he pleaded guilty to all offences. He was sentenced at Derby Crown Court on 16th May 2024 where he was handed a three-year prison sentence.

Along with domestic cases assisted, the intelligence provided through the international sharing of biometrics is significant, with the following case examples demonstrating this in 2023/24:

Case 2 - Hungary: Prüm exchange identified a match between a UK police investigation into a stabbing which resulted in the death of the victim, with the offence taking place in the context of a drug deal. The crime scene DNA profile was retained on the NDNAD. The perpetrator was unknown, but a hair was left at the scene. The National Crime Agency (NCA) engaged with Hungarian counterparts following a Prüm DNA match and provided UK Police with subject details linked to the hair left at the scene. The individual was known in Hungary for misuse of drugs and money laundering.

Case 3 - Canada: INTERPOL exchange for a murder committed in Canada where a dispute at a restaurant escalated into violence with fatal consequences. DNA was taken from glasses used by those involved in the violence/murder. This DNA matched on the NDNAD and on this basis the NCA provided an intelligence product to Canada naming a subject and providing UK based historic offences of violence against the person and possession of an imitation firearm.

Case 4 - Sweden: A subject DNA profile sent from Sweden as part of the Prüm exchange concerning a time critical case as the subject had been arrested for possession of firearms and an explosive device (bomb). Matches were generated to armed robberies in the UK and providing an intelligence product naming a subject known for robbery, theft, and violent offences against the person.

²⁶ Prosecutions are very rarely based on DNA evidence alone.

1.4 Missing and Vulnerable Persons Databases

In order to separate DNA profile records for individuals who have been arrested, from records for missing persons and vulnerable people (which are given with consent), there are 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 2024, there were **2,335** records on the MPDD. In 23/24, the MPDD produced 28 matches²⁷.

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 also 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. The taking of fingerprints and DNA samples is a key protective measure advised by NPCC guidance. This is aimed at addressing identification issues in potential investigations and to protect potential victims from serious acts of violence, abduction, and homicide²⁸.

As at 31st March 2024, there were **6,949**²⁹ records on the VPDD, **12** of these records are searchable on the NDNAD, following approval from the DNA Strategy Board.

There are two distinct datasets with the VPDD relating to the version³⁰ of the consent form signed by the person who was DNA sampled; the specific consent given defines the scope of searching that takes place as a standard database activity:

- V 1-3 consent – all unidentified bodies/parts' DNA profiles submitted to the MPDD will be speculatively searched against these records on load and then quarterly afterwards.
- V 4+ consent – automatically searched against all unidentified bodies/parts' DNA profiles retained on the NDNAD.

²⁷ The match figures will include international matches that have occurred following a one-off search of the NDNAD / MPDD.

²⁸ ACPO Guidance on Taking of Fingerprints, DNA & Photographs of Victims / Potential Victims of Forced Marriage – Handling Procedures.

²⁹ This figure includes all datasets recorded on the VPDD.

³⁰ Version 1 denoted by V1 in the text

The numbers of searches cross searching DNA databases, and resultant matches, is set out in table 6 below.

On the basis of a generated match, the purpose of the searching relates to:

- Identification of a deceased individual;
- To provide potential intelligence for the investigation of an offence, the detection for this providing safeguarding for further individuals who may otherwise have come to harm; and
- For safeguarding for the individual sampled as a vulnerable person - where crime scene material (e.g. blood is searched (rather than a body/parts)).

Table 6: Number of database searches of vulnerable persons' records

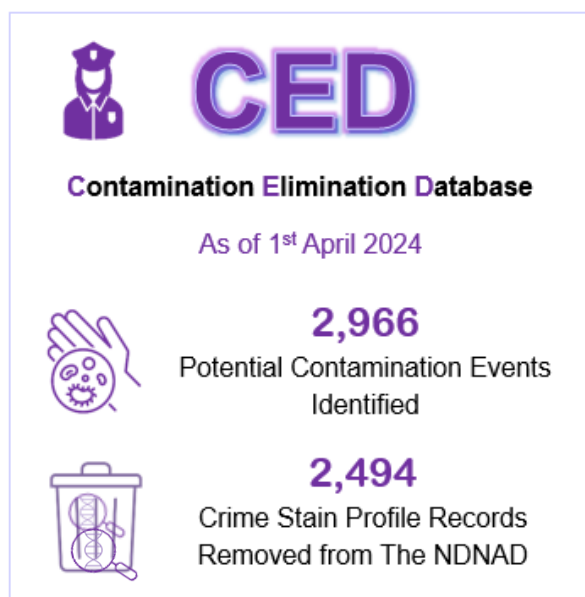
Search regime	No. profiles searched (or retained)	No. matches to vulnerable persons
All MPDD retained unidentified bodies and unidentified alive individuals searched vs. the VPDD (consent v1-3)	302 ³¹	0
All NDNAD retained unidentified bodies searched vs. the VPDD (consent v4) – standard NDNAD search regime	262 ³²	0
MPDD retained only unidentified bodies (not loadable to the NDNAD) searched vs. the VPDD (consent v4)	25	0
Speculative search of the VPDD ³³ (consent v1-4) for crime stain records (UK and International) relating to high-risk potential – including modern slavery and Child Sexual Abuse and Exploitation (CSAE)	0	0
International unidentified body searches vs. the VPDD (consent v1-4)	67	0

³¹ The entirety of the dataset currently retained on the MPDD, speculatively searched as of 31st March 2024.

³² as of 10th April 2024

³³ The Chair (or their nominee) of the FIND Strategy Board approval is required – consideration on a case-by-case basis.

1.5 Contamination Elimination Database



FINDS administers a Contamination Elimination Database (CED) from which regular, national searches of crime stain profile records submitted to the NDNAD are checked against elimination profile records. These elimination profiles are generated from DNA samples provided by police officers and police staff, and from other individuals with potential to introduce contamination into the DNA supply chain, such as staff employed in DNA sampling and processing. This searching allows identification of those results relating 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.

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 Forensic Service Providers (FSPs) which processed the crime scene DNA sample, matches are investigated by police forces. Any crime scene DNA profile records concluded to originate from contamination by, for example, police officers or police staff, are then deleted from NDNAD. As at 1st April 2024, **2,966** potential contamination events had been identified for investigation. Forces have been investigating these matches and **2,725** have been concluded resulting in the removal of **2,494** crime stain profile records from the NDNAD³⁴. As LEAs conclude their investigations the number of crime stain records deleted from the NDNAD is expected to increase.

DNA profile records taken from serving police officers and police staff are retained for elimination purposes for 12 months after they leave a police force (except where they transfer to another force)⁵⁹. In line with the Police and Criminal Evidence Act 1984 (PACE), DNA samples will be destroyed within 6 months of the sample being taken.

The Police Elimination Database (PED) was a legacy database used for intelligence purposes, to identify potential contamination incidents; where a police force suspected that a crime scene sample may have been contaminated with DNA from a police officer or police staff, they could request that a direct comparison was made of DNA obtained from the crime scene against the PED profile. Following agreement at the March 2023 FIND Strategy Board, and intense activities with police forces to ensure that all eligible records were transferred to the Contamination Elimination Database (CED), the PED was formally decommissioned on 4th August 2023, with the remaining records contained being deleted and the IT system taken offline.

³⁴ Forces deemed that following investigation the remaining 231 crime stain records could remain on the NDNAD.

1.6 Technology and business process developments on National DNA Databases in 2023/24

The NDNAD and MPDD are regularly adapted to incorporate new developments in technology and operational needs. This involves significant work in developing and testing these changes to ensure they meet the necessary standards. The Home Office also responds to any scientific and technological 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 changes and improvements to biometrics matching and identification services for the UK. The HOB Programme focuses on three biometric modes: fingerprints, DNA, and facial matching. These services enable the capture, authentication, verification, searching and matching of individuals' biometrics and forensics for the purposes of identifying criminal offenders, protecting the border, and preventing terrorism.

HOB continued to support the NDNAD application and platform in 2023/24, with security updates and functionality enhancements to the NDNAD delivered on a quarterly basis.

1.6.2 NDNAD enhancements 2023/24

Three significant enhancements took place for the NDNAD and containing IT environment in 2023/24:

1. Provision of access to NDNAD outputs to the **Medicines and Healthcare products Regulatory Agency (MHRA)**. A dedicated law enforcement function within MHRA leads interventions to tackle the most serious criminal threats to the public from the illegal sale and supply of medicines and medical devices. As part of these activities, materials retrieved from crime scenes can yield DNA profiles suitable for search and retention on the NDNAD. In May 2023, a tri-partite Memorandum of Understanding was put in place and NDNAD configuration changes completed which allow provision of NDNAD match reports directly to the MHRA.
2. The release for **HOB Virtual Desktop (HVD)**. An infrastructure change for how FINDS access the NDNAD and related data assets was successfully delivered in November 2023.
3. The **re-platforming of the CED** took place in February 2024, with the CED being migrated to HVD as a fully supported environment from which further CED development can take place.

1.6.3 MPDD enhancements 2023/24

Two significant enhancements took place for the MPDD in 2023/24:

1. Burials at Sea

The Marine Management Organisation (part of the Department for Environment, Food and Rural Affairs, DEFRA) has changed their licensing conditions for human burials at sea for the sea burial site at The Needles off the Isle of Wight.

From October 2023, those who wish a sea burial will have DNA extracted from the body prior to them being laid to rest in this designated site, with the resultant DNA profile to be retained on the MPDD. This follows a number of cases over many years where body parts have been washed ashore on the Isle of Wight. In future, if body parts are found, they will be matched and identified, saving the Coroner and the Police from having to obtain DNA from families of recent sea burials to identify the body and potentially mounting a suspicious death inquiry. This was initiated by the Isle of Wight Senior Coroner, Caroline Sumeray, led by the UK Missing Persons Unit, and working with various other partners, including Hampshire & Isle of Wight Constabulary, the Home Office Forensic Pathology Unit, FINDS and the Human Tissue Authority.

This initiative was supported by the Ministry of Justice and Bob Seely, MP for the Isle of Wight at the time.

2. I-Familia and INTERPOL

The volunteer kinship consent form was updated to allow for consent to be captured for I-Familia ('INTERPOL Family-Associated Matching to Identify Lost Individuals Abroad') and INTERPOL (International Criminal Police Organisation) dissemination. Further information for the service is available at:

- [I-Familia \(interpol.int\)](https://www.interpol.int/); and
- [About Yellow Notices \(interpol.int\)](https://www.interpol.int/)

In addition, for missing person services, a facility was made available regarding the war in Ukraine for family members seeking to find missing relatives. FINDS released guidance to LEAs to enable them to direct families, who believe they have lost family members in the War in Ukraine to the [International Commission on Missing Persons \(ICMP\)](https://www.icmp.int/) where they may wish to register and provide a DNA sample to help identify a missing relative through relationship testing.

1.6.4 DNA Futures

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

DNA Futures are leading the development of a UK Y-chromosome reference database that will enable the estimation of the frequency of Y-STR profiles specifically in the UK population. This reference database will enhance the UK's capability in the investigation of sexual offences as well as other serious criminal offences, where often the male DNA

profile is masked due to a mixed DNA profile. A [collection exercise](#) of approximately 10,000 mouth swab samples to obtain Y-STR profile data for the reference database was commenced by FINDS and FCN in 2023.

1.7 Error Rates

Table 7 shows the error rate for subject and crime scene profile records held on NDNAD for each type of organisation in 2023/24. 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 7: Error rates 2023/2024

Organisation	Error types	Sample Type	April to June 2023	July to September 2023	October to December 2023	January to March 2024
Profile records loaded		Subject	83,175	80,376	82,210	81,948
		Crime scene	5,936	6,483	5,728	6,094
Police Forces	Sample or record handling	Subject	84	63	64	91
		Subject (%)	0.10%	0.08%	0.08%	0.11%
Forensic Service Providers	Sample or record handling	Subject	1	0	3	3
		Subject (%)	<0.00%	0.00%	<0.00%	<0.00%
		Crime scene	7	6	5	5
		Crime scene (%)	0.12%	0.09%	0.09%	0.08%
	Interpretation ³⁵	Subject	4	7	3	2
		Subject (%)	<0.00%	0.01%	<0.00%	<0.00%
		Crime scene	13	10	8	10
		Crime scene (%)	0.22%	0.15%	0.14%	0.16%
FINDS (DNA)	Transcription or amendment	Subject	0	1	0	1
		Subject (%)	0.00%	<0.00%	0.00%	<0.00%
		Crime scene	0	0	0	1
		Crime scene (%)	0.00%	0.00%	0.00%	0.02%

³⁵ 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 (a single allele or locus).

1.8 FSP accreditation

FSPs carrying out DNA profiling work for loading to NDNAD must be approved by FINDS and the FIND Strategy Board and must hold accreditation to ISO/IEC 17025 as defined in the Forensic Science Regulator's Statutory Code of Practice³⁶. This involves regular monitoring of standards. As at 31st March 2024, **14** laboratories were authorised to load profile records to NDNAD from standard processing.

³⁶ The Accreditation of Forensic Service Providers Regulations 2018 require (inter alia) competent law enforcement authorities to use Forensic Service Providers (FSPs) accredited to ISO/IEC 17025 or otherwise accredited in accordance with the EU-UK Trade and Cooperation Agreement, in order to conduct laboratory activities (including DNA profile activities or fingerprint data) for the prevention, detection or investigation of a crime.

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 LEAs of the United Kingdom. It provides the ability to electronically store and search fingerprint images to manage person identity and compare fingerprints from known individuals with fingermarks from unsolved crimes.

2.1.1 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 fingermarks to investigate links between a person and unidentified scene of crime fingermarks.

During the period 2023/24 there were **417,743** scene of crime fingermark to Tenprint searches resulting in **12,866** matches.

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 fingerprint set on the database. This search confirms a person's identity and is linked to the person's arrest event, biometrically validating a person's arrest history.

2.2 Who is on IDENT1?

2.2.1 Number of profile records held on IDENT1 System³⁷

As at 31st March 2024, IDENT1 held **28,374,312** fingerprint forms relating to **8,775,385** individuals. Table 8 shows the yearly number of individuals on IDENT1. Figure 9 shows the yearly number of individuals retained on IDENT1.

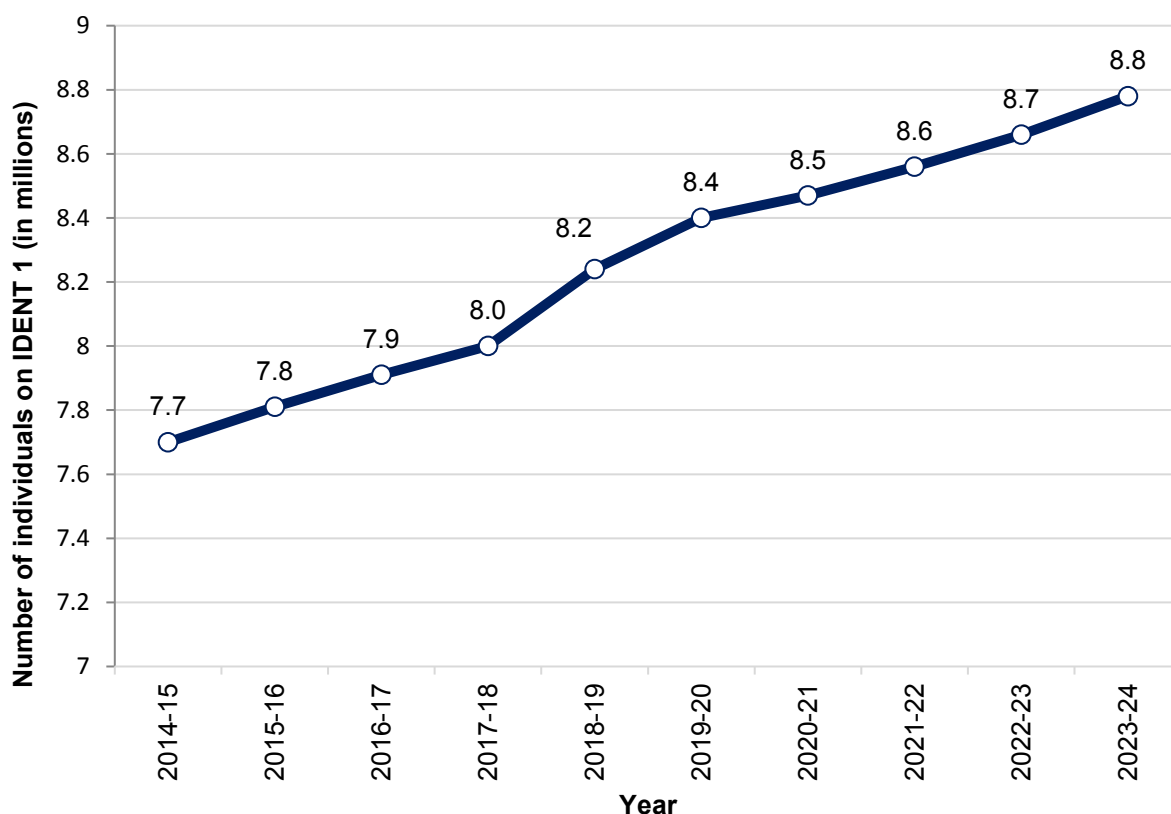
As at 31st March 2024, IDENT1 held **1,930,902** unidentified crime scene marks. Figure 10 shows the yearly number of unique unidentified mark submissions held on IDENT1.

³⁷ Source: FINDS - National Fingerprint and PNC Office in consultation with the IDENT1 supplier

Table 8. Records held on IDENT 1 by Year

Year	Number of Individuals on IDENT1	Number of Fingerprint Identification Forms held on IDENT 1	Number of unidentified crime scene marks held on IDENT1
2014 - 2015	7,695,129	22,571,529	2,303,565
2015 - 2016	7,814,041	23,364,390	2,318,576
2016 - 2017	7,905,419	24,059,907	2,285,669
2017 - 2018	8,012,521	24,822,939	2,259,139
2018 - 2019	8,240,881	25,477,499	2,240,580
2019 - 2020	8,397,761	26,298,205	2,203,279
2020 - 2021	8,468,335	26,651,175	2,060,567
2021 - 2022	8,562,878	27,168,685	2,009,989
2022 - 2023	8,665,793	27,748,542	1,969,492
2023 - 2024	8,775,385	28,374,312	1,930,902

Figure 9: Number of individuals on IDENT 1 (in millions) (2014/15 to 2023/24)³⁸



³⁸ Source: FINDS - National Fingerprint and PNC Office in consultation with the IDENT1 supplier

Figure 10: Number of Fingerprint Forms Held for all Subjects on IDENT1 (in millions) (2014/15 to 2023/24)³⁹

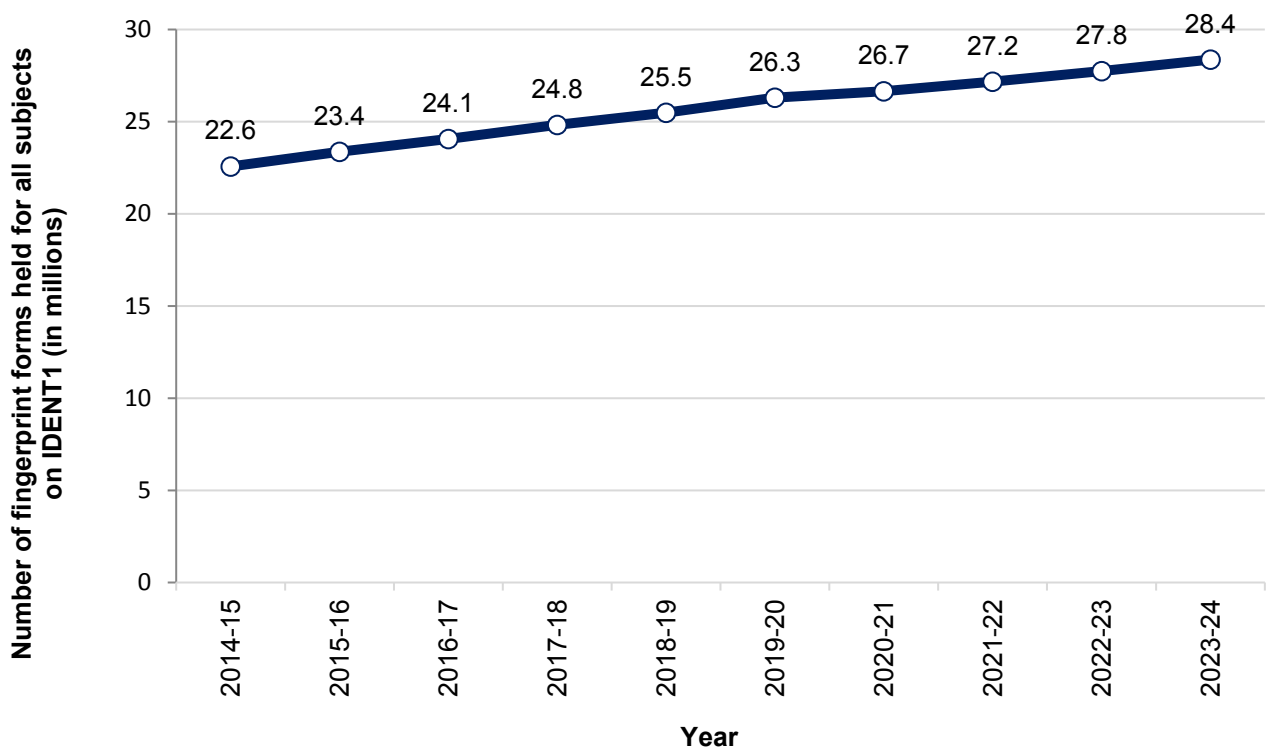
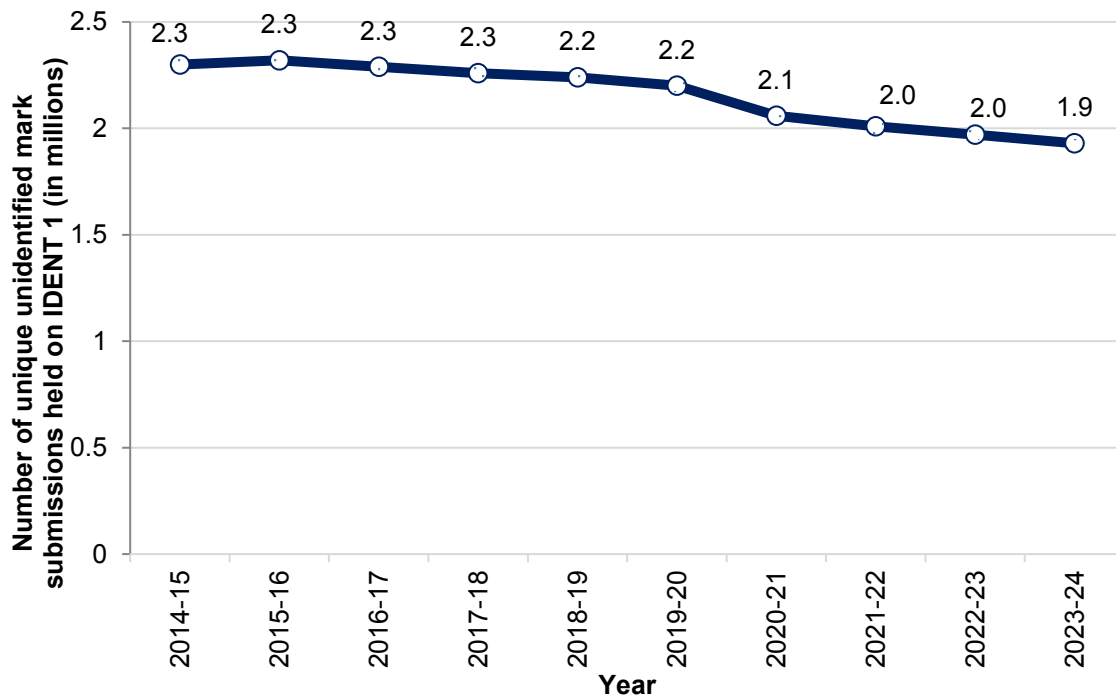


Figure 11: Number of unique unidentified mark submissions held on IDENT 1 (in millions) (2014/15 to 2023/24)³⁹



³⁹ Source: FINDS - National Fingerprint and PNC Office in consultation with the IDENT1 IT supplier

2.3 Missing persons

Fingerprints relating to unidentified bodies, and unidentified or missing persons investigations are searched on the IDENT1 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 **70** sets of fingerprints relating to missing persons searched on the database as at 31st March 2024. There were **7** Fingerprint identifications for Missing Persons Unit cases during 2023/24.

2.4 Vulnerable persons

IDENT1 also 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 (like 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, and homicide⁴⁰. Fingerprints donated by vulnerable persons are stored on IDENT1 and as such provide means to identify a vulnerable person when they come to police notice.

There were **9,249**⁴¹ sets of fingerprints relating to vulnerable people held on the database as at 31st March 2024.

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

⁴¹ Strategic Central & Bureau Platform (SCBP) Service Performance Monitoring Report (April 2024 Service Period).

2.5 Technology and business process developments on the National Fingerprint Database in 2023/24

The HOB Programme has provided the following developments for fingerprints capture, searching and storage over the last year:

- Continued to roll out the replacement strategic mobile biometric capability, called Rapid Search, to police forces across England and Wales⁴². At the end of 2023/24, 33 forces had joined the service with 3 other agencies in the pipeline.
- The re-procurement of the Strategic Matcher contract to cover the delivery of the Strategic Matcher Platform was completed. The platform will host the algorithms that enable fingerprint (and facial) biometric matching replacing the current matching services.
- Continued to support police organisations to move their IDENT1 equipment or assisted configuring IDENT1 hardware to allow police organisations to collaborate when they relocate.
- Various IDENT1 hardware and software components have been updated and refreshed to ensure business continuity.

2.5.1 Future developments

The HOB Programme has also supported the following future developments to improve efficiency and enhance capability:

- Work on the test, delivery and roll out of the IDENT1 Strategic Matcher is underway with Stage 1 go live expected in Q4 2024/25, and the delivery of further stages will follow. The upgraded fingerprint matcher will provide more accurate fingerprint search results to users.
- HOB is working with Police Digital Services to explore the benefits of integration of the Digital Fingerprint Capability with IDENT1. Integration of the two systems would streamline the IDENT1 user workflow and allow a digital 'end to end' user journey offering time saving efficiencies.
- A proof of concept to refresh the IDENT1 bureau desktop concluded, and the concept is progressing to a feasibility study during 2024. This will provide opportunities to virtualise the bureau desktop and a refresh of the central architecture will improve system process and user experience.
- Additional technical refreshes are planned for IDENT1 to ensure continuity of service until a larger replacement of the IDENT1 bureau desktop and central architecture is completed.
- In October 2020, the UK began exchanging fingerprint data through the Prüm treaty, with the list of connected countries stated in section 3.3; during the period of the next annual report, connections are planned to: Latvia and Luxembourg.

An individual's biometric information is sensitive personal information and is handled in accordance with 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 a subgroup of the Biometric and Forensic Ethics Group (BFEG) and it continues to review the assessments already published on www.gov.uk.⁴³

⁴² As mentioned in previous reports.

⁴³ <https://www.gov.uk/government/publications/home-office-biometrics-hob-programme-privacy-impact-assessments>

2.5.2 Custody facial image retention on IDENT1

In the September 2022 FIND Strategy Board meeting, it was agreed that there should be a national data controller for the proposed retention of facial custody images on IDENT1, and that the governance should sit with the FIND Strategy Board.

A wider programme of work is now being undertaken on overall custody image retention and deletion across all databases and systems through the NPCC and City of London Police sponsored 'Programme Tabula' delivering on behalf of policing.

On confirmation of the agreed retention criteria to be applied to facial custody images, and with the necessary approvals being in place, the custody image dataset will be copied⁴⁴ from their current position in the Police National Database (PND) to the new IDENT1 Unified Collection of Custody Images (UCCI) database, with this scheduled to commence during 2024-25.

⁴⁴ The source records will remain within PND; there will be maintenance of the current PND search capability.

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 non-Prüm exchanges of DNA and Fingerprint data are made via the NCA UK International Crime Bureau.

3.2 International requests for DNA & Fingerprint exchange

i. DNA

FINDS processed **555**⁴⁵ requests from other countries for DNA profiles from their jurisdictions to be searched against the NDNAD during 2023/24. Of these **431** were in connection with a criminal investigation and **124** were in connection with a missing person or unidentified body part(s) investigations.

ii. Fingerprints

FINDS has processed **58** requests from other (non-UK) countries for search of fingerprints from their jurisdictions to be searched against IDENT1 between April 2023 and March 2024. All of these requests were in connection with missing persons or identification / unidentified body investigations.

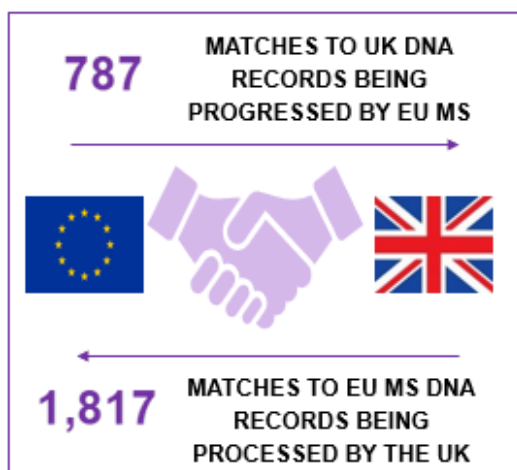
3.3 Exchanges under Title II of Part 3 of the Trade and Cooperation Agreement (Prüm exchange)

Title II of the UK-EU Trade and Cooperation Agreement (TCA) provides for the continued exchange of biometric data with EU Member States (EU MS) to improve cross-border cooperation between LEAs 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 MS on a reciprocal basis through a two-step process. Step 1 is an anonymised search of biometric data against national databases providing a 'hit/no hit' result. Step 2 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.

⁴⁵ The figure has been updated this year to include criminal investigations and now includes all international searches processed by FINDS.

3.3.1 DNA Profile Exchange



The UK began sharing DNA profiles in July 2019 and is now connected to 25 EU Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, and Sweden. The remaining EU countries should be connected by the end of the 2024/25 financial year.

During 2023/24 the UK obtained **24,751** matches to our subjects and **3,846** matches to our crime stains. During this period **787**

incoming requests were reported out as matches to requesting Member States (MS) and **1,817** reports were sent out to UK police forces to request the intelligence from the MS.

The UK's connection to Prüm DNA has produced positive results for both the UK and the EU partners connected to so far. From 1st April 2023 up to 31st March 2024, EU MS received **512** UK held convicted subject profiles, **105** non-convicted subject profiles and associated intelligence packages, with **242** of these for serious crime offences.

The UK has received **795** EU MS subject profiles and associated intelligence packages, with **481** of these for serious crime offences.

Since the UK's involvement in Prüm DNA exchange, there have been **5,709** inbound crimes (sent from EU MS) Step 2 cases and **8,509** hits outbound (sent from UKLE) Step 2 cases that have assisted in criminal investigations.

Planned future connections include Italy and Slovenia later in 2024.

3.3.2 Fingerprint Exchange

Following a positive peer evaluation and unanimous support from EU MS, the UK began exchanging fingerprint data under the Prüm Council Decisions in October 2020 and continues these exchanges under the TCA. Fingerprint searches against EU MS collections are initiated by practitioners in police bureaux via IDENT1.

As of 31st March 2024, the UK was connected to 21 EU countries via Prüm: Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia and Sweden.

UK LEAs have conducted over **33,880** fingerprint searches across the connected EU countries.

From 1st April 2023 up to 31st March 2024 the UK undertook **21,785** fingerprint searches resulting in **337** Step 2 intelligence packages received from the EU and **157** outbound intelligence packages sent from the UK.

Since the UK's involvement in the Prüm fingerprint exchange, the UK has made a total of **826** outbound intelligence requests to EU Member States. The EU states have responded to over 97% of all requests, providing **807** subject profiles that have assisted LEAs in criminal investigations.

EU MS have made **467** inbound intelligence requests to the UK. The UK has responded to over 96% of these requests, providing **416** UK subject profiles that have assisted in EU Member State investigations.

Planned future connections include Luxembourg on 21st May 2024.

4. Finance 2023/24

In 2023/24 the Home Office and policing spent **£4.40m**⁴⁶ delivering FINDS services for the NDNAD, IDENT1, and the National Footwear System⁴⁷ on behalf of the Criminal Justice System (and **£0.22m** for the DNA Proficiency Testing schemes run by FINDS).

⁴⁶ Does not include IT costs.

⁴⁷ Incorporating the National Footwear Database (NFD) and the National Footwear Reference Collection (NFRC)

ISBN 978-1-5286-5152-3

E03188121