

National DNA Database Ethics Group

Notes of the 38th meeting held on 7 June 2017 at

Home Office, 2, Marsham Street, Westminster, London, SW1P 4DF

1.0 Welcome and Introductions

- 1.1. The Chair welcomed all to the 38th meeting of the National DNA Database Ethics Group (EG). Apologies had been received from Adil Akram, David Latchman and Alan Clamp.
- 1.2. The Chair welcomed the observers Kirsty Faulkner (Forensic Information Database Services (FINDS), Home Office (HO)), Professor John Aston (University of Cambridge) and Rod McLean (Crime, Police and Fire Group, HO).
- 1.3. The Chair requested that members declare any conflicts of interest concerning matters to be discussed. None were reported.

2.0 Note of the Previous Meeting and Matters Arising

- 2.1 The note of the previous meeting had been approved via correspondence and published on the EG website.
- 2.2 Matters arising were discussed:

Action 5: Kirsty Faulkner to develop a document on the Transforming Forensics Programme for the June EG meeting. The group were informed that this document was still in development and would be available at the September meeting of the EG.

Action 8: Secretariat to set up a sub-group to be responsible for undertaking ethical reviews of research proposals. It was agreed that this actions was on hold until the completion of the EG recruitment campaign.

3.0 Biometrics and Forensics Ethics Group principles and questions

- 3.1 The EG was provided with a revised draft of a set of high level principles, developed by an EG working group, which could be applied to the consideration of ethical issues in relation to biometrics and forensics. The EG had previously heard that whilst broad principles would be able to set the scene it would be useful to supplement the principles with a set of open questions to guide consideration of the principles. The EG was invited to comment on the revised principles and the open questions.
- 3.2 The group were highly supportive of the revised principles document, and thought the questions would provide considerable clarity to the principles.

- 3.3 A point was raised about principle 6: 'Scientific and technological developments should be harnessed to promote the swift exoneration of the innocent, afford protection and resolution for victims and assist the criminal justice processes'. It was pointed out that 'exoneration' had two meanings i.e. complete removal from the system or exclusion from a conviction. It was agreed that the working group would give further consideration to whether 'exoneration' should be included or replaced.
- 3.4 The Chair suggested that to prove the utility of the principles they should be shared with a research group within the HO and tested. The principles and appended questions would be amended if necessary in light of feedback received prior to ratification by the EG and subsequent publication on the GOV.UK website and distribution to EG's stakeholders.
- 3.5 It was suggested that the secretariat approach the Cabinet Office (CO) to determine whether the principles might be disseminated alongside their Privacy Impact Assessment (PIA) to maximise their utility and impact.

Action 1: The secretariat to identify a group within the HO to test the ethical principles.

Action 2: The secretariat to explore with the CO whether the EG's ethical principles could be utilised alongside the CO's PIAs.

4.0 Ethical considerations relating to the retention of police custody images

- 4.1 Members were provided with a copy of a recently published HO review concerning the retention of the photographs taken by police of suspects in custody suites ('custody images')¹. The review recommended that individuals who wished to have their custody images removed from police force databases should be able to apply for their images to be removed in a timeframe determined by whether they were convicted of the crime or not. For those that were not convicted an application for deletion of a custody image might be made immediately whilst for those convicted the length of retention would be related to the age of the offender and the nature of the offence. The review recommended that the police should instigate regular reviews of retained custody images in line with the guidelines set out in the review.
- 4.2 Members noted that this approach was different to the rules regulating the retention of DNA profiles and fingerprints under which police forces were expected to proactively delete this data as directed under the Protect of Freedoms Act (PoFA) 2012. In its 2015 Annual Report the EG had recommended that custody images should be subject to the same retention rules as DNA profiles and fingerprints.
- 4.3 The group were informed that one of the main driving forces behind not recommending a PoFA-style retention regime had been the need to balance human rights with the operational needs of the police. Unlike DNA profiles and fingerprints, which were stored on a central, searchable database, custody images were stored on individual police force databases. Many of these local databases used legacy IT

¹ <https://www.gov.uk/government/publications/custody-images-review-of-their-use-and-retention>

systems that would not support automated searching and deletion of the images they held. As such, the identification and deletion of custody images would be prohibitively expensive, and the retention regime proposed by the HO reflected this. It was emphasised that custody images were an essential aspect of everyday policing, and that manual weeding of the various police databases would add significantly to police work-load. Therefore, the police would be likely to strongly oppose the manual deletion of custody images.

- 4.4 The EG noted the operational rationale underlying the recommendations of the HO review, and suggested that future IT systems should be designed to facilitate the use of a centralised and automated custody image database. This approach would reduce costs over the long-term, especially if aligned with the current procedures for DNA profiles and fingerprints under PoFA.
- 4.5 Members highlighted that 7 police forces were using the Athena system for storage of custody images. The Athena system could be used to sort and delete custody images according to pre-set criteria and, thus it was already theoretically possible for automatic deletion of some custody images to be undertaken.
- 4.6 Some members did not agree with all the conclusions of the custody images review. For example, the review stated that facial images were less intrusive than DNA profiles. It was suggested that the public might consider an image of their face to be more personal than 'a string of numbers' (e.g. a DNA profile), and that facial recognition technology was becoming increasingly able to predict personal information, such as health conditions. The view was put forward that there was insufficient evidence to conclude that custody images were less intrusive than DNA and fingerprints.
- 4.7 It was suggested that custody images were sufficiently different from DNA and fingerprints to accommodate a retention regime different to PoFA. It was noted that the review recommended a regime that was more lenient than PoFA for people under the age of 18.
- 4.8 It was agreed that when individuals consent to the indefinite retention of their image, they must be fully aware of what they were consenting to and the uses of their images.
- 4.9 Members noted their disappointment at the lack of public consultation that had been undertaken concerning the use and retention of custody images. Members were informed that there would be a further opportunity to review the procedures in 2020.
- 4.10 The EG heard that applications for custody image removal had been low thus far and were concerned that reliance on an application process would disproportionately disadvantage those groups less likely to engage in the Criminal Justice System (CJS).
- 4.11 The benefit of advertising the application process to raise public awareness was discussed, alongside the potential for applications to become too numerous to be manageable for police.

4.12 When discussing the quality of facial images, it was noted that an online article on automated facial recognition (AFR) technology² had been published which suggested that there is a level of public concern around the capture and use of facial images by the police. Members were informed that the College of Policing (CoP) had produced guidance for police concerning the capture and retention of custody images to enable a universally high standard.

4.13 It was agreed that the EG should write to its sponsor and outline its concerns with the new retention regime. The Chair summarised that the following should be included:

- the requirement for a public consultation on the retention of custody images;
- the unfeasibility of the requirement for individuals to apply for their custody images to be deleted and the likelihood that it would disproportionately disadvantage certain groups;
- the requirement for the identification and integration of future technologies which would facilitate an automatic deletion of custody images.

Action 3: The Secretariat to draft a note to be sent to its sponsor which outlines the EG views of the new retention regime for custody images.

4.14 The HO review recommended that the EG collaborated with the Independent Digital Ethics Panel for Policing (IDEPP) to consider the ethical issues of the retention of custody images. The EG was supportive of this recommendation, and agreed to consider further work in this area once contact had been established with the IDEPP.

Action 4: The Secretariat to contact the IDEPP in relation to future work on the ethical dimensions of police custody images.

5.0 Ethical considerations relating to the retention of biometric data until a person is 100 years old

5.1 The EG was invited to consider the ethical issues associated with retaining the biometric data of individuals convicted of a crime until an individual was 100 years old. Currently, the police retained Police National Computer (PNC) records, along with associated biometric data from convicted individuals, indefinitely. The proposal to limit retention mirrored the historic retention period for PNC records, which were previously deleted once a person reached 100 years old. It was anticipated that by deleting biometric data in this manner, it would prevent the unnecessary accumulation of information on the National DNA Database (NDNAD) and the fingerprint database (IDENT1). The HO was also mindful of potential future rulings by the European Court of Human Rights (ECHR) in this area. The EG was asked to consider if retention to 100 years of age was appropriate and proportionate.

5.2 Members emphasised that this issue related specifically to convicted individuals and that any recommendations made needed to avoid imposing an unnecessarily resource-intensive retention/deletion regime.

² <https://arstechnica.com/tech-policy/2017/06/police-automatic-face-recognition/> :

- 5.3 The majority of members favoured a fixed retention period over indefinite retention. Several viewed 100 years of age as a suitable period of retention given this would encompass the entire life span of most individuals on the PNC.
- 5.4 The group discussed the rights of convicted individuals and the potential impact of retention periods on the privacy rights of family members of convicted individuals, and noted that privacy needed to be considered not just in individual terms, but also in communal terms.
- 5.5 In contrast the view was also expressed that indefinite retention of biometric data from convicted individuals was entirely appropriate. Key elements of this argument were that introducing a new regime had the potential to divert resources from areas that were of higher priority, that indefinite retention may help in the investigation of historic offences and that there was a precedent within other European Union countries for indefinite retention of such data. It was suggested that public opinion may be supportive of indefinite retention, and that public consultation may be required to assess this.
- 5.6 Conversely, the utility of biometric data in aiding the investigation of historic offences was queried.
- 5.7 In discussion members questioned the usefulness of discussing this matter further given the relatively minor impact on individuals and the lack of evidence supporting the use of biometric data to help solve historical crimes. In contrast some members of the EG were of the opinion that different retention periods might be worth exploring, especially concerning people convicted of minor recordable offences. The sponsor indicated that different retention periods were not likely to be prohibitively costly.
- 5.8 Supported by the views of the sponsor the EG agreed to consider retention periods further and advise the sponsor accordingly.

Action 5: The EG to consider whether it could provide further guidance on the ethical considerations in relation to the retention of biometric data until a person is a 100 years old and present recommendations to the sponsor.

6.0 Home Office Biometrics Programme Ethics and Privacy Impact working group update

- 6.1 Members were provided with an overview of the work of the HOB Programme Ethics and Privacy Impact working group. Members heard that the HOB programme aimed to converge HO biometric systems into a single shared service environment enabling the delivery of a unified biometric service. The HOB programme would run until 2019 and provide continuity of existing services as well as developing future capabilities. The EG was informed that the working group advised on a number of specific PIAs. The EG was provided with an overview of some of the potential issues that had been identified by the working group, which included:

- the complexity and risk associated with the transfer of data from one system to another;
- the protection of the public when data was transferred;
- whether the combination of datasets would result in individuals gaining greater access to data than was originally intended;
- the sensitivity of both data and meta data; and
- to ensure that checks were not skipped, despite tight deadlines.

6.2 The EG heard that the determination of who would have access to data once the new HOB systems were operational, would be determined by policy rather than the programme teams and the working group had highlighted the need to ensure that this approach did not lead to gaps in the decision making processes.

7.0 ‘DNA profiles and the National DNA database (NDNAD)’ leaflet – sign off

- 7.1 Members were provided with a redrafted information leaflet titled ‘DNA Profiles and the National DNA Database’ which would be given to individuals when they provided DNA samples for inclusion of their DNA profiles on the NDNAD. Part one of the leaflet would be applicable to all individuals who provided a DNA sample and provided background information on DNA and the database. There were subsequent separate sections which contained frequently asked questions for those individuals who had been arrested and for individuals who had voluntarily provided a DNA sample. Members had previously been given an opportunity to comment on the leaflet and were invited to review the final version and approve its contents for publication.
- 7.2 It was queried how the leaflet would be distributed to its intended audience. It was clarified that the leaflet would be published on the GOV.UK website for police forces to print and distribute within custody suites. The Chair recommended that the leaflet was shared with senior members of the police force, in order to promote its distribution, such as Chief Constable Iain Spittal (National Police Chiefs Council (NPCC) lead for ethics) and the CoP.
- 7.3 EG members identified some wording issues within the leaflet, some of which related to making the leaflet intelligible to suspects in a custody suite. Members discussed the depth of knowledge held by the target audience and concluded that whilst some edits to the text might improve readability, the majority of the intended audience would understand the basic principles of DNA and its use in forensics.
- 7.4 Members were informed that the charity group ‘Sense About Science’ had produced an information guide on forensics genetics³ which partially overlapped with the mandate of the DNA leaflet. It was suggested that ‘Sense About Science’ could be approached and asked to help promote the DNA leaflet.
- 7.5 The EG queried whether the leaflet would be published in languages other than English. The Secretariat agreed to liaise with the HO Communications Directorate on this question.

³ <http://senseaboutscience.org/activities/making-sense-of-forensic-genetics/>

- 7.6 Subject to the suggested amendments, the content of the leaflet was approved by the EG and it was agreed that it could be shared with Forensic Information Database Strategy Board (FIND SB)⁴ and a web-ready PDF could be produced for publication on GOV.UK.

Action 6: Nina Hallowell and the Secretariat to make amendments to the DNA leaflet, share it with the FIND SB and produce a web-ready pdf to be published on GOV.UK.

Action 7: The Secretariat to share the finalised DNA leaflet with Chief Constable Iain Spittal and the College of Policing to promote use of the leaflet within police forces.

Action 8: The Secretariat to contact 'Sense About Science' to help promote the DNA leaflet.

Action 9: The Secretariat to liaise with the HO Communications Directorate on the publication of the DNA leaflet in multiple languages.

8.0 Chairs update

- 8.1 The Chair provided members with an update on his meeting with Baroness Williams, HO Minister of State. The working protocol between the Biometrics and Forensics Ethics Group (BFEG) and the HO had been agreed. Discussions had been held in relation to custody images and the Chair had informed Baroness Williams that the EG thought that broad public debate was required on the issues which arise in relation to the retention of custody images. The priorities for the EG for the year had also been discussed with Baroness Williams.
- 8.2 The Secretariat informed the EG that the recruitment of members had been halted due to the election. Following the election, the Secretariat would progress the recruitment campaign. Members agreed to assist with the advertisement of appointments for new members by making use of their networks.

9.0 Metropolitan Police Service Y-STR database briefing note for the FIND Strategy Board

- 9.1 The EG was provided with a briefing note on Y-STRs which had been prepared by the Metropolitan Police Service (MPS) for the FIND SB. The paper sought:
- agreement for the continuation of the MPS Y-STR pilot and the storage of Y-STR profiles on a locally held MPS Y-STR database;
 - for the HOB programme to develop a national Y-STR database; and
 - the development of a UK focused statistical tool for use by all UK forensic science providers to evaluate the weight of Y-STR evidence.

⁴ Previously the National DNA Database Strategy Board

- 9.2 The EG was asked if they would assess the requirements for the inclusion of Y-STRs within the HOB programme, if this were to go ahead. It was noted that it would be a policy decision as to which records would be retained for Y-STRs and once this had been decided the HOB programme would be asked to construct a Y-STR database based on those requirements. The EG agreed to assess the requirements for the inclusion of Y-STRs within the HOB programme, at the appropriate time.
- 9.3 The EG discussed the continuation of the MPS pilot and whilst, members were broadly supportive of the Y-STR pilot and its potential use in the investigation of sexual assault cases they were concerned that without proper evaluation the pilot would in effect become implementation of Y-STR profiling and a locally held Y-STR database by the MPS. The importance of having a centrally managed and governed database, which provided transparency, both for autosomal DNA and Y-STR's, was emphasised.
- 9.4 The EG highlighted that despite an earlier request, so far they had not been provided with the criteria upon which the Y-STR pilot would be evaluated, including: what would constitute a successful/unsuccessful pilot; the timescales of the pilot and the hypothesis for running the pilot. The EG held the view that it was unethical to run a pilot such as this without first establishing the hypothesis for the pilot. The EG also thought that the pilot required independent oversight in line with the governance of the National DNA Database.
- 9.5 The EG was supportive of the extension of the MPS Y-STR pilot for a defined period of time, such as a further 12 months, with the caveat that details on the criteria for the evaluation of the pilot were shared with the EG. The EG would write to the MPS and the FIND SB and put forward their views on the evaluation of the pilot and the criteria which needed to be defined.

Action 10: The Secretariat to write a note from the EG for the FIND SB and MPS on the EG's views in relation to the continuation of the MPS Y-STR pilot.

10.0 Strategic Data Board update

- 10.1 The EG was provided with an update on the HO Strategic Data Board which was chaired by Paul Lincoln, the Director General for Crime, Policing and Fire Group within the HO. The aim of the group was to provide strategic direction on data policy and strategy. The meetings so far had focused on:
- EU data protection and to ensure high standards in the use of data in the future;
 - a HO data strategy which would define how the HO shares data and to make use of data analytics to improve policy making and operational decision making;
 - data ownership and governance; and
 - improving data quality and data retention.
- 10.2 The EG noted that other government departments were undertaking similar work on data and suggested that there might be a requirement for central direction on data retention and use from the CO.

- 10.3 The EG was informed that the HO would investigate in the future whether there was a requirement for ethical consideration of this programme of work.

11.0 Ethics Group 2016 annual report

- 11.1 The EG was provided with a first draft of the EG annual report for 2016. Members were invited to provide comments and suggest recommendations to be included in the report. Going forward, it was suggested that the BFEG should report its advice to its sponsor and other relevant parties on an on-going basis via topic specific reports, which would be in line with the new working protocol for the BFEG.
- 11.2 Members discussed whether the section on 'Vision, Mission and Values of the Ethics Group' should be re-phrased and centred around the EG's newly develop principles. However, as the principles had not been developed in 2016, it was decided that this should not be included in the 2016 report.
- 11.3 Members agreed to submit any changes and suggested recommendations to the secretariat via email.

Action 11: The Secretariat to seek comments and recommendations from EG members via email on the 2016 annual report.

12.0 The role of forensic information databases in safeguarding

- 12.1 An overview of the current and potential future role of forensic information databases in safeguarding was presented to the EG. Current uses included: assurance that the appropriate governance structures existed to support the use of data; reassurance to vulnerable people through the maintenance of the missing person's database and the outputs from the database supported victims and other vulnerable people.
- 12.2 Members were informed that the National DNA Database Strategy Board (NDNAD SB) had focused on the prevention and detection of crime, and as the future strategic direction of the databases were developed, it would be important to include safeguarding in considerations. In order to do this, broader consideration needed to be given to the appropriate and proportionate use of databases for safeguarding and determination of how the police could be supported to promote safeguarding.
- 12.3 The EG welcomed the approach set out and thought that it was well balanced and provided the opportunity to enhance benefits and decrease the risk of unintended negative consequences. It was noted that safeguarding hinged upon the recognition of the value of information and that for maximum impact there was a need to ensure that both appropriate and adequate information was made accessible to individuals when making decisions.
- 12.4 It was suggested that consideration should be given to the potential risks, including misuse or misunderstanding of data as well as opportunities, availed by the proposed approach and that it would be important to ensure that the information

was understandable and communicated at the correct level. In relation to the detection of crime, a distinction should be made between information which was certain and information which was based on 'guesswork'. It was also noted that challenges would include false positives and outliers within the dataset and that it would be important to ensure that outliers and limitations of the data were understood.

13.0 FORENSIC INFORMATION DATABASE SERVICES

- 13.1 The EG was provided with an overview of discussions held at the last FIND SB. Members heard that the group discussed: legislative changes due to the enforcement of the Police and Crime Act (2017); the HOB programme; Prüm; a request from the West Yorkshire police to undertake a rapid DNA pilot; membership and core governance rules; an issue with the lack of consistency around voluntary attendees at police stations; the data assurance strategy and the EG's paper on next generation sequencing.
- 13.2 Further details were provided on West Yorkshire police's pilot of rapid DNA and the EG was informed that LGC, a forensic science provider and West Yorkshire police had attended a separate meeting, to provide details on the pilot. The EG, Biometrics Commissioner and Forensic Science Regulator were represented at the meeting. The pilot would take 8 months to complete and the EG would be provided with an evaluation following its completion.
- 13.3 The EG was informed that the NDNAD SB would be changing its name to FIND SB since it had taken over the oversight of the criminal fingerprint database. A key was to ensure the same rigorous processes were implemented around fingerprints databases as there were around the National DNA database. It would be important to ensure transparency around the fingerprint databases and if issues arose, to ensure that these were dealt with in an open manner.
- 13.4 At the next FIND SB meeting, there would be a focus on the finalisation of the governance rules. There would also be a discussion on Prüm, Counter Terrorism databases and safeguarding.
- 13.5 Further details were requested on the issue around voluntary attendance at police stations. Members heard that not all DNA profiles from individuals who voluntarily attended a police station ended up being put on the NDNAD. The FIND SB had agreed to set up an expert network to determine the problem and how to respond. The EG highlighted that it was unsure whether its leaflet on DNA profiles and the NDNAD was congruent with individuals being added to the database following voluntary attendance at police stations.

14.0 Biometrics Commissioner update

- 14.1 No update was provided from the Biometrics Commissioner.

15.0 AOB

- 15.1 This was the last meeting for EG members David Latchman and Carol Moore. The Chair thanked them for their extensive and highly valued contributions over the past years

Annex A:**Attendees**

Chris Hughes	Chair
Nina Hallowell	Member
Kit Harling	Member
Carole Moore	Member
Isabel Nisbet	Member
Barbara Prainsack	Member
Jennifer Temkin	Member

Apologies

Adil Akram	Member
Alan Clamp	Member
David Latchman	Member

In attendance

John Aston	University of Cambridge
Emma Burton-Graham	EG Secretary, HO
Kirsty Faulkner	Forensic Information Database, HO
Rod McLean	Crime, Police and Fire Group, HO
Thomas Vincent	Science Secretariat, HO
Jo Wallace	Head of the Science Secretariat, HO

Annex B:**GLOSSARY OF TERMS**

Biometric Information	Information about an individual's physical characteristics such as fingerprints or eye colour, which are distinctive and measurable.
Biometrics Commissioner	Independently appointed post to provide oversight of the regime established by the Protection of Freedoms Act to govern the retention and use by the police in England and Wales of DNA samples, DNA profiles and fingerprints. The post has a UK-wide oversight function as regards their retention and use by the police on national security grounds.
Central Elimination DNA Database (CED)	A centrally held database of DNA profiles taken from individuals who are involved in a role where there is an increased risk that they may inadvertently contaminate a sample taken from a crime scene with their own DNA, such as manufacturing or laboratory staff, crime scene officers and police personnel.
Clear Years	The length of time since a person last came to the attention of the police as an offender or suspected offender for behaviour that can be considered a relevant risk factor.
College of Policing	The professional body for policing which operates in the public interest to find the best ways to deliver policing and support for the police service.
Counter Terrorism (CT) DNA Database	A DNA database operated by the Metropolitan Police Service which contains the DNA profiles obtained through searches, crime scenes and arrests in relation to counter terrorism.
Crime Scene Stain	Biological material recovered from the scene of a crime from which DNA may be able to be extracted.
Criminal Justice Sample	A sample of DNA obtained compulsorily from people arrested by the police for a recordable offence under the provisions of the Police and Criminal Evidence Act 1984.
Crown Prosecution Service (CPS)	Established in 1986, it prosecutes criminal cases investigated by the police in England and Wales. It advises police, reviews cases submitted by the police and prepares and presents papers for cases in court.
Custody Images Review (CIR)	Review by the Home Office to consider proportionality of the use and retention of images on a national database.
Dactyloscopy	The method of ridge analysis in human skin (typically fingers and palms). <i>[See also Fingerprints]</i>

Data Linkage	A process which brings together two or more sets of data from different databases, organisations or countries to enhance the information that can be obtained from the data (e.g. by combining different datasets, new patterns may become apparent).
Deoxyribonucleic Acid (DNA)	The chemical in the cells of an organism that carries that organism's heritable material used in the development, functioning and reproduction of all known living organisms. DNA is a nucleic acid and consists of two strands coiled around each other to form a DNA double helix. Each DNA strand is composed of smaller units called nucleotides and the sequence of these nucleotides encodes biological information.
DNA Profile	A numerical representation of the characteristics of certain sections of (typically non-coding) DNA obtained following the analysis of a DNA sample which can be uploaded to a database and compared with other DNA profiles.
DNA 17 Profile	A profile produced using the latest system of DNA profiling technology which examines 16 sections of DNA, plus a gender marker to produce a numerical DNA profile that can be loaded onto the National DNA Database. The methodology used creates greater discrimination between profiles than the previous SGM + methodology and reduces the probability of chance matches between individuals.
Elimination DNA sample	A DNA sample taken from an individual and used to create a DNA profile in order for that individual to be eliminated as the source of a sample found at a crime scene. <i>[see also Central Elimination DNA Database]</i>
Epigenetics	This is the study of (partly heritable) changes in gene expression due to external or environmental factors that affect how genes are read, rather than changes in the underlying DNA sequence.
Facial Recognition System	A computer application capable of identifying or verifying a person from a digital image or a video source by comparing selected facial features from the image with those on a facial database.
Familial Searching	Involves searching the database for DNA profiles that do not match fully to a comparison profile, but where an unusually high number of loci match. This could indicate a biological relationship such as parent, child, sibling, cousin, uncle etc.
Forensic Information Databases strategy board (FIND SB)	Formerly the National DNA Database Strategy Board (NDNAD SB). A board that provides governance and oversight for the operation of the NDNAD and criminal fingerprint databases. <i>[See also National DNA Database Strategy Board]</i> .
Fingerprints	The impression left by the epidermal ridges in a human finger. The print consists of a mixture of sweat and skin

	cells. <i>[See also Dactyloscopy]</i>
Forensic Science Regulator (FSR)	Ensures that the provision of forensic services across the criminal justice system is subject to an appropriate regime of scientific quality standards. The FSR works with the Home Office.
International Standards Organisation (ISO)	Is an independent, non-governmental international organisation. It brings together experts to share knowledge and develop international standards that are voluntary, consensus-based and market relevant.
Low copy number (LCN)	A modified version of DNA profiling that is performed when the amount of DNA recovered from a biological sample is very limited. The number of PCR cycles is increased compared to standard SGM plus, which enhances the sensitivity of the technique and improves the likelihood of detecting DNA.
Metagenomics	Is the study of the diversity of species in a microbial sample which has been recovered from the environment. It allows the study of all genes in all organisms which are present in a given complex sample.
Mixed DNA Profile	A profile where DNA from more than one individual is present. A mixed DNA profile is evident when more than two copies of DNA are observed at a region. <i>[See also DNA profile]</i>
National Crime Agency	Leads the UK law enforcement's fight to cut serious and organised crime. It has national and international reach and the mandate to work in partnership with other law enforcement organisations to tackle serious and organised criminals.
National DNA Database (NDNAD)	Established in 1995, it is an electronic, centralised database holding the DNA profiles taken from both individuals and crime scenes. The database can be searched to provide police with a match linking an individual to a crime scene and <i>vice versa</i> .
National DNA Database Delivery Unit (NDU)	A department within the Home Office responsible for overseeing the running of the National DNA Database.
National DNA Database Strategy Board (NDNAD SB)	A board comprising representatives from NPCC the Home Office, the DNA Ethics Group and the Forensic Science Regulator as well as representatives from other bodies that provides governance and oversight for the operation of the NDNAD.
National Police Chiefs Council (NPCC)	The NPCC bring together the 43 operationally independent and locally accountable chief constables and their chief officer teams to coordinate national operational policing. They work closely with the College of Policing.

Next Generation Sequencing (NGS) or Massive Parallel Sequencing (MPS)	Terms used to describe a number of high throughput approaches to DNA sequencing that allow the sequencing of DNA much more rapidly and cheaper than previously.
Notifiable Offence	An offence where the police must notify the Home Office by completing a crime report form for statistical purposes.
ParaDNA® Instrument	An instrument that can be used at a crime scene and is able to produce a DNA profile from a sample within 75 minutes. ParaDNA® profiles include 5 STRs and a gender test and therefore the discrimination power provided from these profiles are much less than obtained from full SGM+ and DNA17 profiles. <i>[See also Rapid DNA Technology]</i>
Partial DNA Profile	This is the term used to describe a profile when results have been obtained at some but not all of the sections of DNA which were analysed. Partial profiles are often obtained from samples recovered from crime scenes as the DNA may have been subject to conditions which have degraded it, which means that not all regions of DNA of interest are intact.
Phenotype	The physical manifestation of an individual's genotype combined with the effects of exposure to environmental factors (e.g. the hair colour, facial features, or personality traits of a person)
Phenotypic profiling	The use of DNA analysis in order to obtain information about externally visible traits, and/or the likely ethnic background, of a person. The information cannot be obtained from traditional STR profiles but requires a special type of analysis.
Privacy Impact Assessment (PIA)	A tool for identifying and reducing the risk a project poses to an individual's right to privacy.
Protection of Freedoms Act (PoFA)	An Act of Parliament of the UK which was introduced by the Home Secretary in 2011 and sponsored by the Home Office. In May 2012 the Bill completed its passage through Parliament and received Royal Assent.
Prüm Agreement/ Convention	A convention sign in May 2005 by Austria, Belgium, France, Germany, Luxemburg, the Netherlands and Spain and is open to all members of Europe and enables the signatories to be able to exchange data regarding DNA, fingerprints and vehicle registrations of persons suspected to be co-operating in terrorism, cross-border crime and illegal migration.
Random Match Probability	The probability that a DNA profile matches a randomly drawn person from the general population. If the random match probability is high, then any suspected link between the DNA and a person needs to be treated with caution.

Rapid DNA Technology	Technology which has the ability to produce a DNA profile much faster than can be done using conventional technology and is also portable.
Recordable Offence	An offence where the police must keep records of the conviction and the offender on the Police National Computer (PNC).
S and Marper	This refers to a case where S joined with Marper to bring a case to the European Court of Human Rights after their applications to the English courts had failed. They objected to the retention by the police of their DNA samples, profiles and fingerprints as they had not been convicted of any offence. The police were entitled to retain them under the law then in force. S and Marper relied principally on Section 8 of the European Convention of Human Rights which protects the right to privacy. The Court found in their favour. It held that the margin of appreciation had been exceeded and their right to privacy had been infringed. This decision led eventually to the passing of the Protection of Freedoms Act 2012 which changed the law on the retention of samples, profiles and fingerprints. This in turn led to the removal of millions of profiles from the National DNA Database.
Second generation multiplex (SGM, SGM+)	A system of DNA profiling which was used in the UK until July 2014 which examines 10 sections of DNA plus a gender marker to produce a numerical DNA profile that can be loaded onto the National DNA Database. At each of the 10 areas an individual has two copies of DNA, one inherited from each of their parents.
Short Tandem Repeat (STR)	Sections of DNA dispersed within coding and non-coding regions of the human genome that contain hundreds of repeats of a short sequence of DNA (2-6 nucleotides). Different people have different numbers of repeats and when a number of regions are analysed, the chance of two people having the same number of repeats at all loci is small. This is the underlying principle of DNA profiling.
Single Nucleotide Polymorphism (also referred to as SNPs – pronounced “snips”)	This is a variation at the level of single nucleotide bases that occurs at a specific position in a sequence of DNA.
United Kingdom Accreditation Service (UKAS)	Is the national accreditation body for the UK and is recognised by government to assess against internationally agreed standards, organisations that provide certification, testing, inspection and calibration services.
Y-STR profile	See <i>STR profile</i> but restricted to regions found only on the Y-chromosome (which is only present in males).