Annual report of The Ethics Group: National DNA Database

2014

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FOREWORD

It is a pleasure to be introducing the seventh annual report of the National DNA Database Ethics Group (NDNADEG), covering what has been another very interesting period.

The NDNADEG has been a source of independent ethical advice since its inaugural meeting in September 2007. Recommendations made by the group have focused on the collection of DNA samples, their retention and use. Technology over the past decade has evolved significantly, often in advance of ethical consideration.

During the years of the groups founding members came to the end of their tenures. I am extremely grateful to of Dr Derrick Campbell, Wendy Coates, Madeleine Colvin, Dr Jane Pearson, Dr Clive Richards, Sarah Thewlis and Dr Suzy Walton for their formative contributions in helping to assess and balance the interests of public protection through the forensic use of DNA with concerns regarding invasion of privacy and possible discrimination. I wish them all the very best in their future endeavours.

We have now completed a successful open recruitment campaign and I am delighted to welcome Dr Adil Akram, Dr Daniele Bryden, Dr Alan Clamp, Dr Kit Harling, Carol Moore, Isabel Nisbet, Professor Barbara Prainsack and Professor Jennifer Temkin as new members of the group. The biographies of all members can be found in Appendix A.

To ensure that we did not lose the insight and experience of departing members, in April 2014 we hosted a valuable workshop in which the departing members “passed the baton” to the new members by sharing lessons learned. At the workshop we also held discussions with key stakeholders such as Chief Constables Chris Sims and David Shaw, the Chair of the NDNAD Strategy Board and the National Policing Lead on fingerprinting, the Home Office Chief Scientific Adviser, the Biometrics Commissioner and the Forensic Science Regulator.

Our work in the past year has covered the following areas:

- The implementation of the Protection of Freedoms Act
- Minimising DNA contamination through elimination databases
- The governance of all police databases holding DNA information
- Ethical consideration of the use of new DNA techniques and technology
- Analysing systemic errors in the forensic use of DNA
- Ethical oversight of the international exchange of DNA information

I look forward to the outcome and recommendations of the Triennial Review of the EG and working with colleagues to implement those recommendations.

Christopher Hughes OBE
Chair, Ethics Group: National DNA Database

CHAPTER 1

SUMMARY

This is the seventh annual report of the Ethics Group (EG). Since the last report was published in October 2013, the EG has met on four occasions, December, April, June and September.

We asked in the 2012 annual report for management information to be collated that would demonstrate the effectiveness of the retention regime under the Protection of Freedoms Act. We are pleased that steps are being taken to obtain and publish such information.

We recognised in last year's annual report that contaminant profiles on the NDNAD could significantly threaten trust in the effectiveness of the database, and recommended that efforts be made to remove such profiles from the NDNAD. We endorse the work being done by the Forensic Science Regulator in developing a protocol for elimination databases. We have undertaken an analysis of systemic errors in the forensic process and have made further recommendations in this annual report.

In recognising the importance of the use of DNA technology in the detection and prevention of crime, the group examined the ethical implications of using DNA technology in England and Wales and proposals to establish infrastructure and procedures that will enable European states to share DNA information, albeit under strict conditions.

In this regard, the EG makes in this annual report a new set of recommendations:

1. The benefits of an independent audit and scrutiny of the Counter-Terrorism DNA Database (CTDNAD) should be explored by the Home Office and the Metropolitan Police.
2. In order to promote a better understanding of the sources of error around the forensic use of DNA and to support systematic work around error reduction, a systematic review of error rates in the collection and forensic use of DNA in the criminal justice system should be carried out.
3. Following the introduction of Y-STR allele profiling, the use of these profiles should be monitored and an ethical impact analysis should be carried out.
4. Informed public consultation and debate about ethical issues arising from the profiling and storage of Y-STR alleles should be prioritised and facilitated.

CHAPTER 2

VISION AND VALUES OF THE ETHICS GROUP

1.0 BACKGROUND

The Ethics Group of the National DNA Database is an advisory non-departmental public body of the Home Office. The Ethics Group was established to provide Ministers with independent ethical advice on the operation and practice of the NDNAD. It came into being in 2007 and comprises members from different disciplines and professions led by an independent chair. It publishes its minutes, an annual report and various discussion papers to Home Office Ministers.

2.0 VISION

To ensure that all decisions relating to the forensic use of DNA (obtaining, storage, retrieval) are considered in the light of ethical and Human Rights principles, and that individuals may only have their DNA taken for lawful forensic purposes and at all times be treated fairly and with dignity and respect.

3.0 MISSION

We aim to ensure that the culture of the operational framework supporting the NDNAD in England and Wales places ethical issues at the forefront of all activities at all times.

4.0 VALUES

The following are the values and principles that the EG bring to our role in terms of establishing and resolving ethical issues:

- That the NDNAD must have a proper lawful basis that is compatible with the Human Rights Act 1998 and which provides for independent and accountable governance of its operations.
- That there are clear, detailed, open and transparent rules governing the every day operations of the NDNAD so as to ensure that processes are just and lawful and provide sufficient guarantees against the risk of abuse.
- That the use of forensic DNA sampling should be appropriate and proportionate and should not discriminate against members of any section of society.
- That the operations of the NDNAD are at all times fully based in credible science which shows a strong and cogent rationale for justifying such activities.
- That all decisions taken in relation to the operation of the NDNAD within the criminal justice system are proportionate and fair when balancing the rights of individuals against the needs of society to detect and prevent crime.
- That all persons who are lawfully required to give a DNA sample are treated fairly with dignity and respect and that there is an established independent appeals process to guarantee their right to an effective remedy.
- That the public is fully informed about all aspects of the NDNAD in ways that are understandable including providing information to those individuals who are required to provide a DNA sample.
- That research using the NDNAD is only permitted after full consideration that it is fully compatible with these principles and has been submitted to independent scientific and ethical scrutiny.
- That the rights of children, young people and other vulnerable people should be protected in light of their vulnerability and in accordance with international conventions.

CHAPTER 3

MEMBERSHIP, ADMINISTRATION AND ACTIVITIES OF THE ETHICS GROUP

The current EG membership is as follows:

Chairman: Christopher Hughes OBE

Members: Dr Adil Akram
Dr Daniele Bryden
Dr Alan Clamp
Dr Nina Hallowell
Dr Christopher Harling CBE
Professor David Latchman CBE
Carol Moore CB
Isabel Nisbet
Professor Barbara Prainsack
Professor Jennifer Temkin

The EG changed the reporting period for this report from the financial year, as in previous reports, to the calendar year. Since the last annual report published in October 2013 the EG Chair attended a meeting with the Government Chief Scientific Adviser and Chairs of Scientific Advisory Committees. A member of the EG attended a workshop hosted by the Forensic Science Regulator on developing anti-contamination policies. Members of the EG also attended meetings with the Metropolitan Police, NDNAD Delivery Unit, and attended the Criminal Cases Review Commission Conference. EG members also visited police forces to gain a practical understanding of the use of DNA in operational environments.

Other members of Ethics Group kept 'watching briefs' on their various topics of responsibility and took part in relevant visits and briefings which are too numerous to mention here.

The EG also received contributions in the form of presentations from: Chief Constables Chris Sims and David Shaw; Bernard Silverman, the Home Office Chief Scientific Adviser; Alastair MacGregor, the Biometrics Commissioner; Andrew Rennison, the then Forensic Science Regulator; Gary Pugh, Director of Forensic Service Metropolitan Police; Mick Carling, Forensic Policy Manager, Police Science and Technology Unit in the Home Office; and Kirsty Faulkner, Manager National DNA Database Delivery Unit.

During the year, there were five general meetings of the EG and a workshop. The minutes of these meetings are published and can be found on the gov.uk website via the web link below:

https://www.gov.uk/government/organisations/national-dna-database-ethics-group

During the period of this report, the Chairman and members of the group also met with, attended and/or made contributions and representations to:

- Lord Taylor of Holbeach, then Minister for Criminal Information
- The National DNA Database Strategy Board
- The Forensic Science Regulator
- The National Policing Lead on fingerprints
- The Triennial Review of the EG
- The Metropolitan Police

The EG is funded by the Home Office with a budget allocation of approximately £25,000 in the accounting year 2013/14. Costs were associated with the provisions of facilities for meetings and expenses of members properly incurred. The EG generated no income of its own. Members are not paid for undertaking activities on behalf of the EG.

Administrative support to the EG has been provided by a Secretariat made up of staff from the Home Office.

CHAPTER 4

WORKSTREAMS COMPLETED AND DEVELOPED DURING THE YEAR 2013 – 2014

The EG continued to work closely with the National DNA Database Strategy Board. The Strategy Board is responsible for implementing the recommendations of the EG. The EG Chairman sits on the Strategy Board as an ex-officio member and EG members with lead responsibilities for certain issues have been involved in Strategy Board work programmes where appropriate.

The following EG members represented the Group on these work programmes:

- Clive Richards and Madeleine Colvin – Advice on the **implementation of the Protection of Freedoms Act 2012**
- Sarah Thewlis, Madeleine Colvin and Clive Richards – Ethical advice on **elimination databases**
- Madeleine Colvin and Chris Hughes – Advise and review the implementation of the **deletion of profiles from the NDNAD**
- Sarah Thewlis, Madeleine Colvin and Clive Richards – Ensuring all **police and supplier DNA databases are subject to robust governance standards**
- Wendy Coates, Chris Hughes, Sarah Thewlis and Suzy Walton – **Ethical advice to the Biometrics Commissioner** and others as required
- Madeleine Colvin and Chris Hughes/Adil Akram and Barbara Prainsack – **International exchange of DNA**
- Wendy Coates, Chris Hughes, Nina Hallowell, David Latchman and Isabel Nisbet - Monitor developments on **crime scene DNA testing** and other new technology
- Suzy Walton – Monitor the **treatment of children and young people in relation to DNA sampling and retention** with a view to ensuring that they are safeguarded and that their distinct rights are recognised
- Wendy Coates and Derrick Campbell – Monitor and assess potential **disproportionate or discriminatory effects that the use and operation of the NDNAD may have on ethnic minority groups** and vulnerable people
- Derrick Campbell and Nina Hallowell – Support the NDNAD Strategy Board in developing more **transparent, ethical and user-friendly information about the forensic use of DNA and the database**

The work progressed to date is described below and further detailed in the meeting minutes. Key elements of the EG's work this year covered: new DNA profiling technology, the issue of errors in DNA processing, the control of contamination through the use of elimination databases, and ensuring police databases are subject to high standards of governance.

ADVICE ON IMPLEMENTATION OF THE PROTECTION OF FREEDOMS ACT 2012

The Protection of Freedoms Act introduced a new regime for the retention of DNA information and created the role of the Biometrics Commissioner.

Applications to the Biometrics Commissioner

The Commissioner provides independent oversight on the retention and use of DNA samples by the police. He has published his first annual report, which provided details of his activities since his appointment. The report is available here:

https://www.gov.uk/government/news/biometrics-commissioners-first-annual-report-published

The EG was asked to consider and contributed to draft guidance for police forces on retention applications to the Biometrics Commissioner. These applications allow Chief Police Officers to retain biometric information (a DNA profile) obtained from a person arrested, but not charged, for more than three years.

The EG provided advice on a) making the criteria for retention more specific, (e.g. requiring that there is significant or corroborative evidence that the individual remains suspected) and b) ensuring that the individual concerned is provided with clear and full information about why their profile has been retained.

Early Deletion Process

The EG also gave advice on applications under the Early Deletion Process, which allows for the deletion of the DNA profiles of suspects whose arrest is found to be unlawful or based on mistaken identity, or when the DNA material is unlawfully taken. The EG stressed that there is a duty on Chief Police Officers and the Strategy Board as data controllers to remove/delete data when it no longer falls within data protection principles. These principles include:

- Personal data should be processed fairly and lawfully,
- It should be processed for specified purposes,
- The amount of personal data held should be adequate, relevant and not excessive,
- It should be accurate and up to date,
- It should not be kept for longer than is necessary,
- It should be processed in accordance with the rights of the subjects under the Data Protections Act

The duty on the Chief Police Officer is enhanced with regard to sensitive data. So, for instance, in many circumstances such as, no crime committed, malicious/false allegation, retention proven unlawful, etc, there may be an obligation on the Chief Officer to remove the DNA profile without an application.

Strategy Board governance

The Protection of Freedoms Act provided statutory recognition for the Strategy Board. The EG has advised Ministers to reconsider the interaction between the executive and the non-executive roles in decision-making around the operation of the NDNAD and how and where decisions are made and reported.

Clarity and transparency about formal decision-making powers would be a significant contribution to the governance of the database. The Strategy Board has moved in this direction with the adoption and publication of its latest governance rules. A copy of the governance rules is available here:

https://www.gov.uk/government/publications/national-dna-database-strategy-board-governance-rules

ETHICAL ADVICE ON ELIMINATION DATABASES

DNA contamination occurs when DNA is introduced into crime scene samples from a person(s) who is not linked to the crime. As detection sensitivity increases so does the problem of contamination. Anti contamination strategy aims to minimise occurrence and maximise the detection of contaminant profiles.

The creation of elimination databases is seen as one of the best ways to identify and prevent contamination. The Police Elimination Database (PED) was established in 2000 and currently holds over 100,000 profiles. Since 2003 it is mandatory to include all new recruits to the police force in the PED. However, the use of this database is seen as flawed because it is not used for routine checking, but rather for checking specific individual profiles when contamination is suspected. As a result there is a danger that many instances of contamination are being missed.

The EG recommended in the last annual report that efforts should be made to purge the NDNAD of contaminant profiles. In 2013 the Forensic Science Regulator drew up a protocol "The Management and Use of Staff Elimination DNA Databases" to be implemented from October 2014, with the express purpose of preserving "the integrity of forensic DNA databases by identifying and preventing the addition of DNA profiles derived as a result of contamination from individuals involved in the DNA process chain, thereby respecting the privacy of individuals and complying with the Principle 4 of the Data Protection Act 1998 which dealt with holding relevant and accurate data."

The effectiveness of such measures remains uncertain. Furthermore, laboratory contamination continues to occur. The creation of an effective manufacturers' elimination database and fundamental issues around using the police elimination database for routine screening and ensuring that the profiles of all the relevant staff are held, has yet to be achieved.

The EG provided advice on the development of the Forensic Science Regulator's protocol for managing contamination and responded to the Regulator's consultation. The EG's views were taken into account and the protocol has the EG's full support.

PROVIDING ETHICAL ADVICE TO THE BIOMETRICS COMMISSIONER AND OTHERS AS REQUIRED

The Commissioner for the Retention and Use of Biometric Material ('the Biometrics Commissioner') is independent of government. The post was established by the Protection of Freedoms Act 2012. The Biometrics Commissioner is required to:

- keep under review the retention and use by the police of DNA samples, DNA profiles and fingerprints
- decide applications by the police to retain DNA profiles and fingerprints (under section 63G of the Police and Criminal Evidence Act 1984)
- review national security determinations which are made or renewed by the police in connection with the retention of DNA profiles and fingerprints
- provide reports to the Home Secretary about the carrying out of his functions

The Biometrics Commissioner's general review function is to ensure that profiles retained are in accordance with statutory purposes, and this overlaps with the Ethics Group's advisory role on ethical issues around the operations of the NDNAD. Both the Commissioner and the EG are keen to work collaboratively where possible.

The EG responded to the Biometrics Commissioner's consultation on applications under Section 63G of the Police and Criminal Evidence Act 1984. The section deals with requests by Chief Constables for the retention of biometric material for individuals who were arrested but not charged. The group's response reiterated the need to disclose to arrestees the reasons for retention. Additionally, it recommended that the arrestee should be given a leaflet providing information about the Biometric Commissioner's role and procedures at the same time as being told that representations can be made to the Commissioner. The EG's advice was accepted by the Commissioner.

The EG also shared with the Biometrics Commissioner historical papers and advice relating to the role of the Biometrics Commissioner to help him in developing his role without duplicating previous work.

Both parties have agreed practical ways to strengthen working relations in a manner that is mutually supportive and takes account of the common interests of both.

Advice on the use of DNA profiles and the NDNAD

The EG also provided advice to police forces on the use of a DNA profile to identify a missing person, guidance on the use of DNA profiles of vulnerable people for elimination purposes and the loading of the profile of a vulnerable foreign national that was missing onto the NDNAD. The EG advice covered issues such as: balancing the missing person's right to privacy and the family's need to know the person had been found, the competence of children to give consent for their samples to be taken, the need for transparency and keeping records, and the appropriateness of the use of the database in these particular cases.

The EG also responded to a consultation on "the linking and use of biological and health data" run by the Nuffield Council on Bioethics. The Nuffield Council is an independent body that examines and reports on ethical issues in biology and medicine. It therefore shares areas of mutual interest with the EG.

The EG's response covered the personal nature and sensitivity around biomedical data. This emphasised the need for public engagement and the protection of individual rights. The use of such data must be in the public interest.

ENSURING ALL POLICE AND SUPPLIER DNA DATABASES ARE SUBJECT TO ROBUST GOVERNANCE STANDARDS

Counter Terrorism DNA Database (CTDNAD)

The 2008 Counter-Terrorism Act made provisions for the retention of profiles on the CTDNAD for the purpose of fighting terrorism. The Act increased public awareness about the CTDNAD and the debate in the House of Lords about the Act provided parliamentary scrutiny for the Act's provisions. The debate is available via the link below.

http://services.parliament.uk/bills/2007-08/counterterrorism/stages.html

The EG raised concerns and made recommendations in previous annual reports about the lack of a statutory footing for the CTDNAD. There had been acknowledgment at the highest levels of the governance concerns raised by the EG and the EG was given a presentation on the workings of the CTDNAD.

The EG accepted that the security and sensitivity of the data held presents clear challenges for the governance of the CTDNAD. Some work had been done to put in place a system to generate national security considerations for the attention of the Biometrics Commissioner. It is necessary to formalise the governance of the CTDNAD, ensuring accreditation, validation, and business continuity assurance of the data. This is important in reassuring the Strategy Board that the scientific operation of the database is sound. What is also needed is the reassurance that the database is secure and being used for purposes sanctioned by Parliament.

The EG has been informed that a record is kept of what is held on the database. However, the issue of proportionality still needs to be dealt with. Oversight for the CTDNAD is provided by the Strategy Board and the Met Commissioner. However, the EG believes that there may still be a gap in governance, because the Strategy Board's oversight is primarily around the technical, scientific and operational side.

RECOMMENDATION 1: THE BENEFITS OF AN INDEPENDENT AUDIT AND SCRUTINY OF THE CTDNAD SHOULD BE EXPLORED BY THE HOME OFFICE AND THE METROPOLITAN POLICE.

DNA Errors

The right to autonomy and privacy is not absolute in any democratic society. There are societal goods (rights of others) that may outweigh an individual's right to respect for his or her autonomy. The involuntary collection, retention and use of DNA data clearly breach the right to respect for autonomy and private life but can be justified on the basis that it substantially facilitates the detection of those who commit criminal acts. DNA data may also exonerate those who may fall under suspicion but are innocent. Finally, the forensic use of DNA may act as a deterrent to criminal action because of the powerful nature of such evidence.

The EG believes that there is a need for a full understanding of the amount and scale of errors which may occur in the forensic use of DNA. The collection, analysis, storage and use of DNA samples and profiles from either identified individuals or from crime scenes involve a number of different processes which come together to form a complex system. There are many points in this system where mistakes may be made.

The balance between the rights of the individual and the infringement of those rights necessary for the effective operation of the criminal justice system depends on the accuracy of the forensic use of DNA. If there are many errors in the system, then the current balance between the competing rights will be undermined. Knowing that there are always errors in complex systems, but not knowing the extent of them, where they occur and their magnitude, is problematic. It does not appear that a systematic analysis of error rates in the collection and forensic use of DNA has been undertaken. Given the pivotal role of error rates in maintaining the ethical balance underlying the operation of the NDNAD it is imperative that we collect such data.

RECOMMENDATION 2: IN ORDER TO PROMOTE A BETTER UNDERSTANDING OF THE SOURCES OF ERROR AROUND THE FORENSIC USE OF DNA AND TO SUPPORT SYSTEMATIC WORK AROUND ERROR REDUCTION, A SYSTEMATIC REVIEW OF ERROR RATES IN THE COLLECTION AND FORENSIC USE OF DNA IN THE CRIMINAL JUSTICE SYSTEM SHOULD BE CARRIED OUT

International exchange of DNA

The EG gave advice to the Metropolitan Police on the early development of proposals for the search of DNA profiles in European Union countries. Proposals were being developed because of the number of foreign national offenders in London. A project has since been set up by the Metropolitan Police to take this work forward. EG members have met with the Metropolitan Police and will play an active role in ensuring ethical considerations are factored into the development of the proposals.

The EG's position on the exchange of DNA information across international jurisdictions was outlined in the last annual report. It must be based on the following principles:

- There has to be a policing purpose
- The receiving nation must have a database subject to proper legal controls
- The use must be proportionate
- It should meet certain scientific standards
- Ethical considerations should be factored in

Technological progress means that opportunities for international co-operation between forces to identify serious criminals using the NDNAD are greatly enhanced. The mobility of populations means that a large number of individuals involved in the perpetration of crime in the UK may have committed offences elsewhere and similar considerations apply to UK residents abroad. The ethical issue is very clear: a victim of rape is equally entitled to our concern whether the crime occurred in Manchester, Munich or Montreal. The Home Secretary made a statement in the House of Commons in July 2014 that the government will produce a business and implementation case and run a small-scale pilot, with all necessary safeguards in place, for sharing DNA records across Europe. A Command Paper will be published and the issue will be debated in Parliament by the end of next year.

The Metropolitan Police agreed to provide the EG with a number of realistic case scenarios of transnational DNA exchange (as they would occur once transnational DNA exchange becomes operational). These case scenarios could provide the basis for an ethical impact assessment carried out by the EG. Concrete plans for this are still need to be confirmed.

The EG welcomes these steps.

MONITOR DEVELOPMENTS ON CRIME SCENE DNA TESTING AND OTHER NEW TECHNOLOGY

Rapid DNA

The Ethics Group gave advice to the Strategy Board around the issues raised by a proposal to conduct a test of a rapid DNA system against the existing arrangements for DNA profiling crime stains in two police forces in England and Wales. In contrast to conventional DNA analysis, rapid DNA analysis has the potential to provide results within three hours rather than the several days required with conventional analysis. The equipment required to carry out the analysis is portable and cheaper than conventional equipment.

The proposal raised issues about what to do with DNA information obtained from the test with regards to an ongoing criminal investigation. The ethical issues were outlined as follows a) that information generated using this technology during an investigation needed to be disclosed to any defendant during the trial process and needed to be considered by the investigation at the time it was obtained, b) the profile obtained by rapid sequencing is information relevant to the criminal investigation, its reliability and specificity may be in some doubt, however, it is information which may assist in the apprehension of a criminal and the prevention of further crime and c) it can be argued that there is a duty to use the information as any other intelligence or evidence is used in a criminal investigation and there may be a consequent breach of that duty if it is not used at the point it is obtained.

The EG concluded that information generated by rapid sequencing in the pilot project should be used if it assists in the apprehension of a suspect or the prevention of a crime.

Y-STR profiling

The EG provided advice on whether England and Wales should move to DNA profiling technology that includes the use of a Y-STR and an indel, and more generally whether there should also be a move to DNA profiling technology that stores more complete Y-STR profiles. A Y-STR is a "short tandem repeat" on the Y-chromosome and is often used in genealogical DNA testing. The Y-chromosome is passed down the paternal line from male to male. It contains more information and can be used to identify families and groups of families. The main use for this profiling technology is in terms of familial searches and they are carried out in the context of most serious crimes only. Indel is the insertion or deletion of bases in the DNA of an organism.

The EG concluded that the use of a Y-STR allele within the database has potential advantages. The use of that information in the searching of a partial profile in serious cases is acceptable, subject to the controls used for familial searching. Such controls include ensuring that all other searches had been exhausted and the search was approved by a Chief Officer and the Chair of the Strategy Board. However, the EG was mindful of the fact that the introduction of Y-STR profiling will need to be handled sensitively with the wider public and recommends that efforts are made to consult with and inform the public about the ethical issues arising from this development.

The EG's views were based on the premise that the expected benefits of using Y-STR technology are sufficient to justify its use in the context of serious crimes, such as rape and murder. However, storing complete Y-STR profiles on the NDNAD makes genetic links searchable. Such searches open up the possibility for identifying (and possibly investigating) male individuals who would not otherwise become subject to investigation, and who have neither given consent to, nor been informed of the fact that they could be linked to a crime in this manner. It is possible that such a practice could be seen as infringing Article 8 of the European Convention of Human Rights (the right to respect for private and family life) and interfering with individuals' autonomy (see S and Marper ECHR).

Y-STR data is by its nature discriminatory as it allows techniques to be used to investigate men that could not be deployed for investigating women. 80 per cent of the profiles currently held on the NDNAD are male. Groups such as BME men are also overrepresented on the NDNAD. Making their genetic relatives searchable on the database could worsen the effects of existing biases.

RECOMMENDATION 3: FOLLOWING THE INTRODUCTION OF Y-STR ALLELE PROFILING, THE USE OF THESE PROFILES SHOULD BE MONITORED AND AN ETHICAL IMPACT ANALYSIS SHOULD BE CARRIED OUT.

RECOMMENDATION 4: INFORMED PUBLIC CONSULTATION AND DEBATE ABOUT ETHICAL ISSUES ARISING FROM THE PROFILING AND STORAGE OF Y-STR ALLELES SHOULD BE PRIORITISED AND FACILITATED.

Next Generation Sequencing

The EG has been invited by the Metropolitan Police to participate in a small working group to evaluate the benefits of Next Generation Sequencing (NGS) as a tool in forensic intelligence. NGS can be used to determine sample donor characteristics such as hair colour, eye colour, age, geographical area of origin etc and may assist in narrowing the field of suspects. If the use of this technology is approved, it would be necessary to develop an ethical framework to govern its use. The framework would raise both practical and conceptual questions including: how the data might be used and stored, what other types of data might be generated, how might the rights of individuals and their families be balanced against the rights of the state? The EG agreed that this type of data had the potential to be ethically advantageous and disadvantageous. The working group is beginning to outline issues that an ethical framework might consider. These will be debated by the wider EG in due course.

CHAPTER 5

REVIEW OF THE IMPLEMENTATION OF RECOMMENDATIONS MADE IN PREVIOUS ANNUAL REPORTS

RECOMMENDATIONS FROM THE 6TH ANNUAL REPORT

Recommendation	Progress made
Recommendation 1: The Home Office should collate evidence on rape cases where a DNA match led to conviction.	The Home Office collects data on the number of rape cases where there was a detection (now 'outcome') and a DNA match, but does not collect data on rape cases where a DNA match led to a conviction, because where there is a DNA match plus other types of evidence, it is not possible to tell which type of evidence would have been sufficient for a conviction.
Recommendation 2: Efforts should be made to purge the NDNAD of contaminant profiles.	Significant progress is being made by the Forensic Science Regulator to minimise contamination in the DNA process through the use of elimination databases. Plans are have been made for deleting contaminant profiles from the NDNAD.

The following recommendations from previous reports have had some action, but not progressed as far as they could:

1ST ANNUAL REPORT

Recommendations C&D: Improvement of the process for taking consent and providing a better consent form for adult volunteers

The EG still remains concerned that the consent forms used do not show that the rights of individuals concerned are sufficiently protected. An expert network has been set up to review the information provided on the consent form. It is expected that the EG will contribute to this work.

2ND ANNUAL REPORT

Recommendation 4: To urgently improve the level of easily available and assimilated public information on the use of forensic DNA.

A website has been developed by the former NPIA. This website is designed to give information about the database to the public and professionals. The EG supports this development, however, it does not go as far as the EG suggested in its earlier recommendations. There is an ongoing need to provide clear information to individuals at the time they are being sampled. At this time individuals may be in a state of increased anxiety and should be provided with basic information covering:

a) What DNA is;

b) What their sample contains;

c) How their sample will be taken;

d) What will happen after their sample is taken;

e) What will be done with their sample;

f) What their rights are.

The EG produced an information sheet to sit on the back of the consent form in 2008. This was based on an earlier template developed by the NPIA, which many believed did not meet the needs of the public. The importance of providing the public with this information is acknowledged, however, no work is underway to produce more comprehensive and accessible DNA information sheets, although it is believed that this has been discussed.

4TH ANNUAL REPORT

Recommendation 1: All databases containing DNA information including the counter terrorism database held by the police service should be subject to a robust statutory governance framework, appropriate systems and controls, and should be transparent and only be used for statutory purposes.

The EG has been informed that a record is kept of what is held on the counter terrorism database. However, the issue of proportionality still needs to be dealt with. Oversight for the CTDNAD is provided by the Strategy Board and the Met Commissioner, however, the EG believes that there may still be a gap in governance, because the Strategy Board's oversight is primarily around the technical, scientific and operational side of the CTDNAD.

Progress since 2007

The EG was established in 2007 with a remit of providing ethical oversight over the operations of the NDNAD. This will be the last annual report with this remit, as following the triennial review of the work of the EG, the group's remit is likely to be extended to the wider forensic arena.

Since its inception, the EG has published seven annual reports and made 38 recommendations. The majority of those recommendations have been implemented, making the NDNAD more transparent and improving public confidence in its use in detecting and preventing crime. The group has made a significant contribution by bringing ethical considerations to policymaking and operational matters around the use of DNA in policing.

The EG recommended in the 2012 annual report:

1. The Home Office should collate evidence that demonstrates the effectiveness of the new retention regime and report the findings on a regular basis.
2. In particular, the Home Office should collect data on a routine basis on what extent retaining the profiles of the convicted helps solve crimes. This evidence should be held for qualifying and non-qualifying offences.

In response to those recommendations, the Home Office has commissioned analyses that will help establish how the implementation of the Act may affect the effectiveness of the NDNAD. The EG is pleased about this progress. Under the provisions of the Act the fingerprints and DNA profiles taken from persons arrested for or charged with a minor offence will be destroyed following either a decision not to charge or following acquittal.

Currently approximately 95% of the data retained on the NDNAD relate to those convicted. The EG has been informed that the initial impression is that the removal of large numbers of "unconvicted" profiles has not significantly affected the effectiveness of the database, although it is too early to draw firm conclusions.

In line with the EG recommendations and advice, the Home Office will collect the following data to determine the usefulness of the retention regime under the Protection of Freedoms Act:

- a detailed breakdown of the profiles retained on the DNA database by retention reason [conviction/ongoing case/Penalty Notices for Disorder (PNDs), etc].
- information on the match rates pre and post implementation of the Protection of Freedoms Act.
- a breakdown of DNA matches by retention category (i.e. what is the match rate for convicted people, for people with PNDs etc) to try to evaluate the usefulness (in terms of crime detection) and proportionality (in terms of size, size in relation to other groups, effect on crime detection, etc) of a particular retention class.

This data should help inform policy development on the effectiveness and the proportionality of the database and the retention regime. **The EG strongly supports these developments.**

The use of biometric information other than DNA presents further challenges that need to be addressed. It is hoped that the EG's experience of ethical oversight and independent scrutiny of the use of DNA will be developed and used to oversee the use of other biometric information in the criminal justice system. The EG would be pleased to assist in carrying this forward.

CHAPTER 6

RECOMMENDATIONS

1. The benefits of an independent audit and scrutiny of the Counter-Terrorism DNA Database (CTDNAD) should be explored by the Home Office and the Metropolitan Police.
2. In order to promote a better understanding of the sources of error around the forensic use of DNA and to support systematic work around error reduction, a systematic review of error rates in the collection and forensic use of DNA in the criminal justice system should be carried out.
3. Following the introduction of Y-STR allele profiling, the use of these profiles should be monitored and an ethical impact analysis should be carried out.
4. Informed public consultation and debate about ethical issues arising from the profiling and storage of Y-STR alleles should be prioritised and facilitated.

CHAPTER 7

FUTURE WORK PLAN

1. To ensure all police and supplier databases containing DNA information are subject to robust governance requirements.
2. To monitor the implementation of elimination databases.
3. To provide support and advice on ethical matters to the Biometrics Commissioner and others as required, including police forces.
4. To monitor the review of errors in the DNA supply chain.
5. To monitor developments on crime scene DNA testing and other new technologies.
6. To review the annual report of the NDNAD.
7. To review policy on DNA sampling kits and their usage.
8. To review policy on NDNAD access and usage.
9. To review policy around the use of DNA mixtures.
10. To continue to monitor the treatment of children and young people in relation to DNA sampling and retention with to ensure they are safeguarded and that their distinct rights are recognised.
11. To review policy on international exchanges of DNA and carry out an ethical impact analysis.
12. To continue to monitor and assess potential disproportionate or discriminatory effects of the use and operation of the NDNAD may have on ethnic minority groups and vulnerable people.
13. Review of EIA following POFA 2 years of operation.
14. To review the Equality Impact Assessment of the Protection of Freedoms Act after two years of operation.
15. To review opportunities for research on the NDNAD.
16. To consider the outcome of the NDNAD Delivery Unit by the Information Commissioner's Office.
17. To embed new governance arrangements and responsibilities for the EG in light of the findings of the Triennial Review of the Group.

APPENDIX A:

BIOGRAPHIES OF ETHICS GROUP MEMBERS

CHRIS HUGHES, OBE (CHAIR)

Chris is a UK qualified lawyer and biologist.

He devotes his professional time to a range of part-time public and judicial appointments in the UK.

In his judicial capacity he chairs tribunals dealing with the compulsory detention and treatment in hospital of patients with psychiatric conditions, allegations of misconduct concerning local councillors, disputes about access to information held by public bodies (Freedom of Information) and he will shortly be hearing cases concerning environmental law.

In addition to his role as Chair of the National DNA Database Ethics Group, he is Independent Chair of the UK Chemicals Stakeholder Forum – bringing together all the stakeholders of the UK Chemical Industry (including Non Governmental Organisations, academic societies, trade unions, representatives of civil society and the industry) to advise Ministers on policy.

He has served as a board member of a number of health and local authorities and on regulatory boards dealing with the professions. He was for many years the Chief Legal Adviser to the British Medical Association and prior to that a lawyer in local government service.

He holds degrees from Cambridge, London and the Open University.

DR ADIL AKRAM

Adil is a consultant psychiatrist at South West London & St George's Mental Health NHS Trust. He is also an honorary senior lecturer at St George's, University of London. He has published on perinatal psychiatry, parenting with mental illness and the social care needs of women with mental illness. He has qualifications in healthcare education and mental health research. In addition, he has a longstanding interest in genetics and medical ethics from his student days at the University of Cambridge. He has significant experience of dealing with complex ethical dilemmas and risk assessment.

Adil is also a judicial officer and medical member of the first tier tribunal service; hearing detained patient appeals under the Mental Health Act. He has detailed knowledge and experience of legislation relevant to mental health. He has worked with the GMC to help write and develop tests of competency. He is keen to contribute to public service, as demonstrated by his time volunteering as a psychiatrist at the London 2012 Olympic Games. He is also a shadow governor of the NHS Trust where he works, leading Merton crisis resolution and home treatment team. Adil is also an associate with LPP Consulting.

DR DANIELE BRYDEN

Daniele is a medically qualified consultant in Intensive Care Medicine and Anaesthesia working in Sheffield Teaching Hospitals NHS Foundation Trust. She regularly deals with ethical issues in relation to her clinical role, particularly around consent, capacity and end of life care. She also teaches medical students about ethics, the law and its application to clinical practice. She has a law degree and a Masters in medical law.

Daniele has significant committee experience, including membership of the NICE Technology Appraisal Committee, examination committees for two medical Royal Colleges and an oversight role on a GMC Board. She has also sat on GMC appeals panels and works as a clinical assessor, a role which requires discretion and good judgement.

DR ALAN CLAMP

Alan is the Chief Executive of the Human Tissue Authority (HTA), a regulatory body sponsored by the Department of Health, and previously worked for the Qualifications and Curriculum Development Agency (QCDA) and Office for Standards in Education, Children's Services and Skills (Ofsted).

Alan's experience in inspection and regulation is complemented by a background in science, including a PhD in clinical biochemistry. He also holds a non-executive role as the Director of an Academy and is a member of the Qualifications Committee at the Bar Standards Board.

DR NINA HALLOWELL

Nina is an independent research consultant. She has over twenty years of experience of undertaking research on the social and ethical implications of the introduction of genetic technologies in medicine. She has qualifications in the social sciences and medical law and ethics. She has taught medical ethics at the University of Edinburgh. She has sat on a number of research ethics committees and currently sits on the clinical ethics committee at Cambridge University Hospitals Trust.

DR CHRISTOPHER HARLING, CBE

Kit retired from his career as a consultant physician in occupational medicine, Director of NHS Plus, and Senior Policy Advisor at the Department of Health in 2011. He has been a member of a number of medical advisory bodies, particularly concerning blood borne viruses. He has a particular interest in medical ethics having chaired his specialties Ethics Committee for 8 years and published guidance and book chapters in UK and Europe. He has also taught ethics to postgraduate medical students.

Since retirement, Kit has completed a Masters degree in marine biology at Plymouth University and continues to undertake research on the prevention of marine growth on immersed structures.

PROFESSOR DAVID LATCHMAN, CBE

David is a geneticist and Master of Birkbeck College, University of London.

He serves on a number of committees including London Development Agency, Universities UK Research Policy Network, Confederation of British Industry(CBI) London Council, and the London First Board.

He was appointed a Commander of the Order of the British Empire in 2010 for services to higher education.

CAROL MOORE, CB

Carol worked as a civil servant in the Northern Ireland Civil Service (NICS) from 1993 to 2011. As a senior civil servant, she made a significant contribution to local public service strategy, policy, and organisational effectiveness and efficiency, in functions as diverse as policing, criminal justice, culture, arts and human resources. Her most recent posts were Director of Criminal Justice (Northern Ireland Department of Justice) and Director of Policing and Security (Northern Ireland Office). She is therefore familiar with developing policy and strategy in sensitive, political environments.

Carol has considerable experience relevant to the work of the EG from her role as Director of Central Personnel for the NICS, in particular knowledge of human rights legislation and employment law in relation to discrimination. She also represented the Northern Ireland Department of Justice on the NDNAD Strategy Board for just over a year, giving her a good understanding of the technical, legal and ethical challenges surrounding the UK NDNAD.

Since her retirement, Carol has continued to contribute to public life by providing consultancy support to the Agri-Food and Bio-Science Institute (an agency of the Northern Ireland Department of Agriculture and Rural Development), and is a member of both the Board and the Governance Committee of Northern Ireland's largest charity, Praxis, which provides mental health services.

ISABEL NISBET

Isabel has a strong academic background in moral philosophy, with additional knowledge of medical law and ethics.

Isabel has previously held a variety of senior posts in the Civil Service, and then moved on to work in the regulation of medicine and education. She has held chief executive and Director positions at several statutory regulatory bodies (including Ofqual and the General Medical Council), giving her extensive experience of dealing with complex and sensitive human rights, fairness and public confidence issues.

She was an independent member of the Council of St George's Medical School, is a member of the British and Irish Ombudsman Association a member of the Qualifications Board of the Association of Chartered Certified Accountants and has performed successfully at board level in a number of her previous executive roles.

PROFESSOR BARBARA PRAINSACK

Barbara has a PhD in political science, and is Professor of Sociology in the Department of Social Science, Health and Medicine at King's College London. She is also an Honorary Senior Research Fellow at the Department of Twin Research and Genetic Epidemiology, St Thomas' Hospital. She has previously held a number of other academic positions.

Her academic interests involve exploration of the ethical, regulatory and social dimensions of biosciences, with a special emphasis on genetic technologies. In particular, she is interested in DNA technologies in criminal justice and crime prevention and in medical research and practice. She is the author of a book discussing prisoners' views of DNA evidence (with Helena Machado, PT) and has edited a book on the governance of forensic DNA databases across various jurisdictions. She has also produced several publications addressing issues such as the use of 'racial' categories in DNA-based identification, and transnational bioinformation exchange.

Since 2009, Barbara has been a member of the Austrian National Bioethics Council advising the federal government in Vienna. This has included leading working groups and formulating recommendations. She was also a Fellow at the Nuffield Council on Bioethics in 2011.

PROFESSOR JENNIFER TEMKIN

Jennifer is a legal academic who is currently Emeritus Professor of Law at the University of Sussex, and Professor of Law at City University, London. She has also previously held academic positions at the London School of Economics, the University of Buckingham, the University of Sussex and the University of Toronto.

Her academic focus is on criminal law and criminal justice, mainly in the area of sexual offences. She has completed a variety of empirical research, underpinned by an ethical approach. She also teaches students about forensic science and the legal process, including the role of DNA, giving her a good understanding of the moral, legal and ethical issues surrounding the NDNAD.

Jennifer was a member of the Pigot Committee set up by the Home Office to look into child witnesses in sexual offence cases, the external committee of the Home Office Sexual Offences Review, and the Justice Committee on Sexual History Evidence.

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