



Forensic use of bioinformation: ethical issues

Respondent's form

Please complete and return with your response by 30th January 2007

Details of respondent(s)

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The Open Rights Group

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-

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Closing date for responses: 30th January 2007

January 2007

Response to “Forensic Use of bioinformation: ethical issues”, Consultation Paper of the Nuffield Council on Bioethics from The Open Rights Group

1. The interpretation of bioinformation

- a. In your view, is the SGM Plus® system, which uses ten STR markers, sufficiently reliable for use in ascertaining the identity of suspects in criminal investigations and/or criminal trials?

The Open Rights Group cannot comment on the reliability of the two systems under question, but we believe that no system is sufficiently reliable for use in ascertaining the identity of suspects in criminal **trials**. DNA matches cannot prove beyond reasonable doubt the identity of a person, they can only rule people out (see Question 5b). The Open Rights Group is concerned that this is not well understood by juries, and advises that this should be made clearer in judges’ advice to juries.

2. Sampling powers

- a. From whom should the police be able to take fingerprints and DNA samples? At what stages in criminal investigations and for what purposes? Should the police be able to request further information from DNA analysts, such as physical characteristics or ethnic inferences?

Currently, the police in England and Wales are able to take fingerprints and DNA samples from:

- ◆ Any individual arrested for a recordable offence, without their consent, whether or not DNA or fingerprints are relevant to the crime being investigated. (Criminal Justice Samples).
- ◆ Victims and witnesses (Elimination Samples). There have been several cases of the police conducting widespread sampling programs of people who fall within a particular demographic as part of a criminal investigation. Such sweeps are technically collecting elimination samples, but on a massive scale.
- ◆ Crime scenes (Crime Scene Samples).
- ◆ Volunteers, for example those seeking missing persons.

To the extent that such sample-taking may aid the police in their investigations, these practices should be allowed to continue, but only if limits on the retention of and access to these samples are both clearly defined and meaningfully overseen.

In stark contrast to the Data Protection Act, from which the NDNAD is exempted, there are currently no controls in place to ensure that individuals’ data is used solely for the purpose for which it was collected. Although the police have many legitimate reasons for collecting bioinformation, the uses to which it can be put must be clearly defined and controlled. It is not acceptable for the police to expand their usage of bioinformation on an ad hoc basis and without oversight. The appropriate uses for bioinformation must be clarified and should depend on the reasons for its original collection.

Such measures would ensure that the NDNAD does not suffer from the 'mission creep' common to many of the authorities' IT projects. For example, they should not be able to keep elimination samples from entire groups of people such as those on a protest rally or demonstration, or criminal justice samples of individuals who are not subsequently charged with a specific offence. Among other civil rights benefits, this may help to address the significant and disturbing racial bias inherent in the current system.¹

There is compelling evidence to suggest that ethnic and other inferences from DNA evidence are at best unreliable, and at worst risk wasting police time and eroding public trust.²

- b. Should police expenditure on bioinformation collection and analysis be given priority over other budgetary demands?

To date, there has been no independent investigation into the effectiveness of DNA sampling in tackling crime.³ Compelling, independent evidence of the efficacy of DNA evidence must be produced before budget should be allocated to the collection and analysis of bioinformation over other demands.

Over and above the Open Rights Group's recommendation that some types of samples should be kept for a limited period only, the cost of indefinite storage of all DNA samples, regardless of type, should be weighed against the benefits brought to criminal investigations. It is difficult to justify the expense of indefinite sample storage in light of the many other costs faced by police.

- c. Do you consider the current criteria for the collection of bioinformation to be proportionate to the aims of preventing, investigating, detecting and prosecuting criminal offences? In particular: is the retention of bioinformation from those who are not convicted of an offence proportionate to the needs of law enforcement?

The current criteria for the collection of bioinformation is wildly disproportionate to the aims of preventing, investigating, detecting and prosecuting criminal offences. Furthermore, Genewatch UK has collected evidence which shows that the rate of direct DNA detections has not increased significantly over the past three years, despite a significant increase in the number of people on the NDNAD.⁴ It is clear that collecting and retaining DNA samples and profiles of innocent citizens does not increase the success rate for criminal investigations. Instead, these records are a budgetary burden and a threat to public trust.

¹ "Three in four young black men on the DNA database" *Daily Telegraph* 5 Nov 2006

<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/11/05/nrace05.xml>

² "Genes reveal West African heritage of white Brits" *New Scientist*

<http://www.newscientist.com/article/dn11018-genes-reveal-west-african-heritage-of-white-brits.html>

³ House of Commons Science and Technology Committee (2005). *Forensic science on trial*,

<http://www.publications.parliament.uk/pa/cm200405/cmselect/cmsctech/96/96i.pdf>

⁴ Genewatch *Submission to Home Office consultation on standard setting and quality regulation in forensic science* http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/HO_consul2.doc

It is of great concern that the police's DNA data retention policy - indefinite storage of DNA samples and profiles of those neither convicted nor suspected of committing a recordable offence - has not been subject to Parliamentary debate. It is vital that this policy, and the criteria for collection and storage of data, be subject to public scrutiny. As it stands, not only is it disproportionate, but it is also not providing the benefits that the public have been led to believe exist.

- d. Is it acceptable for bioinformation to be taken from minors and for their DNA profiles to be put on the NDNAD?

Minors need special protection in the legal system. They do not have the ability to give informed consent when asked to surrender DNA samples to police, and are frequently subject to pressure from both their peers and the authorities to comply with police demands. We must be particularly careful to ensure that their rights are protected.

The current focus of police on the anti-social behaviour of groups of minors in inner cities is particularly worrying. DNA evidence is unlikely to be relevant to the misdemeanours carried out by these minors, yet their details may still be entered in the NDNAD. Young people who have a record on the NDNAD may find themselves stigmatised simply because such a record exists, regardless of whether they were charged, or the nature of any charges actually brought against them. Such stigmatisation is neither fair to children, nor beneficial to society.

Furthermore, it should be noted that inclusion on the NDNAD has the potential to reveal paternity issues which could bring unintended harm on a child's social and mental well-being.

3. The management of the NDNAD

- a. Is it proportionate for bioinformation from i) suspects and ii) volunteers to be kept on forensic databases indefinitely? Should criminal justice and elimination samples also be kept indefinitely? How should the discretion of Chief Constables to remove profiles and samples from the NDNAD be exercised and overseen?

Individuals not convicted or suspected of a serious, violent crime should have their data removed from the NDNAD after a set period of time. This should be mandated by law, not left to the discretion of Chief Constables. To retain their data not only damages the public's trust in authorities, it also places an unnecessary burden on public funds.

The setting of time limits appropriate to different convictions should be opened to public debate. The Open Rights Group suggests that it is the role of the Information Commissioner, reporting to Parliament, to oversee compliance with these limits, and recommends that his office be given the appropriate resources to perform this vital function.

- b. Is the ethical oversight of the NDNAD adequate? What, if any, research on NDNAD profiles or samples should be permitted? Who should be involved

in the oversight of such databases and granting permission to use forensic DNA profiles or samples for research?

The current ethical oversight of the NDNAD is wholly inadequate. Since the establishment of the NDNAD, access has been granted to several researchers without the consent of the people whose data is held on the NDNAD⁵. This is in clear breach of scientific ethics. In the absence of specific consent, the only research that should be permitted should be that which is relevant to the efficiency and performance of the NDNAD itself.

The Open Rights Group suggests that it is the role of the Information Commissioner, reporting to Parliament, to oversee research carried out on the NDNAD. We recommend that the office of the Information Commissioner be allocated the appropriate resources to fulfil this role.

- c. Who should have access to information on the NDNAD and IDENT1 databases and how should bioinformation be protected from unauthorised uses and users? Should forensic databases ever be made available for non-criminal investigations, such as parental searches, or the identification of missing or deceased persons?

It is essential that access to the NDNAD and IDENT1 database be strictly and rigorously controlled. We have seen with other police databases that one of the greatest risks to privacy is not attack from hackers, but unauthorised searches by members of the police force. Given the sensitivity of DNA data, it is incumbent on the police that they take the appropriate technical measures to ensure databases are secured and that their staff adequately trained to respect the sensitivity of the data.

Access to the database should be permissible only with a court order or warrant, and should be limited to searching for specific information that an inquiry can show it has reasonable grounds to require. There should be legislation to prevent "fishing expeditions" (matching volunteer samples against crime scene samples), or the use of techniques such as data mining to try and establish "patterns" within the data. This would create a situation similar to the one that protects citizens from unwarranted searches of their property.

The introduction of handheld fingerprint scanners for traffic and beat police is a worrying development. These devices allow officers to check prints against the IDENT1 database on the street. Formerly, they would have been required to make an arrest (requiring reasonable grounds for suspicion), and then to collect this data at the police station. If a person has a record on the NDNAD, this could introduce undue bias into the police officer's decision-making process.

The recent revelation that a private company has been storing its own copy of the NDNAD is also alarming⁶. If the Government, as indicated, is to increase the role of

⁵ Genewatch *The Police National DNA database : Balancing Crime Detection, Human Rights and Privacy*
http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/leaflet_DNA_police_small_1.pdf

⁶ *The Observer* Police DNA database 'is spiralling out of control'
http://observer.guardian.co.uk/uk_news/story/0,,1821676,00.html

private companies in the day-to-day running of the NDNAD, then it must ensure that there are proper safeguards in place. In particular, private companies should be made fully accountable to the public for the integrity and security of the NDNAD.

DNA data collected by the authorities should not be used for non-judiciary purposes. Parental searches, or the identification of missing people, should not be allowed as this is a gross invasion of privacy for those whose DNA is being examined. We must respect the fact that parents may not wish to be located by children that they have adopted away and, equally, the missing may not wish to be found (sometimes for very sound reasons).

The use of the database to identify the dead can, at best, only suggest the identity of the deceased - as previously noted, DNA cannot be used to unequivocally identify someone, but only to rule people out as being not related. Relying on DNA evidence may result in misidentification and, therefore, significant unnecessary trauma to relatives.

- d. What issues are raised by the transfer of bioinformation between agencies and countries? How should such transfers be facilitated and what safeguards should be in place for the storage and use of transferred data?

It is clear that the NDNAD has the potential to aid the investigation of serious, violent crime both at home and abroad. However, once bioinformation has been handed over to a foreign agency, the UK has no effective way of ensuring the safe storage and appropriate use of such information. Transferring data to a foreign authority should therefore be approached with great care.

It is of concern that many countries who might request such information – including some of the UK's closest allies – have questionable data protection records. It is also disturbing that there is currently no international privacy legislation that would protect the use of UK citizen's bioinformation were it to be transferred abroad. The Open Rights Group therefore recommends that no foreign agency be given direct access to the NDNAD.

Instead, we suggest that it is the role of the Information Commissioner, reporting to Parliament, to evaluate, grant and oversee requests made by foreign agencies for specific searches of the NDNAD. We recommend that the office of the Information Commissioner be allocated the appropriate resources to fulfil this role.

4. Ethical issues

- a. Is the use of DNA profiles in 'familial searching' inquiries proportionate to the needs of criminal investigations? Do you consider the use of familial searching may be an unwarranted invasion of family privacy?

73 familial searches were performed in 2004, and 78 in 2005. There are no data on any familial searches before 2004.⁷

⁷ See <http://www.theyworkforyou.com/wrans/?id=2006-05-09c.68462.h&s=familiar+searches#g68462.r0>

Although familial searching has solved a small number of high profile cases, it is our view that the widespread use of familial searches raises concerns both in terms of efficiency and in terms of ethics. Familial searches produce a large list of matches, the analysis of which may not be an efficient use of police time. Furthermore, familial searches can give rise to paternity issues unknown to those whose details are entered on the database, which, particularly in the context of a criminal investigation, may have adverse effects on an individual's social and mental well-being.

Given these issues, it is concerning that familial searching techniques have been adopted by police in the absence of either Parliamentary scrutiny or public debate.

It is to be expected that new methods of searching the NDNAD will emerge from time to time, but any such methods should in future be subject to public and Parliamentary scrutiny before they are adopted as practice.

- b. Certain groups, such as ethnic minorities and young males, are disproportionately represented on forensic databases. Is this potential for bias within these databases acceptable?

Blame for the bias against ethnic minorities and young males cannot be entirely left at the feet of the NDNAD, but is in part an artefact of general police practice. However, ensuring that samples and profiles of those not charged with an offence do not permanently remain on the NDNAD would go a long way towards addressing this bias.

- c. Is it acceptable that volunteers (such as victims, witnesses, mass screen volunteers) also have their profiles retained on the NDNAD? Should consent be irrevocable for individuals who agree initially to the retention of samples voluntarily given to the police? Are the provisions for obtaining consent appropriate? Should volunteers be able to withdraw their consent at a later stage?

As stated before, it is neither acceptable nor demonstrably useful to investigating authorities for volunteers and victims of crime to have their bioinformation permanently retained on the NDNAD. Indeed, there are no good reasons why volunteers and victims of crime should not have their samples destroyed and their profiles removed at the end of an investigation.

The height of a criminal investigation, especially one into a serious, violent crime, is not an ideal setting for considered consent. According to Genewatch UK, evidence suggests that volunteers (especially victims of crime) do not clearly understand what they are consenting to when they accept DNA sampling and retention on the NDNAD⁸. The fact that consent is irrevocable exacerbates the problem.

Victims of crime and volunteers should be able to revoke consent to store their bioinformation through a clear and efficient process. Such a process should be subject to independent oversight to ensure their wishes are promptly acted upon.

⁸ Genewatch *The Police National DNA database : Balancing Crime Detection, Human Rights and Privacy*
http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/leaflet_DNA_police_small_1.pdf

DNA samples and profiles should also be destroyed after a specific period for such people, regardless of whether they revoke permission or not.

- d. Would the collection of DNA from everyone at birth be more equitable than collecting samples from only those who come into contact with the criminal justice system? Would the establishment of such a population-wide forensic database be proportionate to the needs of law enforcement? What are the arguments for and against an extension of the database?

There is no evidence to suggest that sampling the entire population at birth would dramatically increase the number of crimes solved through direct DNA matches, since current expansion rates are not improving the rate at which crimes are solved (see question 2c). Neither would the expansion of the database help to address bias against ethnic minorities in criminal investigations. Indeed, modern history shows us that such a database has the potential to make minorities and other vulnerable groups easier to target for discrimination.

Privacy is a fundamental human right. Bioinformation can reveal extremely private information about an individual's family relationships and physical health. It is unacceptable for a democratic state to mandate the collection of bioinformation from all its citizens. As cryptographer and computer security expert Bruce Schneier has stated "It is poor civic hygiene to install technologies that could someday facilitate a police state."⁹

Thus the Open Rights Group emphatically opposes the collection of the population's DNA at birth, and can see no circumstances under which this should be considered. Such an action violates medical ethics, puts new mothers in an ethically unacceptable position, and is a gross invasion of privacy.

5. The evidential value of bioinformation

- a. What should be done to ensure that police, legal professionals, witnesses and jury members have sufficient understanding of any forensic bioinformation relevant to their participation in the criminal justice system?

It is of significant concern that commercial companies supplying services to the NDNAD will be tempted to exaggerate the accuracy of existing and new DNA matching techniques. This in turn could mislead juries and witnesses, and even legal professionals and the police.

Claims made about existing and new techniques for gathering DNA evidence must be independently monitored, and the results of investigations must be communicated clearly to all parties involved in the legal process.

- b. How much other evidence should be required before a defendant can be convicted in a case with a declared DNA match? Should a DNA match ever be taken to be sufficient to prove guilt in the absence of other evidence?

⁹ Schneier, B *Secrets and Lies: Digital Security in a Networked World* John Wiley & Sons; 1 edition (August 14, 2000)

DNA should never be the sole item of evidence upon which a conviction rests. In the words of Lord Lucas:

“DNA can provide absolute proof of innocence but it cannot provide proof of guilt. That is the case, first, because matching is not exact. A piece of DNA is cut into chunks with enzymes and we see how it comes out on a gel. We are not dealing with a complete sequence. So we are dealing with probabilities which are only in the millions and not in the thousands of millions. If we take the world as whole, it seems likely that quite a few people will have identical DNA.”¹⁰

As stated previously, DNA can be used to rule someone out of an investigation, but it cannot be used reliably to prove guilt. Unfortunately, the public perception of DNA evidence is that it is unique, reliable, and incontrovertible - but the scientific reality is quite different. Any case where a suspect is found guilty on DNA evidence alone must be considered unsafe.

6. Other issues

- a. Are there any other issues, within our terms of reference, which we should consider?

Two additional issues must be considered by the Nuffield Council on Bioethics:

- ◆ Citizens must have the right to know what data is stored about them on the NDNAD, including the type of data and reason for its retention.
- ◆ The security of the NDNAD. Computer databases are notoriously vulnerable, and specialist knowledge is required to assess the risks and suggest solutions. The Open Rights Group would welcome the opportunity to present expert witnesses on database security to the Nuffield Council on Bioethics as it continues its consultation process.

¹⁰ See <http://www.theyworkforyou.com/lords/?gid=2003-07-17a.1074.2>