

## **Police collection and access to DNA samples**

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### **Abstract**

As forensic techniques continue to improve, reports on the success of the police in using DNA analysis for solving past and present criminal cases are becoming an everyday occurrence in the media. There are two avenues by which police can collect and obtain access to DNA samples. The first is on the basis of legislation that allows the police to forcibly collect samples in some situations. The second is through an access order granted by the court, which allows access to samples from existing collections held by other parties. The purpose of this paper is to compare these two legal mechanisms that allow the police to acquire and access DNA samples. My concern is the increase in collection of DNA samples for genetic research, the moves to standardise data collection and the computerisation of medical records, may make research collections more attractive to the police. Are we prepared for research collections to become an extension of the National DNA Database used for crime detection? In the USA a decision has been made that the police should not be allowed access to samples and information derived from 'sensitive' research. This article considers 'the certificates of confidentiality' that have been instigated by the National Institute of Health in the USA in order to prohibit such uses of research collections by the police. In this article I consider whether certificates of confidentiality should be used in the UK, as a way of providing greater protection to researchers and participants in research.

### **Police collection and access to DNA samples**

As forensic techniques continue to improve, reports on the success of the police in using DNA analysis for solving past and present criminal cases are becoming an everyday occurrence in the media. The importance of DNA analysis as a police investigative tool is also increasingly evident in the 'fight against terrorism' which has resulted in increased police powers. There are two avenues by which police can collect and obtain access to DNA samples. The first is through the Police and Criminal Evidence Act 1984 (PACE) and its amending legislation,<sup>1</sup> that allows the police to forcibly collect samples in some situations. The second is through an access order granted by the court, which allows access to samples from existing collections held by other parties. The purpose of this paper is to compare these two legal mechanisms that are available to the police for acquiring and accessing DNA samples.

My concern is the increase in collection of DNA samples for genetic research, the moves to standardise data collection and the computerisation of medical records, may make research collections more attractive to the police. Are we prepared for research collections to become an extension of the National DNA Database used for crime detection? In the USA a decision has been made that the police should not be allowed access to samples and information derived from 'sensitive' research. This article considers 'the certificates of confidentiality' that have been instigated by the

National Institute of Health in the USA in order to prohibit such uses of research collections by the police. The aim of these certificates is to protect the integrity of researchers, as well as the privacy of patients and participants in research. In this article I consider whether certificates of confidentiality should be used in the UK, as a way of providing greater protection to researchers and research participants.

### **How do the police obtain samples?**

The police are given authority under legislation to collect DNA samples, which are then given to the Forensic Science Service (FSS) for the construction of reference profiles that are deposited in the UK National DNA Database (NDNAD). NDNAD, which is administered by the Forensic Science Service, was established in April 1995 and was the world's first national criminal DNA collection.<sup>2</sup> Since its establishment, the success of using DNA analysis to identify, confirm or eliminate suspects in criminal investigations and to establish links between different crimes has meant that there are now national DNA databases in most European countries.<sup>3</sup> NDNAD is the largest national criminal database in the world containing around three million profiles, representing 5.24% of the UK population.<sup>4</sup> Recently there has been concern about the large number of profiles that have been collected from juveniles. Johnston says that the total number of profiles from juveniles on NDNAD is 750,000 and of these, 24,000 profiles are from juveniles that have never been charged with any offence.<sup>5</sup> The fact there are so many juvenile samples in the collections has led to protests from parliamentarians and the parents of the adolescents concerned.<sup>6</sup> According to the Forensic Science Service that runs NDNAD, in a typical month in 2003, matches are found linking suspects to 15 murders, 31 rapes and 770 motor vehicle crimes.<sup>7</sup> The database has also been used to solve crimes that have been committed many years ago, due to an increase in the number of recently acquired samples and the durability of DNA profiles. This has resulted in the Forensic Science Service achieving a success rate of 45% when matching a crime scene sample with a stored database profile.<sup>8</sup> Even if an individual has not provided a sample, NDNAD has become a means by which to trace relatives that may be on the database and thereby identify the individual. For example, the shared, inherited nature of DNA means that it is possible to trace relatives of suspects and to find the suspect who did not have a sample on NDNAD;<sup>9</sup> as well as being able to determine the surname of an individual by analysing their Y chromosome.<sup>10</sup> It is not surprising that even in a report of 1997/98, the Government stated that 'the impact of the National DNA Database — which the FSS set up on behalf of the police in April 1995—has exceeded all expectations'.<sup>11</sup>

### **The collection of DNA samples by the police**

The foundation legislation for the collection of samples by the police is the Police and Criminal Evidence Act 1984. However since its enactment there have been a number of important amendments to this Act, as well as additional new legislation that has expanded police powers and the classes of people from whom samples and profiles can be collected and retained. For example, prior to 2001, if a person was not prosecuted or acquitted, their DNA sample had to be destroyed and their profile had to be removed from NDNAD. In 2001, s. 64 of PACE was amended by the Criminal Justice and Police Act 2001, which meant that profiles on NDNAD could be kept

although the DNA sample was destroyed. This resulted in a substantial increase in the size of NDNAD. In 2004, the new Criminal Justice Act 2003 extended the pool of people who could have their profile retained on NDNAD to include all people who had been arrested for a recordable offence. Prior to this, it was only possible to retain DNA profiles from individuals who had been charged with, or reported for a recordable offence.

As well as recognising differences between classes of people, the current law also makes a distinction between intimate samples and non-intimate samples. Both of these different types of samples can be used for DNA extraction. The protections in place for taking an intimate sample from an individual are greater than for non-intimate samples. Samples that are classified as ‘non-intimate’ under the Act can also be lawfully taken from the individual without consent. Therefore non-intimate samples are most routinely sought by the police. The removal of cheek cells by a buccal swab is classified as a non-intimate sample and is now one of the most common methods of obtaining a sample from an individual.

### ***‘Intimate’ samples***

‘Intimate’ samples are a sample of blood, semen or other tissue fluid, urine or pubic hair, a dental impression, or a swab taken from an orifice other than the mouth.<sup>12</sup> These samples must be taken from an individual in police detention by a registered medical practitioner or health-care professional, with the individual’s written consent, and authorised by a police officer of the rank of inspector. The police officer must have reasonable grounds to believe that the individual has been involved in a recordable offence<sup>13</sup> and that taking an intimate sample can confirm or disprove the individual’s involvement. If the authorisation is given by the police officer, the individual must be informed of the grounds for giving the authorisation<sup>14</sup>, as well as the fact that the sample will be the subject of a speculative search and checked against other samples or information.<sup>15</sup> An intimate sample can also be taken from an individual who is not in police detention if two or more non-intimate samples have already been taken but these were insufficient.<sup>16</sup> If an individual refuses to give consent and this is considered by the police to be without due cause, the police must warn the individual that the refusal will be taken into account if the case goes to trial.<sup>17</sup> In the case of intimate samples, an individual can decide not to consent and this will be respected. The procedures in place are transparent and must be followed in order for the sample to be used as evidence in a court case.

### ***‘Non-intimate’ samples***

The vast majority of DNA samples are regarded as ‘non-intimate’ samples for the purpose of the Police and Criminal Evidence Act 1984. The amendments to PACE by the Criminal Justice and Public Order Act 1994 resulted in buccal swabs being reclassified as ‘non-intimate’ samples. This means that buccal swabs can now be taken without consent providing that the suspect is ‘lawfully detained’.

There are four situations when this is lawful:-

- individuals are in police detention or being held in police custody by the police on the authority of a court<sup>18</sup>;
- an individual has been charged or informed that he will be reported for such an

- offence<sup>19</sup>, as well as being able to be asked for another sample if the first is inadequate;
- an individual has been convicted of a recordable offence<sup>20</sup>;
  - an individual has been detained following acquittal on the grounds of insanity or unfitness to plead<sup>21</sup>.

As is the case with intimate samples, an officer (the rank is not specified) must give an authorisation for the removal of a sample and the individual must be informed of the grounds for giving the authorisation. The authorisation for taking a sample before a person is charged can only be given if the Inspector has 'reasonable grounds . . . for believing that the sample will tend to confirm or disprove involvement in a recordable offence'<sup>22</sup>. The individual must also be informed before the sample is taken that the profile may be used in a speculative search. An example of a speculative search is when the profile is matched against profiles from unsolved crimes. Reasonable force may be exercised by any constable to remove a sample. All of these procedures must be fully recorded as soon as practicable. This means that although someone may have been arrested for an offence, but not charged or found guilty, speculative searches will still be run on a regular and often weekly basis, using the individual's profile. This gives the police wide powers to acquire DNA samples and explains why the NDNAD is one of the biggest collections in the world, and is continuing to expand.

The recent unreported case of Philippa Jones, suggest that the courts will take action to ensure that samples and finger prints are taken in lawful circumstances.<sup>23</sup> Philippa Jones was a teacher who was arrested but not prosecuted, after being accused of hitting a child with a ruler. She applied to the High Court for a declaration that the taking of her DNA sample after the Crown Prosecution Service had decided not to prosecute was unlawful. Her solicitors argued that Ms. Jones's DNA sample had been taken when she was not lawfully detained, but was under false imprisonment. The custody officer should have authorised her release after the decision had been made not to prosecute but had failed to do so. Mr Justice Wilkie agreed with this argument and approved a consent order requiring that Ms. Jones's DNA sample, photograph and fingerprints be destroyed and damages paid. The police have played down this unreported decision, but it suggests that the courts are prepared to take action to ensure that the collection of DNA samples is carried out according to the requirements of the legislation.

Another method of obtaining samples that is proving to be very effective for the police is intelligence screening, which is used when a match has not been obtained from NDNAD. To date there have been 282 intelligence-led screens (across England and Wales) and the Forensic Science Service has processed over 80,000 samples.<sup>24</sup> This involves the police asking for volunteers in an area where a serious crime has taken place to come forward and give a DNA sample for the process of elimination. The profiles derived from these samples are not added to NDNAD. The most recent use of this technique was in February 2006, in the search for Sally Bowman's murderer. In the area of South Croydon, 4,000 letters were sent to men aged between 20 to 40-years-old, who either live or work in the area, and were either white or light skinned, asking them to give a DNA sample. According to DCI Cundy, 'Obviously if someone does refuse then each case will be reviewed on its own merits...I'll look at the evidence available, how their name entered this murder inquiry and obviously

we'll give careful consideration to whether someone should be arrested for Sally Anne's murder.'<sup>25</sup>

Fear that a refusal to participate in the investigation might arouse police suspicion makes the consent quite hollow. A policeman represents the exercise of public power regardless of whether coercive measures are actually used or not. This procedure has become accepted by society. It is difficult to argue against such procedures when they can be highly effective and when there is strong support for measures that seek to prevent or solve crime.

### **The retention of samples**

The growth of the UK National DNA Database is largely due to the changes to the Police and Criminal Evidence (PACE) Act 1994 in 2001,<sup>26</sup> which now allows sample and fingerprints to be retained indefinitely even if an individual is only suspected of an offence. Prior to this amendment, a sample obtained from an individual who was not suspected of committing an offence had to be destroyed once the investigation was concluded. Now, under s.82 (1A) of the Criminal Justice and Police Act of 2001, samples and finger prints from persons who are not prosecuted or who are acquitted of an offence may be retained.<sup>27</sup> Prior to this legislation samples and finger prints were routinely destroyed after an investigation and could only be retained if the individual had been found guilty of an offence. Under this amendment any profile lawfully obtained as a result of a criminal investigation can be kept indefinitely and checked against other profile on NDNAD, as well as the results being able to be disclosed to other persons.

This change in the legislation was subject to legal challenge in the case of *R (on the application of Marper) v. Chief Constable of South Yorkshire*.<sup>28</sup> It was argued that to keep the DNA samples and analysis of individuals who had not been convicted of a crime was a breach of their right not to be discriminated against and their right to privacy (Art. 14 and Art. 8 of the European Convention on Human Rights (ECHR)). The House of Lords final decision found that the amendment by the Criminal Justice and Police Act 2001 did not constitute a breach of Art. 8 or Art.14 of the ECHR. Chief Justice Lord Woolf stated that the Police and Criminal Evidence (PACE) Act 1994:-

*'represented an attempt by the Parliament to achieve a fair balance between the interests of the law abiding public as a whole and the individual citizen. Where this was the situation, it was important that the courts showed appropriate deference to the body whose decision had the advantage of being able to rely on unimpeachable democratic credentials.'*<sup>29</sup>

The court stated that the amendment was an interference with the privacy rights of Art. 8 but that this was justified because 'Parliament has drawn up a code carefully designed to prescribe that circumstances in which the steps referred to can *and cannot* be taken.'<sup>30</sup> The storage of the samples was seen as being proportionate, as the samples that were retained were limited to those which had already been lawfully taken. Also samples could only used for the purpose of 'prevention or detection of crime, the investigation of an offence or the conduct of a prosecution' under s.82 (1A) of the Criminal Justice and Police Act 2001. The only adverse consequence that

would affect individuals would be if their samples matched the samples that related to the offence. Therefore any adverse consequences to the individual were not out of proportion to the benefit gained by the public. The end result is samples and DNA profiles can be stored indefinitely regardless as to whether an individual is arrested, yet no criminal proceedings are pursued, or if he or she is found to be innocent of a crime. However these DNA samples and profiles can only used for the prevention, detection of crime, the investigation of an offence, or conduct of a prosecution, as long as they were collected with lawful consent. It has not been tested in the courts as to whether these broad parameters also include research to establish new techniques for DNA analysis or identifying individuals. In the UK there is no longer a distinction between those who are suspected of a crime and those who are arrested, as all samples can be kept indefinitely.

### *Speculative Searches*

Once a sample is analysed and the profile is entered into NDNAD, it can be used by the Forensic Science Service to carry out speculative searches which compare profiles with other profiles, or with information that is held by the police. Speculative searches are a general search through NDNAD to establish whether the new DNA profile matches any profiles from unsolved crime scenes. These searches do not have to be related to the specific offence that the individual may have been detained in the police station for. Whether consent must be obtained for a speculative search depends on whether individuals are suspected of a recordable offence, or if they are arrested on suspicion, charged, or informed that they will be reported of a recordable offence. Individuals who are only suspected, rather than arrested, of committing a recordable offence can only be the subject of a speculative search if they consent in writing.<sup>31</sup> The consent form that is used by the police states that the samples will be retained and the individual cannot withdraw the consent. The individual consents to the speculative search for one situation, and this consent also means that their sample will be kept indefinitely for other searches that may be unrelated to the individual. In contrast, all individuals that have been arrested can have non-intimate samples forcibly taken from them. Intimate samples (which individuals have consented to the taking of) and non-intimate samples can be used for a speculative search and retained indefinitely without consent. Samples can be kept indefinitely even though the individual has not been found guilty by a court and speculative searches are carried out on the profiles on a daily basis. This gives the police wide powers of investigation and the success of matching DNA profiles to unsolved crimes is an incentive to collect DNA samples, which the police have the powers to do.

### **How can the police access DNA samples held by third parties?**

In cases where the police may not get a match with a sample from the NDNAD, they may be forced to seek other sources of identifiable DNA samples. Access by the police to medical information or human tissue held by healthcare professionals, researchers and institutions is not a new phenomenon and there have been a number of reported cases. Guthrie cards,<sup>32</sup> which are an established feature of most affluent countries' health care system, have been used by the police to solve criminal cases. In October 2003, the Guthrie card collection at the Huddinge Hospital, south of Stockholm, was successfully used in the investigation of the murder of former Swedish Minister of Foreign Affairs, Anna Lindh. Similar uses of Guthrie cards have

been made in New Zealand.<sup>33</sup> In 2001, police were granted a warrant to access samples collected by researchers in a Scottish prison, in order to prosecute Stephen Kelly for knowingly passing on HIV to his partner.<sup>34</sup> It is unclear whether this is a growing trend, or whether the police are only accessing such information and samples in high profile cases, and so it is only these cases that come to public attention. The police in the UK do not keep statistics on the type of court orders that are granted and whether these are for access to samples and medical information. To date, no research has been carried out on the extent that collections or other sources of medical information are being accessed by the police.

Guthrie cards are not the only potential source of DNA in this country. In 2000 the Chief Medical Officer carried out an audit of all the body parts and biological samples retained after a post-mortem and held by NHS Trusts and medical schools in the country. This was a response to the scandals at Bristol Hospital Infirmary and Alder Hey Hospital in Liverpool, where children's body parts had been retained after post-mortem for research purposes without consent.<sup>35</sup> This census revealed that there were approximately 54,300 organs, body parts, still-births or fetuses were held by pathology services within the National Health Service which had been collected from 1970 to 1999.<sup>36</sup> Of the 3 million post-mortems carried out in the UK from 1970 to 1999, tissue was also retained from 65% of post-mortems on children, 72% of post-mortems on infants (under 1 year) or stillborn babies, and 39% of post-mortems on adults.<sup>37</sup> However this census does not cover the collection of tissue that is carried out as a routine part of health care and there are no figures available on holdings in the UK. However in the USA it is estimated that 'there are more than 282 million samples are held in the nations' laboratories, tissue repositories, and healthcare institutions.'<sup>38</sup> These collections are growing at a rate of 20 million cases per year.

However, what is probably more useful to the police is the growth of large DNA collections for genetic research. Examples of existing collections are the ALSPAC study<sup>39</sup> and the North Cumbria DNA collection (though this project is no longer being funded).<sup>40</sup> The Medical Research Council, one of the main funders of medical research in the UK, has also provided funding to establish of a system of regional DNA banks as well as the UK Biobank.<sup>41</sup> The UK Biobank will investigate the correlation between genetics, environment and lifestyle as well as individual susceptibility to disease, and will contain DNA samples on half a million people.<sup>42</sup> Many large longitudinal epidemiological studies are now taking DNA samples from participants in order to understand the role that genetics may play in disease. There are also moves to standardise collection procedures and to facilitate data-sharing.<sup>43</sup> No audit has been carried out on the biological samples collections that exist for diagnosis or for research purposes, and there is no clear idea of the extent of these holdings in the UK. Alongside this, routine medical information is becoming more centrally computerised and there is an increase in the type of information generated through treatment and research activities that could be useful to the police. For example, the computerisation and linkage of medical records systems at a national level,<sup>44</sup> increases the amount of comprehensive medical information on patients and the ease with which it may be accessed.

There is the possibility in the future that such standardised and accessible collections will be attractive to the police, because they will be an easy entry into a comprehensive and useful body of information. In order to gain access to medical information and DNA information in such collections, police could approach the custodian directly or apply for an access order through the courts. In England and Wales, special procedures are required before the police can access personal records or human tissue or tissue fluid which has been taken for the purpose of diagnosis or medical treatment that ‘a person has acquired or created in the course of a profession’ and are held in confidence. Such records can only be obtained under an access order<sup>45</sup> unless the holder of the records is prepared to hand them over without the order. The object of these provisions is to ‘safeguard the confidence of the maker or holder of such material and not that of the suspected person.’<sup>46</sup> In the case of medical information this would protect the health care professional’s obligation of confidentiality rather than the patient’s interests. The court’s interpretation of this provision is that it is up to the professional ‘to decide whether he wishes to make this disclosure, bearing in mind the degree of confidence reposed in him.’<sup>47</sup> If the professional did decide to hand over the records to the police without an access order, they could be liable for an action of breach of confidence by the patient. This is unless the breach can be justified – such as for the prevention of serious harm to another.<sup>48</sup> If the professional decides that it is their duty not to breach confidence then the police must apply to the circuit judge for the access order. The professional would then be able to make representations to the circuit judge that an order should not be made. Therefore the effect of the access order is to protect the healthcare professional from any actions for breach of confidentiality through the disclosure of information, or the granting of access to a DNA sample by the police.

### **The implications of the access order**

The effect of the access order is to place a huge responsibility on the professional, who has to decide whether there are valid grounds for appearing before a judge to refuse access to a DNA or tissue sample. The person who has made the donation of DNA for a research project has no involvement in this deliberation. It is not up to the participant in the research project or the patient to determine whether this sample can be used. It is the doctor or researcher who is the gatekeeper in determining whether there will be access. Most research participants will not be aware that the police may be granted access to the research material and findings, as current practice does not include such information as part of the consent process. In contrast, the person who is involved in the criminal process may be more aware of the processes and procedures involved, even though they may not have much choice as to whether the DNA sample is taken from them and used by the police. The fundamental difference is that while someone who has a sample taken for inclusion in NDNAD knows that this will be for broadly defined ‘crime prevention’, research participants are not necessarily aware that this could also be the use of the information and samples given for the purpose of medical research. Both situations reflect the fact that ‘crime prevention’ in our society has been given a high priority and that there are wide powers given to the police for crime prevention.

It is also unclear whether healthcare professionals and researchers are aware of their rights and responsibilities in regard to court orders to access DNA samples in their



custody. There may be cases where people comply with a police request because they are not aware of their legal rights and responsibilities, and the possibility of appearing before the court to argue against an access order being granted. While most researchers would want to co-operate with police, there may be other cases where this is regarded as a breach of confidence and that the justification in releasing the DNA sample or information may not be warranted. The benefit of the access order is that any reasons for not wanting to comply with police requests can be put before a judge to decide. In contrast, if DNA samples are collected by the police it is not a requirement of the procedure to have this reflection from a judge. If the removal of a DNA sample is approved by a senior officer then there is nothing that the individual can do about it, unless it is found to be unlawful. Very little is known about whether healthcare professionals are aware of their legal responsibilities, and if this is a common occurrence, as there has been little research done on this issue and statistics are not kept by the police.<sup>49</sup>

### **USA Certificates of Confidentiality**

In the USA concern about the privacy of research participants and the integrity of researchers has led to the establishment of ‘certificates of confidentiality’, which have been developed by the National Institute of Health in the USA. Researchers can apply for a ‘certificate of confidentiality’ from the National Institute of Health which will ‘protect the privacy of research subjects by protecting investigators and institutions from being compelled to release information that could be used to identify subjects with a research project.’<sup>50</sup> Certificates of confidentiality ‘allow the investigator and others who have access to research records to refuse to disclose identifying information in any civil, criminal, administrative, legislative, or other proceeding, whether at the federal, state, or local level.’<sup>51</sup> In this context ‘identifying information is broadly defined as any item or combination of items in the research data that could lead directly or indirectly to the identification of a research subject.’<sup>52</sup>

The aim of the certificates is to protect the privacy of participants in research studies in order to encourage participation in research. In the USA much of the rationale for introducing the certificates was based on a concern that if such protection was not given, then people from marginalised groups in society would be deterred from participating in research projects. The certificates can be used for biomedical, behavioural, clinical or other types of research that is sensitive. ‘By sensitive, we mean that disclosure of identifying information could have adverse consequences for subjects or damage their financial standing, employability, insurability, or reputation.’<sup>53</sup> The guidance stipulates that sensitive research activities would include collecting genetic information and its storage for long-term use. All personally identifiable information maintained about participants in the project while the certificate is in effect is protected in perpetuity. The protection afforded by the certificate is permanent.

### **Should we be thinking about ‘certificates of confidentiality’ in the UK?**

Currently, we can only speculate that police do not seek access to DNA samples held by researchers through an access order. However as we see the build up of collections through the greater funding of genetic research and the standardisation of procedures,

in order to allow the sharing of samples of information and samples between collections, we may see this situation change. Such collections may be useful to police when they have exhausted the NDNAD, or they wish to verify, or check evidence that they may have. It is such situations in the future that must be considered, and researchers should think through the eventualities and procedures that must be followed if they are to be presented with a request for access from the police. Such a request clearly has implications for the relationship between the healthcare professional and the individual. Seiden and Morin argue that if the privacy of the patient should be considered less important than society's interest in solving and preventing severe crimes, the role of healthcare personnel as gatekeepers must be fully recognised in the law.<sup>54</sup> In the UK this is recognised in the law, as there is an opportunity to appear before a judge in order to argue whether an access order should be granted. However, my concern is that there may not be appropriate legal and ethical support or procedures in place within institutions to deal with such an eventuality. Therefore, in future, professionals may find themselves ill-equipped to deal with a police request and the issues that it raises. While an access order recognises the role of the healthcare professional as a gate-keeper it does little to recognise that the DNA sample comes from an individual, who may also have legitimate concerns – unrelated to concerns about being found guilty of criminal activity – about whether the police should have access to such samples or information.

Certificates of confidentiality offer a mechanism that protects researchers and research participants by refusing access to research that is regarded as especially sensitive, such a genetic research. As large sample collections are built up and medical information can be linked, integrated and interrogated with greater ease, this may become more of an issue in the UK. At the current time there is too little information on how access orders are being used and whether this is an issue for healthcare professionals in particular. It is also evident that the protection offered to research participants is currently outweighed by the public interest in preventing crime. We do not want to reach a situation where our research collections have inadvertently become extensions of the NDNAD, without there having been a debate on this issue and consensus that this is an appropriate development in a civil society.

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<sup>1</sup> There are a number of pieces of legislation that have supported the establishment of the NDNAD. As well as PACE, these are the Criminal Justice and Public Order Act 1994; Criminal Evidence Act 1997; Criminal Justice and Police Act 2001; Criminal Justice and Police Act 2003 and the Serious Organised Crime and Police Act 2006.

<sup>2</sup> This National DNA Database (NDNAD) is run by the Forensic Science Service under the control of the Home Office for the Association of Chief Police Officers (ACPO).

<sup>3</sup> For an overview, see for example M. Guillén. et.al Ethical-legal problems of DNA databases in criminal investigations *Journal of Medical Ethics* 2000;26:266-271 and Williams, R., Johnson, P. (2005) *Forensic DNA Databasing: A European Perspective*. Interim Report. Research funded by Wellcome Trust UK. [http://www.dur.ac.uk/p.j.johnson/EU\\_Interim\\_Report\\_2005.pdf](http://www.dur.ac.uk/p.j.johnson/EU_Interim_Report_2005.pdf)

<sup>4</sup> Home Office. 2006 DNA Expansion Programme 2004-2005: Reporting Achievement. Home Office Forensic and Pathology Unit.

<sup>5</sup> Johnston, P. (2006) Huge rise in juvenile DNA samples kept by the police. *Telegraph News* 09/01/06 <http://www.telegraph.co.uk/news/main.jhtml;jsessionid=W1OL4PEVEXQ5PQFIQMFCFFOAVCBQYIV0?xml=/news/2006/01/09/ndna09.xml> (Accessed 05/04/06) and also G. Langdon-Down. DNA

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- <sup>10</sup> A. Jha. How DNA may tell police the surname of the criminal. The Guardian 22/02/06; 6.
- <sup>11</sup> C. Waters. From Face Charts to Technology — The Impact of DNA Profiling. 2000;164 JPN 952
- <sup>12</sup> s.65 (1) Police and Criminal Evidence Act 1984
- <sup>13</sup> Under the Police and Criminal Evidence Act 1984 s.27 (4) a recordable offence is one which carries a sentence of imprisonment.
- <sup>14</sup> s.62 (5)(b)(i) (ii) Police and Criminal Evidence Act 1984.
- <sup>15</sup> Ibid s.62 (7A).
- <sup>16</sup> Ibid s.62(1A).
- <sup>17</sup> Ibid s.62(10).
- <sup>18</sup> Ibid s.63 (3)(a).
- <sup>19</sup> Ibid s.63(3A)(a).
- <sup>20</sup> Ibid s.63 (3B) Police and Criminal Evidence Act 1984. This provision also allows an individual convicted of a recordable offence to be attend a police station to have a non-intimate sample taken, if this did not happen at the time.
- <sup>21</sup> Ibid s.63 (C) Police and Criminal Evidence Act 1984.
- <sup>22</sup> Ibid s.63 (4) Police and Criminal Evidence Act 1984.
- <sup>23</sup> *Jones v Chief Constable of West Midlands Police*, The Times, 24/03/06.
- <sup>24</sup> FSS. Fact Sheet Intelligence-led Screens. FSS website [http://fss.humid.e-symposium.com/Intelligence\\_led\\_screens.doc](http://fss.humid.e-symposium.com/Intelligence_led_screens.doc) (Accessed 27/02/06).
- <sup>25</sup> BBC News. DNA screened in model murder hunt. BBC News website (Accessed 24/02/06).  
<http://news.bbc.co.uk/1/hi/england/london/4743760.stm> (Accessed 27/02/06).
- <sup>26</sup> PACE was amended by the Criminal Justice and Police Act 2001 in order to bring about these changes.
- <sup>27</sup> Annex F destruction and speculative searches.
- <sup>28</sup> [2003] H.R.L.R. 1.
- <sup>29</sup> Ibid Lord Woolf C.J. at para 16.
- <sup>30</sup> Ibid Lord Woolf C.J. at para 24.
- <sup>31</sup> s.63(2) Police and Criminal Evidence Act 1984.
- <sup>32</sup> A blood sample is taken from a heel prick of babies shortly after birth to test for a number of conditions which has resulted in comprehensive collections of stable blood samples that are stored for a number of years. The Guthrie Card system was originally devised to test for PKU (Phenylketonuria, an easily curable enzyme- disorder of the liver) and is now a routine feature of most modern healthcare systems.
- <sup>33</sup> In the New Zealand High Court decision of *H v G* (2000) 18 FRNZ 572, the police were granted access to a PKU collection in order to solve a murder case.
- <sup>34</sup> *Her Majesty's Advocate v. Stephen Robert Kelly* [2001] ScotHC 7 (20<sup>th</sup> February, 2001).
- <sup>35</sup> The Royal Liverpool Children's Inquiry Report. (London: Crown Stationery Office, 2001).
- <sup>36</sup> Chief Medical Officer "Report of a Census of Organs and Tissues Retained by Pathology Services in England –Conducted in 2000" (London: Crown Stationary Office 2001)  
<http://www.doh.gov.uk/organcensus/census.pdf> Accessed 15th December 2003).
- <sup>37</sup> Chief Medical Officer "Report of a Census of Organs and Tissues Retained by Pathology Services in England –Conducted in 2000" (London: Crown Stationary Office 2001)  
<http://www.doh.gov.uk/organcensus/census.pdf> Accessed 15th December 2003),2.
- <sup>38</sup> National Bioethics Advisory Commission "Research Involving Human Biological Materials: Ethical Issues and Policy Guidance" (Maryland, USA: 1999), 1.
- <sup>39</sup> The Avon Longitudinal Study of Parents and Children (also known as Children of the 90s) is based in the University of Bristol. "It enrolled 14,000 mothers during pregnancy in 1991-2 and has followed the children and parents in minute detail ever since. Over the last 12 years the study has collected half a million biological samples from parents and children, everything from placentas to milk teeth." The study has now collected blood samples and cell lines will be developed from them. (Accessed 15th December 2003 [www.alspac.bristol.ac.uk](http://www.alspac.bristol.ac.uk)).

- <sup>40</sup> Chase DS, Tawn EJ, Parker L, Jonas P, Parker C.O, Burn J. “The North Cumbria Community Genetics Project” *J Med Genet.* 1998 May;35(5):413-6.
- <sup>41</sup> People power: population profiles and common diseases. *Wellcome News* 1999; Q3:18.
- <sup>42</sup> <http://www.ukbiobank.ac.uk/> (Accessed 15/02/03).
- <sup>43</sup> The UK Data Archive is working with the MRC to establish procedures and protocols for the sharing of data held by MRC-funded research projects. <http://www.data-archive.ac.uk/news/newsdetail.asp?ID=1494> (Accessed 27/02/06).
- <sup>44</sup> Humber M. ‘National programme for information technology.’ *British Medical Journal* 2004; 328:1145-1146.
- <sup>45</sup> s.9 of the Police and Criminal Evidence Act 1984; Prevention of Terrorism (Temporary Provisions) Act 1989 s 17 (1), Sch 7 para 3.
- <sup>46</sup> *R v Wayne Singleon* [1995] 1 Cr. App.R. 431,439.
- <sup>47</sup> *R v Wayne Singleon* [1995] 1 Cr. App.R. 431,439.
- <sup>48</sup> *W v Edgell* [1990] Ch 359, 2 WLR 471.
- <sup>49</sup> Personal communication with the Data Protection Officer, Thames Valley Police, Kidlington, August 2005.
- <sup>50</sup> USA National Institute of Health website <http://grants1.nih.gov/grants/policy/coc/background.htm> (Accessed 19/03/04).
- <sup>51</sup> *Ibid.*
- <sup>52</sup> *Ibid.*
- <sup>53</sup> *Ibid.*
- <sup>54</sup> Samuel C. Seiden & Karine Morin, The Physician as Gatekeeper to the Use of Genetic Information in the Criminal Justice System, 30 *J.L. Med. & Ethics* 88.