



## Retaining the Genetic Profile of Innocent People: A Difficult Balance Between Respecting the Individual's Privacy and Public Security

Luciana Caenazzo<sup>1§</sup> and Pamela Tozzo<sup>1</sup>

1. Legal Medicine Unit, Dept. of Molecular Medicine, University of Padua, Via Falloppio 50, 35121 Padova (Italy), E-mail: luciana.caenazzo@unipd.it.

### *Abstract*

*In the course of investigations related to a penal prosecution in Italy, biological material obtained from individuals considered directly involved in a crime, but neither suspected nor prosecuted, may be acquired without their knowledge and/or consent. Although scientific progress constantly provides greater potential to forensic investigations, new ethical implications arise from the need to balance the greater efforts towards justice which science allows against the protection of individual human rights. The issue that arises in our case is that a biological sample (and consequently a genetic profile) acquired without the consent and knowledge of the subject might become discriminatory and stigmatizing for the subjects involved (individuals involved in the life of the victim, but neither suspected of carrying out the crime, nor prosecuted) should the investigative activity enter the public domain. The protection of an individual's privacy within the context of the investigations goes beyond normal parameters of guarantee, because the risk of placing the identification process outside the control of the individuals is real. This risk therefore has a social relevance, considering that the investigative process might become discriminating and stigmatizing should the investigation enter the public domain. The safeguarding of privacy rights and the guarantee of society security must not contradict, but rather complement, each other.*

*Keywords: genetic profile, individual privacy, public security*

### **Introduction**

The constant scientific advances in DNA analysis techniques provide great help to forensic investigations and lead to the acquisition of new forms of forensic evidence. However, new ethical implications arise from the necessity of maintaining a balance between the greater efforts towards justice which science allows and the protection of individual's rights.

One particular aspect of such investigations relates to the issue of how to balance an acceptable level of restriction of the individual's rights to privacy against the security of the general public. One of the ethical values concerned in this balance is the individual's right to privacy, defined as the privacy to which everyone is entitled, into which

neither the state nor other people should intrude without their permission (1).

In Italy, when DNA analysis first began to be used in crime investigations, authorized consent was always required to collect any biological samples from persons involved. At a later time, as the powerful capabilities of a wider use of the DNA profiling were discovered, it became possible, under certain circumstances, to collect biological samples without the subject's consent. For example, during a criminal investigation an officer under the prosecutor's authorization who has reasonable evidence to suspect the involvement of an individual in a serious offence (when the individual had been neither formally suspected of the offence nor prosecuted), can collect specimens belonging to that person without consent (for example, hair, ciga-

rette butts, coffee cups, envelopes and stamps, paraffin-embedded tissue specimens stored in pathology departments, Guthrie card), when those specimens would be crucial to the confirmation or exclusion of the individual from involvement in the crime (2).

Following the provisions of the Italian Code of Criminal Procedure (which contains the rules governing criminal procedure in every court in Italy), the data regarding the analysis conducted and the genetic profiles obtained cannot be classified in nor completely erased from the investigation file of the prosecutor. Consequently the genetic profiles of individuals who have never been suspected of wrongdoing are permanently retained into the prosecutor's files.

### **Ethical issues concerning genetic profile retention**

In such cases the problem that arises is where the biological sample (and consequently the genetic profile) is acquired without the knowledge and/or consent of the subject, since the sample might become discriminatory and stigmatizing for subjects involved who are neither suspects nor have been prosecuted, but who are under investigation, should the investigative activity enter the public domain. The ethical problem with this practice, when adopted during a criminal investigation, is whether the restriction and/or violation of the individual's right to privacy can be justified for the promotion of public security. If the biological sample is acquired without the consent and knowledge of the subject, it cannot be considered as having been given voluntarily, and we must therefore ask to what extent this restriction of rights can be considered acceptable in favor of public security.

Achieving justice implies more than simply the resolution and reduction of crime; it also involves also the legitimacy of equality and protection of civil liberties. If technology is to be used in the course of justice, it should be done in ways that respect privacy and autonomy, and which reduce discrimination and injustices by encompassing equality in the criminal justice system (1). The ethical concerns and issues relating to forensic DNA profiling and databasing are situated at the intersection of civil rights, science, and governance (3).

Today's technological advances have developed extremely complex and sophisticated means of personal identification, and have significantly improved criminal investiga-

tions; however, these advances have at the same time increased the opportunities to monitor individuals (4).

The systematic and constant monitoring of an increasing number of behaviors and genetic characteristics could constitute a subtle but hazardous form of bio-surveillance. The problem of protecting the privacy of individuals therefore has implications and consequences which are far beyond the traditional standard of privacy, because the risk of placing the identification process outside the control of the individuals is real, and is therefore of social and existential relevance (5).

When there is a systematic procedure of collecting and recording behavioral data and genetic characteristics obtained through the analysis of biological samples, the proper balance between protection of the individual privacy and public security could be altered.

### **Proportionality and necessity**

Jurisprudence has developed a global context of lawfulness to grant the right to privacy through the respect of two fundamental concepts: the proportionality and necessity of invasions of privacy.

An infringement of individual privacy on the basis of proportionality should be characterized by a proper weighting between the restriction of personal freedom and the existence of specific security requirements. It is important in determining whether a hypothetical action is or is not proportional to its likely outcomes. The prevention of conditions which would potentially be hazardous for individuals and for society is considered a sufficient reason to proceed if one is unable to achieve by other means the same results with the same degree of efficiency.

Proportionality is a basic principle in European Union (EU) legislation, underlined by numerous regulatory or ethics documents.

The definition of necessity regards the context in which the use of such samples does not allow the use of other types of less invasive but equally sensitive technology, which allow the same results to be obtained through the application of technology.

Proportionality and necessity must be assessed in relation to the objectives pursued, with particular reference to the context in which the data is obtained and processed, and the relationship between the ends and means of the use of

the data. In this context, the issues related to the judicial power to retain the profile of subjects involved in criminal investigations, have to be examined carefully to ensure that the means used are proportionate to the legitimate end of public security (1,5).

### **Public security**

If we consider the investigative activities as related to the penal prosecution of a crime we could understand the practice adopted to solve the crime as a form of contribution to public security in view of the so-called “fight against crime”.

“Security” derives from the Latin term “*sine cura*” (= no worry) and refers to a subjective feeling of tranquility, and to the absence of danger. The term can be adopted with several meanings, one of which refers to an objective condition of the absence of risk or danger to persons and things. From this perspective, a place is described as unsafe when it has a high concentration of risks and hazards (e.g., a high crime rate).

The term “security” is also related to the organization of means and resources used to ensure safe conditions (i.e., the public security apparatus).

Finally, the term “security” can refer to a state of mind of the individual, to the way the individual perceives the surrounding reality and relates to it. In this instance, one speaks more often of “fear of crime”.

Institutions play a crucial role in the process of social reassurance, so we can deduce that the security of the population depends on how the institutions act, on the quality of their relationship with the citizens, and on their ability to intervene appropriately with respect to citizens’ demands. On the other hand, the pursuit of social security involves a real cost to society, in terms of technology, police recruitment, etc., and these additional costs imply the consumption of resources which are diverted from potential investments in other sectors, such as education and public health. Resources dedicated to technology should be consistent with other social priorities and human rights within and beyond the criminal justice system (6, 7).

With regards to the right to individual freedom, an increase in the level of security could be associated with a certain level of restriction of individual liberties. The price which the individual is willing to pay in order to

obtain such a high level of security must therefore be evaluated carefully (8,9).

The question that may arise in our context is: can the practice of retaining the genetic profiles of individuals considered directly involved in criminal acts, but who are not suspected nor prosecuted, without their information or consent, be justified, inasmuch as it constitutes a restriction of individual liberties relating to privacy with the purpose of promoting public security?

It is crucial to understand and accept that the relationship between freedom and security is one in which each value limits the other and in which the two values cannot both be maximized. A decision on what constitutes a desirable degree of security is of paramount importance. The question of which limitation of their freedom people are happy to tolerate is therefore closely linked to the level of security they desire. Depending on the importance that society gives to security, people will give a different answer to the question as to what restriction of liberty is acceptable for the promotion of security.

The storage of the biological samples and data of subjects who are involved in criminal investigations but are not suspects, without their knowledge, becomes increasingly worrying if the samples are, for example, linked to other personal information.

The so-called “profiling” is based on the combination of biometric data and other kind of information (e.g., medical, financial or behavioral). Profiling can be defined as a process by which an individual becomes the object of particular attention based on the observation of specific characteristics or behaviors, in accordance with which different procedures of alert or suspicion linked to that individual can be created. Profiling is one of the most commonly used techniques in the fight against terrorism, and if carried out without judicial control, it implies the placement of certain individuals in specific risk categories. Inclusion in such categories may preclude the individual from entering into certain countries or enjoying certain services, on the basis of personal data collected without the knowledge of the person concerned. This preventive and informal profiling has always been a useful practice of the police apparatus. However, progress in technology has increased the possibility of bio-monitoring in the present day, so that, in extreme cases, a person may be forced to demonstrate that he/she does not represent a danger to society without having committed any specific crime (5).

In the case that an investigation enters the public domain, subjects who are investigated, but are neither suspected nor prosecuted, in the procedure, and whose samples are collected without their knowledge and consent, could end up in precisely this situation.

### **Avoiding samples and data accumulation**

The Italian National Committee on Bioethics in the document “The Identification of The Human Body: Bioethical Aspects of Biometrics” (5), paragraph “The right to oblivion” reports: “Memory is a key element of individual identity and social relations. It is difficult to imagine any internal development and cultural progress without the conservation and organization of traces of the past, which may take many forms: memory, history, opinion, prejudice, etc.). Oblivion is just as important to make a selection within this set of elements, avoiding any unnecessary or harmful accumulation. To ensure social stability and to protect individuals’ fundamental rights and freedoms, juridical experience has had to develop artificial forms of oblivion (despite their diversity: removal from criminal records, prescription, amnesty, pardon, etc.), where morality entrusts to forgiveness the extreme inner effort to overcome the past”.

In our context “avoiding any unnecessary or harmful accumulation” should be considered on two levels: the storage of biological samples, and the storage of data on each individual in the prosecution files.

In the literature, the issue concerning the storage of DNA samples in forensic databases is considered by many as an infringement of civil liberties. It is also argued that the need for a relationship of trust between the government and society would favor the storage of just the genetic profiles, and the destruction of actual biological samples. The destruction of the samples immediately after the analysis should serve to guarantee to the public that their DNA will not be used for purposes unrelated to legitimate law enforcement. After the DNA sample is destroyed, the remaining information would consist of a series of numbers without diagnostic or prognostic interest (10,11).

In the case we have presented, we think that there is no valid ethical reason to preserve a biological sample once it has been analyzed to obtain the individual genetic profile, and therefore the sample should be destroyed after

the completion of profiling, as is done, for example, in some EU forensic databases (12).

Regarding the genetic profiles obtained from biological samples of the individuals involved, they should only be used for a “one-off comparison” against the crime scene samples. If the samples taken fail to match samples found at the crime scene, the samples and the related profiles should be destroyed. This would guarantee “the right to oblivion” and would therefore fully respect the privacy of this particular category of individuals, who are innocent and totally unaware of the investigation being conducted on them. We can consider in this context “the right of oblivion” as the right not to be filed, classified, and possibly irreversibly marginalized on the basis of information gathered without your knowledge through non-transparent criteria, avoiding the durability of findings.

An alternative strategy which can be outlined is a consensual negotiation between the authorities carrying out the investigation and the persons involved, with the aim of obtaining consent for the sampling and, especially, for the analysis of the sample. Such a procedure could legitimize sample collection, in a manner similar to the collection process of samples in case of the “DNA Dagnet” procedure. In this procedure, the police ask a number of individuals to give voluntary DNA samples in a effort to identify the perpetrator of a crime or a series of crimes (13,14), and the biological materials are donated after informed consent, and voluntarily. In this way the persons involved in the investigation are informed about the collection of biological material as part of the procedure.

### **Conclusions**

The issue arising in cases where the biological sample (and consequently the genetic profile) is acquired without the knowledge and/or consent of the subjects who are involved in the investigation, but are neither suspected nor prosecuted, is that it might become discriminating and stigmatizing for them, especially where the investigative activity enters the public domain. This constitutes a crucial point in the balance between the restriction of individual liberty in terms of privacy violation and promoting security.

The right to oblivion could represent a solution that justifies the practice adopted in our context, ensuring both the protection of individual privacy and the safeguarding of

public security. This right should be considered regarding two aspects: the storage of the biological sample, and the storage of data of each individual in the prosecution files, in relation to the importance of the individual to the investigation and the protection of individual privacy, and in relation to different procedures which should be followed.

When dealing with the investigation of severe crimes, it seems that the vast majority of the population in democratic countries is normally willing to cooperate with the police. Individuals should be requested to give up their right to privacy to the extent required to ensure public security, by giving the individuals assurance of clear definitions and behaviors, and by maintaining shared and transparent arrangements and procedures.

Furthermore, jurisprudence should seek to balance the rights of the individual against the need for public security, establishing appropriate provisions in the different contexts to achieve the protection of individuals' privacy.

The protection of the individual's right to privacy and the public interest of security should not contradict but should carefully complement each other, in order to maximize the citizens' trust in a coherent and transparent justice system.

### **Competing interests**

The authors declare that they have no competing interests.

### **References**

1. Nuffield Council on Bioethics. The forensic use of bioinformation: ethical issues. Cambridge: Cambridge Publishers Ltd; 2007.
2. Kaye J. Police collection and Access to DNA samples. *Genomics, Society and Policy – Special issue Genomics and Criminal Justice*. 2006;2(1):16-27.
3. Hindmarsh R, Prainsack B. Introducing Genetic Suspects. In: Hindmarsh R, Prainsack B, editors. *Genetic Suspects. Global governance of Forensic DNA Profiling and Databasing*. Cambridge: Cambridge University Press; 2010. p. 1-11.
4. Hofmann B. Forensic uses and misuses of DNA: a case report from Norway. *Genomics, Society and Policy*. 2006;2(1):129-131.
5. Italian National Committee on Bioethics [Internet]. The identification of the human body: bioethical aspects of biometrics. 2010. Available from: <http://www.palazzochigi.it/bioetica/eng/opinions.html>.
6. Hoppe HH. Fallacies in the public goods theory and the production of security. *The Journal of Libertarian Studies*. 1989;9(1):27-46.
7. Bromba MUA. The Biometric Society-Risks and opportunities. In: Mordini E, Green M, editors. *Identity, Security and Democracy*. Amsterdam: IOS Press; 2009. p.95-109.
8. Lodge J. Freedom, security and justice: the thin end of the wedge for biometrics? *Annali dell' Istituto Superiore di Sanità*. 2007;43(1):20-26.
9. Pieri E, Levitt M. Risky individuals and the politics of genetic research into aggressiveness and violence. *Bioethics*. 2008;22(9):509-518.
10. Van Camp N, Dierickx K. The retention of forensic DNA samples: a socio-ethical evaluation of current practices in the EU. *Journal of Medical Ethics*. 2008;34(8):606-610.
11. Caenazzo L, Dierickx K. Forensic DNA Databases in Europe: Ethical Challenges. In: Yacine N, Fella R, editors. *Forensic Science*. New York: Novapublisher; 2012. p.169-178.
12. Patyn A, Dierickx K. The main ethical question regarding forensic DNA databases. In: Dierickx K, Borry P, editors. *New challenges for biobanks: ethics law and governance*. Antwerp-Oxford-Portland: Intersentia; 2009. p.181-195.
13. Zadok E. Legislative and Ethical Questions regarding DNA and other Forensic "Biometric" Databases. In: Kumar A, Zhang D, editors. *Ethics and Police Biometrics*. Berlin: Hiedelberg/Springer-Verlag; 2010. p.27-39.
14. Zadok E, Ben-Or G, Fisman G. Forensic utilization of voluntarily collected DNA samples: law enforcement versus human rights. In: Hindmarsh R, Prainsack B, editors. *Genetic suspect. Global governance of Forensic DNA Profiling and Databasing*. Cambridge: Cambridge University Press; 2010. p. 40-62.