

Human Genetics Commission, consultation on the forensic use of genetic information and the National DNA Database

Response from an expert workshop on Genetic Suspects: Emerging Forensic Uses of Genomic Technologies, held at the ESRC Genomics Policy and Research Forum,¹ 2-3 October 2008

On 2-3 October 2008, the ESRC Genomics Policy and Research Forum hosted an expert workshop bringing together social scientists, forensic scientists, criminal justice practitioners, members of regulatory bodies and others for a wide-ranging discussion of established and emerging forensic uses of DNA technologies. It should be stressed that participants attended the workshop in a personal capacity, not as representatives of particular organizations or bodies; the views expressed at the meeting and in the present document should therefore not be seen as representing anything other than the collective opinion of the individuals listed in the appendix to this document.

In the course of the workshop, it became clear that a full understanding of the operation and use of forensic DNA technologies in the UK is severely hampered by a distinct lack of data, particularly on the working of the National DNA Database (NDNAD), its use in policing and detection work, and its impact on crime prevention and control. In the closing discussion, it was therefore agreed to submit a response to the HGC consultation on the forensic use of genetic information and the National DNA Database, making clear the need for systematic research into the use of forensic DNA technologies in the UK. The following statement was subsequently agreed by a subset of those attending the workshop:²

¹ The ESRC Genomics Policy and Research Forum is part of the ESRC Genomics Network (EGN), a major investment by the Economic and Social Research Council (ESRC) dedicated to examining the development and use of the science and technologies of genomics. Established in August 2004, the Forum acts to integrate the diverse strands of social science research within and beyond the EGN; to develop links between social scientists and scientists working across the entire range of genomic science and technology; and to connect research in this area to policy makers, business, the media and civil society in the UK and abroad.

² A list of those who approved this document is appended below. Not all participants in the workshop felt that it would be appropriate, in view of their official positions or other constraints, for their names to be appended to the present document. The list of participants reproduced below therefore includes only those individuals who gave explicit consent for their names to be used for this purpose.

It is vital that systematic research be undertaken into the operation and employment of forensic DNA technologies in the UK, and their impact on policing, crime prevention and control. Such research is essential for meaningful evaluation of the forensic utility of these technologies, their effective management and governance, and to inform policy decisions on how such technologies should be developed, deployed and regulated. The availability of such research, and its incorporation into governance and policy, is crucial to ensure transparency, accountability and public confidence in the forensic use of DNA technologies.

A number of categories of data collection and research might usefully be demarcated, all of which will be necessary if the aims of transparency, accountability and public confidence are to be met.

1. At the most basic level, there is a need for systematic data on the effectiveness of forensic DNA technologies in the investigation and prosecution of crime.³ These data should be such as to permit evaluation of the utility of forensic DNA technologies for enhancing:

- the identification of hitherto unknown individuals
- the inclusion or elimination of individuals from a criminal inquiry
- detection and conviction rates
- the speed, effectiveness and costs of prosecutions
- number of guilty pleas

These data should also be such as to permit analysis and comparison:

- between different offences
- within and across police force administrative boundaries and jurisdictional boundaries.

2. Additionally, data on detection rates etc. should be analysed relative to (a.) dates of acquisition of DNA samples and (b.) different categories of individuals from whom such samples are taken, so as to permit evaluation of the utility of:

- acquiring and retaining forensic DNA samples and profiles from different social categories of suspects and offenders (age, gender, ethnicity, employment status etc.)
- acquiring and retaining forensic DNA samples and profiles from individuals who progress to different stages of the criminal justice system (arrested, charged, unconvicted, convicted, and volunteers)
- retaining forensic DNA samples and profiles for longer or shorter periods or indefinitely
- acquiring and retaining forensic DNA samples and profiles from young persons

Such data will facilitate evaluation of questions of much import for present and future policy.

³ The categories of performance data listed in this paragraph are drawn from James Fraser, *Acquisition and Retention of DNA and Fingerprint Data in Scotland* (June 2008), Appendix 3, pp. 23-4, <http://www.scotland.gov.uk/Resource/Doc/239066/0065846.pdf>, accessed 16 October 2008.

3. Particular attention should be paid to collecting data on the utility of developing, novel and expanded uses of forensic DNA samples and profiles, including:

- the use of partial profiles
- the use of low copy number DNA
- familial searching
- inferring phenotypic traits
- datasharing with other forensic databases in other countries or with other security services
- linking with other kinds of databases
- publicly funded and commercial research

Basic data of the three kinds so far described would necessarily be generated within the criminal justice system, but should be subject to independent audit and review, and should be placed in the public domain.

4. Research external to the criminal justice system should also be supported and encouraged with a view to assessing more complex criminological and sociological questions, including:

- the effectiveness of forensic DNA technologies in preventing as well as detecting offending and re-offending behaviour
- the consequences of forensic DNA technologies for changing patterns of offending behaviour (e.g. strategies for avoiding detection, shifting to offences that are less likely to be reported or pursued)
- the consequences of forensic DNA technologies for changing patterns of policing and detection practices (e.g. changes in the collection and weighting of different kinds of evidence, shifts in what offences or types of offences are prioritised or pursued)
- the impact of forensic DNA technologies on judicial proceedings (e.g. the likelihood of and reasons for defendants offering guilty pleas, the presentation and contestation of DNA evidence, the weighting of different kinds of evidence by triers of fact, the likelihood of and reasons for appeals)
- the risk of false convictions through unintended or deliberate contamination of DNA evidence
- the economic costs and benefits of developing and deploying forensic DNA technologies

We recognise the difficulty of answering some of the questions indicated above, and even of generating reliable data that bears on them. We are aware, for example, that it is difficult to separate the impact of database searches from other possible influences on conviction rates for different crimes. Nonetheless, we believe that it is vital that such questions be investigated. Given the potentially far-reaching consequences of present and future developments in forensic DNA technologies for personal security and civil liberties, it is crucial that those developments be subjected to thorough scrutiny and evaluation.

For the same reasons, it is also clearly important that information from the kinds of audit, review and social scientific inquiry outlined above should be made available to, and reviewed by, relevant independent oversight bodies including the NDNAD Ethics Group. To ensure good governance of, and public confidence

in, this extensive database identifying a sizeable proportion of the UK public, the deliberations of these bodies should be routinely published and their conclusions disseminated widely. Good governance and good communications need to be taken as seriously as the development of the technologies themselves.

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Appendix: List of participants

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Mr Jonathan Davies, PhD candidate, ESRC Centre for Genomics in Society (Egenis), University of Exeter

Prof Jim Fraser, Director, Centre for Forensic Science, University of Strathclyde

Dr Gill Haddow, Research Fellow and Lecturer, ESRC Centre for Social and Economic Research on Innovation in Genomics (Innogen), University of Edinburgh

Prof Erica Haines, Professor of Sociology and Professorial Fellow, PEALS (Policy, Ethics and Life Sciences) Research Centre, Newcastle University

Dr Christine Hauskeller, Senior Research Fellow, ESRC Centre for Genomics in Society (Egenis), University of Exeter

Dr Christine Knight, Policy Research Fellow, ESRC Genomics Policy and Research Forum, University of Edinburgh

Prof.dr. Bert-Jaap Koops, Professor of Regulation and Technology, Tilburg Institute for Law, Technology, and Society (TILT), Tilburg University, The Netherlands

Mr Tony Lake, ex-Chief Constable of Lincolnshire, ex- Chairman of the ACPO Forensic Portfolio, ex-Chairman of the National DNA Database

Dr Mairi Levitt, Senior Lecturer and Head of Department in Philosophy, Lancaster University

Prof Michael Lynch, Department of Science & Technology Studies, Cornell University, USA

Prof Helena Machado, Associate Professor of Sociology and Deputy Director, Research Centre for the Social Sciences, University of Minho, Portugal

Dr Paul McCarthy, Research Council Academic Fellow in Health Care Resources in the Postgenome Era, ESRC Centre for Economic and Social Aspects of Genomics (Cesagen), Lancaster University

Dr Ruth McNally, Senior Research Fellow, ESRC Centre for Economic and Social Aspects of Genomics (Cesagen), Lancaster University

Dr Peter Mills, Head of the Secretariat, Human Genetics Commission

Dr Barbara Prainsack, Senior Lecturer, Centre for Biomedicine & Society (CBAS), King's College London

Prof Ann Rudinow Sætnan, Professor of Sociology, Norwegian University of Science and Technology, Trondheim, Norway

Prof Pamela Sankar, Associate Professor of Bioethics and Senior Fellow at the Leonard Davis Institute of Health Economics, University of Pennsylvania

Ms Julia Selman-Ayetey, barrister and tutor in criminal law, King's College London and University College Oxford

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Prof Steve Yearley, Professor of the Sociology of Scientific Knowledge and Director, the ESRC Genomics Policy and Research Forum, University of Edinburgh