Biometrics and Forensics Ethics Group

Note of the 6th meeting held on 3rd December 2018 at
Home Office, 2 Marsham Street, Westminster, London, SW1P 4DF.

1.0   Welcome and introductions

1.1   Chris Hughes, chair, welcomed all to the 6th meeting of the Biometrics and Forensics Ethics Group (BFEG).

1.2   Apologies had been received from Liz Campbell, Simon Caney, Kit Harling and Jennifer Temkin. Sue Black would be joining by teleconference for the afternoon session.

2.0   Notes of the last meeting & matters arising

2.1   The note of the last meeting of the BFEG had been approved by correspondence and published on the BFEG website.[1]

2.2   Actions arising from the March 2018 meeting were discussed.

2.2.1   *Action 2: Science Secretariat to determine how the BFEG will contribute to the Law Enforcement Database Service (LEDS) Open Space.* The Home Office Biometrics Programme (HOB) had obtained ministerial support for joining the Open Space (subsequently agreed by Open Space participants at their meeting on 5th December). Since this would now be a joint LEDS/HOB initiative, it was proposed that the remit of the BFEG's HOB Ethics Working Group (HOB EWG) expand to cover the LEDS in addition to the HOB. BFEG members agreed the proposal.

2.2.2   *Action 5: FINDS Unit to provide the BFEG with paperwork relating to the Metropolitan Police Service (MPS) proposal.* This action was ongoing. The consent form for the MPS to collect human samples as part of the EU VISAGE project was sent out to members on 22 October 2018 but further information had been requested, including the project's participant information sheet and ethics protocol. This information had not yet been received.

2.2.3   All other actions were complete.

3.0   Chair's update

3.1   The chair had attended the first meeting of the Home Office Ethics Sub-Committee of the Data Board and provided an overview of the ethical issues raised at the meeting. The importance of understanding the consequences and social issues that arise from

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[1] Available from: https://www.gov.uk/government/organisations/biometrics-and-forensics-ethics-group/about/membership#meeting-minutes

technological innovation was emphasised. The BFEG secretariat had also been in attendance and would act as a pipeline to the BFEG.

3.2   A conference of Arm's Length Bodies had been held by the Home Office which the BFEG chair had attended. One of the topics that arose during the conference was the combination and repurposing of large data sets. The chair had informed attendees of some of the ethical issues identified by the BFEG in relation to large data sets.

3.3   At the recent Home Office Science Advisory Council (HOSAC) meeting, members were informed that Dr Patrick Vallance, Government Chief Scientific Adviser, had asked all government departments to consider signing the Universities UK 'Concordat on Research Integrity'[2] . The Home Office had signed the concordat, the intention of which was to ensure that research produced by or in collaboration with the UK research community was underpinned by the highest standards of rigour and integrity. The HOSAC were also informed of development of artificial intelligence (AI) within the Home Office for forensic identification of indecent images of children.

4.0   FIND Strategy Board – Policies for ex-committee review: Prüm and UK Missing Persons Unit

4.1   The BFEG were informed that the DNA component of the FINDS-P-040 International DNA and Fingerprint Exchange Policy for the United Kingdom was being updated. The BFEG would be asked to identify what, if any, ethical implications the amendments raised via correspondence.

4.2   The BFEG were informed that the FINDS-P-019 policy for administering the Missing Persons DNA Database (MPDD) for the National Crime Agency (NCA) – UK Missing Persons Unit had been updated to reflect the changes incorporated into accepting additional loci and sending match reports to law enforcement agencies. The BFEG would be asked to identify what, if any, ethical implications the amendments raised via correspondence.

5.0   Home Office policy update

5.1   An overview of recent legislative developments was provided by representatives of the Home Office Data and Identity Directorate. A Private Members' Bill making provision for use of body-worn video (BWV) by police officers in the course of their duties in relation to people in mental health units, had gained Royal Assent on 01 November 2018.[3] A member asked whether the bill had any protections for patients whose image might have been inadvertently captured during the incident. Members were informed that there would be a requirement to issue guidance on the handling of footage, which would follow at a

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[2] Available from: https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Pages/research-concordat.aspx
[3] The Mental Health Units (Use of Force) Act 2018, see: https://services.parliament.uk/bills/2017-19/mentalhealthunitsuseofforce.html

later date. It was felt that, unlike written evidence, evidence captured using BWV had the potential to disadvantage lesser informed members of the public.

5.2   A Private Members' Bill had been laid before Parliament to grant the Forensic Science Regulator (the 'Regulator') statutory powers, however it had not passed on first reading. A second reading was due in March 2019. This had been subject to significant delay due to an ongoing dispute in Parliament about the use of Private Members' Bills to conduct what some viewed as government business.

5.3   A hearing was expected in March 2019 for a judicial review launched by Liberty against the South Wales Police (SWP) for their use of facial recognition technology, with the Home Office as an interested party. A second judicial review case brought forward by Big Brother Watch (BBW) against the MPS and the Home Office had been postponed.

5.4   Members were presented with an update on the joint review of the provision of forensic science to the Criminal Justice System (CJS) being conducted by the Home Office, the National Police Chiefs' Council (NPCC) and the Association of Police and Crime Commissioners (APCC). An early finding was that policing had collectively recognised that the market for forensic services had shrunk too small and consideration was being given as to how to stabilise the market and ensure that it became sustainable. Different procurement models for forensic science were being considered in the medium term. The Transforming Forensics (TF) Programme was setting up a Forensic Capability Network which aimed to consolidate expertise and facilitate knowledge exchange.

6.0   Department for Digital, Culture, Media and Sport (DCMS) Centre for Data Ethics and Innovation (CDEI)

6.1   Representatives of DCMS and the CDEI provided members with an overview of how the CDEI had been established and its initial programme of work. A budget of £9 million, spread over three years, had been allocated to the CDEI which would advise government and regulators on how to strengthen and improve the UK's policy and regulatory environment for data and artificial intelligence (AI).

6.2   A public consultation had been launched in June 2018 to gather views on the aims and objectives of the CDEI, from which over 100 written responses were received. In addition, several round table discussions had been organised with a range of stakeholder groups to capture further views. Overall, the consultation demonstrated strong support for the proposals from across a broad range of respondents. The creation of the CDEI and its proposed aims and activities was generally welcomed.

6.3   The government published its response to the consultation on 20 November 2018.[4] Taking into account the overall levels of support expressed by respondents, and the detailed research which informed the design of the CDEI, the response made limited

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[4] Available from: https://www.gov.uk/government/consultations/consultation-on-the-centre-for-data-ethics-and-innovation

changes to the original proposals. It focused primarily on clarifying existing functions and strengthening the CDEI's reporting and recommendation functions.

6.4   Key themes emerging from the consultation, and changes to the original proposals for the CDEI were as follows:

- **Public engagement:** although proposals for the CDEI included a public engagement element, some felt this could be expanded to encompass larger-scale engagement and education activities, for example data literacy campaigns. The government response reaffirmed the importance of effective public engagement work but clarified the parameters of the CDEI's role in this space given its modest budget. The CDEI would not deliver large-scale campaigns of this type, however would partner with expert and well-resourced public engagement organisations to ensure its recommendations are supported by a strong evidence base.
- **Reporting mechanisms:** given the urgency of the issues the CDEI would address and the fast pace of technological change, some felt the government should respond to the CDEI's recommendations more quickly than originally proposed. The government consultation response modified the timeframe for the government to respond to the CDEI's substantive recommendations such that a response would be published as quickly as reasonably possible, and no later than six months after a recommendation was made.
- **Ethics/innovation tension:** whilst most agreed that the CDEI could add value advising on governance to support both innovation and ethical data use, a minority of respondents felt that the two issues gave rise to an unavoidable tension. The response reaffirmed that these were closely linked and mutually reinforcing, and that the CDEI would take forward the proposal to address both ethics and innovation, whilst being mindful of any potential conflicts of interest.
- **Scope/prioritisation of activities:** strong support was expressed for the activities proposed in the consultation document, but differing views were expressed around which areas should be prioritised. After the launch of the consultation, the CDEI's first two projects were commissioned by the Chancellor and would cover micro-targeting and algorithmic bias. Interim reports on these projects were expected in Summer 2019.
- **Statutory footing:** a wide range of opinions were received on this issue, but generally support was given to putting the CDEI on a statutory footing. The government response reaffirmed the commitment to establish the CDEI as an independent body with statutory powers, based on careful assessment of its statutory needs and informed by the interim CDEI's early findings and recommendations.

6.5   The CDEI would publish its draft operational strategy by spring 2019, including a target operating model and more detail on how it will work with different institutions and stakeholder interest groups. A 'state of the nation' style report would be published in the first phase of operation which would assess in more detail how the CDEI would be placed on a statutory footing and the types of powers that would be required. The first annual report would be published in early 2020.

6.6   The CDEI board comprised its chair, Roger Taylor, and 11 members with expertise including data science and experience spanning industry, academia and regulation.[5]

6.7   The first two projects that the CDEI would undertake were commissioned by the Treasury in the 2018 budget[6] and would focus on:
1. Targeting and profiling; and
2. Algorithmic bias.

6.8   Targeting was viewed as a relatively ethically fraught area and there would be a requirement to identify the issues most relevant to the use of data and AI. A review of the subject would be undertaken, including whether public acceptability of targeting was context-specific. Technological solutions would also be investigated to identify and work through the ethical implications of technologies, such as privacy-enhancing software.

6.9   Further work was required to define the scope of the work package for algorithmic bias, which could include analysis of sectors and applications where algorithms were used in significant decision-making processes which impact individuals, e.g. financial services, recruitment etc.

6.10   In discussion concerning the topics on which the CDEI would be focussing, BFEG members recommended:
• Developing a roadmap of emerging technologies to avoid outputs becoming rapidly outdated. A member offered to contribute to the horizon scanning activity;
• That the tension between ethics and innovation raised the risk of the CDEI only focusing on areas where these two things synergise, and the need for a broad approach to be maintained;
• Since one of the focuses of the CDEI would be around public engagement, to be aware that it is often difficult to make a judgement on public views given that they can sometimes be contradictory. To gain a meaningful view a wide range of stakeholders would need to be asked a broad set of questions.

Action 1: Secretariat to facilitate Peter Waggett engagement in DCMS horizon scanning

6.11   A member shared their experience of involvement with statutory bodies. Good practices included the 'eight matters', which had to be considered by statute by the Board of Qualifications Wales when reaching a decision and provided the necessary level of rigour and consistency to deliberations. If they were not considered, the decision could otherwise be subject to judicial review. DCMS officials requested that these experiences were expanded upon and shared after the meeting.

Action 2: Secretariat to facilitate contact between DCMS and Isabel Nisbet to discuss issues related to obtaining statutory footing

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[5] See: https://www.gov.uk/government/groups/centre-for-data-ethics-and-innovation-cdei#board-members
[6] Available from: https://www.gov.uk/government/publications/budget-2018-documents

7.0   DCMS Data Ethics Framework

7.1   A member of the Home Office data policy and governance team (DCMS) provided members with an overview of the DCMS Data Ethics Framework. This framework had emerged from the Cabinet Office's Government Digital Service (GDS) data science programme which was established to ensure rigour in considerations of increasingly innovative uses of data. The first framework had been published in 2016, with an update released in June 2018.[7] Another phase of iteration for the framework would be undertaken shortly.

7.2   The sixth principle of the framework stated that development and use of AI should be "transparent and be accountable". A member highlighted that the 'black-box' problem, whereby inputs and outputs of an algorithm are known but detail of internal workings is not, made this inherently challenging. This black-box problem was recognised in government, particularly as many services were now obtained from external providers. Measures, such as the introduction of transparency clauses into any new contracts, were being introduced to enhance transparency in government-procured services. Regulation could be considered to help understand what is behind the 'black-box' and introduce accountability for algorithms and a greater level of transparency. A member felt that do this effectively it would be important acknowledge differences between technologies, rather than not to homogenise AI; for example, deep-learning[8] would require special consideration.

7.3   When developing ethical frameworks, a member warned against equating ethical and privacy concerns. Public good issues would be relevant in addition to private good. It was important to ensure that new technologies did not increase the risk of injustice to particular groups in society.

7.4   Other projects being undertaken by the DCMS data policy and governance team included:
- Working with departments to develop use-cases to demonstrate the importance of ethical consideration both before and during project development;
- Working with colleagues within GDS and others to explore opportunities to embed the framework into assurance standards such as the Technology Code of Practice[9] and Service Design Manual[10];
- Including use of the framework within the National Data Strategy being developed within DCMS;
- Development of tailored frameworks for application across government; and

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[7] Available from: https://www.gov.uk/government/publications/data-ethics-framework/data-ethics-framework
[8] Deep Learning is an AI function that imitates the workings of the human brain in processing data and creating patterns for use in decision making. Deep learning has networks capable of learning unsupervised from data that is unstructured or unlabelled.
[9] Set of criteria to help government design, build and buy better technology. See: https://www.gov.uk/government/publications/technology-code-of-practice/technology-code-of-practice
[10] See: https://www.gov.uk/service-manual

- International testing of the framework, e.g. a member of the GDS team was piloting the framework with organisations in the San Francisco area.

7.5   A discussion was held around how the work of the BFEG might dovetail with that of the CDEI and DCMS more widely and where opportunities for collaboration may arise. The ethical framework would be revisited in the new year, at which point a more detailed discussion with BFEG would be held.

7.6   Algorithmic bias was being scrutinised by the BFEG Facial Recognition Working Group (FRWG) as part of its ongoing analysis and report writing. This could be a potential area of overlap and the DCMS team welcomed the sharing of any findings.

Action 3: Secretariat to arrange BFEG input into DCMS ethical framework

Action 4: Secretariat to keep DCMS and CDEI informed of BFEG FRWG findings

7.7   In response to asking whether the CDEI would be carrying out a mapping exercise of data held by government and how this might be used members were informed that consideration was being given to how an exercise of this nature might be carried out and data inventories created. In the first instance the focus would be on discoverability of data. DCMS did not intend to combine government-held datasets but would be interested to understand how this might be occurring within other departments.

7.8   A member warned against taking a sectorial approach to data ethics as commercial development of AI did not necessarily make such distinctions, e.g. Cambridge Analytica simultaneously used Facebook data for electoral targeting and targeting of fashion at different consumers. It was proposed that this overlapping use of distinct data sets might be a useful place to conduct analysis.

8.0   Stakeholder updates

8.1   Written updates from the Office of the Biometric Commissioner and the Forensic Information Databases Service (FINDS). had been shared with the BFEG.

9.0   Facial Recognition Working Group (FRWG) report

9.1   A draft report written by the BFEG's FRWG on police use of facial recognition was presented to members for their consideration. The report contained:
- a summary of key issues that emerged from an evidence gathering process;
- a set of ethical principles to be considered when deploying live facial recognition (LFR); and
- a list of questions to accompany the ethical principles.

9.2   During the evidence gathering process concerns had been raised regarding the experimental methodology used in the police. In addition, it had been very difficult to

determine whether LFR technology had been used in the context of a trial or an operational deployment by police. This lack of clarity was worrying and risked future use of the technology becoming publicly unacceptable. The report of the working group recommended that operational police trials of LFR were suspended pending the development of a legislative framework governing use of the technology. Pausing further deployments would provide an opportunity to improve the design of the trials including, for example, using a 'blue watchlist' only rather than a public watchlist to test utility. Members emphasised the need to ensure that the parameters of further trials were made open and transparent to prevent further erosion of public trust.

9.3   A member raised a concern about stopping the trials altogether as this would slow development of a potentially useful technology. It was felt that it would be preferable that the trials were instead carried out in a more considered way, including rigorous evaluation. It was agreed that there was a clear need to carry out an objective, systematic and rigorous appraisal of the potential of the technology and to clearly separate this from instances of poor practice. Once an acceptable system had been achieved, issues of proportionality needed to be considered for each type of deployment.

9.4   Members discussed the LFR ethical principles. It was felt that some terminology used in the principles needed further clarification, for example "cost-effective". It was asked how cost-effectiveness would be measured. It was suggested that cost-effectiveness represented the return on investment and that this should be considered as part of the evaluation process.

9.5   One of the principles recommended that LFR should only be deployed when 'just cause' existed. Although it was agreed that some deployments of the technology would be more acceptable than others, questions were raised around who the arbiter of 'just cause' would be. It was felt that the definition of just cause would depend on the context of the use. The ethics of preventive activity were relevant to just cause, where the actions that an individual had carried out in the past would be used for justification for addition to a watchlist. It would be challenging to draw the line on what was justified for preventative activity.

9.6   The questions to accompany the principles were discussed. It was felt that these were a useful guide as they highlighted issues which may not have been considered by those deploying the technology.

10.0   Genealogical databases for law enforcement purposes

10.1   At its meeting of 20 September 2018, the BFEG was informed by the FIND Steering Board that several police forces had received queries around the potential to search DNA profiles obtained from UK crime stains against commercial genealogy databases. This had been in the context of the 'Golden State Killer'[11] case in the USA. Further information on

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[11] The so-called Golden State Killer committed a series of murders and sexual assaults in California in the 1970's and 80's. Investigators held historic DNA samples from crime stains related to this case and recently

genetic genealogy to the committee had been provided to members subsequently to assist members consideration of the suitability of the use of Genealogical databases to assist police investigations in the UK.

10.2   Despite genetic genealogy having been used successfully to solve several crimes in the USA, members noted the cost and time investment required for an identification was huge, for example it had taken 1,000 hours of genealogy work to identify the Golden State Killer. Much of this work was currently undertaken by volunteers.

10.3   Further, the databases were disproportionately populated by individuals from the USA with relatively few UK profiles. As a result, it was likely that only hits from distant relatives would be obtained, proving onerous to investigate.

10.4   To be of use samples for genetic genealogy testing had to be of high quality and contain large amounts of DNA. Samples of low quality of and containing mixtures of DNA were difficult to analyse.

10.5   Currently, familial searching of the UK National DNA Database (NDNAD) to identify near relatives of the forensic DNA profile could be conducted (pending ethical approval of the FIND SB). The NDNAD was comprised of STR profiles and since the number of STRs is small, although STR profiles were useful for identification of an individual, searching for a relative beyond the first-degree resulted in many false positives. No data on the use and success of familial searches using the current UK system had been published as far as members were aware, and it was recommended that this data was obtained in order to understand how well the current system was working prior to recommending how alternative methods might be utilised. Since familial searches were agreed by the chair of the FIND SB it was asked whether the secretariat could approach the FINDS unit to obtain this information.

Action 5: Secretariat to contact FIND SB to obtain information on familial STR searches

11.0   Royal United Services Institute Workshop on Artificial Intelligence

11.1   A BFEG member had attended a workshop run by the Royal United Services Institute entitled "A UK national security framework for artificial intelligence" and provided members with an overview of the day that had incorporated the three themes:
- Whether AI creates new threats or opportunities in security, e.g. does it add to capabilities of adversaries;

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a genome-wide single-nucleotide polymorphism (SNP) profile (distinct from the usual short-tandem repeat [STR] profile used in forensic analysis) was generated from one of these samples. The SNP profile was compared to similar genome-wide data held by the genomics website, GEDmatch. SNP profiles belonging to relatives of Joseph James DeAngelo were identified on the database which, coupled with biographic information, made DeAngelo the prime suspect for the offences. DeAngelo's DNA was obtained covertly by law enforcement officials and his STR profile was found to match STR profiles from historic case-work samples, leading to his arrest in April 2018, and a charge of eight counts of first-degree murder.

- Current legislation and whether new legislation would be needed; and
- The potential tension between the commercial and national security agenda.

11.2   A follow-up meeting was planned for late January which would involve civil society to capture a broader set of views.

12.0   HOB Ethics Working Group (EWG) update

12.1   An update was provided by the chair of the HOB EWG group. The HOB EWG had met twice in the period since the last update. Members were informed that the programme was running broadly to schedule and were given a forward-look of upcoming reviews to assist with work planning.

12.2   The overarching PIA for the HOB programme had been published in July 2018,[12] following the publication of the Home Office Biometrics Strategy. The HOB EWG were thanked for their contribution and feedback on the PIAs.

12.3   The HOB would be participating in the Home Office Law Enforcement Database Service (LEDS) Open Space, which BFEG members had been informed of at their meeting in September 2018.[13] The remit of the HOB EWG would subsequently be expanded to take account of ethical issues arising from the LEDS. It was agreed that consideration of additional members to the group in light of its expanded remit should be held over until the work planning at the BFEG away day scheduled for March 2019.

12.4   Members were informed that a pilot of Livescan, the system used for capturing fingerprints, had commenced in HMP Durham. The pilot would continue for 13 weeks after which an assessment of benefits would be undertaken. Benefits might include, for example, identification of individuals who should not be held, i.e. if they are a child or were attempting to serve time on behalf of someone else. Members viewed Livescan as a laudable use of technology with a clear public benefit.

12.5   HOB EWG members had been introduced to representatives from the US Department of Homeland Security who had been interested in the mechanisms that HOB used to obtain ethical challenge.

13.0   DNA leaflet for custody suites

13.1   In June 2016, the National DNA Ethics Working Group (NDNAD EG) was asked to comment on the draft leaflet, produced by the National DNA Database Unit, entitled 'DNA samples – your rights'. The leaflet had been produced to inform individuals of their rights after a DNA sample had been taken for DNA profiling in a custody suite.

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[12] Available from: https://www.gov.uk/government/publications/home-office-biometrics-hob-programme-privacy-impact-assessments
[13] Minute available from: https://www.gov.uk/government/organisations/biometrics-and-forensics-ethics-group/about/membership#meeting-minutes

13.2   A working group, chaired by Professor Hallowell, had re-drafted the leaflet to make it more readily intelligible to a young audience and those with a limited understanding of English. The leaflet had now been agreed for publication and would be distributed by the Forensic Information Database Unit to police forces for dissemination in custody suites.

14.0   Knowledge Hub

14.1   BFEG members were provided with an overview of the Knowledge Hub, which had been procured for use by the BFEG. Members were informed that Knowledge Hub was a secure online forum designed to facilitate communication and connectivity, and promote knowledge sharing and discussion. The BFEG Knowledge Hub would be used to distribute meeting materials and would provide a platform for members to discuss topics in-between meetings.

15.0   BFEG Away Day

15.1   BFEG members were informed that an away day would be held in March 2019 to discuss the 2019 annual commission from its Home Office policy sponsor. In addition, since a proportion of BFEG work was self-commissioned, a session would be held to determine which additional areas of work the BFEG wishes to take forward.

15.2   A member proposed that the BFEG explore what is meant by justice in the context of the use of forensics.

16.0   AOB

16.1   A member informed the BFEG that they would be attending a seminar on digital ethics and that they would report any items of note to members on Knowledge Hub.

Annex A – List of attendees

Present

- Chris Hughes - Chair
- Adil Akram - BFEG Member
- Louise Amoore - BFEG Member
- Sue Black (teleconference) - BFEG Member
- Nina Hallowell - BFEG Member
- Mark Jobling - BFEG Member
- Isabel Nisbet - BFEG Member
- Thomas Sorell - BFEG Member
- Denise Syndercombe-Court - BFEG Member
- Peter Waggett - BFEG Member
- Caroline Harrison - Observer
- Kirsty Faulkner (teleconference) - FINDS Unit, HO
- Alex MacDonald - Identity Unit, HO
- Jeremy Jones – Identity Unit, HO
- Carl Jennings - Identity Unit, HO
- Imogen Block - DCMS
- Anna Hill - DCMS
- Jen Boon - DCMS
- Sam Roberts - DCMS
- Penny Carmichael - BFEG Secretary, HO
- Joanne Wallace - Head of Science Secretariat, HO

Apologies

- Kit Harling - BFEG Member
- Jennifer Temkin - BFEG Member
- Liz Campbell - BFEG Member
- Simon Caney - BFEG Member