Report: Public meeting of the UK Biobank Ethics and Governance Council 28th November 2005 Royal College of Physicians, London

Professor Alastair V. Campbell, Chair of the UK Biobank Ethics and Governance Council (EGC), opened the public meeting by welcoming everyone. He commented that there were many disciplines represented in the audience and that the Council is very encouraged by the interest being shown. Many of the Council members were present at the meeting and attendees were invited to introduce themselves to members after the meeting.

Professor Campbell introduced his co-speakers, both Vice Chairs of the EGC: Ms Andrea Cook, a lay member with a background in consumer representation and Professor Roger Higgs, a retired general practitioner and academic.

Three presentations followed: an introduction to UK Biobank and the EGC; an outline of the EGC's work over the last year and a look at the future activities of the EGC.

1. Introduction

Professor Campbell presented background information describing UK Biobank, the EGC and the EGC's role.

1.1 What is UK Biobank?

UK Biobank is a long-term national project to build a major resource for medical researchers. Information on environmental and lifestyle factors will be linked to the medical records and biological samples of 500,000 individuals aged 40-69. The health of these participants will be followed for up to 30 years.

The Funders of UK Biobank (the Wellcome Trust and Medical Research Council, the Department of Health, and from a later stage, the Scottish Executive) recognised early on that this project requires a special arrangement in relation to ethics- indeed this message came out clearly from early public consultations on the proposed resource. As such the Funders established an Interim Advisory Group to advise on the development of an Ethics and Governance Framework (EGF). It was envisaged that this Framework would describe the standards under which UK Biobank will operate in order to make sure that all necessary safeguards are in place to ensure that the data and samples collected as part of the resource are only used for scientifically and ethically approved research. The Framework was published for comment in September 2003.

1.2 Who are the Ethics and Governance Council (EGC)?

The Council was established in November 2004 to act as a guardian of the EGF. Following public advertisement an open appointments process was used, in keeping with the Nolan Principles of Public Life. The Funders established an independent Appointments Committee, chaired by the Reverend Dr John Polkinghorne, former member of the Human Genetics Commission. This Appointments Committee was responsible for appointing the current members who come from a variety of perspectives, including ethics, law, medicine, medical science, community and consumer involvement.

1.3 What is the role of the EGC?

The remit of the EGC is:

- To act as an independent guardian of the EGF and advise on its revisions;
- To monitor and report publicly on the conformity of the UK Biobank project with the EGF;
- To advise more generally on the interests of research participants and the general public in relation to UK Biobank.

The advisory function may take a number of forms. For example, the EGC may raise new issues for UK Biobank to consider (in relation to the EGF), it may ask UK Biobank to address a specific issue or it may respond to UK Biobank's policies and actions related to the EGF.

When discharging its monitoring role the EGC will consider aspects of the creation, maintenance and use (ie access) of the resource, as these relate to the EGF.

It should be noted that the EGC is independent of UK Biobank. As such the Council may speak about UK Biobank but it does not speak on behalf of it. The EGC has not been established to promote or defend UK Biobank but to ensure that its actions are in conformity with the EGF.

2. EGC activities in the first year

Ms Cook introduced the activities of the Council over its first year of operation.

During the course of the first year the Council has both familiarised itself with, and discussed the merit of, the principles described in the EGF. This includes the EGF position on consent, the feedback of health information to participants and confidentiality. These aspects of UK Biobank's operations are described in the 'Relationships with participants' section of the EGF.

2.1 Consent

Consent will be based on an explanation and the understanding of what it means "to participate in UK Biobank".

UK Biobank is a platform for future research which is expected to operate for the next 20-30 years. While it is not possible to anticipate the future uses and users of the resource a participant should be made aware of both the uncertainties and certainties involved in participation. As such the EGF describes that consent to participate in UK Biobank will be based on an explanation and the understanding of, amongst other things:

- the purpose of UK Biobank;
- the fact that UK Biobank is not a healthcare programme but a research resource;
- the kinds of information and samples that will be collected at enrolment, which may include data that some participants might consider especially sensitive;
- the fact that there will be a link to the full medical record, past and ongoing;
- the fact that UK Biobank will be the legal owner of the database and the sample collection, and that participants have no property rights in the samples;
- the kinds of safeguards that will be maintained, including secure storage of data and samples in reversibly anonymised form, and severe restrictions on access to data and samples that are not anonymised;

- the expectation that commercial entities will apply to use UK Biobank;
- the possibility of being recontacted in future, by whom and for what purposes;
- the intention to continue to hold and allow research access to data after participants lose mental capacity or die, as such data are crucial for research on severe illnesses;
- the right to withdraw at any time without having to give a reason and without penalty, and the meaning of withdrawal;
- UK Biobank's commitment to maintaining active engagement with participants and society in general.

The Council has discussed the meaning, feasibility and practicality of both broad and limited consent.

The Council recognises that limited consent cannot deal with unknowns. In law consent is designed to protect an individual from harm in potentially risky situations. UK Biobank does present potential harms such as those arising from the taking of blood or from subsequent use of data and samples that might be offensive to some participants. However, if sufficient safeguards are in place these risks of harm should be minimal.

Potential participants should be appropriately informed, prior to and at enrolment, about the nature of participation, so that if they chose to consent they do so aware of both the certainties and uncertainties. The range of information presented in the participant materials, and its clarity, will be key to the participants understanding. The Council will review the participant materials, in order to assess both the clarity of the information and the conformance of the documents with the commitments made in the EGF.

The Framework also suggests that UK Biobank will endeavour to assess the participants' understanding of what they are consenting to. This may be tested through the evaluation of the consent process used during the integrated pilot phase. The Council will review the results of this evaluation process in due course.

In the long term, where an individual decides to participate, safeguards should be in place to honour the trust they have vested in UK Biobank. The Council will act as one such safeguard by monitoring the use of the resource in order to satisfy itself that use is appropriate in terms of the participant's original consent and in terms of, what could be described as, his or her reasonable expectations.

2.2 Feedback of health information to participants

In general no health information will be fed back although some information may be provided from some baseline measurements taken at enrolment and, exceptionally, where baseline laboratory analyses might indicate a serious illness for which intervention is possible.

The EGF states that:

> "It is questionable whether telling participants the results of measurements would be useful to them, as the data would be communicated outside of a clinical setting and would not have been evaluated in the context of the full medical record or knowledge of medication or other treatment. The significance of the observations might not be clear, and the research staff will not be in position to interpret the implications. Further, it would not be constructive and might even be harmful to provide information but not interpretation, counselling or support.

> The staff conducting enrolment will not have the same duty of care they would have in a clinical setting. Rather, their legal duty of care will be determined by the research context, and will apply mainly to safe and competent collection of questionnaire data, baseline measurements, and blood or other samples. Should any concerns arise, participants will as a matter of course be encouraged to contact their GPs."

To date the Council has considered the proposal to provide some feedback to participants of measurements taken during the enrolment process. The Council supports the provision of this limited feedback as it may seem insensitive and discourteous to take an individual's blood pressure, for example, and not provide some comment. However, for the reasons stated in the EGF UK Biobank should take care not to provide interpretation of this information given that an assessment centre is not a clinical setting and the research nurses will have no medical history for individuals to use as a reference.

The EGC has discussed the proposal for the use of population standards for comparison with the baseline measurements and analyses. These may be a useful way to 'sign-post' deviations from the norm while not imposing an interpretation. However, this information would have to be presented in a neutral way. Having received this information the individual would be in a position to seek advice from their GP, or other healthcare practitioner.

The Council supports the notion that participation in UK Biobank should not be perceived to be a health check and not 'sold' to participants on this basis. The Council also supports the principles of the feedback policy, as stated in the current EGF, while recognising that the policy requires further development by UK Biobank before the main study protocol is finalised.

2.3 Confidentiality

UK Biobank will maintain strict measures to protect confidentiality of data and samples, and will ensure that data and samples are (reversibly) anonymised, linked and stored to very high standards.

Research users will only be given access to anonymised data and samples.

The EGF states that;

> "Identifying information (such as name, address, birth date, NHS number, etc) will be removed from data and samples at the earliest opportunity after collection. "Sensitive" information such as health and lifestyle data, and samples, will be kept separate from identifying information and only linked using a code that has no external meaning (e.g., not the NHS number). Only those with access to the "key" to the code will be able to re-link the participants' identifying information with the data and samples. Thus the data and samples are "reversibly anonymised" ".

Data will be generated at various points, for example pre-clinic (recruitment/booking), assessment clinic, laboratory data and follow up health care records. The current UK Biobank information management strategy is based on a one-way flow of information where storage is in a central facility to which only a limited number of named UK Biobank staff will have access under controlled and monitored conditions.

Standard operating procedures will describe the processes for anonymisation. UK Biobank will determine these processes in consultation with the EGC where necessary.

The EGC has been concerned not only about data security from the perspective of appropriate anonymisation and linking but also from the perspective of deliberate breaches by hackers. The EGC was reassured to learn that this aspect of UK Biobank will be tested on a regular basis by the Company, when people will be invited to try to gain access to the system.

The EGC has been introduced to the principles of operation and the standards being applied through the information management strategy. In addition it has been informed of the arrangements for the physical architecture of controlling access. The Council is satisfied that the suggested plans are being developed to a high international standard. The Council will have a role in monitoring the potential risks of harm related to confidentiality on an ongoing basis.

3. Future activities of the EGC

Professor Higgs outlined the future activities of the EGC.

UK Biobank is about the future. What the project will achieve depends on what is set up now in terms of process and direction, but its success also depends on our view of the future and how changes that will occur can be best predicted and managed. How great these may be can be imagined if we look back now over the past 30 years - the sort of time period the Biobank is expected to run. Even within the narrow field of healthcare the changes have been immense, not just in terms of treatments, organisation of care and attitudes but even in the way that completely new diseases like AIDS have appeared. So even if we can't know precisely what changes will occur, we know that they are bound to be big challenges for UK Biobank in its working life.

To ensure the necessary flexibility and rigor, the project, in addition to the usual required ethical approval processes, has been set up in parallel with a special independent Council which will monitor UK Biobank's conformity with the Ethics and Governance Framework over many years. When changes occur the Council can have a dialogue with various parties and monitor what's going on in the long term. This is an exciting prospect and we hope re-assuring to those who decide now to participate in UK Biobank.

As well as looking to the long-term future the Council is looking at its immediate and short-term responsibilities. As we have previously heard the Council's remit is:

- To advise on revisions of the EGF;
- To monitor and report publicly on the conformity of the UK Biobank project with the EGF;
- To advise more generally on the interests of research participants and the general public in relation to UK Biobank.

In the first year of operation the Council has been focusing its activities on the more advisory elements of its remit as UK Biobank has been developing its policies. As recruitment begins and as the resource becomes established the EGC's role will shift towards the monitoring and public reporting aspects of its remit.

Key to the success of the project is how the resource is accessed and the use to which the resource is put. The EGC has a role to play in reviewing access and use of the resource. This role is described in the UK Biobank Intellectual Property and Access Policy which is available in draft from the Council and UK Biobank's website.

The draft policy describes three levels of sensitivity of data that could be accessed:

Level 1 and Level 2 requests relate to routine/very low sensitivity and routine/limited sensitivity respectively. Designated UK Biobank staff will be responsible for considering and deciding upon Level 1 access requests. Level 2 requests will be considered and decided upon by an Access Committee. All resulting applications from both Level 1 and Level 2 will be reported to both the UK Biobank Board of Directors and the EGC.

Level 3 requests include all other applications for access to, what has been termed, the 'Protected Material'. Importantly this includes any application for access to samples or to re-contact participants. Under the current policy these applications will be submitted to the Access Committee for review, leading to a recommendation being made to the Board of Directors. The Access Committee's recommendations and summaries of applications will be sent to the EGC, which may then raise with the Board any concerns it may have. Any such concerns will be notified to the Access Committee. The Board will address these concerns before deciding whether to accept the applications. This is the third category of requests that the Council will monitor and have a more active involvement in advising on.

Throughout all its activities the Council hopes to engage the third aspect of its remit by keeping the interests of the research participants and the general public at the heart of both its advisory and monitoring activities. The Council hopes to achieve this by engaging the experiences of its own members as members of the public, by holding public meetings, by inviting individuals to express their interest in the EGF and by selective consultation. The event today is not intended to be a public consultation but is the start of a process of engagement. Several of these aspects of engagement are being developed currently and will inform the Council's future work.

4. Question and answer session

In the second half of the session the attendees were invited to share with the Council their concerns, ideas or suggestions. The issues raised were either discussed by attendees at the meeting and the Council or were addressed by UK Biobank's Chief Executive, Professor Rory Collins, who was available via a telephone link.

The questions and comments touched on issues such as the EGF position on the feedback of health information to participants; the possibility of access to the resource by commercial companies; the possibility of patenting human gene sequence; communication (including the extent to which UK Biobank conveys information regarding its protocol developments and consults with stakeholders on draft policies); how the New Genetics is framed in public fora; the opportunity UK Biobank presents for broadening the public debate about the acceptability of certain types of research over others; the 'power' of the EGC and the sanctions at its disposal.

Professor Rory Collins addressed topics including UK Biobank's current strategy for inviting and recruiting participants; the question of General Practitioner involvement in these strategies and associated resource implications; how the main study protocol is being developed and the adequacy of the sample size (with particular reference to whether or not the resulting benefits from research on UK Biobank will be broadly applicable to various publics eg to ethnic minority groups).

Professor Campbell concluded the session by thanking the participants for attending and for their interest in the work of the Council.