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**Human Genetics Commission (HGC): A Common Framework of Principles for direct-to-consumer genetic testing services****Response by the Wellcome Trust**

November 2009

**Introduction**

1. The Wellcome Trust is the largest charity in the UK. It funds innovative biomedical research, in the UK and internationally, spending over £600 million each year to support the brightest scientists with the best ideas. The Wellcome Trust supports public debate about biomedical research and its impact on health and wellbeing.
2. One of public engagement activities undertaken in 2009 was the Wellcome Trust Monitor survey<sup>1</sup>, which sought the views of a random sample of 1179 adults on various aspects of biomedical research. The survey found that 36 per cent of adults thought that direct-to-consumer genetic tests were definitely or probably a good idea. Of the people who thought that the tests were a good idea, 20 per cent thought that it would avoid the need to go to a doctor and another 17 per cent thought that the tests should be available to all. 61 per cent thought that direct-to-consumer genetic tests were definitely or probably a bad idea. Of these, a quarter felt that people with medical knowledge should be involved and another 36 per cent raised issues of the lack of regulation and counselling.
3. We welcome the opportunity to respond to this important consultation. The direct-to-consumer marketing of genetic tests has been an area of increasing concern, and we are pleased to see the HGC devoting attention to the issues. Our response begins with some general remarks on the principles contained in the Common Framework. We then provide brief responses to some of the specific questions highlighted in the consultation document.

**General comments**

4. We welcome the draft Framework as an important and valuable step towards harmonising and encouraging best practice between suppliers of direct-to-consumer genetic tests. We hope that the principles will provide a basis for test providers to work together to proactively develop high standards, and lead to an ongoing dialogue involving the industry, regulators, the research community, and the public to build a proportionate and responsive regulatory framework. Indeed, we suggest this goal should be stated more explicitly in the Framework document.
5. We note that there are some encouraging signs of collaboration between test providers – for example, 23andme and Navigenics recently made a joint response to an analysis of their tests undertaken by the J. Craig Venter Institute<sup>2</sup>.
6. To be effective, the Framework must be adopted internationally and we would welcome clarification of whether the HGC has plans to engage with other organisations to ensure this. We believe that this dialogue should involve relevant regional and international organisations, such as the Human Genome Organisation, alongside other national ethics and regulatory bodies.

<sup>1</sup> The Wellcome Trust Monitor: A survey of adults' and young people's awareness, interests, knowledge and attitudes to biomedical research. The report will be released in 2010.

<sup>2</sup> <http://www.nature.com/nature/journal/v461/n7265/full/461724a.html>

7. The science supporting genetic testing is progressing rapidly, with the development of new technologies and protocols, and advances in our understanding of the role of specific genotypes in medical disorders. It is clear that the information from genetic tests may take on new meaning and significance as this science develops. This is acknowledged implicitly by principle 9.4, but we believe that the Principles should emphasise this much more clearly – particularly in Section 4. In particular, information for prospective consumers should be dated to indicate when it was last updated to take account of scientific developments, and consumers must be made aware that the implications of their results may change over time.
8. We are concerned that several terms used in the Framework are not sufficiently clear:
- “Standard statistical methodologies accepted by the scientific community” (principle 3.2) – the point at which a methodology becomes “standard” and “accepted” is open to varying interpretation. Similar concerns about the methods of biomarker selection and risk calculations were raised by the recent comparison of results from 23andme and Navigenics undertaken by the J. Craig Venter Institute<sup>2</sup>. We agree that it would be good practice for companies to cite the literature on which their biomarker selection and other statistical methodologies are based and make them available for independent scrutiny.
  - “clinical validity” (principles 3.1 and 4.3) – similarly, clinical validity is also a highly subjective concept. Although there will be a body of evidence that indicates whether or not a test is of “clinical validity” or if a variant is “clinically validated”, there may not be a generally accepted opinion on this, leaving it open to interpretation.
  - “appropriately qualified professional” (principle 4.11) – an example would help to illustrate what type of professional expertise is envisaged would be required for this role.
  - “accurately and reliably” (principle 8.2) – while we agree that tests should be able to identify the genotype of interest both accurately and reliably, these parameters are also open to interpretation unless quality standards or thresholds are defined.
  - “sample provider” (principle 10.8) should be defined at the start of the document to make it clear that this is the person from whom the biological specimen was obtained, who has given free informed consent for the analysis to be undertaken.
9. We support the provision of appropriate information to prospective customers in order for them to give informed consent for the tests. While the information should be made as clear as possible we would question whether difficult concepts, such as relative and absolute risk, can be “easily understood” and suggest that this phrase is replaced in the Framework with a more realistic expression, such as “accessible”. Susceptibility tests are assessing variations that confer very small risks and it will be important for the industry to develop suitable language to discuss risk. Lessons could be learned from the Intergovernmental Panel on Climate Change, who have set a good example in the communication of risk and uncertainty to non-experts.

*Principles 4.1 and 6.2*

10. Given the considerable sensitivities, we consider the wording of principles 4.1 and 6.2 needs to more clearly define what information should be provided to consumers in order for them to provide consent for their information to be used by third parties. At the very least, principle 4.1 should state clearly that test providers should specify the types of third parties to whom they might pass information.
11. It should be recognised that law enforcement agencies may require access to information about individuals and this should be referred to in section 6 and the information given to prospective customers in section 4. For example the UK Biobank policy on this is as follows:

“Access to the resource by the police or other law enforcement agencies will be acceded to only under court order, and UK Biobank will resist such access vigorously in all circumstances.”

*Principle 4.5*

12. The final sentence of principle 4.5 on the use of consumers’ samples or data in research should read “The customer should be informed of any *known* risks or potential benefits”.

Customers should also be informed whether they will receive feedback on research findings that relate to them.

#### *Principle 5.7*

13. We suggest principle 5.7 should start with the key message: “companies offering direct-to-consumer tests should not provide test to adults unable to provide informed consent”.

### **Responses to Consultation Questions**

*Question 3: Pre-symptomatic and susceptibility/pre-dispositional health tests are distinct categories in the draft of the Principles. Do you believe that this distinction is both valid and robust? If not, do you believe these two groups of tests could be stratified better?*

14. In principle it is reasonable to make a distinction between pre-symptomatic and susceptibility tests. However, the descriptions could be clarified in the Principles by quantitatively defining “high probability” to make it less subjective and using examples as provided in the supporting information to the question. The description in the supporting information is much clearer than the definition in the Principles and we agree that genetic tests with moderate predictive ability are likely to cause confusion. Quantitative definitions, for example using the penetrance of an allele, will assist with categorising these ‘borderline’ tests.

15. As noted above the types of tests available and understanding of the impact of individual alleles will change over time with advances in science and technology and this should be acknowledged.

*Question 5: Are the impact criteria listed in Principle 10.1 (in addition to the categorisation of tests) a helpful additional way of stratifying genetic tests? Should a list of tests be included in the Principles that determine to which genetic tests the application of Principle 10.1 is relevant?*

16. It is essential for the Principles and for providers to consider the impacts of the tests as it is important that the guidance is proportional to the potential risks and impacts. The use of examples would help to clarify both the impact criteria and the categorisation of tests.

17. As noted in the general comments, information for prospective consumers should be dated to indicate when it was last updated to take account of scientific developments, and consumers must be made aware that the implications of their results may change over time.

*Question 6: Are there any principles that are applicable to certain genetic tests that you consider should not be applied to that test? Specifically, do you consider the amount of information that test providers will be expected to provide to consumers to be excessive for some tests?*

18. We believe that it is appropriate for information in all of the categories bulleted under this question to be provided to consumers. Indeed, much of this information is not specific to the test, but relates to general company policies on confidentiality and the security of personal data and samples. It is also of course essential that consumers receive full information on the specific genetic test offered and the feedback they will receive in order to enable them to make an informed choice as to whether to undertake the test.

*Question 7: Should principle 5.10 be included? (Genetic testing of children)*

19. We believe this principle is important to include, and agree that any provision of tests to children should be via a health professional. It would, however, be valuable for the principles to recognise that this would need to respect the legal situation of the country or region in which the consumer is based. In particular, whether capacity to consent is governed by age or by other means, such as test of ‘Gillick’ competency.

*Question 9: After discussions within the working group the following principle was not included: “A test provider must take whatever measures are necessary and appropriate to ensure that an individual has provided informed consent and has capacity to provide that consent for a genetic test.” Do you think this principle should or should not be included?*

20. The need for informed consent from an individual with capacity is clear from the Principles and does not need to be included again as a separate principle.