News release
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phg foundation
making science work for health

Getting ready for genomic medicine in the NHS

The rapid development of fast, affordable whole genome sequencing (WGS) technologies is set to change many aspects of health care. The sheer quantity and complexity of the information generated by genome sequencing, along with ever-changing understanding of the function of genomes in health and disease, presents new challenges for the UK National Health Service (NHS) and other health systems.

The new PHG Foundation report on this issue, *Next steps in the sequence: the implications of whole genome sequencing for health in the UK*, is the first comprehensive overview of the impending medical impact of human genome sequencing. Launched yesterday to the Government advisory body the Human Genomics Strategy Group (HGSG) in London, the report brings together a review of cutting-edge science with perspectives from a wide range of experts and stakeholders to address three crucial strategic challenges for the NHS.

The potential benefits of the new technologies are significant: improved diagnosis and management of inherited diseases and cancer, and more personalised use of treatments and therapies. However, successful delivery of a more efficient and effective system of healthcare using genomics requires:

- Creation of new biomedical informatics expertise within the NHS and building databases that will drive better understanding of which genomic variants affect health.
- Use of targeted forms of genome analysis that minimise unexpected (incidental) findings and telling patients only about medically important information that arises.
- Better understanding of genomic data interpretation among health professionals

James Peach, Director of Stratified Medicine at Cancer Research UK commented: *"We're only scratching the surface of what WGS technology can do for us…but there are problems about using it in the NHS, and the biggest problem is that we don't know what to do with it"*.

Sir John Bell, Regius Professor of Medicine at the University of Oxford and chair of HGSG, said that WGS technologies would have *"a very substantial impact on human disease"*, adding that the new report *"takes you to the heart of all the issues"*.

Next steps in the sequence is available from the PHG Foundation website:

www.phgfoundation.org

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Notes to Editors

- The PHG Foundation is an independent genomics and health policy think-tank based in Cambridge, UK
- Our mission is *making science work for health* – identifying the best opportunities for 21st century genomic and biomedical science to improve global health, and to promote the rapid, fair and effective translation of scientific innovation into medical and public health policy and practice
- We generate knowledge, evidence and ideas to inform, educate, and stimulate debate
- We also provide expert research, analysis, health services planning and consultancy services for governments, health systems, and other non-profit organisations

The PHG Foundation is the working name of the Foundation for Genomics and Population Health, a charitable company registered in England and Wales, charity no. 1118664 / company no. 5823194.

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