News story: 100,000 whole genomes sequenced in the NHS

The Health and Social Care Secretary Matt Hancock has announced that the 100,000 Genomes Project has reached its goal of sequencing 100,000 whole genomes from NHS patients.

The 100,000 Genomes Project uses whole genome sequencing technology to improve diagnoses and treatments for patients with rare inherited diseases and cancer. It is led by Genomics England and NHS England.

Since the project was launched in 2012 it has delivered life-changing results for patients who have had their genomes sequenced, with 1 in 4 patients with a rare disease receiving a diagnosis for the first time.

Thirteen NHS Genomic Medicine Centres (GMCs) were created to support the project, along with a state-of-the-art sequencing centre and an automated analytics platform to return genome analyses to the NHS.

The UK is the first nation in the world to apply whole genome sequencing at scale in direct healthcare. Genomics can enable doctors to identify those at risk of disease, help prevent it and provide personalised treatments to give patients the best chance of recovery.

To build on the project's success, in October the Secretary of State set out an ambition to sequence 5 million genomes in the UK over the next 5 years. The health secretary also announced the launch of the NHS Genomic Medicine Service. This will see all seriously ill children and adults with certain rare diseases or cancers offered whole genome sequencing as part of their care from 2019.

Health and Social Care Secretary Matt Hancock said:

> Sequencing the 100,000th genome is a major milestone in the route to the healthcare of the future. From Crick and Watson onwards, Britain has led the world in this amazing technology. We do so again today as we map a course to sequencing a million genomes. Understanding the human code on such a scale is part of our mission to provide truly personalised care to help patients live longer, healthier and happier lives.
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> I'm incredibly excited about the potential of this type of technology to unlock the next generation of treatments, diagnose diseases earlier, save lives and enable patients to take greater control of their own health.

Sir John Chisholm, Chair of Genomics England, said:

> At launch the 100,000 Genomes Project was a bold ambition to corral the UK’s renowned skills in genomic science and combine them with the strengths of a truly national health service in order to propel the UK into a global leadership position in population genomics.
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> With this announcement, that ambition has been achieved. The results of this will be felt for many generations to come as the benefits of genomic medicine in the UK unfold.

Professor Dame Sue Hill, Chief Scientific Officer for England and Senior Responsible Officer for Genomics at NHS England, said:

> This achievement has only been possible because of the amazing commitment and contribution of NHS teams across the country and I would like to thank each and every one of them for rising to this challenge and excelling in its delivery.
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> The results, which will continue to be returned to patients, show how genomic medicine can transform lives, bringing quicker and better diagnoses and increasing the number of patients surviving cancer, and the opportunity now is for the NHS to turn this research into reality by introducing sequencing technology as part of our world-leading NHS Genomic Medicine Service.