Cancer patients needed for DNA project

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The 100,000 Genomes Project is a world-leading DNA project which aims to sequence 100,000 complete sets of DNA from around 70,000 NHS patients.

Patients with cancer are now being asked to contact their hospital doctor or consultant to see how they can be involved in the study at CUH Addenbrooke’s.

The UK’s revolutionary DNA-sequencing project is the first glimpse of the future in genomic medicine and aims to create a new genomic medicine service for the NHS.

Sequencing patients’ genomes will provide a more accurate diagnosis for a range of cancer types. It can be used to show how a cancer may evolve and change over time, predict potential future health issues for patients, as well as identify which treatments a patient will respond best to.

Genomic medicine allows for the diagnosis, management and treatment of genetic diseases. It is a new and exciting area of personalised medicine and has already reached the clinic on a small scale. Due to genetic sequencing becoming more affordable and more efficient, it is hoped that this project will pave the way for its routine use throughout the NHS.

Treatments for cancer, such as chemotherapy, often provide a ‘blanket treatment’, meaning that most patients with a particular type of cancer are all treated the same way, with the risk of over-treating or under-treating certain patients. This can cause unnecessary side effects and discomfort to patients who are potentially not receiving the best treatment for them. Being able to ‘read’ and understand a patient’s DNA ‘barcode’ allows for greater personalised treatment for patients, which will improve their cancer journey, increase survival rates and improve the quality of life for NHS patients.

As well as focusing on cancer, the DNA-sequencing project also aims to sequence the genomes from patients, and family members, with rare diseases. This arm of the project is already open at CUH Addenbrooke’s and will reveal in greater detail how these diseases occur and how they can be predicted, managed and prevented.

Dr James Brenton, consultant medical oncologist at CUH, cancer lead for the East of England Genomics medicine centre, and senior group leader at the Cancer Research UK
(CR-UK) Cambridge Institute said:

“This is a tremendously exciting time to be involved in the care of patients with cancer. The Genomics England Genomic Medicine Centre will offer patients new insights into the ‘barcoding’ of their cancer which will make possible treatments that are personalised for them. The understanding of difficult diseases such as ovarian cancer, which has very complex genetic damage, will be transformed by the information from whole genome sequencing provided by the Genomics England 100,000 genomes project.”

The DNA project now underway in Cambridge is aiming to define a new age of medicine and improve the treatment, care and survival rates for patients with cancer and rare diseases.