

Why does genomics matter to me?

Genomics is the study of a person's DNA, their genes, how they are expressed and how they interact to influence the development and working of the body. Genomics makes a difference to each and every one of us. Your genes affect many things about you, including how you look and how your body works.

How can genomics affect my health?

- **Inherited conditions:** many health conditions can be passed down through families. Some of these conditions can cause direct health issues, such as cystic fibrosis, whilst some inherited conditions cause an increased likelihood of developing other illnesses, such as Lynch Syndrome increasing the chance of getting certain types of cancer.
- **Medication response:** sometimes, people respond differently to drugs depending on their DNA. We can utilise genetic and genomic information to tailor pharmaceutical treatment; for example, around 5% of people will have a severe hypersensitivity reaction to the HIV/AIDS drug Abacavir. Testing is required before Abacavir is prescribed in the UK which has reduced the prevalence of this reaction.
- **Recovery from illness:** emerging evidence suggests people recover from certain illnesses at different rates and with varying levels of success based on their genes. For example, ongoing research suggests that environmental and medical factors do not provide sufficient cause for the difference in recovery rates from COVID-19 for certain groups and research is aiming to establish if genetics is involved in this.

Where can I learn more?

We've included some helpful resources in different formats:



Understanding Genomics

<https://tinyurl.com/45krau4k>

This introduction to genomics offers a dictionary of terms, sequencing timeline and more.



Behind the Genes

<https://tinyurl.com/53b3rxhe>

This podcast features experts from across the genomics landscape discussing everything from research to patient stories.



The Fundamentals of Genomics

<https://tinyurl.com/yt8ejjy6>

This video series provides accessible and clear information on a range of topics within genomics.



Genetic and Genomic Testing

<https://tinyurl.com/44wuan7w>

This page outlines genetic and genomic testing within the NHS, who can be referred and why.