Landmark genetics study to improve prediction of heart disease recruits 20,000th participant

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Credit: University of Leicester

A team of researchers from the University of Leicester and NIHR Leicester Cardiovascular Biomedical Research Unit (LCBRU) in

conjunction with colleagues from Primary Care and Leicester and Leicestershire CCGs have recruited their 20,000th participant to a landmark genetics study.

The Genetics and Vascular Health Check study (GENVASC) aims to determine whether the addition of genetic information can better improve risk prediction of Coronary Artery Disease (CAD).

Currently, coronary risk scores are used to classify individuals into low (20%) risk groups to help target prevention in those individuals at the greatest risk of developing CAD.

However, risk scores can be biased as they are heavily influenced by a person's age.

For example, the majority of younger individuals would fall into low or medium risk groups by virtue of their age alone and would not be considered suitable candidates for prophylactics such as statins.

However, despite being 'low risk', many will still develop CAD.

The GENVASC study aims to determine whether it is possible to identify those with spurious low risk through the addition of genetic information.

As the majority of people fall into the low or medium risk category, the researchers suggest that being able to accurately identify and intervene at an early stage in those patients who will go on to develop CAD could have huge potential benefits in terms of clinical outcome and public health.

Chris Greengrass, Project Manager of the study at the University of Leicester, explains: "The GENVASC study capitalises on the unique

opportunity provided by the NHS Health Check Programme, which is being widely promoted within Leicester and Leicestershire and specifically targets people aged 40-74 years who are free of cardiovascular disease.

"People taking part in the health check are simply asked to consent to provide an additional sample of blood at the time of their appointment so we can determine whether the addition of genetic information improves our ability to predict their risk for coronary disease."

Through the team's links with Arden and GEM, participants' health outcomes can be followed up and matched to genetic variants that are known to affect a person's risk of CAD, with much of this work having already been led by Leicester.

Professor Sir Nilesh Samani, Professor of Cardiology at the University of Leicester, Director of the Leicester Cardiovascular Biomedical Research Unit and Chief Investigator of the study, believes the potential for incorporating this information into routine care in the future is enormous.

Professor Samani said: "Using a simple, cost effective method for collecting genetic information, we are able to follow patients and see how their cardiovascular health is influenced by their genes. This means that in the future, people may be treated much earlier and more effectively through clearly targeted and tailored interventions."

More information: The GENVASC Study (Genetics and Vascular Health Check) Progress Report: June 2015: www2.le.ac.uk/research/current … s/genvasc-newsletter