

**Applicant**

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**Project Title**

Genetic Variation, Iron and Later Life Health Outcomes

**Project Summary**

Hemochromatosis is a genetic condition where the body absorbs too much iron from food. This iron can build up in the body to toxic levels and can cause disease including diabetes, arthritis and liver disease, including liver cancer. Hemochromatosis is the most common genetic disorder in Northern European populations, but it can be easily detected with specific blood or genetic tests, and treated simply by donating blood. Our published research in the UK Biobank has shown that people with the two faulty genes causing hereditary hemochromatosis are associated with much more disease than previously thought, including quadruple the rates of liver disease and double the rates of arthritis and frailty compared with the general population. We aim to further explore long term clinical outcomes of iron-related genetic variants in the CLSA.

**Keywords**

Iron, Hemochromatosis, Genetic epidemiology, Morbidity