



Application number/Title: 12010 - Determinants of human cardiac structure and function and relation with outcome

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Keywords provided by the Applicant PI to describe the research project:

MRI, Cardiac_disease, Cardiac_function, GWAS, Risk_factors, Genetics

Application Lay Summary:

1a: Cardiovascular diseases are a major health burden. Early identification of subjects at risk is important to design strategies to prevent cardiovascular disease or to early intervene. Information of the heart can be derived by functional parameters as well as anatomical (structural) with both provide complementary information and might independently identify subjects at increased risk to experience a cardiovascular event or early death.

Aim:

We aim to study genetic and non-genetic determinants of cardiac function and structure parameters. In addition, we aim to study the independent prognostic value of the cardiac function and structure parameters in predicting clinical outcome.

1b: The purpose of UK Biobank is to build a major resource supporting a diverse range of research intended to improve the prevention, diagnosis and treatment of illness and the promotion of health throughout society. This proposal may lead to new understanding of cardiac function, its relation with diseases of the circulatory system and potentially identify new therapeutic targets.

1c: In the first phase we will identify and describe the correlates of baseline parameters with parameters of cardiac function as measured by stress testing and of cardiac structure as determined by cardiac MRI. These baseline correlates will be consisting of non-genetic and genetic (GWAS) variables.

In the second phase we will relate the cardiac function and structure parameters with clinical outcomes (cardiovascular events and death) and evaluate the value of these parameters to identify subjects at increased risk.

1d: All subjects of whom is available cardiac stress testing and/or cardiac MRI will be included in the analysis.