



Application number/Title: 33307 - Sex-specific Genetic Determinants of Cardiometabolic Traits

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

biomarkers, cardiometabolic, genetics, risk-scores, sex-stratified

Application Lay Summary:

Although cardiovascular disease (CVD) has traditionally been viewed as a disease of men, new evidence suggests the existence of distinct differences in the risk factors, development, and outcomes between the two sexes. For example, our recent studies have revealed that the genetic factors for several intermediate cardiometabolic traits, such as blood levels of certain amino acids (i.e. glycine) and lipids (i.e. ceramides), represent potentially novel sex-specific mechanisms for CVD. This project proposes to build on our observations using genetic and clinical cardiometabolic data from the UK Biobank. By helping to determine the genetic basis of CVD, our proposed analyses could identify novel therapeutic targets and/or risk stratification tools. Thus, these studies would be consistent with UK Biobank's stated purpose to improve the prevention, diagnosis and treatment of a wide range of illnesses, including heart diseases. The genotype and specific clinical data we request from all UK Biobank participants will be used for statistical analyses. These large-scale computations will specifically test for genetic associations in men and women separately. We will also carry out these sex-stratified tests with the genetic risk factors all combined together in what is typically referred to as 'genetic risk score analysis.' Full cohort for genotypes and clinical binary and quantitative CVD traits.