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Summary of research

Key words: Rheumatoid-Arthritis, Psoriatic-Arthritis, Psoriasis, Rheumatological-conditions, co-morbidity, prediction

1a: Chronic inflammatory rheumatological conditions such as rheumatoid arthritis (RA) and psoriatic arthritis (PsA) and their co-morbidities cause long-term disability. Both environmental and genetic risk factors contribute to disease susceptibility but they have seldom been studied in the same population. A comprehensive study in a large population is therefore required.

Aims:

1. To compare rates and consequences of co-morbidities in patients with inflammatory rheumatological conditions with those without the condition.
2. To develop predictive models to identify individuals in the general population at high risk of developing RA, and psoriasis patients at high risk of developing PsA.

1b: Compared to the general population patients with RA or PsA have increased rates of co-morbidities such as cardiovascular diseases, respiratory diseases, cancer and depression, which in turn may lead to a lower quality of life and decreased physical functioning. Understanding the risk factors influencing the development of these rheumatological conditions, and their associated co-morbidities, will allow early clinical intervention to reduce disability and result in improved outcomes for patients. This study proposal meets BioBank's stated purpose as it aims to prevent illness through early diagnosis resulting in improved health in the population.

1c: First we will compare rates of cardiovascular and respiratory disease and cancer between groups of patients with different self-reported inflammatory rheumatological conditions (e.g. RA, PsA and Lupus) to rates in the rest of the UK BioBank. We will also evaluate the impact of these co-morbidities on physical functioning. Secondly, we will attempt to validate known risk factors in addition to identifying novel factors that contribute to disease. All identified risk factors will be used to create a prediction model. The model's performance will be tested in predicting incident cases between the first and second visit.

1d: This study requires access to data from the full UK Biobank cohort, including follow-up data on the subset who attended for a second visit and primary care data, in order to identify the various prevalent and incident cases of disease and to use the remainder of the cohort as a control population. In addition we would like to request access to the genotype data when it is available in 2015 and also the primary care data once available, to help identify incident cases of disease.