

Principal Investigator

Miss Rebecca Richmond

Address

University of Bristol, Integrative Epidemiology Unit, Oakfield House,
Oakfield Grove, Bristol BS8 2BN, United Kingdom

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Summary of research:

Activity, sleep, anthropometry, Mendelian randomization, disease

Application Lay Summary:

1a: We aim to examine the causal pathways involved in observed associations between objectively-measured physical activity, sleep duration/quality and body composition, and their interacting influences on health-related consequences including cardiometabolic disease and cancer.

1b: By unpicking the complex relationships between physical activity, sleep and body composition we hope to identify the causal agents which play a key role in aetiology of disease which may then be used to prioritise intervention targets for disease prevention.

1c: We hope to make use of the genome-wide genetic data in UK Biobank in order to identify genetic variants which are robustly associated with physical activity, sleep and body composition measures. These genetic variants may then be investigated in the context of the exposures they proxy to establish the causal effects of these exposures on each other and on health-related outcomes using an approach known as Mendelian randomization, an increasingly important tool for appraising causality in observational epidemiology.

1d: We would require data on all individuals with available accelerometry measures and genetic information.