

Principal Investigator

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Funding body

Manchester University

Summary of research

Cancers, risk prediction, gene/environment factors

Application Lay Summary:

1a: Objectives of the proposed research:

1a: Cancer is caused by unregulated cell growth leading to forming malignant tumors. Cancers are known to cause by environmental and genetic factors. The suggested common environmental factors include diet, lack of exercise, smoking, radiation etc. For genetic factor, there are suggestions that some genes operate across various types of cancers for example DNA repair genes, genes involved in growth factor, in aging process (telomerase reverse transcriptase gene (TERT)) etc. Some cancers are preventable and early diagnosis can leads to better

survival. This proposal aims to build one/more risk algorithms for cancers based on lifestyle/environmental factors and genetic markers.

1b: This research fits UK Biobank's stated purpose in that it is in the public interest. We will build optimised risk prediction models (include biomarkers, lifestyle/environmental factors collected within cohort).

1c: We will require data from the whole cohort including full genetic data(not samples) once available. Both cohort and nested case control methods will be used to construct a risk prediction model.

1d: We require data from the full cohort.