



**Application number/Title:** 33906 - Investigating the Aetiology of Oesophageal and Gastric Cancers: The Role of Hormones

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

gastric-cancer, hormones, obesity, oesophageal-cancer

**Application Lay Summary:**

Gastric and oesophageal cancer is more common in men than in women, indicating a potential role for sex hormones. The specific aims of this research are: 1) To investigate the association between incident oesophageal and gastric cancer by subtype and subsite with obesity and hormone-related factors, namely: anthropometric measures, reproductive factors, and exogenous hormone use 2) To analyse serologic data to prospectively investigate the association between major endocrinologic pathways with oesophageal and gastric cancer by subtype and subsite, including: sex hormones, hyperinsulinemia and insulin resistance.

The aetiology of oesophageal and gastric cancers need to be clearly understood; this research aims to elucidate specific risk factors and pathways. This research has direct translational potential by using the data generated to identify individuals who would most benefit from interventions and more targeted screening and surveillance programs. Specifically, this approach will allow the assessment of multiple potential mechanisms underlying the obesity-cancer association, and will highlight specific biologic targets for intervention. In the full cohort of 500,000 men and women, the data collected from participants at the onset of the study on measurements of anthropometric, reproductive factors, and exogenous hormone use will be used to assess the associations between these factors and oesophageal and gastric cancer risk by subtype and subsite. Additionally, we plan to analyse serologic data to investigate the association between major endocrinologic pathways (sex hormones, and insulin resistance) with oesophageal and gastric cancer by subtype and subsite. The analysis of anthropometry, reproductive factors and exogenous hormone use and oesophageal and gastric cancer risk by subtype and subsite will be undertaken

on the full cohort (aim 1). The second aim will include all individuals for whom serologic data on hormones is available.