



Application number/Title: 26492 - Built Environment and Obstructive Lung Disease

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

Built environment, urban green, COPD, asthma

Application Lay Summary:

1a: This study aims to primarily answer the question: “where does or does not chronic obstructive lung disease (COPD) and asthma arise, persist and progress in the UK?”, describing location in detail through measurable attributes of the built environment in which subjects reside. Secondly, we aim to generate hypotheses to test regarding the relationship between the built environment and respiratory outcomes. Finally, we aim to use historical and prospective data on patients who meet the case definition of COPD and asthma to test our hypotheses about the effect that the built environment has on patients with COPD and asthma.

1b: While asthma can be chronic but reversible, COPD is an irreversible illness affecting an estimated 3 million adults in the UK, with two-thirds of these as yet undiagnosed. We plan to study the relationship of the built environment and respiratory outcomes (COPD & asthma), meeting the UK Biobank’s stated purpose of improving the prevention, diagnosis and treatment of a serious, high-burden disease in the UK. We will draw applications to how urban and environmental choices impact those who suffer from respiratory disease, and assist health professionals to improve diagnosis, counseling and health maintenance for their patients.

1c: This study is a collaboration between the University of Hong Kong Faculty of Architecture and School of Public Health. We will take descriptive and analytic approaches, utilizing data from the UK Biobank and the UK Biobank Urban Morphometric Platform (UKBUMP). The UK BUMP is an individual-level built

environment database of approximately 750 health-specific built environment metrics for all participants in the UK Biobank prospective cohort.

1d: We propose to include the 350,000 participants across 14 UKB collection centres for whom the UKBUMP data will be available by 31st December 2015. Over the duration of the project, data on full cohort will be requested as the complete UKBUMP database becomes available. Once primary care data is also available we will also conduct similar analyses for asthma outcomes.ed.