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**Title:** Overcoming ethnic differences in lung function: The size & lung function in children (SLIC) study design

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**Body:** Ethnic minorities comprise 40% of the London population (17% South-Asians; 19%Black African&Caribbean), which has considerable impact on healthcare provision. Despite recognised ethnic differences in lung function (LF), most reference ranges are based on White subjects. Even when available, selection of appropriate equations is complicated by the increase in admixed populations and complexities of defining 'ethnicity'. The aim of the SLIC study was to explore differences in body physique & composition that contribute to ethnic differences in LF. Methods: Recruitment was undertaken in London schools. All children with parental consent were eligible and were categorised into 4 broad ethnic groups: White; Black; S.Asian & other/mixed. Assessments in schools were performed in 1600 children aged 5-11years on 2 occasions a year apart and included detailed anthropometry; body composition; spirometry and saliva samples (cotinine & DNA analysis). After adjusting for sex, age& standing height, the extent to which ethnic differences in LF can be minimised by including relevant measures of body physique will be determined. Results: To date, we received 54% parental consent for participation with successful spirometry from 1088 (45%boys; 33%White; 31%Black; 21%S.Asian; 15%Other/mixed) healthy children(67% of all assessed, excluding 21% on health grounds; 12% failed spirometry). Follow up studies are in progress. Summary: This study will facilitate early diagnosis and treatment of lung disease in all children, irrespective of ethnic background. Repeated measures after 1y will facilitate interpretation of serial changes in children with respiratory disease. Funded by: Wellcome Trust; Asthma UK.